

Title 296 WAC

LABOR AND INDUSTRIES, DEPARTMENT OF

Chapters

296-15	Workers' compensation self-insurance rules and regulations.
296-17	General reporting rules, audit and record-keeping, rates and rating system for Washington workers' compensation insurance.
296-17A	Classifications for Washington workers' compensation insurance.
296-19A	Vocational rehabilitation.
296-20	Medical aid rules.
296-21	Reimbursement policies: Psychiatric services, biofeedback, physical medicine.
296-23	Radiology, radiation therapy, nuclear medicine, pathology, hospital, chiropractic, physical therapy, drugless therapeutics and nursing—Drugless therapeutics, etc.
296-32	Safety standards for telecommunications.
296-45	Safety standards for electrical workers.
296-46B	Electrical safety standards, administration, and installation.
296-54	Safety standards—Logging operations.
296-56	Safety standards—Longshore, stevedore and waterfront related operations.
296-59	Safety standards for ski area facilities and operations.
296-62	General occupational health standards.
296-65	Asbestos removal and encapsulation.
296-78	Safety standards for sawmills and wood-working operations.
296-104	Board of boiler rules—Substantive.
296-127	Prevailing wage.
296-155	Safety standards for construction work.
296-200A	Contractor certificate of registration renewals—Security—Insurance.
296-307	Safety standards for agriculture.
296-400A	Plumbers certification rules.
296-800	Safety and health core rules.
296-803	Lockout/tagout (control of hazardous energy).
296-809	Confined spaces.
296-811	Fire brigades.
296-817	Hearing loss prevention (noise).
296-818	Abrasive blasting.
296-824	Emergency response.
296-826	Anhydrous ammonia.
296-842	Respirators.
296-843	Hazardous waste operations.
296-848	Arsenic.
296-849	Benzene.
296-855	Ethylene oxide.
296-856	Formaldehyde.

DISPOSITION OF CHAPTERS FORMERLY CODIFIED IN THIS TITLE

Chapter 296-43

HEATING INSTALLATIONS—CABLE, RADIANT, SOIL, ETC.	
296-43-010	Heating cables—General. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.
296-43-020	Heating cables—Maximum wattage and temperature. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.
296-43-030	Heating cables—Permissible installation methods in buildings. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.
296-43-040	Heating cables—Thermal insulation. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.
296-43-050	Heating cables—Elements installed in tanks, troughs, or pipe lines containing liquids. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.
296-43-060	Heating element in soil or sand. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.
296-43-070	Heating element imbedded in driveways. [Rules (part), filed 4/3/61.] Repealed by 09-10-072, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 19.28 RCW.

Chapter 296-15 WAC

WORKERS' COMPENSATION SELF-INSURANCE RULES AND REGULATIONS

WAC

296-15-221	Self-insurers' reporting requirements.
296-15-223	Self-insurance administrative assessment.
296-15-225	Self-insurance second injury fund assessment.
296-15-227	Self-insurance insolvency trust fund assessment.
296-15-229	Self-insurance supplemental pension fund (SPF) and asbestosis fund assessments.

WAC 296-15-221 Self-insurers' reporting requirements. (1) **What information must self-insurers report to the department?** Each self-insurer must provide the department:

(a) The name, title, address and phone number of the single contact person who is the liaison with the department in all self-insurance matters. This contact will be sent all department correspondence and is responsible for forwarding information to appropriate parties for timely action.

(b) A copy of its current policy of applying sick leave, health and welfare benefits or any other compensation in conjunction with, or as a substitute for, time loss benefits.

(2) **When must self-insurers notify the department of business status changes?** Self-insurers must notify the department in writing:

(a) Immediately, of any plans to:

(i) Cease business entirely or cease business in Washington; or

(ii) Dispose of controlling financial interest of the original self-insurer. The self-insurer must surrender its certificate for cancellation if requested by the department.

(b) Within thirty days, of any:

(i) Amendment(s) or modification(s) to the self-insurer's articles, charter or agreement of incorporation, association, copartnership or sole proprietorship which will materially change the business identity or structure originally certified.

(A) The department may require additional documentation.

(B) If the self-insurer becomes a subsidiary to another firm, the parent must provide the department with its written guarantee on L&I form F207-040-001 to assume responsibility for all workers' compensation liabilities of the subsidiary if the subsidiary defaults on its liabilities. See WAC 296-15-021 for additional information.

(ii) Separation (for example, divestiture or spinoff) of any part of the original self-insurer.

(A) The original self-insurer remains responsible for claims liability of the separated part up to the date of separation unless the department approves an alternative.

(B) If the separating part wishes to continue being self-insured, it must submit an application for self-insurance certification (L&I Form F207-001-000) to the department at least thirty days before separation.

(C) If certification cannot be granted before separation, industrial insurance coverage must be purchased from the state fund effective the date of separation.

(iii) Relocation, addition or closure of physical locations.

(3) When must self-insurers notify the department of administrative changes? A self-insurer must notify the department in writing within ten days, of any change to its:

(a) Single contact person who is the liaison with the department in all self-insurance matters. The self-insurer must include the contact's title, address and phone number.

(b) Contract with a service organization or third party administrator independent of the self-insurer which will participate in the self-insurer's responsibilities. The self-insurer must submit a copy of the new or updated service contract. See WAC 296-15-021 for additional information.

(c) Administrator of its workers' compensation program, if the self-insurer is self administered instead of contracting with a service organization or third party administrator.

(4) What reports must self-insurers submit to the department? Each self-insurer must submit:

(a) Complete and accurate quarterly reports summarizing worker hours and claim costs paid the previous quarter. Self-insurers must use a form substantially similar to the pre-printed Quarterly Report for Self-Insured Business, L&I form F207-006-000, form sent by the department. This report is the basis for determining the administrative, second injury fund, supplemental pension, asbestosis and insolvency trust assessments. Payment is due by the date specified on the pre-printed report sent by the department.

(i) Worker hours must be reported as defined in chapter 296-17 WAC General reporting rules, audit and recordkeeping, rates and rating system for Washington workers' compensation insurance.

(ii) Claim costs include, but are not limited to:

(A) Time loss compensation. Include the amount of time loss the worker would have been entitled to if kept on full salary.

(B) Permanent partial disability (PPD) awards.

(C) Medical bills.

(D) Prescriptions.

(E) Medical appliances.

(F) Independent medical examinations and/or consultations.

(G) Loss of earning power.

(H) Travel expenses for treatment or rehabilitation.

(I) Vocational rehabilitation expenses.

(J) Penalties paid to injured workers.

(K) Interest on board orders.

(b) A complete and accurate annual report of all claim costs paid for each year of liability with an estimate of future claim costs. The self-insurer must use a form substantially similar to the Annual Report for Self-Insured Businesses (SIF-7), L&I form F207-007-000. This report is due March 1 of each year. The department uses this for the annual determination of each self-insurer's surety requirement.

(c) A fully audited financial statement within six months after the end of the self-insurer's fiscal year. This report demonstrates the self-insurer's continued ability to provide benefits and pay assessments as required. The department will consider a written request for filing time extension.

(i) This statement must be prepared by a certified public accountant.

(ii) A self-insurer with a parental guarantee may submit the parent's fully audited financial statement if the parent's audited statement includes the financial condition of all subsidiaries, including the self-insurer.

(iii) A political subdivision of the state may submit a state auditor's report if it includes the self-insurer's audited financial statement. If the state auditor does not audit the self-insurer annually, the self-insurer must submit financial statements prepared internally for any year a report by the state auditor is not available.

[Statutory Authority: RCW 51.14.077, 51.14.150, 51.14.160, 51.44.040, 51.44.070, and 51.44.150. 09-13-018, § 296-15-221, filed 6/5/09, effective 7/6/09. Statutory Authority: RCW 51.14.077, 51.14.120(7), 51.14.150(4), 51.14.160, 51.44.040(3), 51.44.070 and 51.44.150. 99-23-107, § 296-15-221, filed 11/17/99, effective 12/27/99.]

WAC 296-15-223 Self-insurance administrative assessment. (1) The administrative assessment covers the department's administrative costs, including direct and indirect expenses of each department division, the University of Washington environmental research facility, and the board of industrial insurance appeals. The assessment is paid quarterly at the same time a self-insurer submits its quarterly report.

(2) The administrative assessment rate is determined annually for each fiscal year. Each self-insured employer uses one of three rates:

(a) The base administrative rate is based on the actual costs of the previous fiscal year and the anticipated costs of the upcoming fiscal year. This rate is used by any active self-insured employer certified after the fiscal year used for calculation.

(b) The adjusted administrative assessment rate includes the base rate with adjustments for over or under collections from prior periods. This rate is used by any active self-insured employer certified during or prior to the fiscal year used for calculation.

(c) Employers who have voluntarily surrendered their self-insurance certificate must pay the inactive rate until one year after all self-insurance liabilities and responsibilities are terminated. Usually, administrative assessment payments for inactive self-insurers can stop after reporting total claims costs of zero dollars for four consecutive quarters. Payments may again be due if any future costs are reported.

(3) The total administrative assessment due each quarter is calculated by multiplying the self-insurer's rate by their total claims costs during that quarter.

(4) The minimum quarterly administrative assessment for all self-insured employers is twenty-five dollars, unless the self-insurer is not required to make payment (see subsection (2)(c) of this section).

[Statutory Authority: RCW 51.14.077, 51.14.150, 51.14.160, 51.44.040, 51.44.070, and 51.44.150. 09-13-018, § 296-15-223, filed 6/5/09, effective 7/6/09.]

WAC 296-15-225 Self-insurance second injury fund assessment. (1) The second injury fund assessment is based on anticipated second injury fund costs. The fund is used to relieve employers' costs related to pensions that result from the combined effects of the industrial injury and another prior injury, preferred worker claims, and job modifications. Fifty percent of all self-insurers' second injury fund assessment rate is based on the self-insurers' estimated expenditures from the second injury fund. The other fifty percent is experience rated based on each self-insured employer's actual expenditures from the fund. See RCW 51.44.040 for more information about experience rating. The second injury fund assessment is paid by active and inactive self-insurers quarterly at the same time a self-insurer submits its quarterly report.

(2) Self-insurers' relief from and contributions to the second injury fund will be recorded in an account separate from the state fund account. The self-insurers' second injury fund must maintain a two hundred thousand dollar minimum balance.

(3) The second injury fund assessment rate is determined annually for each fiscal year.

(a) Each self-insurer uses one of two rates for the fifty percent of the second injury fund assessment rate that is based on total estimated expenditures.

- (i) $1/2 \times$ [the appropriate base or adjusted rate]
 (ii) [The result of (c)(i) of this subsection] \times [the self-insurer's experience rate]
 (iii) [The result of (c)(i) of this subsection] + [The result of subsection (c)(ii) of this subsection] = the final combined second injury fund assessment rate.

(4) The total second injury fund assessment due each quarter is calculated by multiplying the self-insurer's final combined second injury fund assessment rate by the self-insurer's total claims costs during that quarter.

[Statutory Authority: RCW 51.14.077, 51.14.150, 51.14.160, 51.44.040, 51.44.070, and 51.44.150. 09-13-018, § 296-15-225, filed 6/5/09, effective 7/6/09.]

Reviser's note: The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency.

WAC 296-15-227 Self-insurance insolvency trust fund assessment. (1) The insolvency trust fund assessment is paid by all insolvency trust members to cover claim payments made by the department on behalf of insolvent self-insurers. The assessment is paid quarterly at the same time a self-insurer submits its quarterly report.

(a) Self-insured school districts, cities, and counties are exempt from and are not covered by this insolvency trust. These self-insurers are not liable for the insolvency trust fund assessment.

(i) The base second injury fund assessment rate is based on fifty percent of the estimated costs for the coming fiscal year. This rate is used by any self-insured employer certified after the fiscal year used for calculation.

(ii) The adjusted second injury fund assessment rate includes the base rate with adjustments for over or under collections from prior periods. This rate is used by any self-insured employer certified during or prior to the fiscal year used for calculation. This rate is also used by any self-insurer who has voluntarily surrendered its self-insurance certificate.

(b) The second fifty percent of the second injury fund assessment is experience rated for each self-insurer based on each self-insurer's actual use of the second injury fund in the previous three fiscal years.

Note: The department may estimate claims cost data when actual data from an employer has yet to be provided.

Each self-insurer's experience rating will be calculated using the following steps:

- (i)
$$\frac{\text{A self-insurer's total second injury fund expenditures for the previous three fiscal years}}{\text{Total second injury fund expenditures for all self-insurers in the previous three fiscal years}}$$
- (ii)
$$\frac{\text{A self-insurer's self-insured claims costs for the previous three fiscal years}}{\text{Total self-insured claims costs for all self-insurers in the previous three fiscal years}}$$
- (iii)
$$\frac{[\text{The result of (b)(i) of this subsection}] + [\text{The result of (b)(ii) of this subsection}]}{2}$$
- (iv)
$$\frac{\text{The result of (b)(iii) of this subsection}}{\text{The result of (b)(ii) of this subsection}} = \text{the self-insurer's experience rate}$$

(c) Each self-insurer's final combined second injury fund assessment rate is calculated using the following formula:

(b) Any interest earned on insolvency trust fund assessments paid by self-insurers will be added to the balance of the insolvency trust fund.

(c) Failure to pay an insolvency trust fund assessment is grounds for withdrawal of self-insurance certification.

(2) The insolvency trust fund assessment rate is determined annually for each fiscal year.

(3) Insolvency trust members who voluntarily surrender their self-insurance certification must continue to pay this assessment for three years after the date of surrender.

(4) The total insolvency trust fund assessment due each quarter is calculated by multiplying the insolvency trust fund assessment rate by an insolvency trust member's total claims costs during that quarter.

[Statutory Authority: RCW 51.14.077, 51.14.150, 51.14.160, 51.44.040, 51.44.070, and 51.44.150. 09-13-018, § 296-15-227, filed 6/5/09, effective 7/6/09.]

WAC 296-15-229 Self-insurance supplemental pension fund (SPF) and asbestosis fund assessments. (1) The SPF relieves employers from cost-of-living increases on ben-

efits paid to workers. The SPF assessment is paid quarterly at the same time a self-insurer submits its quarterly report.

(a) The SPF rate is determined annually for each calendar year.

(b) The total SPF assessment due each quarter is calculated by multiplying the SPF assessment rate by a self-insurer's worker hours during that quarter.

(c) One-half of the SPF assessment may be withheld from employee wages or salaries.

(d) Self-insurers may request reimbursement from the SPF quarterly, as authorized under Title 51 RCW, or they may deduct eligible SPF reimbursement amounts directly from their quarterly SPF assessment. If requesting reimbursement from the SPF quarterly, the self-insurer must use a form substantially similar to L&I form F207-011-000 or, if there is Social Security offset, L&I form F207-011-222.

(2) The asbestosis fund provides benefits to workers who have been diagnosed with an industrially related asbestosis condition during the often lengthy process of determining the liable employer. The asbestosis fund assessment is paid quarterly at the same time a self-insurer submits its quarterly report.

(a) The asbestosis fund assessment rate is determined annually for each calendar year.

(b) The total asbestosis fund assessment due each quarter is calculated by multiplying the asbestosis fund assessment rate by a self-insurer's worker hours during that quarter.

(c) One-half of the asbestosis fund assessment may be withheld from employee wages or salaries.

[Statutory Authority: RCW 51.14.077, 51.14.150, 51.14.160, 51.44.040, 51.44.070, and 51.44.150. 09-13-018, § 296-15-229, filed 6/5/09, effective 7/6/09.]

Chapter 296-17 WAC

GENERAL REPORTING RULES, AUDIT AND RECORDKEEPING, RATES AND RATING SYSTEM FOR WASHINGTON WORKERS' COMPENSATION INSURANCE

WAC

296-17-31002	General rule definitions.
296-17-31018	Exception classifications.
296-17-35203	Special reporting instruction.
296-17-855	Experience modification.
296-17-870	Evaluation of actual losses.
296-17-875	Table I.
296-17-880	Table II.
296-17-885	Table III.
296-17-890	Table IV.
296-17-895	Industrial insurance accident fund base rates and medical aid base rates by class of industry.
296-17-89502	Industrial insurance accident fund, medical aid and supplemental pension rates by class of industry for nonhourly rated classifications.
296-17-89504	Horse racing industry industrial insurance, medical aid, and supplemental pension by class.
296-17-90445	Valuation of coverage period.
296-17-90492	Table I.
296-17-920	Assessment for supplemental pension fund.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-17-35202	Definitions. [Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-35202, filed 8/28/98, effective 10/1/98.] Repealed by 09-16-110, filed 8/4/09, effective 10/1/09. Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1).
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WAC 296-17-31002 General rule definitions. In developing the general reporting rules and classifications which govern Washington's workers' compensation classification plan, we have used certain words or phrases which could have several meanings. Many of these words or phrases are defined by law in the Revised Code of Washington (*Title 51 RCW*) and can be found in **Appendix A** of this manual. Some words, however, are not defined by law. To reduce the misunderstanding 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 and phrases mean for purposes of these chapters (*chapters 296-17 and 296-17A of the Washington Administrative Code(WAC)*).

The following words or phrases mean:

Account: A unique numerical reference that we assign to you that identifies your business or businesses and allows us to track exposure that you report to us and losses (*claims*) which we pay on your behalf.

Account manager: An individual who works in the underwriting section of the department of labor and industries and manages an employer's workers' compensation insurance account. An account manager is also referred to as an underwriter.

Actual hours worked: A worker's composite work period beginning with the starting time of day that the employee's work day commenced, and includes the entire work period, excluding any nonpaid lunch period, and ending with the quitting time each day work was performed by an employee. The following example is provided to illustrate how work hours are to be reported. If you have questions on reporting please contact our underwriting section at 360-902-4817.

Example: *A carpet installer arrives at the employer's place of business at 8:00 a.m. to pick up supplies, carpet, and the job assignment. The carpet installer arrives at the job site at 9:00 a.m. and works until 12 noon. The installer takes a half hour nonpaid lunch period and resumes working from 12:30 p.m. until 4:00 p.m. The installer then returns to the employer's premise to drop off supplies and carpet waste. The installer leaves the employer's premise at 5:30 p.m. The employer is to report nine hours of work time regardless of whether the employee is paid by the hour or by the number of yards of carpet installed.*

All: When a classification contains a descriptive phrase beginning with "all" such as in "all employees," "all other employees," "all operations," or "all work to completion," it includes all operations and employments which are normally associated with the type of business covered by the classification. This condition applies even if the operations or employments are physically separated or conducted at a separate location. Operations or employments are to be classified separately when the classification wording requires it, or when the operations or employments are not incidental to, and not usually associated with, the business described by the classification.

And: When this word is contained in any rule it is to be considered the same as the phrase "and/or."

Basic classification: A grouping of businesses or industries having common or similar exposure to loss without regard to the separate employments, occupations or opera-

tions which are normally associated with the business or industry. Basic classifications describe a specific type of business operation or industry such as mechanical logging, sawmills, aircraft manufacturing, or restaurants. In most business operations some workers are exposed to very little hazard, while others are exposed to greater hazard. Since a basic classification reflects the liability (*exposure to hazard*) of a given business or industry, all the operations and occupations that are common to an industry are blended together and included in the classification. The rate for a basic classification represents the average of the hazards within the classification. All classifications contained in this manual are considered basic classifications with the exception of classifications 4806, 4900, 4904, 5206, 6301, 6302, 6303, 7100, 7101, and temporary help classifications 7104 through 7122. Classification descriptions contained in WAC 296-17A-0101 through 296-17A-7400 establish the intended purpose or scope of each classification. These descriptions will routinely include types of businesses, operations, processes or employments which are either included or excluded from the classification. These references are not to be considered an all inclusive listing unless the classification wording so specifies.

Bone [Bona] fide officer: Any person empowered in good faith by stockholders or directors, in accordance with articles of incorporation or bylaws, to discharge the duties of such officer.

But not limited to: When this phrase is used in any rule in this manual it is not to be interpreted as an all inclusive list. Such a list is meant to provide examples of operations, employments, processes, equipment or types of businesses which are either included or excluded from the scope of the classification.

Excludes or excluding: When a classification contains a descriptive phrase beginning with "excludes" or "excluding" such as "excluding drivers or delivery," "excluding second hand appliance stores," or "excludes construction operations," you must report those operations in a separate classification. If a business fails to keep the records required in the auditing recordkeeping section of this manual and we discover this, we will assign all workers hours for which records were not maintained to the highest rated classification applicable to the work which was performed.

Exposure: Worker hours, worker days, licenses, material, payroll or other measurement which we use to determine the extent to which an employer's workers have been exposed to the hazards found within a particular business or industry classification.

Free from direction or control: The contracted individual has the responsibility to deliver a finished product or service without the contracting firm or individual either exercising direct supervision over the work hours or the methods and details of performance or having the right to exercise that authority under the contract.

Governing classification: Is the basic classification assigned to a business that produces the largest number of worker hours during a calendar year (*twelve months*). The governing classification rule applies only to situations where a business has been assigned two or more basic classifications and is used for the sole purpose of determining what classification applies to employees and covered owners who

support two or more operations. The governing classification rule is not to be used to determine the basic classification of a business.

Includes or including: When a classification contains a descriptive phrase beginning with "includes" or "including" such as "including clerical office," "including meter readers," or "includes new construction or extension of lines," you must report these operations in that basic classification even though they may be specifically described by some other classification contained in this manual or may be conducted at a separate location.

Industrial insurance: Refer to the definition of "workers' compensation insurance."

N.O.C.: This abbreviation stands for not otherwise classified. Classifications are often worded in this way when there are many variations of the same general type of business and it would be nearly impossible to list all the variations. Before a classification designated with N.O.C. is used, all other related classifications must be reviewed to determine if the business or industry is specified in another classification.

Example: *You operate a retail store that sells greeting cards. In our search to classify your business we come across a classification that covers retail stores N.O.C. Before our underwriter assigns this classification to your business, they would look at other retail store classifications to see if a more precise classification could be found. In our review we note several classifications such as grocery and department stores where greeting cards are sold. None of these classifications, however, specify that they include stores that exclusively sell greeting cards. Classification 6406 "Retail stores, N.O.C.," on the other hand, contains language in its description that states it includes stores that sell items such as greeting cards, table top appliances, tropical fish and birds, and quick print shops. We would assign classification 6406 "Retail stores, N.O.C." to your business.*

Or: Refer to the definition of the word "and."

Premium: The total amount of money owed to the department of labor and industries as calculated by multiplying the assigned classification composite rate by the total units of exposure.

Principal place of business: The physical location of the business from which the contract of service is directed and controlled.

Rate: The amount of premium due for each unit of exposure. All rates are composite rates per worker hour except as otherwise provided for by other rules in this manual.

Related by blood within the third degree: The degree of kinship as computed according to the rules of civil law.

Related by marriage: The union subject to legal recognition under the domestic relations laws of this state.

Risk: All insured operations of one employer within the state of Washington.

Temporary help: The term "temporary help" means the same as temporary service contractors defined in (*Title 19 RCW*) and applies to any person, firm, association or corporation conducting a business which consists of employing individuals directly for the purpose of furnishing such individuals on a part-time or temporary help basis to others.

Underwriter: Refer to the definition of an "account manager."

Within a reasonable period: Establishing an account with state agencies shall be the time prior to the first date on which the individual begins performance of service toward the contract or the date upon which the individual is required to establish an account with a state agency, as otherwise required by law, whichever event shall last occur.

Work day: Any consecutive twenty-four hour period.

Work hour: Refer to the definition of "actual hours worked."

Workers' compensation insurance: The obligation imposed on an employer by the industrial insurance laws (*Title 51 RCW*) of the state of Washington to insure the payment of benefits prescribed by such laws.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), 09-16-110, § 296-17-31002, filed 8/4/09, effective 10/1/09. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020, 07-12-045, § 296-17-31002, filed 5/31/07, effective 7/1/07. Statutory Authority: RCW 51.16.035, 51.16.100, 05-12-031, § 296-17-31002, filed 5/24/05, effective 7/1/05. Statutory Authority: RCW 51.04.020 and 51.16.035, 04-18-025, § 296-17-31002, filed 8/24/04, effective 10/1/04. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120, 03-23-025, § 296-17-31002, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 98-18-042, § 296-17-31002, filed 8/28/98, effective 10/1/98.]

WAC 296-17-31018 Exception classifications. (1) What are exception classifications?

In *WAC 296-17-31012* we discussed our classification policy. We described the process used to classify risk and stated that we assign the basic classification or basic classifications that best describe the nature of your company's business. While this policy is modeled after the policy used by private insurance carriers and is geared to administrative ease for you, we recognize that there are some duties or operations where your employees do not share the same general workplace hazards that your other employees are exposed to. To provide for those operations that are outside the scope of a basic classification, we have created three types of exception classifications listed below:

- Standard exception classifications,
- Special exception classifications, and
- General exclusion classifications.

(2) What are the standard exception classifications?

Standard exception classifications cover those employments that are administrative in nature and common to many industries. Employees covered by a standard exception classification cannot be exposed to any operative hazard of the business. If the language of the basic classification assigned to your business does not include these employments, you may be able to report them separately. The standard exception classifications are:

- Classification 4904 (*WAC 296-17A-4904*) "clerical office employment." This classification includes clerical, administrative, and drafting employees.
- Sales personnel classifications 6301 (*WAC 296-17A-6301*), and 6303 (*WAC 296-17A-6303*) includes outside sales personnel and messengers.
- Classification 7101 (*WAC 296-17A-7101*) applies to corporate officers who have elected optional coverage. A corporate officer as used in these rules is a person who is an officer in the corporation, such as the presi-

dent, who also serves on the corporation's board of directors and owns stock in the corporation.

- Classification 7100 (*WAC 296-17A-7100*) applies to members of a limited liability company who have elected optional coverage.

Clerical office employees are defined as employees whose duties are limited to: Answering telephones; handling correspondence; creating or maintaining financial, employment, personnel, or payroll records; composing informational material on a computer; creating or maintaining computer software; and technical drafting. Their work must be performed in a clerical office which is restricted to:

- A work area which is physically separated by walls, partitions, or other physical barriers, from all other work areas of the employer, and
- Where only clerical office work as described in this rule is performed.

A clerical office does not include any work area where inventory is located, where products are displayed for sale, or area where the customer brings products for payment. Clerical office employees can perform cashiering and telephone sales work if they do not provide any retail or wholesale customer service that involves handling, showing, demonstrating, or delivering any product sold by the employer. Clerical office employees can make bank deposits, pick up and deliver mail at the post office, or purchase office supplies, if their primary work duties are clerical office duties as defined in this rule.

Sales personnel are defined as employees whose duties are limited to: Soliciting new customers by telephone or in person; servicing existing customer accounts; showing, selling, or explaining products or services; completing correspondence; placing orders; performing public relations duties; and estimating. Although some of sales person's duties may be performed in a clerical office, most of their work is conducted away from the employer's physical business location or in showrooms. We refer to work that takes place away from the employer's premises as "*outside sales*." Sales personnel whose duties include customer service activities such as, but not limited to, the delivery of product, stocking shelves, handling inventory, or otherwise merchandising products sold to retail or wholesale customers are excluded from all standard exception classifications. Sales personnel with duties such as delivery and stocking of shelves are to be reported in the basic classification applicable to the business unless the basic classification assigned to the business requires another treatment.

Messengers are defined as employees whose duties are delivering interoffice mail, making deposits, and similar duties that are exclusively for the administration of the employer's business. Classification 6303 "messengers" does not include delivering mail or packages to the employer's customer or as a service to the public. If a messenger is engaged in delivering mail or packages as a service to the public they are to be assigned to the basic classification of the business or classification 1101 as applicable.

Corporate officers duties in classification 7101 must be limited to: Clerical duties; outside sales duties as described above; administrative duties such as hiring staff, attending meetings, negotiating contracts, and performing public rela-

tions work. To qualify for this classification, a corporate officer must:

- Be a shareholder in the corporation,
- Be elected as a corporate officer and empowered in accordance with the articles of incorporation or bylaws of the corporation,
- Serve on the corporation's board of directors,
- Not have any exposure to any operative hazard of the business, and
- Not directly supervise employees who have any exposure to any operative hazard of the business.

Members of a limited liability company (LLC) duties in classification 7100 must be limited to: Clerical duties; outside sales duties as described above; administrative duties such as hiring staff, attending meetings, negotiating contracts, and performing public relations work. This includes only those members who have duties and authority similar to the exemption criteria of corporate officers in RCW 51.12.020.

Classification 6303 may apply to a corporate officer or member of a limited liability company whose duties are limited to outside sales activities as described in the sales personnel section of this rule. Under no circumstance is classification 4904 to be assigned to any corporate officer or member of a limited liability company. You cannot divide the work hours of an employee between a standard exception classification and a basic classification unless it is permitted by another rule. If an employee works part of their time in a standard exception classification and part of their time in your basic classification, then all exposure (hours) must be reported in the highest rated basic classification applicable to the work being performed.

(3) What are the special exception classifications?

Special exception classifications represent operations found within an employer's business that are allowed to be reported separately when certain conditions are met. Assuming the conditions noted under each exception below have been met, the following classifications may be used even if your basic classification includes the phrases "all operations" or "all employees." These special exceptions are subject to a division of worker hours in connection with all other basic classifications unless specifically prohibited in an individual classification WAC rule.

Farms: Hand harvesting crops - classification 4806 (*WAC 296-17A-4806*) will apply if the employee:

- Is hand harvesting crops such as nuts, berries, prunes, field flowers, or bulbs, and
- Is harvesting by picking from trees while standing on the ground or harvesting from the ground while sitting, kneeling, bending, or stooping.

Security guards - classification 6601 (*WAC 296-17A-6601*) will apply if the security guard:

- Is an employee of an employer engaged in logging or construction,
- Is for the purpose of guarding the employer's logging or construction sites,
- Is employed at the site only during the hours the employer is not conducting any other operations at the site,
- Has no other duties during their work shift as a security guard.

If all of the above conditions are not met, the security guard is to be reported in the basic classification applicable to the construction or logging operation being conducted.

Janitors - classification 6602 (*WAC 296-17A-6602*) will apply if:

- The janitorial/cleaning activities being performed are limited to the employer's clerical office,
- The clerical office meets the criteria described earlier in this rule, and
- The employer's office employment is assigned to be reported in classification 4904.

Construction: Superintendent or project manager - classification 4900 (*WAC 296-17A-4900*) will apply if the superintendent or project manager:

- Is an employee of a licensed contractor engaged in construction,
- Has no direct control over work crews,
- Performs no construction labor at the construction site or project location.

If all of the conditions are not met, the superintendent or project manager is to be reported in the basic classification applicable to the construction project.

Construction: Estimator - classification 4911 (*WAC 296-17A-4911*) will apply if the estimator:

- Is the employee of a licensed contractor engaged in construction, and
- Has no duties other than estimating during their work shift.

If these conditions are not met, the estimator is to be reported in the basic classification applicable to their employer's business or the construction project.

Permanent yard or shop operations - classification 5206 (*WAC 296-17A-5206*) will apply if:

- The permanent yard or shop is maintained exclusively for the storage and maintenance of materials or equipment used in the business of logging, log hauling, construction, or trucking.

Log truck drivers - classification 5003 (*WAC 296-17A-5003*) will apply if the log truck driver has no other duties during their work shift that are subject to the logging classification 5001 (*WAC 296-17A-5001*).

(4) What are the general exclusion classifications?

General exclusion classifications represent operations that are so exceptional or unusual that they are excluded from the scope of all basic classifications. If you have these operations, we will assign a separate classification to cover them. You must keep accurate records of the work hours your employees work in these classifications. If you do not keep accurate time records for each employee performing work covered by a general exclusion classification, we will assign the work hours in question to the highest rated classification applicable to those hours. The general exclusion classifications are:

- Aircraft operations: All operations of the flying crew.
- Racing operations: All operations of the drivers and pit crews.
- Diving operations: All operations of diving personnel and ship tenders who assist in diving operations.
- New construction or alterations of the business premises.
- Musicians and entertainers.

A division of work time is permitted between a standard exception classification and flight crew operations, racing operations, or diving operations. If you fail to keep original time records that clearly show the time spent in the office or in sales work, we will assign all work hours in question to the highest rated classification applicable to the work hours in question.

Example: Assume a corporate officer performs duties which are described in classification 7101. Occasionally, the officer flies a plane to attend a meeting. You would report the flying exposure (hours) of the corporate officer in classification 6803. The remainder of the corporate officer's time would continue to be reported in classification 7101.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), 09-16-110, § 296-17-31018, filed 8/4/09, effective 10/1/09. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020, 07-12-045, § 296-17-31018, filed 5/31/07, effective 7/1/07. Statutory Authority: RCW 51.16.035, 51.16.100, 06-12-075, § 296-17-31018, filed 6/6/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120, 03-23-025, § 296-17-31018, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073, 99-24-055, § 296-17-31018, filed 11/29/99, effective 12/31/99. Statutory Authority: RCW 51.16.035, 98-18-042, § 296-17-31018, filed 8/28/98, effective 10/1/98.]

WAC 296-17-35203 Special reporting instruction. (1) Professional and semiprofessional athletic teams. Athletes assigned to a Washington-domiciled sports team are mandatorily covered by Washington industrial insurance: Provided, That a professional athlete who is under contract with a parent team domiciled outside of the state of Washington while assigned to a team domiciled within Washington is subject to mandatory coverage by Washington industrial insurance unless the player and employer (parent team) have agreed in writing as to which state shall provide coverage in accordance with RCW 51.12.120(6).

The following rules shall apply to the written agreement:

(a) Agreement must be in writing and signed by the employer and the individual athlete.

(b) Agreement must specify the state that is to provide coverage. The state agreed upon to provide coverage must be a state in which the player's team, during the course of the season, will engage in an athletic event. For example, if the Washington-based team is a part of a league with teams in only Washington, Oregon, and Idaho, the player and the employer can agree to any of those three states to provide coverage. However, they could not agree to have California provide the coverage as this would not qualify as a state in which the player regularly performs assigned duties.

(c) The state agreed upon accepts responsibility for providing coverage and acknowledges such to the department by certified mail.

(d) Agreement and certification by the other state must be received by this department's underwriting section prior to any injury incurred by the athlete.

(e) Agreement will be for one season only commencing with the assigning of the player to a particular team. A separate agreement and certification must be on file for each additional season.

Failure to meet all of these requirements will result in the athlete being considered a Washington worker for premium and benefit purposes until such time as all requirements have been met.

Professional sports teams who are domiciled outside the state of Washington and who participate in sporting events with Washington-domiciled teams are not subject to Washington industrial insurance for their team members while in this state. These out-of-state teams are not considered employers subject to Title 51 on the basis that they are not conducting a business within this state.

(2) **Excluded employments.** Any employer having any person in their employ excluded from industrial insurance whose application for coverage under the elective adoption provisions of RCW 51.12.110 or authority of RCW 51.12.-095 or 51.32.030 has been accepted by the director shall report and pay premium on the actual hours worked for each such person who is paid on an hourly, salaried-part time, percentage of profit or piece basis; or one hundred sixty hours per month for any such person paid on a salary basis employed full time. In the event records disclosing actual hours worked are not maintained by the employer for any person paid on an hourly, salaried-part time, percentage of profits or piece basis the worker hours of such person shall be determined by dividing the gross wages of such person by the state minimum wage for the purpose of premium calculation. However, when applying the state minimum wage the maximum number of hours assessed for a month will be one hundred sixty.

(3) **Special trucking industry rules.** The following subsection shall apply to all trucking industry employers as applicable.

(a) Insurance liability. Every trucking industry employer operating as an intrastate carrier or a combined intrastate and interstate carrier must insure their workers' compensation insurance liability through the Washington state fund or be self-insured with the state of Washington.

Washington employers operating exclusively in interstate or foreign commerce or any combination of interstate and foreign commerce must insure their workers' compensation insurance liability for their Washington employees with the Washington state fund, be self-insured with the state of Washington, or provide workers' compensation insurance for their Washington employees under the laws of another state when such other state law provides for such coverage.

Interstate or foreign commerce trucking employers who insure their workers' compensation insurance liability under the laws of another state must provide the department with copies of their current policy and applicable endorsements upon request.

Employers who elect to insure their workers' compensation insurance liability under the laws of another state and who fail to provide updated policy information when requested to do so will be declared an unregistered employer and subject to all the penalties contained in Title 51 RCW.

(b) Reporting. Trucking industry employers insuring their workers' compensation insurance liability with the Washington state fund shall keep and preserve all original time records/books including supporting information from drivers' logs for a period of three calendar years plus three months.

Employers are to report actual hours worked, including time spent loading and unloading trucks, for each driver in their employ. For purposes of this section, actual hours

worked does not include time spent during lunch or rest periods or overnight lodging.

Failure of employers to keep accurate records of actual hours worked by their employees will result in the department estimating work hours by dividing gross payroll wages by the state minimum wage for each worker for whom records were not kept. However, in no case will the estimated or actual hours to be reported exceed five hundred twenty hours per calendar quarter for each worker.

(c) Exclusions. Trucking industry employers meeting all of the following conditions are exempted from mandatory coverage.

(i) Must be engaged exclusively in interstate or foreign commerce.

(ii) Must have elected to cover their Washington workers on a voluntary basis under the Washington state fund and must have elected such coverage in writing on forms provided by the department.

(iii) After having elected coverage, withdrew such coverage in writing to the department on or before January 2, 1987.

If all the conditions set forth in (i), (ii), and (iii) of this subsection have not been met, employers must insure their workers' compensation insurance liability with the Washington state fund or under the laws of another state.

(d) Definitions. For purposes of interpretation of RCW 51.12.095(1) and administration of this section, the following terms shall have the meanings given below:

(i) "Agents" means individuals hired to perform services for the interstate or foreign commerce carrier that are intended to be carried out by the individual and not contracted out to others but does not include owner operators as defined in RCW 51.12.095(1).

(ii) "Contacts" means locations at which freight, merchandise, or goods are picked up or dropped off within the boundaries of this state.

(iii) "Doing business" means having any terminals, agents or contacts within the boundaries of this state.

(iv) "Employees" means the same as the term "worker" as contained in RCW 51.08.180.

(v) "Terminals" means a physical location wherein the business activities (operations) of the trucking company are conducted on a routine basis. Terminals will generally include loading or shipping docks, warehouse space, dispatch offices and may also include administrative offices.

(vi) "Washington" shall be used to limit the scope of the term "employees." When used with the term "employees" it will require the following test for benefit purposes (all conditions must be met).

- The individual must be hired in Washington or must have been transferred to Washington; and
- The individual must perform some work in Washington (i.e., driving, loading, or unloading trucks).

(4) **Forest, range, or timber land services—Industry rule.** Washington law (RCW 51.48.030) requires every employer to make, keep, and preserve records which are adequate to facilitate the determination of premiums (taxes) due to the state for workers' compensation insurance coverage for their covered workers. In the administration of Title 51 RCW, and as it pertains to the forest, range, or timber land services industry, the department of labor and industries has

deemed the records and information required in the various subsections of this section to be essential in the determination of premiums (taxes) due to the state fund. The records so specified and required, shall be provided at the time of audit to any representative of the department who has requested them.

Failure to produce these required records within thirty days of the request, or within an agreed upon time period, shall constitute noncompliance of this rule and RCW 51.48.030 and 51.48.040. Employers whose premium computations are made by the department in accordance with (d) of this subsection are barred from questioning, in an appeal before the board of industrial insurance appeals or the courts, the correctness of any assessment by the department on any period for which such records have not been kept, preserved, or produced for inspection as provided by law.

(a) General definitions. For purpose of interpretation of this section, the following terms shall have the meanings given below:

(i) "Actual hours worked" means each workers' composite work period beginning with the starting time of day that the employees' work day commenced, and includes the entire work period, excluding any nonpaid lunch period, and ending with the quitting time each day work was performed by the employee.

(ii) "Work day" shall mean any consecutive twenty-four-hour period.

(b) Employment records. Every employer shall with respect to each worker, make, keep, and preserve original records containing all of the following information for three full calendar years following the calendar year in which the employment occurred:

(i) The name of each worker;

(ii) The Social Security number of each worker;

(iii) The beginning date of employment for each worker and, if applicable, the separation date of employment for each such worker;

(iv) The basis upon which wages are paid to each worker;

(v) The number of units earned or produced for each worker paid on a piece-work basis;

(vi) The risk classification(s) applicable to each worker;

(vii) The number of actual hours worked by each worker, unless another basis of computing hours worked is prescribed in WAC 296-17-31021. For purposes of chapter 296-17 WAC, this record must clearly show, by work day, the time of day the employee commenced work, and the time of day work ended;

(viii) A summary time record for each worker showing the calendar day or days of the week work was performed and the actual number of hours worked each work day;

(ix) In the event a single worker's time is divided between two or more risk classifications, the summary contained in (b)(viii) of this subsection shall be further broken down to show the actual hours worked in each risk classification for the worker;

(x) The workers' total gross pay period earnings;

(xi) The specific sums withheld from the earnings of each worker, and the purpose of each sum withheld;

(xii) The net pay earned by each such worker.

(c) Business, financial records, and record retention. Every employer is required to keep and preserve all original time records completed by their employees for a three-year period. The three-year period is specified in WAC 296-17-352 as the composite period from the date any such premium became due.

Employers who pay their workers by check are required to keep and preserve a record of all check registers and canceled checks; and employers who pay their workers by cash are required to keep and preserve records of these cash transactions which provide a detailed record of wages paid to each worker.

(d) Recordkeeping - estimated premium computation. Any employer required by this section to make, keep, and preserve records containing the information as specified in (b) and (c) of this subsection, who fails to make, keep, and preserve such records, shall have premiums calculated as follows:

(i) Estimated worker hours shall be computed by dividing the gross wages of each worker for whom records were not maintained and preserved, by the state's minimum wage, in effect at the time the wages were paid or would have been paid. However, the maximum number of hours to be assessed under this provision will not exceed five hundred twenty hours for each worker, per quarter for the first audited period. Estimated worker hours computed on all subsequent audits of the same employer that disclose a continued failure to make, keep, or preserve the required payroll and employment records shall be subject to a maximum of seven hundred eighty hours for each worker, per quarter.

(ii) In the event an employer also has failed to make, keep, and preserve the records containing payroll information and wages paid to each worker, estimated average wages for each worker for whom a payroll and wage record was not maintained will be determined as follows: The employer's total gross income for the audit period (earned, received, or anticipated) shall be reduced by thirty-five percent to arrive at "total estimated wages." Total estimated wages will then be divided by the number of employees for whom a record of actual hours worked was not made, kept, or preserved to arrive at an "estimated average wage" per worker. Estimated hours for each worker will then be computed by dividing the estimated average wage by the state's minimum wage in effect at the time the wages were paid or would have been paid as described in (d)(i) of this subsection.

(e) Reporting requirements and premium payments.

(i) Every employer who is awarded a forest, range, or timber land services contract must report the contract to the department promptly when it is awarded, and prior to any work being commenced, except as provided in (e)(iii) of this subsection. Employers reporting under the provisions of (e)(iii) of this subsection shall submit the informational report with their quarterly report of premium. The report shall include the following information:

(I) The employers' unified business identification account number (UBI).

(II) Identification of the landowner, firm, or primary contractor who awarded the contract, including the name, address, and phone number of a contact person.

(III) The total contract award.

(IV) Description of the forest, range, or timber land services work to be performed under terms of the contract.

(V) Physical location/site where the work will be performed including legal description.

(VI) Number of acres covered by the contract.

(VII) Dates during which the work will be performed.

(VIII) Estimated payroll and hours to be worked by employees in performance of the contract.

(ii) Upon completion of every contract issued by a landowner or firm that exceeds a total of ten thousand dollars, the contractor primarily responsible for the overall project shall submit in addition to the required informational report described in (e)(i) of this subsection, report the payroll and hours worked under the contract, and payment for required industrial insurance premiums. In the event that the contracted work is not completed within a calendar quarter, interim quarterly reports and premium payments are required for each contract for all work done during the calendar quarter. The first such report and payment is due at the end of the first calendar quarter in which the contract work is begun. Additional interim reports and payments will be submitted each quarter thereafter until the contract is completed. This will be consistent with the quarterly reporting cycle used by other employers. Premiums for a calendar quarter, whether reported or not, shall become due and delinquent on the day immediately following the last day of the month following the calendar quarter.

(iii) A contractor may group contracts issued by a landowner, firm, or other contractor that total less than ten thousand dollars together and submit a combined quarterly report of hours, payroll, and the required premium payment in the same manner and periods as nonforestation, range, or timber land services employers.

(f) Out-of-state employers. Forest, range, or timber land services contractors domiciled outside of Washington state must report on a contract basis regardless of contract size for all forest, range, or timber land services work done in Washington state. Out-of-state employers will not be permitted to have an active Washington state industrial insurance account for reporting forest, range, or timber land services work in the absence of an active Washington forest, range, or timber land services contract.

(g) Work done by subcontract. Any firm primarily responsible for work to be performed under the terms of a forest, range, or timber land services contract, that subcontracts out any work under a forest, range, or timber land services contract must send written notification to the department prior to any work being done by the subcontractor. This notification must include the name, address, Social Security number, farm labor contractor number, (UBI) of each subcontractor, and the amount and description of contract work to be done by subcontract.

(h) Forest, range, or timber land services contract release - verification of hours, payroll, and premium. The department may verify reporting of contractors by way of an on-site visit to an employers' work site. This on-site visit may include close monitoring of employees and employee work hours. Upon receipt of a premium report for a finished contract, the department may conduct an audit of the firm's payroll, employment, and financial records to validate reporting. The entity that awarded the contract can verify the status of the

contractors' account online at the department's web site (www.lni.wa.gov) or by calling the account manager. The landowner, firm, or contractor will not be released from premium liability until the final report for the contract from the primary contractor and any subcontractors has been received and verified by the department.

(i) Premium liability - work done by contract. Washington law (RCW 51.12.070) places the responsibility for industrial insurance premium payments primarily and directly upon the person, firm, or corporation who lets a contract for all covered employment involved in the fulfillment of the contract terms. Any such person, firm, or corporation letting a contract is authorized to collect from the contractor the full amount payable in premiums. The contractor is in turn authorized to collect premiums from any subcontractor they may employ his or her proportionate amount of the premium payment.

To eliminate premium liability for work done by contract permitted by Title 51 RCW, any person, firm, or corporation who lets a contract for forest, range, or timber land services work must submit a copy of the contract they have let to the department and verify that all premiums due under the contract have been paid.

Each contract submitted to the department must include within its body, or on a separate addendum, all of the following items:

- (I) The name of the contractor who has been engaged to perform the work;
- (II) The contractor's UBI number;
- (III) The contractor's farm labor contractor number;
- (IV) The total contract award;
- (V) The date the work is to be commenced; a description of the work to be performed including any pertinent acreage information;
- (VI) Location where the work is to be performed;
- (VII) A contact name and phone number of the person, firm, or corporation who let the contract;
- (VIII) The total estimated wages to be paid by the contractor and any subcontractors;
- (IX) The amount to be subcontracted out if such subcontracting is permitted under the terms of the contract;
- (X) The total estimated number of worker hours anticipated by the contractor and his/her subcontractors in the fulfillment of the contract terms;

(j) Reports to be mailed to the department. All contracts, reports, and information required by this section are to be sent to:

The Department of Labor and Industries
Reforestation Team 8
P.O. Box 44168
Tumwater, Washington 98504-4168

(k) Rule applicability. If any portion of this section is declared invalid, only that portion is repealed. The balance of the section shall remain in effect.

(5) Logging and/or tree thinning—Mechanized operations—Industry rule. The following subsection shall apply to all employers assigned to report worker hours in risk classification 5005, WAC 296-17A-5005.

(a) Every employer having operations subject to risk classification 5005 "logging and/or tree thinning - mecha-

nized operations" shall have their operations surveyed by labor and industries insurance services staff prior to the assignment of risk classification 5005 to their account. Annual surveys may be required after the initial survey to retain the risk classification assignment.

(b) Every employer assigned to report exposure (work hours) in risk classification 5005 shall supply an addendum report with their quarterly premium report which lists the name of each employee reported under this classification during the quarter, the Social Security number of such worker, the piece or pieces of equipment the employee operated during the quarter, the number of hours worked by the employee during the quarter, and the wages earned by the employee during the quarter.

(6) Special drywall industry rule.

(a) What is the unit of exposure for drywall reporting? Your premiums for workers installing and finishing drywall (reportable in risk classifications 0540, 0541, 0550, and 0551) are based on the amount of material installed and finished, not the number of hours worked.

The amount of material installed equals the amount of material purchased or taken from inventory for a job. No deduction can be made for material scrapped (debris). A deduction is allowed for material returned to the supplier or inventory.

The amount of material finished for a job equals the amount of material installed. No deduction can be made for a portion of the job that is not finished (base layer of double-board application or unfinished rooms).

Example: Drywall installation firm purchases 96 4' x 8' sheets of material for a job which includes some double-wall installation. The firm hangs all or parts of 92 sheets, and returns 4 sheets to the supplier for credit. Drywall finishing firm tapes, primes and textures the same job. Both firms should report 2,944 square feet (4 x 8 x 92) for the job.

(b) I do some of the work myself. Can I deduct material I as an owner install or finish? Yes. Owners (sole proprietors, partners, and corporate officers) who have not elected coverage may deduct material they install or finish.

When you as an owner install (including scrap) or finish (including tape and prime or texture) only part of a job, you may deduct an amount of material proportional to the time you worked on the job, considering the total time you and your workers spent on the job.

To deduct material installed or finished by owners, you must report to the department by job, project, site or location the amount of material you are deducting for this reason. You must file this report at the same time you file your quarterly report:

$$\text{Total owners hours} \div (\text{owners hours} + \text{workers hours}) = \text{\% of owner discount.}$$

$$\text{\% of owner discount} \times (\text{total footage of job} - \text{subcontracted footage, if any}) = \text{Total owner deduction of footage.}$$

(c) Can I deduct material installed or finished by subcontractors? You may deduct material installed or taped by subcontractors you are not required to report as your workers. You may not deduct for material only scrapped or primed and textured by subcontractors.

To deduct material installed or taped by subcontractors, you must report to the department by job, project, site or loca-

tion the amount of material being deducted. You must file this report at the same time you file your quarterly report. You must have and maintain business records that support the number of square feet worked by the subcontractor.

(d) I understand there are discounted rates available for the drywall industry. How do I qualify for them? To qualify for discounted drywall installation and finishing rates, you must:

(i) Have an owner attend two workshops the department offers (one workshop covers claims and risk management, the other covers premium reporting and recordkeeping);

(ii) Provide the department with a voluntary release authorizing the department to contact material suppliers directly about the firm's purchases;

(iii) Have and keep all your industrial insurance accounts in good standing (including the accounts of other businesses in which you have an ownership interest), which includes fully and accurately reporting and paying premiums as they come due, including reporting material deducted as owner or subcontractor work;

(iv) Provide the department with a supplemental report (filed with the firm's quarterly report) showing by employee the employee's name, Social Security number, the wages paid them during the quarter, how they are paid (piece rate, hourly, etc.), their rate of pay, and what work they performed (installation, scrapping, taping, priming/texturing); and

(v) Maintain accurate records about work you subcontracted to others and materials provided to subcontractors (as required by WAC 296-17-31013), and about payroll and employment (as required by WAC 296-17-35201).

The discounted rates will be in effect beginning with the first quarter your business meets all the requirements for the discounted rates.

Note: If you are being audited by the department while your application for the discounted classifications is pending, the department will not make a final decision regarding your rates until the audit is completed.

(e) Can I be disqualified from using the discounted rates? Yes. You can be disqualified from using the discounted rates for three years if you:

(i) Do not file all reports, including supplemental reports, when due;

(ii) Do not pay premiums on time;

(iii) Underreport the amount of premium due; or

(iv) Fail to maintain the requirements for qualifying for the discounted rates.

Disqualification takes effect when a criterion for disqualification exists.

Example: A field audit in 2002 reveals that the drywall installation firm underreported the amount of premium due in the second quarter of 2001. The firm will be disqualified from the discounted rates beginning with the second quarter of 2001, and the premiums it owed for that quarter and subsequent quarters for three years will be calculated using the nondiscounted rates.

If the drywall underwriter learns that your business has failed to meet the conditions as required in this rule, your business will need to comply to retain using the discounted classifications. If your business does not comply promptly, the drywall underwriter may refer your business for an audit.

If, as a result of an audit, the department determines your business has not complied with the conditions in this rule, your business will be disqualified from using the discounted classifications for three years (thirty-six months) from the period of last noncompliance.

(f) If I discover I have made an error in reporting or paying premium, what should I do? If you discover you have made a mistake in reporting or paying premium, you should contact the department and correct the mistake. Firms not being audited by the department who find errors in their reporting and paying premiums, and who voluntarily report their errors and pay any required premiums, penalties and interest promptly, will not be disqualified from using the discounted rates unless the department determines they acted in bad faith.

(7) Safe patient handling rule. The following subsection will apply to all hospital industry employers as applicable.

(a) Definitions. For the purpose of interpretation of this section, the following terms shall have the meanings given below:

(i) "Hospital" means an "acute care hospital" as defined in (a)(ii) of this subsection, a "mental health hospital" as defined in (a)(iii) of this subsection, or a "hospital, N.O.C. (not otherwise classified)" as defined in (a)(iv) of this subsection.

(ii) "Acute care hospital" means any institution, place, building, or agency providing accommodations, facilities, and services over a continuous period of twenty-four hours or more for observation, diagnosis, or care of two or more individuals not related to the operator who are suffering from illness, injury, deformity, or abnormality, or from any other condition for which obstetrical, medical, or surgical services would be appropriate for care or diagnosis. "Hospital" as used in this rule does not include:

Hotels, or similar places furnishing only food and lodging, or simply domiciliary care; nor does it include

Clinics, or physicians' offices where patients are not regularly kept as bed patients for twenty-four hours or more; nor does it include

Nursing homes, as defined and which come within the scope of chapter 18.51 RCW; nor does it include

Birthing centers, which come within the scope of chapter 18.46 RCW; nor does it include

Psychiatric or alcoholism hospitals, which come within the scope of chapter 71.12 RCW; nor

Any other hospital or institution specifically intended for use in the diagnosis and care of those suffering from mental illness, mental retardation, convulsive disorders, or other abnormal mental conditions.

Furthermore, nothing in this chapter will be construed as authorizing the supervision, regulation, or control of the remedial care or treatment of residents or patients in any hospital conducted for those who rely primarily upon treatment by prayer or spiritual means in accordance with the creed or tenets of any well-recognized church or religious denominations.

(iii) "Mental health hospital" means any hospital operated and maintained by the state of Washington for the care of the mentally ill.

(iv) "Hospitals, N.O.C." means health care facilities that do not qualify as acute care or mental health hospitals and may be privately owned facilities established for purposes such as, but not limited to, treating psychiatric disorders and chemical dependencies or providing physical rehabilitation.

(v) "Safe patient handling" means the use of engineering controls, lifting and transfer aids, or assistance devices, by lift teams or other staff, instead of manual lifting to perform the acts of lifting, transferring and repositioning health care patients.

(vi) "Lift team" means hospital employees specially trained to conduct patient lifts, transfers, and repositioning using lifting equipment when appropriate.

(vii) "Department" means the department of labor and industries.

(b) Hospitals will report worker hours in the risk classification that describes the nature of their operations and either their level of implementation of, or need for, the safe patient handling program.

(c) A fully implemented safe patient handling program must include:

(i) Acquisition of at least the minimum number of lifts and/or appropriate equipment for use by lift teams as specified in chapters 70.41 and 72.23 RCW.

(ii) An established safe patient handling committee with at least one-half of its membership being front line, nonmanagerial direct care staff to design and recommend the process for implementing a safe patient handling program.

(iii) Implementation of a safe patient handling policy for all shifts and units.

(iv) Conducting patient handling hazard assessments to include such variables as patient-handling tasks, types of nursing units, patient populations, and the physical environment of patient care areas.

(v) Developing a process to identify appropriate use of safe patient handling policy based on a patient's condition and availability of lifting equipment or lift teams.

(vi) Conducting an annual performance evaluation of the program to determine its effectiveness with results reported to the safe patient handling committee.

(vii) Consideration, when appropriate, to incorporate patient handling equipment or the physical space and construction design needed to incorporate that equipment at a later date during new construction or remodeling.

(viii) Development of procedures that allow employees to choose not to perform or participate in patient handling activities that the employee believes will pose a risk to him/herself or to the patient.

(d) Department staff will conduct an on-site survey of each acute care and mental health hospital before assigning a risk classification. Subsequent surveys may be conducted to confirm whether the assigned risk classification is still appropriate.

(e) To remain in classification 6120-00 or 7200-00, a hospital must submit a copy of the annual performance evaluation of their safe patient handling program, as required by chapters 70.41 and 72.23 RCW, to the Employer Services Program, Department of Labor and Industries, P.O. Box 44140, Olympia, Washington, 98504.

(8) Rules concerning work by Washington employers outside the state of Washington (extraterritorial coverage).

(a) **General definitions.** For purposes of this section, the following terms mean:

(i) "Actual hours worked" means the total hours of each Washington worker's composite work period during which work was performed by the worker beginning with the time the worker's work day commenced, and ending with the quitting time each day excluding any nonpaid lunch period.

(ii) "Work day" means any consecutive twenty-four-hour period.

(iii) "Temporary and incidental" means work performed by Washington employers on jobs or at job sites in another state for thirty or fewer consecutive or nonconsecutive full or partial work days within a calendar year. Temporary and incidental work days are calculated on a per state basis. The thirty-day temporary and incidental period begins on January 1 of each year.

(iv) "Proof of out-of-state coverage" means a copy of a valid certificate of liability insurance for workers' compensation issued by:

(A) An insurer licensed to write workers compensation insurance coverage in that state; or

(B) A state workers' compensation fund in the state in which the employer will be working.

Note: Most certificates are written for a one-year period. The employer must provide the department with a current certificate of liability insurance for workers' compensation covering all periods the employer works in another state. If the policy is canceled, the employer must provide the department with a current in-force policy.

(v) "Worker" means every person in this state who is engaged in the employment of an employer under Title 51 RCW whether by way of manual labor or otherwise in the course of his or her employment; also every person in this state who is engaged in the employment of or who is working under an independent contract, the essence of which is his or her personal labor for an employer whether by way of manual labor or otherwise.

(vi) "Employer" means any person, body of persons, corporate or otherwise, and the legal representatives of a deceased employer, all while engaged in this state in any work covered by the provisions of Title 51 RCW, by way of trade or business, or who contracts with one or more workers, the essence of which is the personal labor of such worker or workers.

(b) Does a Washington employer have to pay premiums in both states while Washington workers are temporarily working in another state? A Washington employer must continue to pay Washington premiums for Washington workers performing temporary and incidental work in another state. If the Washington employer has Washington workers who work for more than thirty days in another state, it will not need to pay premiums in Washington for work in the other state during the calendar year, as long as it fulfills the following requirements:

(i) Provides the department with proof of out-of-state coverage for the Washington workers working out-of-state.

(ii) Keeps the policy continuously in force from the date the Washington employer's work exceeds the temporary and

incidental period until the date the Washington employer no longer has Washington workers working in the other state. Failure to maintain a policy at the required level of workers' compensation coverage for the number of Washington workers working out-of-state may subject the Washington employer to payment of all premiums, penalties, and interest dues in the state of Washington.

(iii) For the first quarterly reporting period and all subsequent quarters during the same calendar year following the date the Washington employer's work exceeds the temporary and incidental period in the other state, the Washington employer must file a supplemental report of out-of-state work with their workers' compensation employer's quarterly report with the department. This supplemental report is available at: <http://www.LNI.wa.gov/ClaimsIns/Insurance/File/ExtraTerritorial/Default.asp>

(iv) Subitems (b)(i), (ii), and (iii) of this subsection must be met in each state in which the Washington employer has Washington workers working in excess of the temporary and incidental period.

Note: Workers' compensation coverage requirements vary widely among states. Washington employers should contact the regulatory agency in other states to determine the appropriate premium and coverage obligations in those states.

(c) What if a Washington employer knows the Washington workers work in another state will exceed the temporary and incidental period? If the Washington employer knows their Washington workers will be working in another state in excess of the temporary and incidental period, it must immediately provide the department with proof of out-of-state coverage in order to avoid Washington premium liability for hours worked during the temporary and incidental period.

Reminder: The temporary and incidental period applies separately to each state in which the Washington employer worked.

(d) What if a Washington employer anticipates its out-of-state work will exceed the temporary and incidental period, but it does not occur? If a Washington employer did not pay workers compensation premium to Washington during the temporary and incidental period, and at the end of the calendar year Washington workers of the Washington employer had worked fewer than thirty consecutive or non-consecutive days in another state, by the filing of the fourth quarter report, the Washington employer must file amended reports for the calendar year. The employer may be required to pay Washington premiums, penalties, and interest. The fourth quarter report is due by January 31 of the following year.

(e) What records must the employer keep while employing Washington workers in another state? In addition to filing the supplemental report of out-of-state work, the Washington employer is required to keep the same records that are kept for Washington workers working in Washington. The records are listed in WAC 296-17-35201 and must be provided at the time of audit to any authorized representative of the department who has requested them.

(f) What reports does a Washington employer file to avoid paying Washington workers' compensation premiums when employing Washington workers in another state for work that exceeds temporary and incidental? A

Washington employer must submit the workers' compensation employer's quarterly report and a supplemental report of out-of-state work to the department for each state in which it has Washington workers performing work. The supplemental report must include the following information:

(i) The Washington employer's unified business identification number (UBI).

(ii) The Washington employer's department account identification number.

(iii) The Social Security numbers for those Washington worker(s) performing work out-of-state.

(iv) The last name, first name, and middle initial of those Washington worker(s) performing work out-of-state.

(v) The gross payroll paid during the quarter for those Washington worker(s) performing work out-of-state.

(vi) The Washington workers' compensation risk classification(s) that would have applied for each Washington worker performing work out-of-state.

(vii) The total number of hours that each Washington worker performed work out-of-state during the quarter.

(viii) In addition to completing the supplemental report of out-of-state work, the Washington employer must keep a record of all contracts awarded and worked under each state. Copies of pertinent records must be made available to auditors in the event of an audit.

(g) Where do Washington workers file their workers' compensation claims if injured in the course of employment outside of Washington state? Washington workers may file their claim in the state where they were injured or in Washington state.

Washington employers must inform their Washington workers of their right to file for workers' compensation benefits in Washington or the state of injury.

The cost of these claims, if accepted by the department and assigned to the Washington employer's account, will be used in the calculations that determine the employer's experience factor and the appropriate risk classification base rate.

(h) If the Washington employer's work in another state exceeds the temporary and incidental period, may the Washington employer obtain a credit or refund for the temporary and incidental period that workers' compensation premiums were paid to Washington? Yes, but only if the Washington employer:

(i) Obtained workers' compensation insurance for all hours worked in the other state during the calendar year;

(ii) Provides proof of out-of-state coverage;

(iii) Filed the appropriate quarterly reports with the department when due; and

(iv) Otherwise complied with all statutory and regulatory requirements of Washington state.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), 09-16-110, § 296-17-35203, filed 8/4/09, effective 10/1/09. Statutory Authority: 2008 c 88, RCW 51.12.120, 51.16.035, and Title 51 RCW. 08-20-133, § 296-17-35203, filed 10/1/08, effective 11/1/08. Statutory Authority: RCW 51.16.035, 51.16.100, and 2007 c 324. 07-24-045, § 296-17-35203, filed 12/1/07, effective 1/1/08. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020. 07-12-045, § 296-17-35203, filed 5/31/07, effective 7/1/07. Statutory Authority: RCW 51.16.035 and 51.16.100. 06-23-127, § 296-17-35203, filed 11/21/06, effective 1/1/07; 05-23-161, § 296-17-35203, filed 11/22/05, effective 1/1/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-35203, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073. 02-09-093, § 296-17-35203, filed 4/17/02, effective 7/1/02. Statutory Authority: RCW

51.16.035. 01-23-059, § 296-17-35203, filed 11/20/01, effective 1/1/02; 99-18-068, § 296-17-35203, filed 8/31/99, effective 10/1/99; 98-18-042, § 296-17-35203, filed 8/28/98, effective 10/1/98.]

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 expected losses for an average employer reporting the same exposures in each classification. The comparison shall contain actuarial refinements designed to weigh the extent to which the actual experience is credible, 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 WAC 296-17-860 or 296-17-865, the experience modification factor shall be calculated from the formula:

$$\begin{aligned} \text{EXPERIENCE MODIFICATION FACTOR} &= \frac{(\text{Credible Actual Primary Loss} + \text{Credible Actual Excess Loss}) / \text{Expected Loss}}{\text{Where}} \\ \text{Credible Actual Primary Loss} &= \text{Actual Primary Loss} \times \text{Primary Credibility} \\ &+ \text{Expected Primary Loss} \times (100\% - \text{Primary Credibility}) \\ \text{Credible Actual Excess Loss} &= \text{Actual Excess Loss} \times \text{Excess Credibility} \\ &+ \text{Expected Excess Loss} \times (100\% - \text{Excess Credibility}) \end{aligned}$$

The meaning and function of each term in the formula is specified below.

For each claim, the actual primary loss is the first dollar portion of the claim costs, which has been shown in actuarial studies, to have the greater credibility in predicting future experience. These amounts are summed over all claims. For each claim in excess of \$20,112 the actual primary loss shall be determined from the formula:

$$\text{ACTUAL PRIMARY LOSS} = \frac{50,280}{(\text{Total loss} + 30,168)} \times \text{total loss}$$

For each claim, less than \$20,112 the full value of the claim shall be considered a primary loss.

For each claim, the excess actual loss is the remaining portion of the claim costs, which have been shown in actuarial studies to have less credibility in predicting future experience. The excess actual loss for each claim shall be determined by subtracting the primary loss from the total loss. These amounts are summed over all claims.

For any claim without disability benefits (time loss, partial permanent disability, total permanent disability or death) either actually paid or estimated to be paid, the total actual losses for calculating the primary loss and excess loss shall first be reduced by the lesser of \$1,950 or the total cost of the claim. Here are some examples for these claims:

Total Loss	Total Loss (after deduction)	Primary Loss	Excess Loss
200	-	-	-
2,000	50	50	-
20,000	18,050	18,050	-
200,000	198,050	43,634	154,416
2,000,000	220,638	44,232	176,406

Note: The deduction, \$1,950, is twice the average case incurred cost of these types of claims occurring during the three-year period used for experience rating. On average this results in reducing the average actual loss about seventy percent for these types of claims adjusted. This is done to help make the transition between the two different experience rating methods better by helping make the change in experience factor reasonable for small changes to the actual losses. The \$2,000,000 loss is limited by the Maximum Claim Value before the reduction of \$1,950 is applied.

For each employer, the primary credibility and the excess credibility determines the percentage weight given to the corresponding actual primary losses and the actual excess losses, included in the calculation of the experience modification, based on the volume of expected losses. Primary credibility and excess credibility values are set forth in Table II.

An employer's expected losses shall be determined by summing the expected loss for each of the three years of the experience period, which are calculated by multiplying the reported exposure in each classification during the year by the corresponding classification expected loss rate and rounding the result to the nearest cent. Classification expected loss rates by year are set forth in Table III.

Expected losses in each classification shall be multiplied by the classification "Primary-Ratio" to obtain "expected primary losses" which shall be rounded to the nearest cent. Expected excess losses shall then be calculated by subtracting expected primary losses from expected total losses rounded to the nearest cent. Primary-Ratios are also set forth in Table III.

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-855, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-855, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-855, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-855, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-855, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-855, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-855, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-855, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-17-855, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-855, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.16.035, 51.04.020. 00-14-052, § 296-17-855, filed 7/1/00, effective 7/1/00. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-855, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-855, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-855, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-855, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.04.020. 95-23-080, § 296-17-855, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-855, filed 11/28/94, effective 1/1/95; 93-24-114, § 296-17-855, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 93-12-093, § 296-17-855, filed 5/31/93, effective 7/1/93; 92-24-063, § 296-17-855, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-855, filed 11/27/91, effective 1/1/92; 90-24-042, § 296-17-855, filed 11/30/90, effective 1/1/91; 89-24-051 (Order 89-22), § 296-17-855, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035 and 51.04.020. 88-24-012 (Order 88-30), § 296-17-855, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035. 87-24-060 (Order 87-26), § 296-17-855, filed 12/1/87, effective 1/1/88. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 86-24-042 (Order 86-41), § 296-17-855, filed 11/26/86. Statutory Authority: RCW 51.16.035. 85-24-032 (Order 85-33), § 296-17-855, filed 11/27/85, effective 1/1/86; 84-24-016 (Order 84-23), § 296-17-855, filed 11/28/84, effective 1/1/85; 83-24-017 (Order 83-36), § 296-17-855, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-855, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-855, filed 11/30/81, effective 1/1/82; 80-17-016 (Order 80-23), § 296-17-855, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-855, filed 11/30/79, effective 1/1/80; Order 77-27, § 296-17-855, filed 11/30/77, effective 1/1/78.]

tive 1/1/78; Order 74-40, § 296-17-855, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-855, filed 11/9/73, effective 1/1/74.]

WAC 296-17-870 Evaluation of actual losses. (1) Except as provided in subsections (3) through (12) of this section, the actual losses for claims with a date of injury during the experience period will be evaluated on the "valuation date." Losses on claims occurring outside the experience period will not be included. The actual losses for closed claims must include:

- (a) Accident and medical aid payments; and
- (b) Pension reserve amounts paid by the accident fund; and
- (c) Accident and medical aid benefits or payments that are scheduled to be paid; and
- (d) Reserve for other accident and medical aid benefits accessible by the worker while the claim is closed.

The actual losses for claims that are open may, in addition, also include a reserve for future payments.

(2) **Valuation date.** The valuation date shall be June 1, seven months immediately preceding the effective date of premium rates.

(3) **Retroactive adjustments - revision of losses between valuation dates.** No claim value shall be revised between valuation dates and no retroactive adjustment of an experience modification shall be made because of disputation concerning the judgment of the claims examiner or because of subsequent developments except as specifically provided in the following cases:

- (a) In cases where loss values are included or excluded through mistake other than error of judgment.
- (b) In cases where a third party recovery is made, subject to subsection (5)(a) of this section.
- (c) In cases where the claim qualifies as a second injury claim under the provisions of RCW 51.16.120.
- (d) In cases where a claim, which was previously evaluated as a compensable claim, is closed and is determined to be noncompensable (ineligible for benefits other than medical treatment).
- (e) In cases where a claim is closed and is determined to be ineligible for any benefits.

In the above specified cases retroactive adjustment of the experience modification shall be made for each rating in which the claim was included. Retroactive adjustments will not be made for rating periods more than ten years prior to the date on which the claim status was changed.

(4) **Average death value.** Each fatality occurring to a worker included within the mandatory or elective coverage of Title 51 RCW shall be assigned the "average death value." The "average death value" shall be the average incurred cost for all such fatalities occurring during the experience period. The average death value is set forth in WAC 296-17-880 (Table II).

(5) **Third-party recovery - effect on experience modification.**

(a) For claims with injury dates prior to July 1, 1994, a potential claim cost recovery from action against a third party, either by the injured worker or by the department, shall not be considered in the evaluation of actual losses until such time as the third-party action has been completed. If a third-party recovery is made after a claim had previously been used

in an experience modification calculation, the experience modification shall be retroactively adjusted. The department shall compute a percentage recovery by dividing the current valuation of the claim into the amount recovered or recoverable as of the recovery date, and shall reduce both primary and excess losses previously used in the experience modification calculation by that percentage.

(b) For claims with injury dates on or after July 1, 1994, if the department determines that there is a reasonable potential of recovery from an action against a third party, both primary and excess values of the claim shall be reduced by fifty percent for purposes of experience modification calculation, until such time as the third-party action has been completed. This calculation shall not be retroactively adjusted, regardless of the final outcome of the third-party action. After a third-party recovery is made, the actual percentage recovery shall be applied to future experience modification calculations.

(c) For third-party actions completed before July 1, 1996, the claim shall be credited with the department's net share of the recovery, after deducting attorney fees and costs. For third-party actions 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 and costs.

(d) **Definitions:**

(i) As used in this section, "recovery date" means the date the money is received at the department or the date the order confirming the distribution of the recovery becomes final, whichever comes first.

(ii) As used in this section, "recoverable" means any amount due as of the recovery date and/or any amount available to offset case reserved future benefits.

(6) **Second injury claims.** The primary and excess values of any claim which becomes eligible for second injury relief under the provisions of RCW 51.16.120, as now or hereafter amended, shall be reduced by the percentage of relief granted.

(7) **Occupational disease claims.** When a claim results from an employee's exposure to an occupational disease hazard, the "date of injury," for the purpose of experience rating, will be the date the disability was diagnosed and that gave rise to the filing of a claim for benefits. The cost of any occupational disease claim, paid from the accident fund and medical aid fund and arising from exposure to the disease hazard under two or more employers, shall be prorated to each period of employment involving exposure to the hazard. Each insured employer who had employed the claimant during the experience period, and for at least ten percent of the claimant's exposure to the hazard, shall be charged for his/her share of the claim based upon the prorated costs.

(8) **Maximum claim value.** No claim shall enter an employer's experience record at a value greater than the "maximum claim value." The maximum claim value is set forth in WAC 296-17-880 (Table II).

(9) **Catastrophic losses.** Whenever a single accident results in the deaths or total permanent disability of three or more workers employed by the same employer, costs charged to the employer's experience shall be limited as required by RCW 51.16.130.

(10) **Acts of terrorism.** Whenever any worker insured with the state fund sustains an injury or occupational disease

as a result of an incident certified to be an act of terrorism under the U.S. Terrorism Risk Insurance Act of 2002, the costs of the resulting claim shall be excluded from the experience rating computation of the worker's employer.

(11) **Claims filed by preferred workers.** The costs of subsequent claims filed by certified preferred workers will not be included in experience calculations, as provided in WAC 296-16-010.

(12) **Life and rescue phase of emergencies:** This provision applies to "emergency workers" of nongovernmental employers assigned to report in classification 7205 (WAC 296-17A-7205) who assist in a life and rescue phase of a state or local emergency (disaster). The life and rescue phase of an emergency is defined in RCW 51.16.130(3) as being the first seventy-two hours after a natural or man-made disaster has occurred. For an employer to qualify for this special experience rating relief, a state or local official such as, but not limited to, the governor; a county executive; a mayor; a fire marshal; a sheriff or police chief must declare an emergency and must request help from private sector employers to assist in locating and rescuing survivors. This special relief is only applicable to nongovernmental employers during this initial seventy-two hour phase of the declared emergency unless the emergency has been extended by the official who declared the emergency. The cost of injuries or occupational disease claims filed by employees of nongovernmental employers assisting in the life and rescue phase of a declared emergency will not be charged to the experience record of the nongovernmental state fund employer.

[Statutory Authority: RCW 51.16.035, 51.16.100, and Title 51 RCW 09-16-109, § 296-17-870, filed 8/4/09, effective 10/1/09. Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1), 08-24-074, § 296-17-870, filed 12/1/08, effective 1/1/09. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020, 07-12-045, § 296-17-870, filed 5/31/07, effective 7/1/07. Statutory Authority: RCW 51.16.035, 51.16.100, 05-23-161, § 296-17-870, filed 11/22/05, effective 1/1/06. Statutory Authority: RCW 51.16.035 and 51.04.020, 04-10-045, § 296-17-870, filed 4/30/04, effective 6/1/04. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010, 03-24-066, § 296-17-870, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 98-18-042, § 296-17-870, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-870, filed 5/31/96, effective 7/1/96. Statutory Authority: RCW 51.04.020(1) and 51.16.035, 90-13-018, § 296-17-870, filed 6/8/90, effective 7/9/90; 89-24-051 (Order 89-22), § 296-17-870, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035 and 51.04.020, 88-24-012 (Order 88-30), § 296-17-870, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035, 88-16-012 (Order 88-12), § 296-17-870 filed 7/22/88, effective 1/1/89; 81-24-042 (Order 81-30), § 296-17-870, filed 11/30/81, effective 1/1/82. Statutory Authority: RCW 51.04.020(1) and 51.16.035, 78-12-043 (Order 78-23), § 296-17-870, filed 11/27/78, effective 1/1/79; Order 75-38, § 296-17-870, filed 11/24/75, effective 1/1/76; Order 74-40, § 296-17-870, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-870, filed 11/9/73, effective 1/1/74.]

WAC 296-17-875 Table I.

Primary Losses for Selected Claim Values Effective January 1, 2010	
CLAIM VALUE	PRIMARY LOSS
5,000	5,000
10,000	10,000
15,000	15,000
20,112	20,112
29,834	25,000
44,627	30,000
69,102	35,000

CLAIM VALUE	PRIMARY LOSS
100,000	38,627
117,385	40,000
200,000	43,690
222,588**	44,279

** Maximum claim value

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1), 09-24-086, § 296-17-875, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-875, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-875, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-875, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073, 05-23-162, § 296-17-875, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-875, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010, 03-24-066, § 296-17-875, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1), 02-24-029, § 296-17-875, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010, 01-23-061, § 296-17-875, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-875, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073, 99-24-055, § 296-17-875, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-875, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-875, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-875, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.04.020, 95-23-080, § 296-17-875, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-875, filed 11/28/94, effective 1/1/95; 93-24-114, § 296-17-875, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035, 92-24-063, § 296-17-875, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-875, filed 11/27/91, effective 1/1/92; 90-24-042, § 296-17-875, filed 11/30/90, effective 1/1/91; 89-24-051 (Order 89-22), § 296-17-875, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035 and 51.04.020, 88-24-012 (Order 88-30), § 296-17-875, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035, 87-24-060 (Order 87-26), § 296-17-875, filed 12/1/87, effective 1/1/88. Statutory Authority: RCW 51.04.020(1) and 51.16.035, 86-24-042 (Order 86-41), § 296-17-875, filed 11/26/86. Statutory Authority: RCW 51.16.035, 86-12-041 (Order 86-18), § 296-17-875, filed 5/30/86, effective 7/1/86; 85-24-032 (Order 85-33), § 296-17-875, filed 11/27/85, effective 1/1/86; 84-24-016 (Order 84-23), § 296-17-875, filed 11/28/84, effective 1/1/85; 83-24-017 (Order 83-36), § 296-17-875, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-875, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-875, filed 11/30/81, effective 1/1/82; 80-17-016 (Order 80-23), § 296-17-875, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035, 79-12-086 (Order 79-18), § 296-17-875, filed 11/30/79, effective 1/1/80. Statutory Authority: RCW 51.04.020(1) and 51.16.035, 78-12-043 (Order 78-23), § 296-17-875, filed 11/27/78, effective 1/1/79; Order 77-27, § 296-17-875, filed 11/30/77, effective 1/1/78; Order 76-36, § 296-17-875, filed 11/30/76; Order 75-38, § 296-17-875, filed 11/24/75, effective 1/1/76; Order 74-40, § 296-17-875, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-875, filed 11/9/73, effective 1/1/74.]

WAC 296-17-880 Table II.

**PRIMARY AND EXCESS CREDIBILITY VALUES
Effective January 1, 2010**

Maximum Claim Value = \$222,588
Average Death Value = \$222,588

Expected Losses	Primary Credibility	Excess Credibility
1 - 7,397	12%	7%
7,398 - 7,896	13%	7%
7,897 - 8,402	14%	7%
8,403 - 8,912	15%	7%
8,913 - 9,428	16%	7%
9,429 - 9,952	17%	7%
9,953 - 10,481	18%	7%
10,482 - 11,018	19%	7%
11,019 - 11,562	20%	7%

PRIMARY AND EXCESS CREDIBILITY VALUES

Effective January 1, 2010

Maximum Claim Value = \$222,588

Average Death Value = \$222,588

Expected Losses	Primary Credibility	Excess Credibility
11,563 - 12,113	21%	7%
12,114 - 12,673	22%	7%
12,674 - 13,240	23%	7%
13,241 - 13,815	24%	7%
13,816 - 14,401	25%	7%
14,402 - 14,995	26%	7%
14,996 - 15,597	27%	7%
15,598 - 16,212	28%	7%
16,213 - 16,836	29%	7%
16,837 - 17,473	30%	7%
17,474 - 18,122	31%	7%
18,123 - 18,783	32%	7%
18,784 - 19,458	33%	7%
19,459 - 20,147	34%	7%
20,148 - 20,851	35%	7%
20,852 - 21,572	36%	7%
21,573 - 22,311	37%	7%
22,312 - 23,070	38%	7%
23,071 - 23,848	39%	7%
23,849 - 24,650	40%	7%
24,651 - 25,475	41%	7%
25,476 - 26,328	42%	7%
26,329 - 27,211	43%	7%
27,212 - 28,126	44%	7%
28,127 - 29,079	45%	7%
29,080 - 30,073	46%	7%
30,074 - 31,115	47%	7%
31,116 - 32,214	48%	7%
32,215 - 33,379	49%	7%
33,380 - 34,623	50%	7%
34,624 - 35,966	51%	7%
35,967 - 37,435	52%	7%
37,436 - 39,075	53%	7%
39,076 - 39,242	54%	7%
39,243 - 40,964	54%	8%
40,965 - 43,270	55%	8%
43,271 - 65,487	56%	8%
65,488 - 72,180	57%	8%
72,181 - 103,099	57%	9%
103,100 - 106,190	57%	10%
106,191 - 134,208	58%	10%
134,209 - 146,892	58%	11%
146,893 - 165,512	59%	11%
165,513 - 187,594	59%	12%
187,595 - 197,005	60%	12%
197,006 - 228,297	60%	13%
228,298 - 228,696	61%	13%
228,697 - 260,585	61%	14%
260,586 - 268,999	61%	15%
269,000 - 292,674	62%	15%
292,675 - 309,701	62%	16%
309,702 - 324,963	63%	16%
324,964 - 350,404	63%	17%

PRIMARY AND EXCESS CREDIBILITY VALUES

Effective January 1, 2010

Maximum Claim Value = \$222,588

Average Death Value = \$222,588

Expected Losses	Primary Credibility	Excess Credibility
350,405 - 357,455	64%	17%
357,456 - 390,153	64%	18%
390,154 - 391,105	64%	19%
391,106 - 423,059	65%	19%
423,060 - 431,807	65%	20%
431,808 - 456,173	66%	20%
456,174 - 472,510	66%	21%
472,511 - 489,497	67%	21%
489,498 - 513,213	67%	22%
513,214 - 523,036	68%	22%
523,037 - 553,914	68%	23%
553,915 - 556,788	69%	23%
556,789 - 590,759	69%	24%
590,760 - 594,616	69%	25%
594,617 - 624,947	70%	25%
624,948 - 635,319	70%	26%
635,320 - 659,359	71%	26%
659,360 - 676,022	71%	27%
676,023 - 693,993	72%	27%
693,994 - 716,723	72%	28%
716,724 - 728,854	73%	28%
728,855 - 757,427	73%	29%
757,428 - 763,941	74%	29%
763,942 - 798,128	74%	30%
798,129 - 799,260	75%	30%
799,261 - 834,811	75%	31%
834,812 - 838,831	75%	32%
838,832 - 870,597	76%	32%
870,598 - 879,532	76%	33%
879,533 - 906,619	77%	33%
906,620 - 920,236	77%	34%
920,237 - 942,883	78%	34%
942,884 - 960,938	78%	35%
960,939 - 979,387	79%	35%
979,388 - 1,001,640	79%	36%
1,001,641 - 1,016,135	80%	36%
1,016,136 - 1,042,341	80%	37%
1,042,342 - 1,053,130	81%	37%
1,053,131 - 1,083,044	81%	38%
1,083,045 - 1,090,375	82%	38%
1,090,376 - 1,123,747	82%	39%
1,123,748 - 1,127,872	83%	39%
1,127,873 - 1,164,450	83%	40%
1,164,451 - 1,165,623	84%	40%
1,165,624 - 1,203,630	84%	41%
1,203,631 - 1,205,149	84%	42%
1,205,150 - 1,241,896	85%	42%
1,241,897 - 1,245,853	85%	43%
1,245,854 - 1,280,427	86%	43%
1,280,428 - 1,286,556	86%	44%
1,286,557 - 1,319,220	87%	44%
1,319,221 - 1,327,259	87%	45%
1,327,260 - 1,358,283	88%	45%

PRIMARY AND EXCESS CREDIBILITY VALUES

Effective January 1, 2010

Maximum Claim Value = \$222,588

Average Death Value = \$222,588

Expected Losses	Primary Credibility	Excess Credibility
1,358,284 - 1,367,960	88%	46%
1,367,961 - 1,397,616	89%	46%
1,397,617 - 1,408,662	89%	47%
1,408,663 - 1,437,222	90%	47%
1,437,223 - 1,449,366	90%	48%
1,449,367 - 1,477,104	91%	48%
1,477,105 - 1,490,066	91%	49%
1,490,067 - 1,517,265	92%	49%
1,517,266 - 1,530,770	92%	50%
1,530,771 - 1,557,709	93%	50%
1,557,710 - 1,571,471	93%	51%
1,571,472 - 1,598,437	94%	51%
1,598,438 - 1,612,174	94%	52%
1,612,175 - 1,639,454	95%	52%
1,639,455 - 1,652,875	95%	53%
1,652,876 - 1,680,761	96%	53%
1,680,762 - 1,693,579	96%	54%
1,693,580 - 1,722,362	97%	54%
1,722,363 - 1,734,280	97%	55%
1,734,281 - 1,764,260	98%	55%
1,764,261 - 1,774,983	98%	56%
1,774,984 - 1,806,460	99%	56%
1,806,461 - 1,815,684	99%	57%
1,815,685 - 1,848,964	100%	57%
1,848,965 - 1,891,774	100%	58%
1,891,775 - 1,934,894	100%	59%
1,934,895 - 1,978,329	100%	60%
1,978,330 - 2,022,081	100%	61%
2,022,082 - 2,066,153	100%	62%
2,066,154 - 2,110,549	100%	63%
2,110,550 - 2,155,273	100%	64%
2,155,274 - 2,200,329	100%	65%
2,200,330 - 2,245,721	100%	66%
2,245,722 - 2,291,452	100%	67%
2,291,453 - 2,337,524	100%	68%
2,337,525 - 2,383,944	100%	69%
2,383,945 - 2,430,714	100%	70%
2,430,715 - 2,477,839	100%	71%
2,477,840 - 2,525,323	100%	72%
2,525,324 - 2,573,168	100%	73%
2,573,169 - 2,621,382	100%	74%
2,621,383 - 2,669,965	100%	75%
2,669,966 - 2,718,924	100%	76%
2,718,925 - 2,768,263	100%	77%
2,768,264 - 2,817,987	100%	78%
2,817,988 - 2,868,099	100%	79%
2,868,100 - 2,918,604	100%	80%
2,918,605 - 2,969,509	100%	81%
2,969,510 - 3,020,814	100%	82%
3,020,815 - 3,072,528	100%	83%
3,072,529 - 3,124,653	100%	84%
3,124,654 - 3,177,197	100%	85%
3,177,198 & over	100%	86%

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-880, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-880, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-880, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-880, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-880, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-880, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-880, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-880, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-17-880, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-880, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-880, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-880, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-880, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-880, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.04.020, 95-23-080, § 296-17-880, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-880, filed 11/28/94, effective 1/1/95; 93-24-114, § 296-17-880, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 92-24-063, § 296-17-880, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-880, filed 11/27/91, effective 1/1/92; 90-24-042, § 296-17-880, filed 11/30/90, effective 1/1/91; 89-24-051 (Order 89-22), § 296-17-880, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035 and 51.04.020. 88-24-012 (Order 88-30), § 296-17-880, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035. 87-24-060 (Order 87-26), § 296-17-880, filed 12/1/87, effective 1/1/88. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 86-24-042 (Order 86-41), § 296-17-880, filed 11/26/86. Statutory Authority: RCW 51.16.035. 85-24-032 (Order 85-33), § 296-17-880, filed 11/27/85, effective 1/1/86; 84-24-016 (Order 84-23), § 296-17-880, filed 11/28/84, effective 1/1/85; 83-24-017 (Order 83-36), § 296-17-880, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-880, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-880, filed 11/30/81, effective 1/1/82; 80-17-016 (Order 80-23), § 296-17-880, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-880, filed 11/30/79, effective 1/1/80. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 78-12-043 (Order 78-23), § 296-17-880, filed 11/27/78, effective 1/1/79; Order 77-27, § 296-17-880, filed 11/30/77, effective 1/1/78; Order 76-36, § 296-17-880, filed 11/30/76; Order 75-38, § 296-17-880, filed 11/24/75, effective 1/1/76; Order 74-40, § 296-17-880, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-880, filed 11/9/73, effective 1/1/74.]

WAC 296-17-885 Table III.

Expected Loss Rates and Primary Ratios
for Indicated Fiscal Year
Expected Loss Rates in Dollars Per Worker Hour
Effective January 1, 2010

Class	2006	2007	2008	Primary Ratio
0101	1.1114	1.0759	0.9654	0.468
0103	1.5650	1.5168	1.3645	0.474
0104	0.8112	0.7861	0.7065	0.475
0105	1.1603	1.1243	1.0051	0.536
0107	1.1546	1.1158	1.0008	0.446
0108	0.8112	0.7861	0.7065	0.475
0112	0.6183	0.5990	0.5378	0.482
0201	2.2598	2.1766	1.9445	0.412
0202	2.7958	2.7091	2.4476	0.414
0210	1.0213	0.9855	0.8791	0.463
0212	1.1915	1.1512	1.0296	0.459
0214	1.2870	1.2420	1.1077	0.474
0217	0.9020	0.8723	0.7793	0.496
0219	1.0322	0.9998	0.8957	0.485
0301	0.6054	0.5875	0.5266	0.547
0302	1.7359	1.6757	1.4991	0.444
0303	1.5459	1.4927	1.3366	0.442
0306	0.8526	0.8237	0.7354	0.480
0307	0.8169	0.7906	0.7074	0.497
0308	0.5054	0.4913	0.4415	0.557

Class	2006	2007	2008	Primary Ratio	Class	2006	2007	2008	Primary Ratio
0403	1.5614	1.5117	1.3509	0.512	2907	0.5046	0.4898	0.4380	0.572
0502	1.1718	1.1319	1.0111	0.467	2908	0.9817	0.9529	0.8578	0.493
0504	1.5718	1.5270	1.3810	0.463	2909	0.3750	0.3652	0.3299	0.543
0507	2.6227	2.5479	2.3041	0.466	3101	0.7036	0.6819	0.6116	0.505
0508	1.6478	1.5919	1.4330	0.409	3102	0.2601	0.2526	0.2274	0.525
0509	1.7113	1.6581	1.5026	0.401	3103	0.5159	0.5011	0.4512	0.504
0510	1.5550	1.5088	1.3598	0.476	3104	0.5885	0.5706	0.5119	0.520
0511	1.4156	1.3669	1.2167	0.501	3105	0.6947	0.6759	0.6099	0.534
0512	1.3932	1.3500	1.2204	0.427	3303	0.4184	0.4059	0.3630	0.565
0513	0.6680	0.6462	0.5774	0.497	3304	0.4724	0.4602	0.4155	0.573
0514	1.7000	1.6434	1.4680	0.491	3309	0.3774	0.3668	0.3314	0.509
0516	1.3886	1.3451	1.2089	0.470	3402	0.5219	0.5067	0.4553	0.523
0517	1.8369	1.7838	1.6149	0.448	3403	0.1959	0.1905	0.1723	0.512
0518	1.2678	1.2266	1.1005	0.463	3404	0.4852	0.4716	0.4240	0.542
0519	1.7529	1.6999	1.5351	0.438	3405	0.2917	0.2836	0.2548	0.563
0521	0.5298	0.5129	0.4599	0.485	3406	0.2233	0.2170	0.1943	0.593
0601	0.5481	0.5306	0.4753	0.489	3407	0.7775	0.7523	0.6722	0.503
0602	0.6846	0.6603	0.5867	0.498	3408	0.1984	0.1919	0.1691	0.618
0603	0.9434	0.9131	0.8248	0.415	3409	0.1638	0.1587	0.1409	0.634
0604	0.9762	0.9500	0.8602	0.497	3410	0.2700	0.2624	0.2355	0.578
0606	0.5167	0.5008	0.4471	0.551	3411	0.4654	0.4509	0.4038	0.518
0607	0.5520	0.5339	0.4750	0.550	3412	0.5586	0.5404	0.4843	0.475
0608	0.3178	0.3084	0.2774	0.506	3414	0.5338	0.5175	0.4640	0.523
0701	1.7045	1.6400	1.4710	0.373	3415	0.7721	0.7518	0.6859	0.437
0803	0.4471	0.4335	0.3877	0.553	3501	1.0079	0.9780	0.8769	0.515
0901	1.2678	1.2266	1.1005	0.463	3503	0.2927	0.2865	0.2615	0.562
1002	0.9746	0.9462	0.8534	0.485	3506	0.8239	0.7957	0.7097	0.487
1003	0.7361	0.7150	0.6445	0.499	3509	0.4001	0.3888	0.3485	0.604
1004	0.5123	0.4949	0.4399	0.515	3510	0.3349	0.3251	0.2906	0.579
1005	7.6720	7.4154	6.6182	0.457	3511	0.6143	0.5977	0.5406	0.504
1007	0.3219	0.3110	0.2776	0.489	3512	0.3503	0.3416	0.3092	0.568
1101	0.7326	0.7100	0.6347	0.539	3513	0.4661	0.4564	0.4200	0.468
1102	1.3217	1.2784	1.1454	0.468	3602	0.1231	0.1196	0.1073	0.555
1103	1.1538	1.1196	1.0087	0.468	3603	0.4499	0.4377	0.3942	0.553
1104	0.5619	0.5462	0.4902	0.569	3604	0.7561	0.7406	0.6816	0.488
1105	0.7857	0.7610	0.6826	0.487	3605	0.5027	0.4867	0.4337	0.540
1106	0.3255	0.3181	0.2900	0.530	3701	0.2601	0.2526	0.2274	0.525
1108	0.5995	0.5814	0.5212	0.535	3702	0.4195	0.4071	0.3643	0.561
1109	1.4021	1.3606	1.2236	0.501	3708	0.5594	0.5413	0.4820	0.543
1301	0.5536	0.5328	0.4663	0.578	3802	0.1935	0.1881	0.1689	0.560
1303	0.2020	0.1956	0.1741	0.570	3808	0.3972	0.3851	0.3463	0.493
1304	0.0283	0.0274	0.0245	0.542	3901	0.1700	0.1658	0.1496	0.608
1305	0.4548	0.4407	0.3933	0.565	3902	0.4488	0.4372	0.3951	0.551
1401	0.4377	0.4281	0.3936	0.437	3903	1.0714	1.0470	0.9543	0.527
1404	0.7967	0.7724	0.6895	0.569	3905	0.1512	0.1476	0.1339	0.587
1405	0.6202	0.6000	0.5303	0.594	3906	0.4715	0.4588	0.4137	0.548
1407	0.4914	0.4787	0.4326	0.539	3909	0.2641	0.2574	0.2326	0.570
1501	0.5700	0.5511	0.4900	0.547	4002	1.1682	1.1292	1.0078	0.498
1507	0.5658	0.5478	0.4888	0.538	4101	0.3270	0.3175	0.2854	0.533
1701	0.8544	0.8282	0.7430	0.490	4103	0.4931	0.4795	0.4294	0.601
1702	1.7516	1.6925	1.5272	0.383	4107	0.1515	0.1473	0.1328	0.524
1703	0.7723	0.7427	0.6605	0.428	4108	0.1728	0.1677	0.1502	0.568
1704	0.8544	0.8282	0.7430	0.490	4109	0.1949	0.1896	0.1714	0.525
1801	0.4503	0.4386	0.4003	0.440	4201	0.6465	0.6226	0.5498	0.517
1802	0.6916	0.6714	0.6018	0.526	4301	0.6273	0.6113	0.5522	0.554
2002	0.7252	0.7049	0.6347	0.525	4302	0.6517	0.6320	0.5645	0.554
2004	0.8591	0.8341	0.7472	0.553	4304	0.9024	0.8800	0.7982	0.525
2007	0.5045	0.4905	0.4425	0.525	4305	1.1617	1.1197	0.9872	0.552
2008	0.3224	0.3137	0.2842	0.506	4401	0.3994	0.3904	0.3566	0.498
2009	0.3849	0.3748	0.3378	0.556	4402	0.8434	0.8175	0.7291	0.589
2101	0.6444	0.6266	0.5643	0.525	4404	0.5064	0.4929	0.4447	0.536
2102	0.5281	0.5135	0.4615	0.567	4501	0.1824	0.1781	0.1604	0.615
2104	0.3194	0.3126	0.2847	0.582	4502	0.0386	0.0377	0.0342	0.530
2105	0.5351	0.5190	0.4632	0.582	4504	0.1089	0.1064	0.0964	0.615
2106	0.4149	0.4036	0.3630	0.550	4601	0.7463	0.7244	0.6492	0.533
2201	0.2381	0.2317	0.2092	0.524	4802	0.3336	0.3257	0.2966	0.504
2202	0.6912	0.6706	0.6020	0.529	4803	0.3012	0.2944	0.2678	0.576
2203	0.4575	0.4447	0.3993	0.569	4804	0.4924	0.4794	0.4317	0.577
2204	0.2381	0.2317	0.2092	0.524	4805	0.2855	0.2780	0.2507	0.580
2401	0.5015	0.4829	0.4225	0.587	4806	0.0592	0.0577	0.0525	0.538
2903	0.6155	0.5987	0.5391	0.550	4808	0.4690	0.4582	0.4179	0.498
2904	0.6504	0.6327	0.5723	0.515	4809	0.3388	0.3308	0.3003	0.562
2905	0.5846	0.5682	0.5101	0.567	4810	0.1401	0.1370	0.1243	0.577
2906	0.3292	0.3203	0.2890	0.547	4811	0.3016	0.2950	0.2685	0.580

Workers' Compensation Insurance

296-17-885

Class	2006	2007	2008	Primary Ratio	Class	2006	2007	2008	Primary Ratio
4812	0.3836	0.3732	0.3360	0.577	6502	0.0321	0.0312	0.0280	0.554
4813	0.1596	0.1558	0.1410	0.572	6503	0.0714	0.0691	0.0615	0.529
4900	0.1898	0.1839	0.1666	0.413	6504	0.3715	0.3626	0.3282	0.603
4901	0.0643	0.0625	0.0562	0.502	6505	0.1053	0.1034	0.0945	0.612
4902	0.1116	0.1081	0.0964	0.561	6506	0.1055	0.1029	0.0930	0.588
4903	0.1563	0.1512	0.1335	0.621	6509	0.3741	0.3648	0.3298	0.570
4904	0.0265	0.0259	0.0234	0.565	6510	0.4330	0.4197	0.3771	0.470
4905	0.3723	0.3639	0.3308	0.571	6511	0.3891	0.3787	0.3410	0.570
4906	0.0929	0.0900	0.0801	0.584	6512	0.1693	0.1644	0.1479	0.520
4907	0.0514	0.0502	0.0454	0.554	6601	0.1901	0.1851	0.1671	0.542
4908	0.0773	0.0765	0.0707	0.560	6602	0.5122	0.4986	0.4505	0.540
4909	0.0368	0.0367	0.0346	0.521	6603	0.3289	0.3191	0.2856	0.557
4910	0.4523	0.4398	0.3969	0.515	6604	0.0809	0.0787	0.0706	0.591
4911	0.0564	0.0548	0.0495	0.514	6605	0.3239	0.3165	0.2865	0.602
5001	6.2704	6.0760	5.4982	0.398	6607	0.1651	0.1606	0.1443	0.556
5002	0.5767	0.5580	0.4958	0.562	6608	0.4786	0.4616	0.4139	0.421
5003	1.9816	1.9178	1.7282	0.421	6620	3.1606	3.0426	2.6641	0.605
5004	0.7844	0.7649	0.6982	0.452	6704	0.1452	0.1410	0.1262	0.576
5005	0.5810	0.5634	0.5081	0.437	6705	0.8094	0.7911	0.7181	0.593
5006	1.3366	1.2943	1.1689	0.402	6706	0.2975	0.2909	0.2660	0.525
5101	0.8349	0.8084	0.7205	0.551	6707	4.3172	4.2003	3.7312	0.696
5103	0.7374	0.7183	0.6479	0.575	6708	8.1890	8.1121	7.6401	0.450
5106	0.7374	0.7183	0.6479	0.575	6709	0.2640	0.2576	0.2331	0.577
5108	0.8239	0.8014	0.7207	0.577	6801	0.6067	0.5856	0.5174	0.573
5109	0.4929	0.4778	0.4283	0.520	6802	0.5553	0.5382	0.4786	0.593
5201	0.3848	0.3731	0.3344	0.546	6803	0.8073	0.7821	0.7115	0.363
5204	0.8431	0.8189	0.7406	0.469	6804	0.3334	0.3242	0.2915	0.572
5206	0.3573	0.3467	0.3121	0.498	6809	4.6501	4.5504	4.1372	0.567
5207	0.1604	0.1566	0.1419	0.586	6901	0.0177	0.0187	0.0193	0.706
5208	0.7742	0.7522	0.6752	0.543	6902	0.8990	0.8687	0.7809	0.421
5209	0.6729	0.6542	0.5907	0.500	6903	6.3402	6.1802	5.7143	0.328
5300	0.1170	0.1133	0.1007	0.577	6904	0.4649	0.4461	0.3857	0.622
5301	0.0357	0.0346	0.0312	0.572	6905	0.3917	0.3780	0.3331	0.607
5302	0.0163	0.0159	0.0143	0.538	6906	0.1657	0.1675	0.1635	0.687
5305	0.0541	0.0526	0.0471	0.618	6907	1.2442	1.2076	1.0824	0.544
5306	0.0570	0.0556	0.0499	0.606	6908	0.4209	0.4088	0.3670	0.540
5307	0.5707	0.5513	0.4893	0.545	6909	0.1192	0.1161	0.1044	0.585
5308	0.0876	0.0855	0.0772	0.595	7100	0.0307	0.0300	0.0274	0.485
6103	0.0828	0.0808	0.0729	0.615	7101	0.0219	0.0214	0.0197	0.457
6104	0.3598	0.3498	0.3136	0.583	7102	4.1538	4.0954	3.7945	0.571
6105	0.3635	0.3523	0.3152	0.537	7103	0.6336	0.6108	0.5370	0.586
6107	0.1496	0.1466	0.1339	0.592	7104	0.0308	0.0300	0.0269	0.611
6108	0.4576	0.4459	0.4026	0.572	7105	0.0295	0.0287	0.0256	0.608
6109	0.1015	0.0985	0.0884	0.537	7106	0.2298	0.2233	0.1994	0.618
6110	0.5943	0.5775	0.5194	0.540	7107	0.2292	0.2244	0.2048	0.568
6120	0.2779	0.2695	0.2416	0.538	7108	0.2007	0.1957	0.1768	0.582
6121	0.3451	0.3347	0.3000	0.542	7109	0.1441	0.1403	0.1262	0.604
6201	0.2803	0.2727	0.2476	0.480	7110	0.3167	0.3067	0.2747	0.499
6202	0.5999	0.5844	0.5292	0.523	7111	0.3903	0.3776	0.3378	0.483
6203	0.1063	0.1039	0.0938	0.658	7112	0.6446	0.6276	0.5667	0.558
6204	0.1166	0.1137	0.1029	0.576	7113	0.3868	0.3768	0.3403	0.570
6205	0.2551	0.2480	0.2230	0.550	7114	0.4808	0.4686	0.4219	0.609
6206	0.2319	0.2255	0.2028	0.573	7115	0.5581	0.5441	0.4919	0.574
6207	1.1101	1.0905	1.0059	0.521	7116	0.6116	0.5948	0.5352	0.542
6208	0.2397	0.2342	0.2125	0.574	7117	1.6241	1.5771	1.4118	0.587
6209	0.3021	0.2948	0.2670	0.560	7118	1.4104	1.3725	1.2367	0.553
6301	0.1226	0.1186	0.1065	0.462	7119	1.3516	1.3087	1.1634	0.577
6302	0.2036	0.1980	0.1778	0.576	7120	5.8332	5.6693	5.1095	0.520
6303	0.0670	0.0650	0.0584	0.545	7121	5.4396	5.2875	4.7670	0.520
6304	0.3824	0.3734	0.3385	0.586	7122	0.5317	0.5175	0.4649	0.607
6305	0.1090	0.1062	0.0954	0.604	7200	1.2944	1.2467	1.0944	0.569
6306	0.2787	0.2710	0.2442	0.539	7201	1.4446	1.3944	1.2376	0.521
6308	0.0660	0.0642	0.0577	0.576	7202	0.0305	0.0295	0.0263	0.521
6309	0.2036	0.1980	0.1778	0.576	7203	0.1225	0.1207	0.1114	0.591
6402	0.2694	0.2617	0.2340	0.612	7204	0.0000	0.0000	0.0000	0.500
6403	0.1826	0.1781	0.1607	0.586	7205	0.0000	0.0000	0.0000	0.500
6404	0.2625	0.2558	0.2308	0.572	7301	0.4450	0.4341	0.3948	0.505
6405	0.5125	0.4972	0.4467	0.520	7302	0.9260	0.9037	0.8227	0.502
6406	0.1242	0.1211	0.1092	0.601	7307	0.4522	0.4409	0.3992	0.528
6407	0.2695	0.2623	0.2361	0.570	7308	0.3895	0.3803	0.3436	0.601
6408	0.3954	0.3838	0.3446	0.548	7309	0.2574	0.2514	0.2283	0.579
6409	0.6890	0.6669	0.5959	0.518	7400	1.4446	1.3944	1.2376	0.521
6410	0.2811	0.2736	0.2468	0.559					
6501	0.1605	0.1558	0.1392	0.589					

Expected Loss Rates in Dollars Per Sq. Ft. of Wallboard Installed

Class	2006	2007	2008	Primary Ratio
0540	0.0173	0.0169	0.0152	0.471
0541	0.0105	0.0101	0.0091	0.444
0550	0.0211	0.0205	0.0184	0.394
0551	0.0136	0.0132	0.0118	0.411

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-885, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-885, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-885, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-885, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-885, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-885, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-885, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-885, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-17-885, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-885, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.16.035, 51.04.020. 00-14-052, § 296-17-885, filed 7/1/00, effective 7/1/00. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-885, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-885, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-885, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-885, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.16.035. 96-12-039, § 296-17-885, filed 5/31/96, effective 7/1/96. Statutory Authority: RCW 51.04.020. 95-23-080, § 296-17-885, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-885, filed 11/28/94, effective 1/1/95; 93-24-114, § 296-17-885, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 92-24-063, § 296-17-885, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-885, filed 11/27/91, effective 1/1/92; 91-12-014, § 296-17-885, filed 5/31/91, effective 7/1/91; 90-24-042, § 296-17-885, filed 11/30/90, effective 1/1/91; 90-13-018, § 296-17-885, filed 6/8/90, effective 7/9/90; 89-24-051 (Order 89-22), § 296-17-885, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.04.020(1). 89-16-001 (Order 89-07), § 296-17-885, filed 7/20/89, effective 8/20/89. Statutory Authority: RCW 51.16.035 and 51.04.020. 88-24-012 (Order 88-30), § 296-17-885, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035. 88-12-065 (Order 88-05), § 296-17-885, filed 5/31/88; 88-12-050 (Order 88-06), § 296-17-885, filed 5/31/88, effective 7/1/88; 88-06-047 (Order 87-33), § 296-17-885, filed 3/1/88; 87-24-060 (Order 87-26), § 296-17-885, filed 12/1/87, effective 1/1/88; 87-12-032 (Order 87-12), § 296-17-885, filed 5/29/87, effective 7/1/87. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 86-24-042 (Order 86-41), § 296-17-885, filed 11/26/86. Statutory Authority: RCW 51.16.035. 86-12-041 (Order 86-18), § 296-17-885, filed 5/30/86, effective 7/1/86; 85-24-032 (Order 85-33), § 296-17-885, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-885, filed 2/28/85, effective 4/1/85; 84-24-016 (Order 84-23), § 296-17-885, filed 11/28/84, effective 1/1/85; 83-24-017 (Order 83-36), § 296-17-885, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-885, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-885, filed 11/30/81, effective 1/1/82; 80-17-016 (Order 80-23), § 296-17-885, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-885, filed 11/30/79, effective 1/1/80. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 78-12-043 (Order 78-23), § 296-17-885, filed 11/27/78, effective 1/1/79, effective 1/1/80. Order 77-27, § 296-17-885, filed 11/30/77, effective 1/1/78; Emergency Order 77-25, § 296-17-885, filed 12/1/77; Order 77-10, § 296-17-885, filed 5/31/77; Order 76-36, § 296-17-885, filed 11/30/76; Order 76-18, § 296-17-885, filed 5/28/76, effective 7/1/76; Order 75-38, § 296-17-885, filed 11/24/75, effective 1/1/76; Order 74-40, § 296-17-885, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-885, filed 11/9/73, effective 1/1/74.]

WAC 296-17-890 Table IV.

Maximum experience modifications for firms with no compensable accidents: Effective 1/1/2010

Expected Loss Range	Maximum Experience Modification
0 - 6,698	0.90
6,699 - 8,180	0.89
8,181 - 9,061	0.88
9,062 - 9,877	0.87
9,878 - 10,737	0.86
10,738 - 11,638	0.85
11,639 - 12,432	0.84
12,433 - 13,237	0.83
13,238 - 14,075	0.82
14,076 - 14,947	0.81
14,948 - 15,854	0.80
15,855 - 16,794	0.79
16,795 - 17,772	0.78
17,773 - 18,783	0.77
18,784 - 19,831	0.76
19,832 - 20,914	0.75
20,915 - 22,033	0.74
22,034 - 23,189	0.73
23,190 - 24,383	0.72
24,384 - 25,613	0.71
25,614 - 26,881	0.70
26,882 - 28,187	0.69
28,188 - 29,529	0.68
29,530 - 30,911	0.67
30,912 - 32,328	0.66
32,329 - 33,786	0.65
33,787 - 36,057	0.64
36,058 - 39,146	0.63
39,147 - 42,717	0.62
42,718 - 49,659	0.61
49,660 & Over	0.60

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-890, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-890, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-890, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-890, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-890, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-890, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-890, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-890, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-17-890, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-890, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-890, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-890, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-890, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-890, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.04.020. 95-23-080, § 296-17-890, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-890, filed 11/28/94, effective 1/1/95; 93-24-114, § 296-17-890, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 92-24-063, § 296-17-890, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-890, filed 11/27/91, effective 1/1/92; 90-24-042, § 296-17-890, filed 11/30/90, effective 1/1/91; 89-24-051 (Order 89-22), § 296-17-890, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035 and 51.04.020. 88-24-012 (Order 88-30), § 296-17-890, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035. 87-24-

060 (Order 87-26), § 296-17-890, filed 12/1/87, effective 1/1/88. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 86-24-042 (Order 86-41), § 296-17-890, filed 11/26/86. Statutory Authority: RCW 51.16.035. 85-24-032 (Order 85-33), § 296-17-890, filed 11/27/85, effective 1/1/86; 84-24-016 (Order 84-23), § 296-17-890, filed 11/28/84, effective 1/1/85; 83-24-017 (Order 83-36), § 296-17-890, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-890, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-890, filed 11/30/81, effective 1/1/82; 80-17-016 (Order 80-23), § 296-17-890, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-890, filed 11/30/79, effective 1/1/80.]

Base Rates Effective
January 1, 2010

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.

Class	Base Rates Effective January 1, 2010	
	Accident Fund	Medical Aid Fund
0608	0.3793	0.2749
0701	2.6692	0.8643
0803	0.5012	0.3928
0901	1.6739	0.9394
1002	1.1556	0.8052
1003	0.8526	0.6326
1004	0.6353	0.3850
1005	10.0027	5.4183
1007	0.4178	0.2336
1101	0.8323	0.6186
1102	1.6845	0.9535
1103	1.3856	0.9186
1104	0.5841	0.5301
1105	0.9692	0.6107
1106	0.3297	0.3397
1108	0.6918	0.5210
1109	1.6232	1.1602
1301	0.6755	0.4030
1303	0.2296	0.1777
1304	0.0325	0.0245
1305	0.5022	0.3979
1401	0.4683	0.4139
1404	0.8551	0.6952
1405	0.6934	0.5449
1407	0.5018	0.4713
1501	0.6745	0.4526
1507	0.6612	0.4698
1701	1.0210	0.6847
1702	2.5362	1.0757
1703	1.1360	0.4290
1704	1.0210	0.6847
1801	0.5465	0.3923
1802	0.8426	0.6411
2002	0.7986	0.6569
2004	0.9340	0.7782
2007	0.5582	0.4592
2008	0.3639	0.2948
2009	0.4009	0.3796
2101	0.7088	0.5904
2102	0.5491	0.5042
2104	0.2933	0.3622
2105	0.5858	0.4942
2106	0.4456	0.4007
2201	0.2549	0.2160
2202	0.7879	0.5985
2203	0.4773	0.4394
2204	0.2549	0.2160
2401	0.6002	0.3776
2903	0.6590	0.5855
2904	0.7282	0.5975
2905	0.6153	0.5586
2906	0.3636	0.3214
2907	0.5502	0.4716
2908	1.1640	0.8225
2909	0.4014	0.3672
3101	0.8596	0.5807
3102	0.3026	0.2349

Base Rates Effective January 1, 2010			Base Rates Effective January 1, 2010		
Class	Accident Fund	Medical Aid Fund	Class	Accident Fund	Medical Aid Fund
3103	0.5839	0.4394	4502	0.0412	0.0392
3104	0.6910	0.4946	4504	0.1062	0.1284
3105	0.7751	0.6618	4601	0.8262	0.6540
3303	0.4543	0.3759	4802	0.3456	0.3288
3304	0.4710	0.4735	4803	0.2709	0.3226
3309	0.4301	0.3308	4804	0.5040	0.4945
3402	0.6066	0.4628	4805	0.2827	0.2909
3403	0.2269	0.1753	4806	0.0602	0.0591
3404	0.5421	0.4520	4808	0.4878	0.4655
3405	0.3139	0.2830	4809	0.3266	0.3530
3406	0.2340	0.2224	4810	0.1324	0.1525
3407	0.9562	0.5987	4811	0.2869	0.3416
3408	0.2141	0.1754	4812	0.3979	0.3819
3409	0.1607	0.1541	4813	0.1530	0.1654
3410	0.2693	0.2555	4900	0.2575	0.1366
3411	0.5572	0.3813	4901	0.0782	0.0555
3412	0.7240	0.4160	4902	0.1288	0.0962
3414	0.6268	0.4499	4903	0.1730	0.1435
3415	0.9404	0.6604	4904	0.0279	0.0273
3501	1.1501	0.8573	4905	0.3406	0.3978
3503	0.2669	0.3257	4906	0.1024	0.0834
3506	1.1081	0.6052	4907	0.0545	0.0541
3509	0.3939	0.3892	4908	0.0806	0.1218
3510	0.3614	0.3151	4909	0.0382	0.0669
3511	0.7003	0.5643	4910	0.5009	0.4089
3512	0.3638	0.3723	4911	0.0634	0.0524
3513	0.4852	0.4738	5001	8.4242	4.3361
3602	0.1356	0.1148	5002	0.6681	0.4872
3603	0.4839	0.4354	5003	2.6380	1.3541
3604	0.7954	0.7977	5004	0.8890	0.6982
3605	0.5918	0.4192	5005	0.7338	0.4382
3701	0.3026	0.2349	5006	1.8037	0.9098
3702	0.4686	0.3837	5101	0.9643	0.7056
3708	0.6605	0.4568	5103	0.7549	0.7505
3802	0.2084	0.1845	5106	0.7549	0.7505
3808	0.4888	0.3266	5108	0.8738	0.8176
3901	0.1579	0.1826	5109	0.5952	0.4182
3902	0.4684	0.4432	5201	0.4450	0.3385
3903	1.0645	1.0981	5204	1.0081	0.6895
3905	0.1444	0.1662	5206	0.4385	0.2985
3906	0.4899	0.4481	5207	0.1522	0.1736
3909	0.2702	0.2707	5208	0.8554	0.7154
4002	1.4751	0.8685	5209	0.7818	0.6011
4101	0.3687	0.2912	5300	0.1327	0.1029
4103	0.5002	0.4946	5301	0.0393	0.0342
4107	0.1727	0.1409	5302	0.0180	0.0156
4108	0.1857	0.1589	5305	0.0544	0.0554
4109	0.2167	0.1816	5306	0.0569	0.0586
4201	0.8514	0.4386	5307	0.6843	0.4378
4301	0.6312	0.6235	5308	0.0910	0.0973
4302	0.7332	0.5802	6103	0.0785	0.0929
4304	0.9278	0.8790	6104	0.3692	0.3480
4305	1.4217	0.8551	6105	0.4232	0.3039
4401	0.4275	0.4082	6107	0.1442	0.1821
4402	0.8814	0.7486	6108	0.4638	0.4655
4404	0.5500	0.4857	6109	0.1177	0.0910
4501	0.1831	0.2083	6110	0.6429	0.5387

Workers' Compensation Insurance

296-17-895

Base Rates Effective January 1, 2010			Base Rates Effective January 1, 2010		
Class	Accident Fund	Medical Aid Fund	Class	Accident Fund	Medical Aid Fund
6120	0.3149	0.2402	6902	1.2346	0.5839
6121	0.3910	0.2994	6903	8.5839	4.8015
6201	0.3403	0.2493	6904	0.5686	0.3353
6202	0.6530	0.5826	6905	0.4538	0.3325
6203	0.0925	0.1277	6906	0.0000	0.3325
6204	0.1183	0.1208	6907	1.3582	1.0936
6205	0.2728	0.2393	6908	0.4740	0.3841
6206	0.2415	0.2228	6909	0.1230	0.1210
6207	1.0143	1.2759	7100	0.0332	0.0298
6208	0.2244	0.2592	7101	0.0256	0.0213
6209	0.3077	0.3166	7102	3.1418	5.3264
6301	0.1609	0.0880	7103	0.7334	0.4845
6303	0.0762	0.0610	7104	0.0317	0.0323
6304	0.3542	0.4100	7105	0.0298	0.0296
6305	0.1049	0.1123	7106	0.2208	0.2251
6306	0.3104	0.2629	7107	0.2138	0.2577
6308	0.0699	0.0643	7108	0.1890	0.2086
6309	0.2111	0.1985	7109	0.1393	0.1477
6402	0.2715	0.2652	7110	0.3825	0.2465
6403	0.1738	0.1925	7111	0.4967	0.2923
6404	0.2606	0.2635	7112	0.6743	0.6337
6405	0.6054	0.4414	7113	0.3770	0.3843
6406	0.1197	0.1319	7114	0.4426	0.5004
6407	0.2795	0.2637	7115	0.5418	0.5626
6408	0.4542	0.3596	7116	0.6358	0.5641
6409	0.8423	0.5516	7117	1.6923	1.5334
6410	0.3063	0.2770	7118	1.4536	1.3427
6501	0.1664	0.1496	7119	1.4657	1.1602
6502	0.0357	0.0308	7120	6.5297	5.2259
6503	0.0913	0.0569	7121	6.0861	4.8878
6504	0.3467	0.4042	7122	0.5045	0.5382
6505	0.0950	0.1352	7200	1.5557	0.9474
6506	0.1047	0.1099	7201	1.7720	1.0474
6509	0.3708	0.3856	7202	0.0377	0.0240
6510	0.5342	0.3342	7203	0.1054	0.1650
6511	0.3872	0.3769	7204	0.0000	0.0000
6512	0.1844	0.1476	7205	0.0000	0.0000
6601	0.1992	0.1824	7301	0.4802	0.4316
6602	0.5314	0.4813	7302	0.9712	0.8900
6603	0.3655	0.2939	7307	0.4627	0.4419
6604	0.0828	0.0818	7308	0.3701	0.4328
6605	0.3174	0.3731	7309	0.2372	0.2761
6607	0.1711	0.1566	7400	1.7720	1.0474
6608	0.6901	0.2936			
6620	3.7083	2.4009			
6704	0.1546	0.1354			
6705	0.7293	0.8933			
6706	0.2918	0.3046			
6707	4.0650	5.0433			
6708	7.0901	10.5720			
6709	0.2563	0.2809			
6801	0.7462	0.4947			
6802	0.6026	0.5085			
6803	1.1557	0.5314			
6804	0.3567	0.3226			
6809	4.7521	5.4232			
6901	0.0000	0.0687			

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-895, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-895, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-895, filed 12/1/07, effective 1/1/08. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020, 07-12-045, § 296-17-895, filed 5/31/07, effective 7/1/07; 07-07-032 and 07-07-129, § 296-17-895, filed 3/12/07 and 3/21/07, effective 7/1/07. Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 06-24-054, § 296-17-895, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-895, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-895, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020 and 51.16.035. 04-13-017, § 296-17-895, filed 6/4/04, effective 7/5/04. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-895, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-895, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-

17-895, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-895, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.16.035, 51.04.020. 00-14-052, § 296-17-895, filed 7/1/00, effective 7/1/00. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-895, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-895, filed 12/1/98, effective 1/1/99. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-895, filed 8/28/98, effective 10/1/98. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 97-24-062, § 296-17-895, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-895, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.16.035. 96-12-039, § 296-17-895, filed 5/31/96, effective 7/1/96. Statutory Authority: RCW 51.16.035 and 51.32.073. 96-06-025, § 296-17-895, filed 2/28/96, effective 4/1/96. Statutory Authority: RCW 51.04.020. 95-23-080, § 296-17-895, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-895, filed 11/28/94, effective 1/1/95. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 94-12-051, § 296-17-895, filed 5/27/94, effective 7/1/94. Statutory Authority: RCW 51.04.020. 93-24-114, § 296-17-895, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 93-12-093, § 296-17-895, filed 5/31/93, effective 7/1/93; 92-24-063, § 296-17-895, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-895, filed 11/27/91, effective 1/1/92; 91-12-014, § 296-17-895, filed 5/31/91, effective 7/1/91; 90-24-042, § 296-17-895, filed 11/30/90, effective 1/1/91; 90-13-018, § 296-17-895, filed 6/8/90, effective 7/9/90; 89-24-051 (Order 89-22), § 296-17-895, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.04.020(1). 89-16-001 (Order 89-07), § 296-17-895, filed 7/20/89, effective 8/20/89. Statutory Authority: RCW 51.16.035 and 51.04.020. 88-24-012 (Order 88-30), § 296-17-895, filed 12/1/88, effective 1/1/89. Statutory Authority: RCW 51.16.035. 88-12-065 (Order 88-05), § 296-17-895, filed 5/31/88; 88-12-050 (Order 88-06), § 296-17-895, filed 5/31/88, effective 7/1/88; 88-06-047 (Order 87-33), § 296-17-895, filed 3/1/88; 87-24-060 (Order 87-26), § 296-17-895, filed 12/1/87, effective 1/1/88; 87-12-032 (Order 87-12), § 296-17-895, filed 5/29/87, effective 7/1/87. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 86-24-042 (Order 86-41), § 296-17-895, filed 11/26/86. Statutory Authority: RCW 51.16.035. 86-12-041 (Order 86-18), § 296-17-895, filed 5/30/86, effective 7/1/86; 85-24-032 (Order 85-33), § 296-17-895, filed 11/27/85, effective 1/1/86; 85-13-046 (Order 85-13), § 296-17-895, filed 6/17/85; 85-06-026 (Order 85-7), § 296-17-895, filed 2/28/85, effective 4/1/85; 84-24-016 (Order 84-23), § 296-17-895, filed 11/28/84, effective 1/1/85. Statutory Authority: RCW 51.04.020(1). 84-12-048 (Order 84-12), § 296-17-895, filed 6/1/84. Statutory Authority: RCW 51.16.035. 83-24-017 (Order 83-36), § 296-17-895, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-895, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-895, filed 11/30/81, effective 1/1/82; 81-04-024 (Order 81-02), § 296-17-895, filed 1/30/81; 80-17-016 (Order 80-23), § 296-17-895, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-895, filed 11/30/79, effective 1/1/80. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 78-12-043 (Order 78-23), § 296-17-895, filed 11/27/78, effective 1/1/79; Order 77-27, § 296-17-895, filed 11/30/77, effective 1/1/78; Emergency Order 77-25, § 296-17-895, filed 12/1/77; Order 77-10, § 296-17-895, filed 5/31/77; Order 76-36, § 296-17-895, filed 11/30/76; Order 76-18, § 296-17-895, filed 5/28/76, effective 7/1/76; Order 75-38, § 296-17-895, filed 11/24/75, effective 1/1/76; Order 75-28, § 296-17-895, filed 8/29/75, effective 10/1/75; Order 74-40, § 296-17-895, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-895, filed 11/9/73, effective 1/1/74.]

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, 2010			
Class	Accident Fund	Medical Aid Fund	Supplemental Pension Fund
0540	0.0220	0.0132	0.0008
0541	0.0141	0.0071	0.0008
0550	0.0295	0.0137	0.0008
0551	0.0193	0.0084	0.0008

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-89502, filed 11/30/09, effective 1/1/10; 08-24-

074, § 296-17-89502, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-89502, filed 12/1/07, effective 1/1/08. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020. 07-12-045, § 296-17-89502, filed 5/31/07, effective 7/1/07; 07-07-032 and 07-07-129, § 296-17-89502, filed 3/12/07 and 3/21/07, effective 7/1/07. Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 06-24-054, § 296-17-89502, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-89502, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-89502, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-89502, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-89502, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010; 01-23-061, § 296-17-89502, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-89502, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-89502, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-89502, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-89502, filed 12/1/97, effective 1/1/98; 97-12-011, § 296-17-89502, filed 5/27/97, effective 7/1/97; 97-06-007, § 296-17-89502, filed 2/24/97, effective 4/1/97.]

WAC 296-17-89504 Horse racing industry industrial insurance, medical aid, and supplemental pension by class.

Base Rates Effective January 1, 2010			
Class	Accident Fund	Medical Aid Fund	Supplemental Pension Fund
6614	59*	65*	1
6615	357*	377*	1
6616	13*	11*	1
6617	111*	98*	1
6618	99*	50*	1
6622	69**	75**	1
6623	22**	17**	1

* These rates are calculated on a per license basis for parimutuel race tracks and are base rated.

** These rates are calculated on a per horse stall for parimutuel race tracks and are base rated.

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-89504, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-89504, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-89504, filed 12/1/07, effective 1/1/08. Statutory Authority: RCW 51.06.035, 51.08.010, 51.04.020. 07-12-045, § 296-17-89504, filed 5/31/07, effective 7/1/07; 07-07-032 and 07-07-129, § 296-17-89504, filed 3/12/07 and 3/21/07, effective 7/1/07.]

WAC 296-17-90445 Valuation of coverage period. Our responsibility:

• Nine months after the coverage period has ended, we will do an initial valuation of the losses for each employer and group participating in retrospective rating.

Note: Effective with the October 1, 2000, coverage period and all subsequent coverage periods thereafter, each retrospective rating plan has three mandatory valuations and no optional valuations. The first valuation takes place roughly nine months from the last day of the coverage period. Each subsequent valuation will occur at twelve-month intervals from the initial evaluation date.

Example: Assume that your coverage period began July 1, 2001, and ended June 30, 2002 (twelve calendar months). Our first valuation date would occur the end of March 2003. This is roughly nine months from the last day of the coverage period.

- On the valuation date, all claims with injury dates that fall within the coverage period are valued and the incurred losses that have been established for these claims are "captured" or "frozen."

Note: Our valuation is limited to the open or closed status of a claim on the evaluation date. We do not consider adjudicative decisions (i.e., claim allowance, case reserve, wage determination and dependent status) surrounding a claim in our valuation.

For occupational disease claims that arise from exposure to the disease hazard by two or more employers, the claim costs are prorated and assigned to each period of employment involving the exposure. Each employer responsible for at least ten percent of the claimant's exposure to the hazard is charged (see WAC 296-17-870(6)).

To compute the performance adjustment factors, assigned occupational disease losses are considered "retro losses" if on the date of the last injurious exposure with an employer, the employer was enrolled in retro. Occupational disease losses are considered "nonretro losses" if on the date of the last injurious exposure with an employer, the employer was insured with the state fund, but not enrolled in the retro program. Occupational disease losses that cannot be assigned as either retro or nonretro losses will not be considered in computing performance adjustment factors.

- During the adjustment process we convert the captured incurred loss of each claim into developed losses using the appropriate loss development and performance adjustment factors. Retrospective premium is then calculated using the applicable formulas and tables in the retrospective rating manual.

- Prior to the application of the performance adjustment factor, we will cap the pure developed loss value for any one claim or group of claims arising from a single accident that has collective pure developed losses in excess of five hundred thousand dollars at a maximum of five hundred thousand dollars.

- Since the standard premium used in the retro calculation is based on premiums reported but not necessarily paid, we will deduct from the standard premium calculation any unpaid member premiums.

Note: A sponsoring organization and L&I can enter into an agreement for an alternate debt recovery method.

- Approximately twenty days after the valuation date, if entitled, we will send you your premium refund.

Note: If you participate in an individual plan or retro group, we will not issue a refund check if it is less than 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. All retro group refunds are paid directly to the sponsoring organization. It is the responsibility of the sponsoring organization to distribute any refund to the group members. L&I does not regulate how refunds are distributed to group members. Employers that participate in retro are not required to share any of their retro refund with employees nor can they charge employees in the event of an additional assessment.

- We will send you a bill if you owe us additional premium.

Note: If you owe additional premium, it is due thirty days after we communicate the decision to you. We will charge penalties on any additional premium not paid when it is due (RCW 51.48.210). If you (employer in an individual plan or sponsoring organization of a retro group) are entitled to a refund

for one coverage period and owe additional premiums for another coverage period, we will deduct the additional premiums due L&I from the refund. We will refund the difference to you. In the event that this adjustment still leaves a premium balance due, we will send you a bill for the balance. If an organization sponsors multiple retro groups and one group earns a refund and the other owes additional premium from a retro adjustment, we will deduct the additional premium from the refund due and issue a net refund to the organization for the difference or bill them for the remaining additional premium as applicable.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), 51.18.010, and Title 51 RCW. 09-22-024, § 296-17-90445, filed 10/26/09, effective 11/26/09. Statutory Authority: RCW 51.18.010 and 51.16.035. 07-17-140, § 296-17-90445, filed 8/21/07, effective 10/1/07. Statutory Authority: RCW 51.18.010(1). 02-23-089, § 296-17-90445, filed 11/20/02, effective 1/1/03. Statutory Authority: RCW 51.18.010. 00-11-060, § 296-17-90445, filed 5/12/00, effective 7/1/00.]

WAC 296-17-90492 Table I.

RETROSPECTIVE RATING PLANS A, A1, A2, A3, AND B STANDARD PREMIUM SIZE RANGES
Effective January 1, 2010

Size Group	Standard Premium
Number	Range
63	\$5,175 - \$6,250
62	6,251 - 7,507
61	7,508 - 8,933
60	8,934 - 10,568
59	10,569 - 12,440
58	12,441 - 14,539
57	14,540 - 16,939
56	16,940 - 19,489
55	19,490 - 22,179
54	22,180 - 24,999
53	25,000 - 27,989
52	27,990 - 31,109
51	31,110 - 34,389
50	34,390 - 37,829
49	37,830 - 41,439
48	41,440 - 45,089
47	45,090 - 48,769
46	48,770 - 52,799
45	52,800 - 57,279
44	57,280 - 62,269
43	62,270 - 67,789
42	67,790 - 73,989
41	73,990 - 80,909
40	80,910 - 88,649
39	88,650 - 97,379
38	97,380 - 107,199
37	107,200 - 118,399
36	118,400 - 130,399
35	130,400 - 143,299
34	143,300 - 157,599
33	157,600 - 173,199
32	173,200 - 190,699
31	190,700 - 208,699
30	208,700 - 228,799
29	228,800 - 251,399
28	251,400 - 277,199
27	277,200 - 306,999
26	307,000 - 341,199
25	341,200 - 380,599

RETROSPECTIVE RATING PLANS A, A1, A2, A3, AND B STANDARD PREMIUM SIZE RANGES
Effective January 1, 2010

Size Group Number	Standard Premium Range	
24	380,600	- 426,599
23	426,600	- 480,899
22	480,900	- 544,399
21	544,400	- 620,299
20	620,300	- 711,899
19	711,900	- 821,699
18	821,700	- 956,999
17	957,000	- 1,124,999
16	1,125,000	- 1,367,999
15	1,368,000	- 1,703,999
14	1,704,000	- 2,177,999
13	2,178,000	- 2,782,999
12	2,783,000	- 3,554,999
11	3,555,000	- 4,711,999
10	4,712,000	- 6,525,999
9	6,526,000	- 9,406,999
8	9,407,000	- 13,629,999
7	13,630,000	- 20,069,999
6	20,070,000	- 31,209,999
5	31,210,000	- 49,259,999
4	49,260,000	& Over

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-90492, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-90492, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-90492, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-90492, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-90492, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-90492, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-90492, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-90492, filed 11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-17-90492, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-90492, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.18.010. 00-11-060, § 296-17-90492, filed 5/12/00, effective 7/1/00.]

WAC 296-17-920 Assessment for supplemental pension fund. The amount of 48.5 mils (\$0.0485) 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.

[Statutory Authority: RCW 51.16.035, 51.32.073, 51.08.010, and 51.04.020(1). 09-24-086, § 296-17-920, filed 11/30/09, effective 1/1/10; 08-24-074, § 296-17-920, filed 12/1/08, effective 1/1/09; 07-24-046, § 296-17-920, filed 12/1/07, effective 1/1/08; 06-24-054, § 296-17-920, filed 12/1/06, effective 1/1/07. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.32.073. 05-23-162, § 296-17-920, filed 11/22/05, effective 1/1/06; 04-24-025, § 296-17-920, filed 11/23/04, effective 1/1/05. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, and 51.18.010. 03-24-066, § 296-17-920, filed 12/1/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.32.073, 51.18.010, and 51.04.020(1). 02-24-029, § 296-17-920, filed

11/27/02, effective 1/1/03. Statutory Authority: RCW 51.04.020, 51.16.035, 51.32.073, 51.18.010. 01-23-061, § 296-17-920, filed 11/20/01, effective 1/1/02; 00-23-101, § 296-17-920, filed 11/21/00, effective 1/1/01. Statutory Authority: RCW 51.04.020, 51.16.035 and 51.32.073. 99-24-055, § 296-17-920, filed 11/29/99, effective 12/31/99; 98-24-094, § 296-17-920, filed 12/1/98, effective 1/1/99; 97-24-062, § 296-17-920, filed 12/1/97, effective 1/1/98; 96-24-063, § 296-17-920, filed 11/29/96, effective 1/1/97. Statutory Authority: RCW 51.16.035 and 51.32.073. 96-06-025, § 296-17-920, filed 2/28/96, effective 4/1/96. Statutory Authority: RCW 51.04.020. 95-23-080, § 296-17-920, filed 11/20/95, effective 1/1/96; 94-24-007, § 296-17-920, filed 11/28/94, effective 1/1/95; 93-24-114, § 296-17-920, filed 12/1/93, effective 1/1/94. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 92-24-063, § 296-17-920, filed 11/30/92, effective 1/1/93; 91-24-053, § 296-17-920, filed 11/27/91, effective 1/1/92; 89-24-051 (Order 89-22), § 296-17-920, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.04.020 and 51.32.073. 87-04-006 (Order 86-49), § 296-17-920, filed 1/23/87. Statutory Authority: RCW 51.16.035. 86-12-041 (Order 86-18), § 296-17-920, filed 5/30/86, effective 7/1/86; 83-24-017 (Order 83-36), § 296-17-920, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-920, filed 11/29/82, effective 1/1/83; 81-24-042 (Order 81-30), § 296-17-920, filed 11/30/81, effective 1/1/82; 80-17-016 (Order 80-23), § 296-17-920, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-920, filed 11/30/79, effective 1/1/80. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 78-12-043 (Order 78-23), § 296-17-920, filed 11/27/78, effective 1/1/79; Order 77-27, § 296-17-920, filed 11/30/77, effective 1/1/78; Order 77-10, § 296-17-920, filed 5/31/77; Order 76-36, § 296-17-920, filed 11/30/76; Order 75-38, § 296-17-920, filed 11/24/75, effective 1/1/76; Order 75-28, § 296-17-920, filed 8/29/75, effective 10/1/75; Order 74-40, § 296-17-920, filed 11/27/74, effective 1/1/75; Order 74-6, § 296-17-920, filed 1/23/74.]

**Chapter 296-17A WAC
CLASSIFICATIONS FOR WASHINGTON
WORKERS' COMPENSATION INSURANCE**

WAC	Classification
296-17A-0101	Classification 0101.
296-17A-0308	Classification 0308.
296-17A-0516	Classification 0516.
296-17A-1109	Classification 1109.
296-17A-3603	Classification 3603.
296-17A-4002	Classification 4002.
296-17A-4910	Classification 4910.
296-17A-5001	Classification 5001.
296-17A-5005	Classification 5005.
296-17A-5301	Classification 5301.
296-17A-5307	Classification 5307.
296-17A-6103	Classification 6103.
296-17A-6303	Classification 6303.
296-17A-6306	Classification 6306.
296-17A-6601	Classification 6601.

WAC 296-17A-0101 Classification 0101.

0101-00 Land clearing: Highway, street and road construction, N.O.C.

Applies to contractors engaged in clearing right of ways for subsurface construction on a new or existing highway, street, or roadway project that is not covered by another classification (N.O.C.). The subsurface is the roadbed foundation consisting of dirt, sand, gravel and/or ballast which has been leveled and compressed. Unless the finished project is a compressed gravel road, the subsurface or sub base is constructed prior to any asphalt or concrete paving activities. Work contemplated by this classification involves the excavation of rocks and boulders, removal of tree stumps, clearing or scraping land of vegetation, grubbing, earth excavation, cut and fill work, and bringing the roadbed to grade. Equipment used by contractors subject to this classification includes a variety of earth moving equipment such as, but not limited to, shovels, scrapers, bulldozers, graders, rollers, and dump trucks.

This classification excludes asphalt surfacing or resurfacing on roadways which is to be reported separately in classification 0210; construction specialty services such as the installation of guardrails, lighting standards and striping which is to be reported separately in classification 0219; bridge or tunnel construction including the abutments and approaches which is to be reported separately in classification 0201; felling of trees which is to be reported separately in the applicable logging classification; and logging road construction which is to be reported separately in classification 6902.

0101-01 Land clearing: Airport landing strips, runways and taxi ways; alleys and parking lots

Applies to contractors primarily engaged in clearing right of ways for subsurface construction on a new or existing airport landing strip, runway, and taxi way. This classification also includes clearing of right of ways for alley and parking lot projects. The subsurface is the foundation consisting of dirt, sand, gravel and/or ballast which has been leveled and compressed. Unless the finished project is compressed gravel, the subsurface or sub base is constructed prior to any asphalt or concrete paving activities. Work contemplated by this classification involves the excavation of rocks and boulders, removal of tree stumps, clearing or scraping land of vegetation, grubbing, earth excavation, cut and fill work, and bringing the roadbed or project site to grade. Equipment used by contractors subject to this classification includes a variety of earth moving equipment such as, but not limited to, shovels, scrapers, bulldozers, graders, rollers, and dump trucks.

This classification excludes asphalt surfacing or resurfacing on roadways which is to be reported separately in classification 0210; construction specialty services such as the installation of guardrails, lighting standards and striping which is to be reported separately in classification 0219; and felling of trees which is to be reported separately in the applicable logging classification.

0101-02 Excavation work, N.O.C.

Applies to contractors engaged in general excavation work for others that is not covered by another classification (N.O.C.). Work contemplated by this classification involves excavating or digging of earth to form the foundation hole such as for a wood-frame or nonwood-frame building and side sewer hookups (street to house) when performed as part of the excavation contract. Activities include, but are not limited to, excavation of rocks and boulders, removal of tree stumps, clearing or scraping land of vegetation, grubbing, piling or pushing of earth, earth excavation, cut and fill work, backfilling, etc. Equipment used by contractors subject to this classification includes a variety of earth moving equipment such as, but not limited to, shovels, scrapers, bulldozers, graders and dump trucks.

This classification excludes asphalt surfacing or resurfacing on roadways which is to be reported separately in classification 0210 and felling of trees which is to be reported separately in the applicable logging classification.

0101-03 Grading work, N.O.C.

Applies to contractors engaged in various forms of grading work for others that are not covered by another classification (N.O.C.). Typical equipment used is a grader, but other

equipment such as a bulldozer and a front end loader may also be used. Work contemplated by this classification includes, but is not limited to, leveling and grading lands, spreading dirt, sand, gravel and/or ballast to desired contour on farm lands or other tracts of land.

0101-04 Land clearing, N.O.C.

Applies to contractors engaged in general land clearing work that is not covered by another classification (N.O.C.). This classification includes, but is not limited to, excavation of rocks and boulders, removal of tree stumps, clearing or scraping land of vegetation, grubbing, piling or pushing of earth to rearrange the terrain, earth excavation, cut and fill work, backfilling, and slope grooming. Equipment used by contractors subject to this classification includes a variety of earth moving equipment such as, but not limited to, shovels, scrapers, bulldozers, graders and dump trucks.

This classification excludes felling of trees which is to be reported separately in the applicable logging classification.

0101-16 Railroad line: Construction, maintenance and repair, N.O.C.

Applies to contractors engaged in the construction, maintenance and repair of railroad tracks not covered by another classification (N.O.C.), including the dismantling of track and the sale of salvaged track metal and ties. Work contemplated by this classification includes all operations on new or existing main lines, side tracks and spurs to industrial properties. This classification includes, but is not limited to, the laying of rock or ballast, laying of ties and track, installation of crossover frogs and switches, erection of switch stands and switch mechanism, erection of cattle guards, the placing of grade crossing planks, and similar activities related to the laying or relaying of railroad lines and also includes the dismantling of railroad main lines, side tracks and spurs to include track, ties, etc., and the subsequent storage and sale of salvaged material after the railroad line is dismantled.

This classification excludes asphalt surfacing/resurfacing and all concrete construction work which is to be reported separately in the applicable asphalt or concrete construction classification; logging railroad construction which is to be reported separately in classification 6902; and the construction, maintenance, or repair of an elevated railway which is to be reported separately in classification 0508.

0101-17 Retaining wall: Construction or repair when done in connection with road, street and highway construction, N.O.C.

Applies to contractors engaged in the construction or repair of retaining walls in connection with highway, street, or roadway projects that are not covered by another classification (N.O.C.). Retaining walls are often constructed to protect against potential problems such as earth slides or erosion of banks alongside a roadway or overpass. Work contemplated by this classification involves large scale excavation to contour a specific area of earth serving as a retaining wall. Activities include, but are not limited to, excavation, clearing, cut and fill work, backfilling, grading and slope grooming. Fill material used may include dirt, sand, stone or boulder. Equipment used by contractors subject to this classification includes, but is not limited to, scrapers, bulldozers, graders, backhoes and dump trucks.

This classification excludes asphalt surfacing or resurfacing on roadways which is to be reported separately in classification 0210; concrete construction which is to be reported separately in the applicable concrete construction classification; construction specialty services such as the installation of guardrails, lighting standards and striping which is to be reported separately in classification 0219; bridge or tunnel construction including the abutments and approaches which is to be reported separately in classification 0201; felling of trees by chain saw which is to be reported separately in classification 5001; logging road construction which is to be reported separately in classification 6902; and tunnels and approaches including lining, cofferdam work, shaft sinking and well digging with caissons which is to be reported separately in classification 0201.

0101-36 Tree care and pruning services, N.O.C.

Applies to specialist contractors engaged in providing a variety of tree care services such as tree topping and tree pruning that are not covered by another classification (N.O.C.). Work contemplated by this classification generally takes place in residential areas, parking lots, business parks, shopping malls, or settings adjacent to nonforestry or timberland roadways. A primary purpose of this work is to remove tree or branch hazards from power lines, structures, or buildings. This classification includes, but is not limited to, incidental ground operations such as picking up branches and limbs, operating mobile chip machines used in connection with a tree care service, spraying or fumigating of trees, debris removal and stump removal when conducted by employees of an employer subject to this classification.

This classification excludes tree care services done in connection with an orchard operation which is to be reported separately in classification 4803 when performed by orchard employees; tree care services done in connection with a nursery operation which is to be reported separately in classification 4805; tree care services done in connection with a public or private forest or timberland which is to be reported separately in classification 5004; tree care services done in connection with a Christmas tree farm operation which is to be reported separately in classification 7307; and felling trees which is to be reported separately in classification 5001.

0101-37 Soil remediation

Applies to establishments engaged in various types of remediation of soil contaminated with hazardous or toxic materials. Soil remediation can take place at the site of the contamination, or the contaminated soil may be hauled to another area for remediation. This classification also includes oil spill cleanup on land. Equipment used will include backhoes and front end loaders, as well as other types of dirt moving equipment.

The methods used for soil remediation include, but are not limited to:

- Bio-remediation: Contaminated soil is mixed with nutrients, sawdust, and various other additives. Naturally occurring bacteria in the soil break down the pollutants.

- Encapsulation: Contaminated soil is enclosed in some type of protective material to prevent drainage into surrounding soil.

- Excavation and hauling to an approved disposal site.

- Hot air vapor extraction: A burner unit is mounted on a trailer. Contaminated soil is arranged in layers on which an aluminum perforated pipe system is placed at 2' intervals, with a return pipe on the top layer. The soil stack is enclosed in visqueen, then hot air is pumped into the piping system which creates the steam that is recycled through the system and carries the contaminants back through the catalytic burner. Because of the catalytic action there are virtually no contaminants exhausted into the atmosphere.

- Soil vapor extraction: A series of holes are bored in the ground and vacuum pumps are used to suck the trapped gases which are drawn through carbon filters for decontamination.

- In situ vitrification: Graphite electrodes are fed into contaminated soil at a specified rate, where high voltage "melts" the organic and inorganic materials in the soil and forms a solid, glasslike substance.

- Land farming: Contaminated soil is deposited and spread out by a farm type spreader on an area of ground dedicated for this purpose. Chemical or manure fertilizer is added to provide a medium for naturally occurring bacteria to thrive. (This part is similar to bio-remediation.) The soil is turned frequently by tillers or rototillers to assist in the aeration of the soil and in the growth of the bacteria. It may take anywhere from a month to two years to cleanse the soil, depending on the volatility of the contaminants. This method is used particularly with soil that is heavily contaminated with oil.

- Mobile incineration: Contaminated soil is loaded onto a conveyor belt which carries it into the hopper of a mobile unit mounted on a lowboy trailer. The unit is heated to burn off the contaminants in the soil. The mobile unit contains a type of dust-collecting mechanism which filters out gases and other nondesirable elements so only clean air enters the atmosphere as the refreshed soil is produced. There are various methods of mobile incineration, but the general process and the end result are similar.

- Thermal disabsorption: A process similar to mobile incineration.

- Stabilization: Concrete landfill cells are created by mixing cement with refuse or other contaminated soil to stabilize the material and reduce the seepage into the surrounding soil.

This classification excludes oil spill cleanup involving diking or ditching work which is to be reported separately in classification 0201.

0101-39 Pool or pond excavation Placement of pool or pond liners

Applies to contractors engaged in the excavation of pools or ponds. Work contemplated by this classification involves excavating or digging of earth to form the hole such as for a swimming pool or pond. Work contemplated by this classification includes excavation of rocks and boulders, removal of tree stumps, clearing or scraping land of vegetation, grubbing, piling or pushing of earth, earth excavation, cutting, filling or backfilling, etc. Equipment used by contractors subject to this classification includes a variety of earth moving equipment such as, but not limited to, shovels, bulldozers, backhoes and dump trucks. This classification includes the placement of plastic pool and pond liners provided it is not in connection with concrete work.

This classification excludes concrete construction which is to be reported separately in the applicable concrete construction classification.

0101-40 Mowing or chemical spraying of roadway median strips, roadsides, and/or power line right of ways

Applies to contractors engaged in mowing, grooming, picking up litter, and chemical spraying of roadway median strips and edges, roadsides, and power line right of ways. Work contemplated by this classification includes spraying chemicals to control weeds and unwanted vegetation, tall grass, brush, brambles and tree seedlings as part of a roadway, roadside or right of way maintenance contract. Equipment used by contractors subject to this classification includes, but is not limited to, a variety of equipment such as backhoes, tractors, push mowers, brush mowers, weed eaters, as well as hand tools such as machetes, sickles, and pruners.

This classification excludes mowing and/or grooming of roadway median strips, roadsides, and power line right of ways when performed by employees of cities, counties, state agencies, or other municipalities which is to be reported in the classification applicable to the type of municipality performing the work; forest, timber or range land contract work which is to be reported separately in the classification applicable to the work being performed; and the felling and removal of trees by chain saw which is to be reported separately in classification 5001.

Special note: Classification 0301, "landscape construction," and classification 0308, "landscape maintenance," are not to be assigned to mowing and/or grooming of roadway median strips, roadsides, and power line right of ways.

[Statutory Authority: RCW 51.16.035 and 51.16.100. 09-24-082, § 296-17A-0101, filed 11/30/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-0101, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-501, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.04.020. 00-14-052, § 296-17-501, filed 7/1/00, effective 7/1/00. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-501, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-501, filed 5/31/96, effective 7/1/96. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 94-12-051, § 296-17-501, filed 5/27/94, effective 7/1/94; 93-12-093, § 296-17-501, filed 5/31/93, effective 7/1/93. Statutory Authority: RCW 51.16.035. 85-24-032 (Order 85-33), § 296-17-501, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-501, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-501, filed 11/30/83, effective 1/1/84. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-501, filed 11/30/79, effective 1/1/80; Order 76-36, § 296-17-501, filed 11/30/76; Order 75-38, § 296-17-501, filed 11/24/75, effective 1/1/76; Order 74-40, § 296-17-501, filed 11/27/74, effective 1/1/75; Order 73-22, § 296-17-501, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-0308 Classification 0308.

0308-00 Chemical spraying and fumigating

Applies to establishments engaged in providing chemical spraying and fumigating services only to established residential landscaping and commercial properties. Work contemplated by this classification includes, but is not limited to, the application of various liquid and granular chemicals (fertilizers, herbicides, pesticides, insecticides, iron, nitrogen, slow release food stakes) for use on grass, plants, shrubs, flowers, trees, moss, ivy or weeds. Employees of establishments subject to this classification arrive at the location site in a tank truck equipped with a premixed solution that is dis-

pensed with a spray hose, or by fertilizer spreaders, injection guns, and back pack dispensers.

This classification excludes chemical spraying of roadway median strips by nonmunicipal employees adjacent to state, city or town roadways which is to be reported separately in classification 0101; chemical spraying done in connection with forest roads or reforestation projects which is to be reported in the applicable forestry classification; pest and termite control which is to be reported separately in classification 6602; chemical spraying and fumigating by employees of cities, counties, state agencies, or other municipalities which is to be reported in the classification applicable to the type of municipality performing the work; chemical spraying of agricultural farms or orchards which *may* be reported separately in classification 4808 or in the agricultural classification applicable to the employer's operation; and crop dusting by aircraft which is to be reported separately in classification 6903.

0308-01 Lawn care maintenance

Applies to contractors engaged in maintenance of established lawns and gardens. Work contemplated by this classification includes, but is not limited to, mowing and thatching lawns, edging, weeding flower beds, raking, rototilling gardens, application of fertilizers, and spraying and trimming of shrubs. Also included is minor landscape renovation and/or restoration activities incidental to, and performed as part of, the lawn care maintenance contract for an existing lawn or landscape such as the removal and replacement of plants, turf repair or reseeded of grass, and the spreading of decorative rock, topsoil, or bark. This classification includes replacement of sprinkler heads and cleaning of lawn type sprinkler systems only when performed in connection with and incidental to the lawn care maintenance contract. Contractors who provide snow blowing and snow removal services using hand-held or push-propelled equipment are included in this classification. Equipment used by contractors subject to this classification includes, but is not limited to, riding or power lawn mowers, power sweepers, edgers, thatchers, weed eaters, grass blowers, fertilizer spreaders, sprayers, gas or electric power tools, and hand tools.

This classification excludes new landscape construction which is to be reported separately in classification 0301; tree care and pruning services which are to be reported separately in classification 0101; grading, clearing, or contouring of land which is to be reported separately in classification 0101; installation, service or repair of lawn type sprinkler systems which is to be reported separately in classification 0301; and the installation, service or repair of above or below ground agricultural irrigation systems which is to be reported separately in classification 0301.

Special notes: Classifications 0308 and 0301 may be assigned to the same business provided that the conditions of the general reporting rule covering the operation of a secondary business have been met.

Care should be exercised in the assignment of this classification when tree services are included. Tree care service contracts generally call for the radical topping, pruning or cutting of tree limbs to remove or eliminate a hazard to buildings, property, or power lines. Tree trimming as part of this classification is only for the purpose of shaping and maintain-

ing healthy trees and to control size for the visual relationship to other landscape material.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), 09-16-110, § 296-17A-0308, filed 8/4/09, effective 10/1/09. 07-01-014, recodified as § 296-17A-0308, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 98-18-042, § 296-17-51301, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-51301, filed 5/31/96, effective 7/1/96.]

WAC 296-17A-0516 Classification 0516.

0516-00 Building repair, remodeling and carpentry

This subcode applies to a firm that chooses to report all construction phases in one classification. This is to simplify recordkeeping.

Applies to contractors engaged in building repair, remodeling and carpentry work.

This classification applies to:

- Remodeling and carpentry-related framing work on concrete, brick and steel buildings.
- Wood framed building renovation and remodeling projects when the skeleton framework is not being modified or altered.

Typical projects include, but are not limited to:

- Interior building demolition ("strip outs") involving only the removal of interior walls, partitions, interior trim, cabinetry, doors, flooring and related construction materials;
- Converting a room from one use to another, such as a bedroom to a study, or a garage to a family room;
- Enlarging or reconfiguring a room by removing or adding an interior wall;
- Upgrading a kitchen or bathroom;
- Adding structures such as a wooden deck to an existing building, screening a porch, installing a wood patio cover, or assembling sheet metal tool or garden sheds.

Contractors subject to this classification use a variety of dimensional lumber and wood products, light weight metal studs and plastic and fiber reinforced boards, metal fasteners (nails, screws and bolts), and metal reinforcing or support straps such as joist hangers and post brackets.

This classification includes:

- Framing of wood structures with light weight metal studs.
- Installation of earthquake tie downs on residential buildings.
- Specialty service providers or contractors engaged in providing general repair services or performing remodeling projects on buildings and structures.

Contractors who alter, remodel or repair existing structures and have opted to report their construction activities under this single subclassification 0516-00 are not to be assigned any other construction classification with the exception of roof work or roofing which is to be reported separately in classification 0507-05.

Special note: Businesses assigned to this classification are distinguishable from those assigned to classification 0516-02, in that 0516-02 requires each phase of construction to be reported separately in the appropriate construction classification(s).

Contractors that build **new wood structural additions** as part of a remodeling contract must also report each phase separately. They must use classification 0510-00 to report the new framing. All other phases of the construction must be

reported separately in the appropriate classification(s) as noted in the text of classification 0516-02.

Contractors that build new structural additions and also repair and remodel existing structures will be assigned both 0510-00 and 0516-02 in addition to any other appropriate classification. 0516-00 will not be assigned to these employers.

Subclassifications 0516-00 and 0516-02 cannot be active on an account at the same time.

0516-01 Wood playground equipment: Installation and/or repair

Applies to contractors engaged in the installation and/or repair of wood playground equipment. Work contemplated by this classification begins after the area of land has been excavated and/or cleared and includes installing wood playground equipment at private residences and in public settings such as, but not limited to, schools, parks, day care centers, churches, and hotels. This classification usually includes a variety of playground equipment comprised of treated wood beams, poles, posts, and a variety of dimensional lumber used in building swings, forts, stationary and swinging bridges, balance beams, climbing towers, slides, and rope and tire walks. Generally, the process involves setting poles or posts with use of a post hole digger, backhoe or tractor equipped with an auger. The poles or posts may be set in concrete. Depending on the piece of equipment being built, use of beams, planks, dimensional lumber, rope, chains, tires, and metal bars or rings, are securely attached with nails, screws, bolts or eye hooks. This classification includes the building of borders surrounding the playground equipment area with beams or railroad ties and the spreading of pea gravel, sand or wood chips underneath the equipment.

This classification excludes the installation of metal playground equipment which is to be reported separately in classification 0603, and the excavation or clearing of land which is to be reported separately in classification 0101.

0516-02 Building repair, remodeling and carpentry, N.O.C.

This subcode applies to a firm that chooses to report all construction phases into separate construction classifications.

Applies to contractors engaged in building repair, remodeling and carpentry work, not covered by another classification (N.O.C.).

This classification applies to:

- Remodeling and carpentry-related framing work on the interior of concrete, brick and steel buildings.
- Wood framed building renovation and remodeling projects when the skeleton framework is not being modified or altered.

Typical projects include, but are not limited to:

- Interior building demolition ("strip outs") involving only the removal of interior walls, partitions, interior trim, cabinetry, doors, flooring and related construction materials.
- Converting a room from one use to another, such as a bedroom to a study, or a garage to a family room.
- Enlarging or reconfiguring a room by removing or adding an interior wall.
- Upgrading a kitchen or bathroom.

- Adding structures such as a wooden deck to an existing building, screening a porch, installing a wood patio cover, or assembling sheet metal tool or garden sheds.

Contractors subject to this classification use a variety of dimensional lumber and wood products, light weight metal studs and plastic and fiber reinforced boards, metal fasteners (nails, screws and bolts), and metal reinforcing or support straps such as joist hangers and post brackets.

This classification includes:

- Framing of wood structures with light weight metal studs.
- Installation of earthquake tie downs on residential buildings.
- Specialty service providers or contractors engaged in providing general repair services or performing remodeling projects on buildings and structures.

Except for interior demolition, framing and drywall which are to be reported in classification 0516-02, each phase must be reported separately in the appropriate classification noted below, but not limited to:

Concrete foundations/slabs	0217
Interior painting	0521
Counter tops	0302/0502
Metal siding/gutters	0519
Drywall	0550/0551
Plumbing	0306
Electrical	0601
Roofing new construction	0507
Roof work includes repairs to trusses, rafters, supports and sheathing	0507
Exterior painting	0504
Wood framing/sheathing/windows/nonmetal siding	0510
Floor coverings	0502
Interior finish carpentry	0513
Window installation (not part of a framing contract)	0511
Insulation	0512

Reference: WAC 296-17-31013 and 296-17-31017.

Contractors performing remodeling or alteration projects which involve **new structural additions** must report that activity in classification 0510-00 and any other applicable classification(s) noted above.

Contractors who alter, remodel or repair existing structures can choose to report all hours in classification 0516-00. This classification excludes roofing or roof work which is to be reported in 0507-05. This method can simplify recordkeeping.

Special note: Proper reporting in multiple construction classifications requires special care in maintaining required records. If these records have not been maintained as required, all worker hours for which the records were not maintained will be reassigned to the highest rated classification applicable to the work that was performed.

Reference: WAC 296-17-31013.

Averages, estimates or percentages are not allowed.

Reference: WAC 296-17-31017.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), and Title 51 RCW. 09-16-107, § 296-17A-0516, filed 8/4/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-0516, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-52108, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 99-18-068, § 296-17-52108, filed 8/31/99, effective 10/1/99; 98-18-042, § 296-17-52108, filed 8/28/98, effective 10/1/98. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 93-12-093, § 296-17-52108, filed

5/31/93, effective 7/1/93; 89-24-051 (Order 89-22), § 296-17-52108, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035. 88-12-050 (Order 88-06), § 296-17-52108, filed 5/31/88, effective 7/1/88.]

WAC 296-17A-1109 Classification 1109.

1109-00 Automobile or truck towing services, N.O.C.

Applies to establishments engaged in providing towing services for hire to others which are not covered by another classification (N.O.C.). For purposes of this classification "towing services for hire" means, but is not limited to, the towing of disabled vehicles to a shop (that is unrelated to the towing service) for repair, the recovery of repossessed vehicles for others by tow truck, roadside assistance during snow, ice or flooding to recover or free stuck vehicles, and the towing in of disabled vehicles to a secured yard for insurance or law enforcement agencies. It is common for towing companies to also operate a vehicle repair garage or service center in conjunction with the towing service. Auto service centers and repair garages, auto body shops and wrecking yard operations are to be reported separately in the applicable service or repair classification provided that the conditions of the general reporting rules covering the division of worker hours have been met. Tow truck dispatchers who have no other duties may be reported separately in classification 4904 provided that the conditions of the standard exception general reporting rules have been met.

Special note: Towing is common to many classifications. Employers offering towing services should be contacted to verify whether the towing service they provide is only in connection with their auto repair, auto body or wrecking yard (*towing service not for hire*), or provided as a general service unrelated to their repair garage (*towing services for hire*). Only towing services for hire are to be assigned to classification 1109. If a business provides both towing services for hire and not for hire, worker hours for drivers and their assistants may be divided between this classification and the applicable repair garage classification provided that the conditions of the general reporting rule covering the division of worker hours has been met. Otherwise, all driver and assistant hours are to be assigned to the highest rated classification applicable to the business.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), and Title 51 RCW. 09-16-107, § 296-17A-1109, filed 8/4/09, effective 1/1/10. Statutory Authority: RCW 51.16.035, 51.16.100, and 2007 c 324. 07-24-045, § 296-17A-1109, filed 12/1/07, effective 1/1/08. 07-01-014, recodified as § 296-17A-1109, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-53806, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-53806, filed 5/31/96, effective 7/1/96; 87-12-032 (Order 87-12), § 296-17-53806, filed 5/29/87, effective 7/1/87; 85-24-032 (Order 85-33), § 296-17-53806, filed 11/27/85, effective 1/1/86.]

WAC 296-17A-3603 Classification 3603.

3603-10 Furniture stripping and refinishing; metal plating or polishing, rustproofing, N.O.C.

Applies to establishments engaged in stripping and refinishing wood or metal furniture, or metal plating (a coating of metal on an object), polishing, and rustproofing that is not covered by another classification (N.O.C.). Furniture refinishing contemplated by this classification includes, but is not limited to, preparing articles for finishing or refinishing by dipping in chemical solutions/acid baths to remove the old

finish or dirt, sanding and wire brushing as needed, thoroughly removing all residues, applying new finish by brushing, rolling, spraying or dipping, air or oven drying, and any appropriate finish work such as waxing, polishing and buffing when done by employees of an employer having operations subject to this classification. *Metal plating* contemplated by this classification may be done by dipping in hot solution or spraying with a very high pressure, heated gun. *Electroless plating* is another type of dipping process which can be used to plate metals, plastics, and other materials by first preparing the surface with a chemical to ensure adhesion of the metal plating material. *Rustproofing*, as contemplated by this classification, is usually applied by dipping or spraying. Plated items may be finished by lacquering and polishing. *Polishing* may also be conducted as a separate contract on metal and nonmetal items.

This classification excludes furniture finishing/refinishing done in conjunction with manufacturing or repair which is to be reported separately in classification 2905; metal plating, polishing, rustproofing and finishing done in conjunction with manufacturing of metal or a metal product which is to be reported separately as applicable to the product; undercoating of automobiles or other vehicles which is to be reported separately in classification 3411; metal plating done by an *electrolytic method* and rustproofing by *anodizing method* which are to be reported separately in classification 3603-11.

3603-11 Electroplating and detinning, N.O.C.

Applies to establishments engaged in providing electroplating or detinning services that are not covered by another classification (N.O.C.). Work contemplated by this classification includes, but is not limited to, preparing items by dipping in chemical solution/acid baths to remove old finish or dirt, sanding and wire brushing as needed, removing all residues thoroughly, electroplating to create the new finish, air or oven drying, any appropriate finish work such as polishing and buffing, and electrolytic or chemical baths for detinning processes, when done by employees of an employer having operations subject to this classification. *Electroplating* (including galvanizing and tinning) to achieve a protective or decorative coating is done by immersing the metal object in a solution which contains the desired metallic particles (metals commonly used are gold, silver, nickel, zinc and chromium) and passing an electric charge through the solution which causes the metal particles to adhere to the object being plated. Typical items plated include, but are not limited to, jewelry, plumbing hardware and components, silverware, eyeglass frames, medical instruments, and various specialized industrial components of any size. Plated items may be polished and lacquered as part of the finishing process. This classification includes *anodizing* to rustproof aluminum and some aluminum alloys by immersion in an acid bath and applying an electric charge to the metal which causes the finish to form on it. *Detinning* is the process of recovering tin from tin plated scrap. The "chemical process" involves using caustics and an oxidizing agent which causes the tin to separate from the metal it was plated to. A variation of this method introduces electrolysis to achieve a purer reclamation. The "chlorine process" uses chlorine applied under pressure to dissolve the tin and separate it from the tin plated scrap.

This classification excludes any electroplating or rustproofing by electrolytic methods done in conjunction with the manufacturing of metal or a metal product which is to be reported separately as applicable to the product; metal plating, polishing or rustproofing not using electrolytic methods which is to be reported separately in classification 3603-10; galvanizing or tinning done by hot dip process which is to be reported separately in classification 3604; and any detinning not done by a specialty shop as described above.

3603-12 Painting in shop, N.O.C.

Applies to establishments engaged in providing painting services at their shop, that are not covered by another classification (N.O.C.). This includes painting wood, metal, plastic, glass or other items. Customers include manufacturers, cabinetmakers or millwork manufacturers who do not do their own finish painting/staining/varnishing, or individuals who need only one item painted. Work contemplated by this classification includes, but is not limited to, preparing items for finishing by cleaning, sanding and wire brushing as needed, applying new finish by brushing, rolling, spraying or dipping, air or oven drying, and any appropriate finish work such as waxing, polishing and buffing when done by employees of an employer having operations subject to this classification. This classification includes application of nonmetallic coatings by dipping (such as nonstick surfaces) and painting with an electrostatic paint gun.

This classification excludes *sign painting* when done by establishments who do not manufacture the sign, which is to be reported separately in classification 4109; any painting done in conjunction with the manufacture of a sign which is to be reported separately in classification 2903, 3402, 3503 or 3510 as applicable; painting done in conjunction with the repair of an exterior sign which is to be reported separately in classification 0403; furniture stripping and refinishing services which are to be reported in classification 3603-10; furniture finishing done in conjunction with manufacturing or repair which is to be reported separately in classification 2905; automobile painting which is to be reported separately in classification 3412; the permanent yard or shop of a painting contractor which is to be reported separately in classification 5206 provided the conditions set forth in WAC 296-17A-5206 have been met; and the painting/staining/varnishing of any item done in conjunction with the manufacturing of that item which is to be reported separately as applicable to the product.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), 09-16-110, § 296-17A-3603, filed 8/4/09, effective 10/1/09. 07-01-014, recodified as § 296-17A-3603, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 51.16.100, 06-12-075, § 296-17-595, filed 6/6/06, effective 1/1/07. Statutory Authority: RCW 51.16.035, 98-18-042, § 296-17-595, filed 8/28/98, effective 10/1/98; 85-24-032 (Order 85-33), § 296-17-595, filed 11/27/85, effective 1/1/86; 83-24-017 (Order 83-36), § 296-17-595, filed 11/30/83, effective 1/1/84; 81-24-042 (Order 81-30), § 296-17-595, filed 11/30/81, effective 1/1/82; Order 73-22, § 296-17-595, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-4002 Classification 4002.

4002-00 Dairy products, N.O.C.: Manufacturing

To be assigned only by classification services staff

Applies to establishments engaged in the manufacture of dairy products not covered by another classification (N.O.C.)

such as, but not limited to, whole, low fat, skim, powdered, flavored and condensed milk, buttermilk, cream, half-and-half, and eggnog. Raw milk may be purchased from others or furnished by the manufacturer's own dairy operation. Other ingredients usually purchased elsewhere include, but are not limited to, flavorings, sweeteners, nutrients, bacteria and yogurt cultures, and paper, glass or plastic containers for packaging finished products. Raw milk is delivered by insulated tanker trucks after it is tested for antibiotics, bacteria and microorganism counts, temperature, and fat content. The raw milk is pumped from the trucks into refrigerated silos or tanks; the cream is skimmed from the top and pumped into separate storage tanks for further blending to ensure the correct fat and nutrient content. The remaining milk may be evaporated, homogenized, pasteurized, cooled, tested for quality, and further processed into various milk products which are filled into gallons, half gallons, quarts, pints and half-pint containers and packaged for shipping. This classification includes the incidental manufacture of butter, ice cream, or cheese products when done by employees of an employer subject to this classification.

This classification excludes establishments primarily engaged in the manufacture of butter, cheese, ice cream and ice cream mixes which are to be reported separately in classification 4002-01 and dairy farming operations which are to be reported separately in classification 7301.

4002-01 Butter, cheese, ice cream and ice cream mix: Manufacturing

To be assigned only by classification services staff

Applies to establishments engaged in the manufacture of dairy products such as, but not limited to, butter, natural or processed cheeses, cottage cheese, cheese dips or spreads, custards, whipped topping, ice cream, milkshake or ice cream mixes, ice milk, sherbet. Raw milk may be purchased from others or furnished by the manufacturer's own dairy operation. Other raw materials usually purchased elsewhere include, but are not limited to, flavoring, coloring agents, salts, additives and preservatives, plastic or oiled wrappings, and paper, glass or plastic containers for packaging finished product. Raw milk is delivered by insulated tanker trucks and pumped from the trucks into refrigerated silos or tanks. Initial processes are similar for products manufactured in this classification, but end processes vary, depending on the product being made. To make cheese, raw milk is heat treated and pasteurized, cooled, moved through separators which adjust fat composition by skimming the milk or adding cream, then pumped into vessels or cheese vats. Lactic acid and enzymes are added to purify and clot the milk and form a gel which is cut into tiny cubes. Other additives, preservatives, or flavorings may be added at this point. The mixture of curds and whey (the liquid by-product lost from curds after cutting) is heated by allowing steam to enter the outer jacket of the vat. The mixture is stirred, whey is drained from curds and transported to evaporators and spray dryers which condense the whey into a powder form. Aside from salting, little more is done to curds to make unripened cheeses such as cream cheese or cottage cheese. When making firmer cheeses, the next step involves knitting or stretching the drained curds for texture. This process will vary according to the type of cheese being produced, but activities commonly involve preliminary

packing, pressing or pulling of the curds in hot water, or turning curd blocks (called "cheddaring"). The curd blocks are milled (cut into finger-sized pieces) and moved through a trough or air block through tubing to other vats for further processing. In other processes, curds are collected in hoops (metal containers lined with cloth or plastic) and pressed into blocks or molds, or barrels. Hydraulic presses are used to press cheese, and vacuum chambers may be used to remove air. Cured cheese blocks may be packaged in corrugated cartons, or cut into smaller blocks, vacuum sealed in plastic, then packaged in boxes, or cut or shredded prior to packaging.

This classification excludes establishments primarily engaged in the manufacture of milk and other related dairy products not covered by another classification which are to be reported separately in classification 4002-00; establishments engaged in the manufacture of cheese-based salad dressings which are to be reported separately in classification 3902; and dairy farming operations which are to be reported separately in classification 7301.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), and Title 51 RCW. 09-16-107, § 296-17A-4002, filed 8/4/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-4002, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-619, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-619, filed 5/31/96, effective 7/1/96; 87-12-032 (Order 87-12), § 296-17-619, filed 5/29/87, effective 7/1/87; 85-24-032 (Order 85-33), § 296-17-619, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-619, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-619, filed 11/30/83, effective 1/1/84; Order 73-22, § 296-17-619, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-4910 Classification 4910.

4910-00 Property management services

Applies to establishments engaged in managing their own property or properties owned by others. Properties include, but are not limited to, privately owned residential or commercial buildings, malls, apartment or condominium complexes, mobile home parks, halls, and conference rooms. Typical operations contemplated by this classification include, but are not limited to, management duties, advertising, showing vacant units to prospective tenants, collecting rent, providing security, and normal maintenance and repair when conducted by employees of employers subject to this classification. Normal maintenance and repair contemplated by this classification includes replacing parts on existing fixtures or equipment, repairing existing structures, normal cleaning or janitorial activities, maintaining existing landscaping, and shoveling snow from driveways or walkways. Construction, alteration, or improvements to the properties are *not* considered normal maintenance and are *not* contemplated by this classification. Major repair work is usually performed by contractors who are not employees of the property management business. *Apartment or condominium complexes and mobile home parks* may have common areas such as, but not limited to, laundry facilities, community rooms, tennis courts, exercise rooms, swimming pools, saunas or hot tubs, and playgrounds or small park areas. Common areas are maintained by employees of the complex or park owner or by the property management service. Residents of mobile home parks are usually responsible for maintaining their own mobile homes and their immediate space.

This classification includes homeowners' associations where residents in a housing development pay annual fees which cover the maintenance of lawns, paths, sprinkler systems, and common areas such as pools, activity centers, and tennis courts by employees of the homeowners' association.

This classification excludes employees engaged exclusively in clerical duties who are to be reported separately in classification 4904; employees engaged exclusively in sales duties such as collecting rents, showing and advertising the facility, conducting auctions, or in a combination of clerical and sales duties who are to be reported separately in classification 6303; establishments providing janitorial services exclusively which are to be reported separately in classification 6602; contractors engaged in mobile home set up or removal who are to be reported separately in classification 0517; any new construction or alteration work performed by employees of employers subject to this classification which is to be reported separately in the applicable construction classification; establishments that contract to perform maintenance or repair, but have no responsibilities in the management of the property, which are to be reported separately in the applicable classification; and lodging or food serving operations which are to be reported separately in the applicable classification.

4910-01 Chimney cleaning - residential buildings

Applies to establishments engaged in providing chimney cleaning services to residential customers. Workers who perform chimney cleaning services are commonly referred to as "chimney sweeps" and usually work alone or as a two-person team. When working as a team, one "sweep" works inside the house and the other works on the roof. The methods of cleaning vary. To protect the floors and furniture, drop cloths are placed in front of the fireplace and taped over the opening. The vertical drop cloth may have a "boot" or slit in it which allows rods to be pushed through. Various brushes, usually wire, are attached to extension rods and worked up and down the flue to dislodge the soot and creosote. Creosote deposits may be removed also with a chimney bar, which is a pipe-like instrument with a chisel end, or by using metal scrapers. Where the chimney top is protected from the rain by a hood or cap, it may not be possible to insert the brushes into the opening; a chain or weight may be lowered and swung back and forth inside the chimney. Some sweeps have custom-made vacuum trucks with large collection chambers to collect the soot. In addition to cleaning the chimney flue and fireplace, some sweeps clean oil, gas and coal burning furnaces, repair chimney and flue linings, remove animals from chimneys, and offer other related services. Repairs included in this classification are limited to such activities as caulking around the flashing and sealing brickwork.

This classification excludes establishments engaged in industrial or commercial chimney or smokestack cleaning services which are to be reported separately in classification 0508; contractors engaged in chimney reconstruction or new construction made of masonry or brick who are to be reported separately in classification 0302; contractors engaged in the installation of sheet metal stove pipe who are to be reported separately in classification 0307; and the installation of a new lining in the chimney which is to be reported separately in the applicable classification.

4910-02 Mini-storage warehouse

Applies to establishments engaged in operating mini-storage facilities. Mini-storage facilities are usually fenced and entry is through a locking gate through which owners and renters of units are provided access. The units range from lockers to rooms of various sizes; once the unit is rented, the tenant or owner has sole access to it. Typical operations include, but are not limited to, management or clerical duties, renting or selling storage units to others, providing security, and normal maintenance and repair when performed by employees of employers subject to this classification. Normal maintenance and repair contemplated by this classification includes replacing parts on existing fixtures or equipment, repairing existing structures, normal cleaning of public areas, controlling rodents and other pests, maintaining existing landscaping, and shoveling snow from driveways or walkways. Construction, alteration, or improvements to the properties are *not* considered normal maintenance and are *not* contemplated by this classification. Major repair work is usually performed by contractors who are not employees of the storage facilities.

This classification excludes employees engaged exclusively in clerical duties who are to be reported separately in classification 4904; employees engaged exclusively in sales duties or in a combination of clerical and sales duties who are to be reported separately in classification 6303; and new construction or alteration work which is to be reported separately in the applicable construction classification.

4910-03 Temporary signs - placement or removal

Applies to establishments engaged in placing or removing temporary yard signs such as, but not limited to, real estate signs for real estate offices or property management firms and campaign signs. The smaller signs are usually mounted on a metal rod which is pounded into the ground to a depth of about 18". A post hole digger may be used to dig holes for larger signs that require a more sturdy post.

This classification excludes all other types of sign installation, painting or repair which are to be reported separately in the applicable classification.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), and Title 51 RCW. 09-16-107, § 296-17A-4910, filed 8/4/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-4910, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-65801, filed 8/28/98, effective 10/1/98. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 89-24-051 (Order 89-22), § 296-17-65801, filed 12/1/89, effective 1/1/90.]

WAC 296-17A-5001 Classification 5001.

5001-03 Logging, N.O.C.

Applies to establishments engaged in various logging operations not covered by another classification (N.O.C.). Typical work contemplated by this classification includes, but is not limited to, high lead or tower logging, ground logging, and team logging with horses. For purposes of this rule, logging is the complete operation of felling, skidding, yarding, delimiting, and bucking of trees into logs or block wood and loading them onto trucks or rail cars.

Definitions:

High Lead or Tower Logging - usually occurs in steep terrain where a metal tower is set-up on a hilltop with a system of heavy cables running down the hillside and fastened to

a stump or tree and has other smaller cables with chokers hanging from it. A choker is wrapped around each fallen tree and pulled back to the landing site.

Helicopter logging - includes ground crews that work with the use of helicopters to hoist fallen trees or bucked log lengths to the landing site.

Chokers - chains or cables which are attached to the fallen trees for skidding to the landing site.

Ground logging - usually occurs on relatively flat land; fallen trees are moved to a landing by a skidder, cat or shovel.

Bucking - stripping or delimiting tree of branches and cutting the tree to desired log lengths.

Skidding - process of dragging the fallen logs to the landing site.

Landing - place where the fallen logs are brought for sorting and loading onto log trucks.

Yarding - usually performed at the landing site with use of a log loader to sort the logs by species, length and diameter, prior to loading onto log trucks.

This classification excludes flight crews of helicopters used in helicopter logging which are to be reported separately in classification 6803; log hauling which is to be reported separately in classification 5003; logging road construction which is to be reported separately in classification 6902; logging machine operators which are to be reported separately in classification 5005-01; and mechanical or mechanized logging operations which are to be reported separately in classification 5005-00 provided the classification has been approved by the classification services section.

5001-04 Shake, shingle bolt, and post cutting

Applies to establishments engaged in the cutting of shakes, shingle bolts (blocks), and fence posts in the woods. For the purposes of this rule, this classification includes all operations performed in the woods such as, but not limited to, the felling of trees, stripping or delimiting of branches, and all further cutting or splitting of trees/logs to produce shakes, shingle bolts or fence posts. This classification includes all transporting of shakes, shingle bolts or fence posts from the cutting site when conducted by employees of employers subject to this classification.

5001-05 Firewood cutting

Applies to establishments engaged in the cutting of firewood in the woods. For the purposes of this rule, this classification includes all operations performed in the woods such as, but not limited to, the felling of trees, stripping or delimiting of branches, and all further cutting or splitting of trees/logs to produce firewood. This classification includes all transporting of log lengths, rounds or split wood from the cutting site when conducted by employees of employers subject to this classification.

5001-06 Sawmill operations conducted in the woods in connection with logging operations

Applies to establishments operating a temporary or portable sawmill operation in the woods. This type of work is usually performed on privately owned land. A portable sawmill and saw tables, similar to those at a permanent sawmill location, are transported directly to the logging site. Log lengths are fed through a circular saw that is capable of producing various sized rough cut timber, blocks, boards and

planks. This classification includes all transporting of rough cut timber, blocks, boards and planks from the cutting and/or sawing site when conducted by employees of employers subject to this classification.

This classification excludes sawmill operations which are not conducted in the woods in connection with a logging operation which is to be reported separately in the applicable sawmill classification.

[Statutory Authority: RCW 51.16.035 and 51.16.100. 09-24-082, § 296-17A-5001, filed 11/30/09, effective 1/1/10; 07-12-047, § 296-17A-5001, filed 5/31/07, effective 7/1/07. 07-01-014, recodified as § 296-17A-5001, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-659, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-659, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-659, filed 5/31/96, effective 7/1/96; 86-12-041 (Order 86-18), § 296-17-659, filed 5/30/86, effective 7/1/86; 85-24-032 (Order 85-33), § 296-17-659, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-659, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-659, filed 11/30/83, effective 1/1/84; 80-17-016 (Order 80-23), § 296-17-659, filed 11/13/80, effective 1/1/81. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 78-12-043 (Order 78-23), § 296-17-659, filed 11/27/78, effective 1/1/79; Order 77-27, § 296-17-659, filed 11/30/77, effective 1/1/78; Order 75-38, § 296-17-659, filed 11/24/75, effective 1/1/76; Order 73-22, § 296-17-659, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-5005 Classification 5005.

5005-00 Logging and/or tree thinning - mechanized operations

(to be assigned only by classification services staff)

Applies to establishments engaged in mechanized logging or tree thinning operations. For purposes of this classification, mechanized logging is defined as the entire process of felling, removal (skidding), yarding, processing, delimiting, bucking and loading of trees/logs by machine. This classification can be used by a logging contractor only if the entire side is being logged using methods and equipment described in this rule. If any portion of the side is being logged by conventional methods the entire operation must be reported in classification 5001 - Logging, N.O.C. or 5005-01 Logging Machine Operators. *For example*, an employer that subcontracts to fell trees with a feller/buncher or processor but is not involved in the removal (skidding) of the trees, the processing (delimiting and bucking) of the trees and the loading of trees is excluded from classification 5005-00 and is to be reported in classification 5001 - Logging, N.O.C. or 5005-01 Logging Machine Operators. Any employer whose operation includes any manual felling, removal, processing, or loading of trees is excluded from classification 5005-00 and is to be reported in classification 5001 - Logging, N.O.C. Work contemplated by this classification includes the falling of trees with a machine such as a feller buncher or processor; skidding logs to the landing with use of a grapple skidder or forwarder; delimiting logs with a mechanized delimiting machine such as a stroke delimiting machine, processor, CTR or harvester; and loading logs onto log trucks with a mechanical loader or shovel. Equipment used by employers subject to this classification will consist of the following:

Feller/buncher - used to fell trees and place felled trees into stacks (bunches) for removal to the log landing for further processing. The operator of this machine does not leave the cab of the machine in the performance of duties in the logging operation.

Processor - used to fell trees, delimb them, buck tree to desired log length and stack the bunches for removal to the landing where they will be segregated by general grade and loaded onto log trucks. A processor is sometimes used at the landing to delimb trees and buck them to log length, especially when the trees are felled by a feller/buncher. The operator of this machine does not leave the cab of the machine in the performance of duties in the logging operation.

Grapple skidder - is used to remove (ground skid) stacks (bunches) of felled trees from the woods to the landing. The industry refers to both the skidder and the bulldozers as a tractor. The two are distinguished from one another in that the skidder is a tire-driven tractor and the bulldozer is a track-driven tractor. A bulldozer equipped with a grapple is an acceptable piece of equipment to be used in the removal of trees. The operator of either the grapple skidder or bulldozer equipped with grapple does not leave the cab of the machine in the performance of duties in the logging operation.

Forwarder - is used to remove logs as cut by a processor from the woods to an awaiting log truck or to be stacked in piles for a future pick up by a log truck. This is a small specialized tractor equipped with a self-loader and a log bunk. The operator of this machine does not leave the machine in the performance of duties in the logging operation.

Harvester - is used at the landing of the logging side to delimb trees and buck trees to desired log length. This machine can also be used to load logs onto log trucks. The operator of this machine does not leave the cab of the machine in the performance of duties in the logging operation.

Loader - is used at the landing to load logs onto log trucks. The operator of this machine does not leave the cab of the machine in the performance of duties in the logging operation.

This classification excludes log hauling which is to be reported separately in classification 5003, logging road construction which is to be reported separately in classification 6902, logging machine operators which are to be reported separately in classification 5005-01, and logging operations which are to be reported separately in classification 5001.

Special notes: If any portion of the logging contract is performed manually or by hand, the establishment does not qualify for this classification. If any portion of the logging contract is subcontracted out to another business and is performed manually or by hand, then none of the businesses involved in the logging contract will qualify for this classification and are to be reported separately in classification 5001 or 5005-01.

All equipment used by employers subject to this classification must meet WISHA guidelines for Roll Over Protection Standards (ROPS) and Falling Object Protection Standards (FOPS).

See classification 5206 (WAC 296-17-675) for permanent shop/yard operations.

5005-01 Logging machine operators

(to be assigned only by classification services staff)

This classification applies to employees of a logging company that does not qualify as a mechanized operation but operates equipment such as a feller buncher, processor, forwarder, skidder, log loader, or tower and who are in a protec-

tive cab. This classification also applies to firms who contract with logging firms to provide such equipment and operators to a logging side. The operator does not leave the cab to perform duties as part of the logging operation. Equipment used by employers subject to this classification are required to meet WISHA guidelines for roll over protection standards (ROPS) and falling object protection standards (FOPS).

This classification excludes all logging activities being performed on the ground which are to be reported separately in classification 5001.

Special note: This classification does not apply to classification 5005-00 "logging and/or tree thinning - mechanical operations" whereby logging activities are performed exclusively by machine and no employees are on the ground.

[Statutory Authority: RCW 51.16.035 and 51.16.100. 09-24-082, § 296-17A-5005, filed 11/30/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-5005, filed 12/8/06, effective 12/8/06; 06-12-075, § 296-17-66003, filed 6/6/06, effective 7/7/06. Statutory Authority: RCW 51.04.020, 51.16.-035, and 51.12.120. 03-23-025, § 296-17-66003, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035, 51.04.020. 00-14-052, § 296-17-66003, filed 7/1/00, effective 7/1/00. Statutory Authority: RCW 51.16.-035. 98-18-042, § 296-17-66003, filed 8/28/98, effective 10/1/98. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 94-12-051, § 296-17-66003, filed 5/27/94, effective 7/1/94.]

WAC 296-17A-5301 Classification 5301.

5301-10 Accounting or bookkeeping services

Applies to establishments engaged in providing general accounting or bookkeeping services to others. Types of services contemplated by establishments subject to this classification include, but are not limited to, auditing, tax preparation, medical or dental claims processing and billing, and/or advisory services. This classification includes all employments such as, but not limited to, clerical office, outside sales, and personnel who travel from one office to another.

This classification excludes establishments engaged primarily in management consultant services that are not otherwise classified, which are to be reported separately in classification 5301-12.

Special note: This classification is limited to employers engaged in such services being provided to the general public. This is a services only classification and does not include retailing or store operations, nor is this classification to be assigned to employers setting up separate business operations to manage other commonly owned or operated business undertakings unless coincidentally the other operations are also subject to this classification.

5301-11 Law firms

Applies to establishments engaged in providing legal services to others. Law firms may specialize in one or more areas of law. This classification includes clerical office and outside sales personnel who travel from one office environment to another.

Special note: This is a services only classification and does not include retailing or store operations, nor is this classification to be assigned to employers setting up separate business operations to manage other commonly owned or operated business undertakings unless coincidentally the other operations are also subject to this classification.

5301-12 Management consultant services, N.O.C.

Applies to establishments engaged in providing management consulting services not covered by another classification (N.O.C.). Management consultants typically will observe and analyze organizational structures, work processes or work flows, mail distribution, computer or communication systems, and planning or development of related business needs. After a thorough analysis, consultants usually prepare a written report for the customer which identifies problem areas and/or recommends improvements to processes or equipment. Consultants may remain to oversee the implementation of the recommended improvements. Consultants subject to this classification do not sell any product they have recommended although they may act as an agent for their client in purchasing the product. Consulting projects vary from client to client depending upon the contract. Included within this classification are businesses that provide similar consultative services such as, but not limited to, advertising agencies, employer representative organizations, public relations companies, mortgage brokers and financial advisers who do not make purchases on behalf of their clients. This classification includes clerical office staff, outside sales personnel and other staff who travel from one office to another.

Special note: This classification is limited to employers engaged in such services being provided to the general public. This is a services only classification and does not include retailing or store operations, nor is this classification to be assigned to employers setting up separate business operations to manage other commonly owned or operated business undertakings unless coincidentally the other operations are also subject to this classification.

5301-13 Credit bureaus; collection agencies

Applies to establishments that are licensed to provide collection and/or credit investigation services to others. Services include, but are not limited to, the collection of NSF checks or delinquent debts owed to clients of the collection agency and checking the credit backgrounds of their client's potential customers. If debts are not collected, the service agency may initiate legal proceedings against the debtor. This classification includes clerical office and outside sales personnel, and other staff who travel from one office to another.

This classification excludes establishments engaged in providing process and legal messenger services which are to be reported separately in classification 6601.

5301-14 Employment agencies

Applies to establishments that are licensed to provide employment services for others. Clients of employment agencies may be persons seeking employment or companies looking for employees. Employment agencies usually conduct preliminary interviews with candidates for positions prior to referring them to their client companies for interviews. Generally, establishments subject to this classification place people in permanent positions. This classification includes clerical office and outside sales personnel, and staff who travel from one office to another.

This classification excludes employees of a temporary help agency who are assigned to work in the administrative or branch offices of the agency who are to be reported separately in classification 7104 and employees of a temporary

help agency who are assigned on a temporary basis to its customers who are to be reported separately in the appropriate temporary help classification.

5301-15 Court reporting services

Applies to establishments engaged in providing court reporting services to others. Court reporters record verbatim testimony presented in court proceedings, depositions, public hearings or meetings. The most frequently used method to record testimony is by stenotype machine, although it may be recorded by voice recording on audio tape, or by manual shorthand. Transcription of the recorded material may be performed by the court reporter or by "note readers" or typists. The majority of court reporters today use computer-aided transcription systems. Court reporters may also offer notary public services for their clients. This classification includes clerical office and staff who travel from one office to another.

5301-16 Service and professional organizations

Applies to establishments engaged in protecting or furthering the interest of their members and/or the general public. Many of these operate as nonprofit organizations. Service and professional organizations may perform one or many of the following activities: Maintain a membership directory; collect membership dues; publish a newsletter; sponsor educational training programs; administer certification tests; provide job placement assistance; award scholarships; offer insurance programs; research and interpret local, state, and federal regulations and apprise members of the results; manage promotional marketing programs; organize fund raising campaigns; perform charitable community services; sponsor athletic leagues and tournaments; host conventions; disburse funds; perform collective bargaining; arbitrate disputes; provide counseling, adoption, and advocacy services; lobby the legislature; compile, review, and disseminate informational data; operate a tourist information center; issue vehicle license registrations, plates, decals, and certificates of title. Also included in this classification are Economic Development Councils, Boards, or Associations. These nonprofit organizations provide economic consulting services and related statistics to government and industry in the promotion of economic stability, and recruit businesses who will create jobs and provide loans from the grant funds they manage. This classification includes clerical office and outside sales personnel who travel from one office environment to another.

This classification excludes labor unions and employee representative associations which are to be reported separately in classification 6503, and the collection of donated items by truck which is to be reported separately in classification 1101.

Special note: If a charitable organization subject to classification 5301 operates a retail store for the sale of donated items, the collection of those items by truck, and all store operations, are to be reported separately in classification 6504.

5301-18 Telephone answering services

Applies to establishments engaged in providing telephone answering services for others. Customers include, but are not limited to, medical professionals, attorneys, private businesses, and individuals. Most answering services today use computerized communications systems to identify com-

pany names when answering calls for various companies, obtain correct information about the company to respond to questions, record and relay accurate messages in a timely manner. Related services often offered by telephone answering service companies include, but are not limited to, voice mail or paging, rental of office space, telemarketing, dispatching, monitoring alarm systems, placing reminder calls, and scheduling appointments for customers. This classification includes clerical office personnel and staff who travel from one office to another.

5301-19 Travel agencies

Applies to establishments engaged in providing travel arrangement services for others. Travel agencies coordinate all types of travel arrangements for their clients through air, cruise, train, or bus lines, hotels, motels, or resorts, car rental agencies, travel insurance companies, and related travel providers. Services vary and could include delivery of tickets and itineraries to clients, booking reservations and selling tickets for tours, excursions, or other entertainment events, or arrangement of special needs for disabled or elderly travelers. This classification includes clerical office and sales staff who travel from one office to another.

5301-21 Word processing or secretarial services

Applies to establishments engaged in providing word processing or secretarial services to others. Services include, but are not limited to, desktop publishing, dictation and transcription services, typing/compiling reports, proposals, resumes, or correspondence, sending faxes, and making copies of documents. A pickup and delivery service may be offered. This classification includes clerical office and outside sales personnel who travel from one office environment to another.

Special note: This classification is limited to employers engaged in such services being provided to the general public. This is a services only classification and does not include retailing or store operations, nor is this classification to be assigned to employers setting up separate business operations to manage other commonly owned or operated business undertakings unless coincidentally the other operations are also subject to this classification.

[Statutory Authority: RCW 51.16.035, 51.16.100, and Title 51 RCW. 09-20-039, § 296-17A-5301, filed 9/30/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-5301, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 51.16.100. 06-12-075, § 296-17-677, filed 6/6/06, effective 7/7/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-677, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-677, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-677, filed 5/31/96, effective 7/1/96. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 89-24-051 (Order 89-22), § 296-17-677, filed 12/1/89, effective 1/1/90. Statutory Authority: RCW 51.16.035. 88-12-050 (Order 88-06), § 296-17-677, filed 5/31/88, effective 7/1/88; 86-12-041 (Order 86-18), § 296-17-677, filed 5/30/86, effective 7/1/86; 85-24-032 (Order 85-33), § 296-17-677, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-677, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-677, filed 11/30/83, effective 1/1/84; 82-24-047 (Order 82-38), § 296-17-677, filed 11/29/82, effective 1/1/83. Statutory Authority: RCW 51.04.020(1) and 51.16.035. 78-12-043 (Order 78-23), § 296-17-677, filed 11/27/78, effective 1/1/79; Order 75-38, § 296-17-677, filed 11/24/75, effective 1/1/76; Order 73-22, § 296-17-677, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-5307 Classification 5307.

5307-00 State government employees - N.O.C.

Applies to state government employees not covered by another classification (N.O.C. - not otherwise classified). This is the basic state agency classification which covers employees who have duties that support the mission of the agency and have field or hazardous exposure. For purposes of this classification field or hazardous exposure is defined as any work which involves "hands on" work. Employees reported in this classification may have jobs that include, but are not limited to, performing manual labor or supervising a work crew performing manual labor, work in the trades, construction-type work or maintenance/repair work, operating machinery or equipment, stores/stock clerks, warehouse, supplies, deliveries, food services, facilities, recreational, or general security staff with no law enforcement duties. This classification also includes, but is not limited to, personnel such as engineers, inspectors, and biologists, who have field exposure. This classification includes supervisors who work at a field site and perform supervision duties in the field. This classification includes nonpatient care employees in state operated homes, schools, detention or correctional facilities not described in another classification.

This classification may be assigned to all departments, agencies, boards, commissions and committees of either the executive, legislative or judicial branches of state government.

This classification excludes:

- Employees who have law enforcement power in any capacity, who are to be reported separately in classification 7103;
- Juvenile rehabilitation custody staff at institutions or homes who are to be reported in 5307-01;
- Administrative employees with field duties who are to be reported separately in classification 5300;
- Clerical and administrative office personnel who are to be reported separately in classification 4902;
- Employees who work in state hospitals, homes, schools, detention or correctional facilities who are not otherwise classified and provide care and treatment for patients or residents who are to be reported separately in classification 7201;
- Employees who provide patient or health care at state-operated mental health or acute care hospitals with a fully implemented safe patient handling program who are to be reported in classification 7200;
- Employees who provide patient or health care at state-operated mental health or acute care hospitals that do not have a fully implemented safe patient handling program who are to be reported in classification 7400;
- Volunteers are to be reported in classification 6901; and
- Law enforcement volunteers in classification 6906.

5307-01 State government employees - juvenile rehabilitation custody

Applies to employees of the department of social and health services (DSHS) at juvenile institutions and juvenile residential community facilities. Employees in this risk classification may preserve order, provide security, and have the

authority to detain, revoke privileges, or impose sanctions. Other work may include, but is not limited to, providing counseling, conducting assessments, rehabilitation, coordination of services, evaluations, and transporting detainees.

This classification excludes:

- Employees who do not have custody or security duties;
- Employees who perform parole duties such as those performed by a regional office, which are away from a juvenile institution or a juvenile residential community facility who are to be reported in 5300; and
- Employees who direct athletic and recreational activities who are to be reported in 5307-00.

See classifications 4902, 5300, 5307, 7200, 7201, and 7400 for all state government operations.

[Statutory Authority: RCW 51.16.035, 51.16.100, and Title 51 RCW. 09-16-109, § 296-17A-5307, filed 8/4/09, effective 10/1/09. Statutory Authority: RCW 51.16.035, 51.16.100, and 2007 c 324. 07-24-045, § 296-17A-5307, filed 12/1/07, effective 1/1/08. 07-01-014, recodified as § 296-17A-5307, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035 and 51.16.100. 06-23-127, § 296-17-67901, filed 11/21/06, effective 1/1/07; 06-12-075, § 296-17-67901, filed 6/6/06, effective 1/1/07. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-67901, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-67901, filed 5/31/96, effective 7/1/96; 85-24-032 (Order 85-33), § 296-17-67901, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-67901, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-67901, filed 11/30/83, effective 1/1/84. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-67901, filed 11/30/79, effective 1/1/80.]

WAC 296-17A-6103 Classification 6103.

6103-01 Schools: Academic, K-12 - clerical office, sales personnel, teachers, N.O.C. and administrative employees

Applies to clerical office, sales personnel and administrative employees such as principals, assistant principals, receptionists, secretaries, counselors, school nurses, payroll and bookkeeping personnel, and teachers or teachers' aides of establishments engaged in operating public or private academic school facilities, K-12 (kindergarten level through grade 12) and the state schools for the blind and deaf.

This classification excludes all other types of employees in connection with the school facilities such as, but not limited to, cooks, bus drivers, custodians, maintenance personnel and grounds keepers, and teachers or teachers' aides who are exposed to machinery hazards such as a wood shop, metal shop, print shop, auto shop, and driver training instructors who are to be reported separately in classification 6104.

6103-02 Schools: Trade or vocational - clerical office, sales personnel, teachers, N.O.C. and administrative employees

Applies to clerical office, sales personnel and administrative employees such as deans, directors, assistant directors, receptionists, secretaries, counselors, payroll and bookkeeping personnel, and professors or instructors of establishments engaged in operating trade or vocational school facilities. These types of schools provide specialized training and instruction to prepare students for occupations in the chosen fields. Often these facilities will coordinate on-the-job training with employers as well as assist students in finding employment.

This classification excludes all other types of employees in connection with the school facilities such as, but not limited to, cooks, drivers, custodians, maintenance personnel and grounds keepers, and professors or instructors who are exposed to machinery hazards such as a wood shop, metal shop, print shop and auto shop who are to be reported separately in classification 6104.

6103-03 Libraries, N.O.C. - clerical office, sales personnel, teachers, N.O.C. and administrative employees

Applies to clerical office, sales personnel and administrative employees such as librarians, assistant librarians, receptionists, secretaries, and payroll and bookkeeping personnel of establishments engaged in operating library facilities not covered by another classification (N.O.C.). These types of facilities maintain a wide selection of reading materials such as books, journals, articles, magazines, publications, newspapers, and audio-visual or micrographic materials.

This classification excludes all other types of employees such as, but not limited to, custodians, maintenance personnel and grounds keepers, drivers, and storage room workers who are to be reported separately in classification 6104.

6103-04 Churches - clerical office, sales personnel, teachers, N.O.C. and administrative employees

Bell ringers

Applies to clerical office, sales personnel and administrative employees such as pastors, priests, reverends, clergymen, ushers, receptionists, secretaries, counselors, payroll and bookkeeping personnel, and instructors of establishments engaged in operating church facilities for members of a religious congregation to meet and worship on a daily or weekly basis. Other services provided include, but are not limited to, sermons, rites, counseling, baptisms, weddings, funerals, bible school, and child care during church services and events. When a church is also operating a school facility, the church classifications are to be assigned for both operations. This classification also applies to bell ringers for charitable organizations.

This classification excludes all other types of employees in connection with the church facilities such as, but not limited to, custodians, maintenance personnel and grounds keepers, and drivers who are to be reported separately in classification 6104.

6103-05 Museums, N.O.C. - clerical office, sales personnel, teachers, N.O.C. and administrative employees

Applies to clerical office, sales personnel and administrative employees such as directors, assistant directors, buyers, coordinators, tour guides, receptionists, secretaries, and payroll and bookkeeping personnel of establishments engaged in operating museum facilities not covered by another classification (N.O.C.). Museums maintain a wide variety of artifacts, art, statues, sculptures, and other exhibit works.

This classification excludes all other types of employees such as, but not limited to, custodians, maintenance personnel and grounds keepers (including exhibit set-up), drivers, packers, and warehousemen who are to be reported separately in classification 6104.

6103-06 Day nurseries or child day care centers - clerical office, sales personnel, teachers, N.O.C. and administrative employees

Applies to clerical office, sales personnel, and administrative employees such as teachers, teachers' aides and nurses of establishments engaged in operating day nurseries or day care centers for infants, toddlers, and children, or in providing baby-sitting services. Employees will instruct children in activities designed to promote social, physical, and intellectual growth in preparation for primary school. Most day care centers provide breakfast and lunch.

This classification excludes all other types of employees such as, but not limited to, custodians, cooks, maintenance personnel and grounds keepers, and drivers who are to be reported separately in classification 6104.

6103-10 Flight instructions - clerical office, sales personnel, classroom teachers, N.O.C. and administrative employees

Applies to clerical office, sales personnel, classroom instructors, and administrative employees of establishments engaged in providing classroom instruction to student pilots in flight procedures and techniques. Flight instructors explain various aircraft components and instruments for controlling aircraft during maneuvers, and, using flight simulators, demonstrate procedures such as, but not limited to, take-offs and landings.

This classification excludes all other types of employees such as, but not limited to, custodians, maintenance personnel and grounds keepers and drivers who are to be reported separately in classification 6104 and in-air flight instructors outside the classroom who are to be reported separately in the classification 6803.

Special note: Reporting rules are outlined in the division of worker hours provision in the general rules.

6103-11 Schools: N.O.C. - clerical office, sales personnel, classroom teachers, N.O.C. and administrative employees

Applies to classroom instructors, clerical office, sales personnel and administrative employees such as directors and assistant directors, coordinators, instructors, receptionists, secretaries, counselors, payroll and bookkeeping personnel of establishments engaged in providing specialized classroom instruction to students in schools which are not covered by another classification (N.O.C.). Schools include, but are not limited to, dance, modeling, music, driving, cooking, first aid, and schools for coaches. Modeling and dance schools emphasize poise, balance, facial gestures, self-confidence, and counseling in wardrobe and make-up. Music schools emphasize the disciplines of playing various instruments. Driving schools concentrate on the rules, principles, and coordination needed to drive safely, using textbooks, audio-visuals, and driving simulators.

This classification excludes all other types of employees in connection with the specialized school facilities such as, but not limited to, custodians, maintenance personnel, grounds keepers, and ballet dancers and instructors who perform activities not as part of a classroom environment who are to be reported separately in classification 6104 and driving instructors outside of the classroom who are to be reported separately in classification 6301.

6103-12 Officials for amateur athletic or cultural events, N.O.C. - clerical office, teachers, N.O.C. and administrative employees

Applies to clerical office employees, administrative employees, and event officials of establishments engaged in providing officials such as, but not limited to, umpires or referees for amateur athletic or cultural events sponsored by schools or communities. Events include, but are not limited to, sports, spelling bees, debates, and musical competitions.

6103-13 Longshore and stevedore trainees, N.O.C

Applied to clerical office employees, administrative employees, and stevedore trainees of an establishment engaged in training longshore and stevedore trainees in a classroom environment.

Special note: Any longshore or stevedore activities conducted outside of the classroom on a dock, or ship, or adjacent to navigable waters will almost always be covered by the Longshore Harbor Workers' Compensation Act (LHWCA) and will not be covered by the state fund.

[Statutory Authority: RCW 51.16.035, 51.16.100, 51.04.020(1), and Title 51 RCW. 09-16-107, § 296-17A-6103, filed 8/4/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-6103, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 51.16.100. 06-12-075, § 296-17-680, filed 6/6/06, effective 7/7/06; 05-23-161, § 296-17-680, filed 11/22/05, effective 1/1/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-680, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-680, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-680, filed 5/31/96, effective 7/1/96; 88-12-050 (Order 88-06), § 296-17-680, filed 5/31/88, effective 7/1/88; 87-12-032 (Order 87-12), § 296-17-680, filed 5/29/87, effective 7/1/87; 85-24-032 (Order 85-33), § 296-17-680, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-680, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-680, filed 11/30/83, effective 1/1/84; Order 73-22, § 296-17-680, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-6303 Classification 6303.**6303-00 Outside sales personnel, N.O.C.; messengers**

Applies to those employees whose job duties and work environment meet *all* the conditions of the general reporting rules covering outside sales personnel, and who are not covered by another classification (N.O.C.) assigned to the employer's account. Duties of outside sales personnel contemplated by this classification are limited to soliciting new customers by telephone or in person, showing, selling, and explaining products or services, servicing existing accounts, completing correspondence, placing orders, performing public relations duties, and estimating. Duties of messengers are limited to delivering interoffice mail, making deposits, and similar duties that are exclusively for the administration of the employer's business.

This classification excludes the delivery of products or merchandise or the stocking of shelves which is to be reported separately as applicable; the demonstration or delivery of machinery or equipment which are to be reported separately as applicable, establishments engaged as collection agencies or public relations agencies which are to be reported separately in classification 5301; establishments engaged in providing inspection and valuations exclusively for insurance companies which are to be reported separately in classification 4903; establishments engaged in process and legal messenger services which are to be reported separately in classification 6601.

Special note: When considering this classification care must be taken to look beyond titles of employees. Employees with occupational titles such as, but not limited to, collectors, counselors, consultants, or appraisers may or may not qualify for this classification. This is a restrictive classification; the qualifying factor is that all the conditions of the general reporting rules covering standard exception employees have been met.

6303-03 Insurance sales personnel and claims adjusters

Applies to insurance sales personnel and claims adjusters with outside duties. Duties of employees subject to this classification are limited to selling insurance policies at their place of business or at the client's home, or going to the scene of an accident or catastrophe to assess damage. Work may be performed within an office or away from the employer's premises.

Special note: Individuals performing duties as an agent, broker, or solicitor (and hold a license as issued by the office of the insurance commissioner) are exempt from coverage as specified in RCW 51.12.020(11) and 48.17.010, 48.17.020, and 48.17.030. To elect voluntary coverage these individuals must submit a completed optional coverage form to the department.

6303-21 Home health care services: Social workers and dietitians

Applies to social workers and dietitians employed by home health care service establishments who provide care for handicapped individuals. Duties of these employees include teaching physically or developmentally disabled individuals in their own home to manage daily living skills such as caring for themselves, dressing, cooking, shopping, and going to the doctor. This classification also includes dietitians, sometimes called nutritionists, who usually are referred to patients by their physicians. The dietitian assesses the patient's current nutritional status, including current food intake, medical background, family history, currently prescribed medications, and social and psychological needs, then develops a food plan to meet the patient's needs. Employees subject to this classification do no cooking.

This classification excludes nursing and home health care services which are to be reported separately in classification 6110; therapy services which are to be reported separately in classification 6109; domestic servants who are to be reported separately in classification 6510; and chore workers who are to be reported separately in classification 6511.

Special note: This is a restrictive classification; the qualifying factor is that all the conditions of the general reporting rules covering standard exception employees have been met. *This classification is not to be assigned to any account that does not also have classification 6110 and/or 6511.*

[Statutory Authority: RCW 51.16.035, 51.16.100, and Title 51 RCW. 09-20-039, § 296-17A-6303, filed 9/30/09, effective 1/1/10. 07-01-014, reclassified as § 296-17A-6303, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 51.16.100. 05-23-161, § 296-17-698, filed 11/22/05, effective 1/1/06. Statutory Authority: RCW 51.04.020, 51.16.035, and 51.12.120. 03-23-025, § 296-17-698, filed 11/12/03, effective 1/1/04. Statutory Authority: RCW 51.16.035. 99-18-068, § 296-17-698, filed 8/31/99, effective 10/1/99; 98-18-042, § 296-17-698, filed 8/28/98, effective 10/1/98; 85-24-032 (Order 85-33), § 296-17-698, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-698, filed 2/28/85, effective 4/1/85; 83-24-

017 (Order 83-36), § 296-17-698, filed 11/30/83, effective 1/1/84. Statutory Authority: RCW 51.04.030 and 51.16.035. 79-12-086 (Order 79-18), § 296-17-698, filed 11/30/79, effective 1/1/80; Order 76-36, § 296-17-698, filed 11/30/76; Order 73-22, § 296-17-698, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-6306 Classification 6306.

6306-00 Stores: Furniture - wholesale or retail

Stores: Billiard or pool table - wholesale or retail

Applies to establishments engaged in the wholesale or retail sale of new, used, or antique household furniture. This classification also includes the sale of related items such as, but not limited to, lamps, bedding, pillows, floor and window coverings, framed pictures, art pieces and sculptures when sold in connection with a furniture store operation. This classification includes the delivery and the incidental repair of merchandise sold. Incidental repair in this classification is limited to such activities as the repair or cleaning of upholstery or fixing a small scratch on a table. The installation of carpet and window coverings may be included in this classification if such merchandise is part of the store's inventory and is readily available for sale and delivery to the customer. The contract installation of any merchandise which must be ordered from a factory or distributor to fulfill the terms of contract is to be reported separately in the classification applicable to the work being performed. For example, a furniture store could bid on a job to carpet all units of an apartment complex. If the carpet is ordered from the factory as opposed to carpet carried at the store and in the store's inventory, then the installation is to be reported separately in classification 0502. This classification also applies to stores that sell billiard or pool tables.

Special note: Care should be exercised when considering this classification for antique or used furniture stores since such establishments may actually be a furniture refinishing business or an upholstery shop which are to be reported separately in the appropriate classification. Repair work covered by this classification (6306) is limited to such activities as fixing a small scratch on a table, replacing a piece of glass or mirror in a china or curio cabinet, sewing on a button or adjusting a reclining chair mechanism. Classification 6306 should not be assigned to an establishment that is engaged in furniture refinishing, or upholstery work which are to be reported separately in the applicable service or repair classification.

Special note: Clerical office and outside sales employees may be reported separately provided all the conditions of the general reporting rules covering standard exception employees have been met.

6306-01 Stores: Furniture - rental

Applies to establishments engaged in the rental of new, used, or antique household furniture. This classification also includes the sales of related items such as, but not limited to, lamps, bedding, pillows, framed pictures, art pieces and sculptures when sold in connection with a furniture rental store operation. This classification includes the delivery and the incidental repair of merchandise rented. Incidental repair in this classification is limited to such activities as the repair or cleaning of upholstery or fixing a small scratch on a table. This classification also applies to establishments that provide rent-to-own purchasing options, and to establishments

engaged in the sale or rental of hospital beds, motorized wheelchairs and similar patient appliances.

Special note: Care should be exercised when considering this classification for an antique or used furniture store since such establishments may actually be a furniture refinishing business or an upholstery shop which are to be reported separately in the appropriate classification. Repair work covered by this classification (6306) is limited to such activities as fixing a small scratch on a table, replacing a piece of glass or mirror in a china or curio cabinet, sewing on a button or adjusting a reclining chair mechanism. Classification 6306 should not be assigned to an establishment that is engaged in furniture refinishing, or upholstery work which are to be reported separately in the applicable service or repair classification.

Special note: Clerical office and outside sales employees may be reported separately provided all the conditions of the general reporting rules covering standard exception employees have been met.

6306-02 Stores: Appliance - wholesale or retail

Applies to establishments engaged in the wholesale or retail sale of gas, electric, or propane household appliances. Household appliances include, but are not limited to, refrigerators, freezers, stoves, range tops, trash compactors, washing machines, clothes dryers, television consoles, big screen televisions, and television antennas or satellite dish receiving units. Appliance stores will routinely carry smaller appliances which are generally referred to as counter top units which include, but are not limited to, mixers, blenders, microwave ovens, toasters and espresso machines and are included in this classification when sold in connection with the appliance store operation. This classification covers the sale of primarily new appliances although establishments subject to this classification accept trade-ins and sell some used appliances. Also included is the incidental repair of appliances sold by the appliance store, parts departments employees, and the delivery of products sold. The contract installation of any merchandise which must be ordered from a factory or distributor to fulfill the terms of contract is to be reported separately in the classification applicable to the work being performed. For example, an appliance store could bid on a job to supply appliances for all units of an apartment complex. If the appliances are ordered from the factory as opposed to items carried at the store and in the stores inventory then the installation is to be reported separately in classification 0607. Establishments engaged in the sale of commercial appliances may be assigned to this classification provided such establishments operate a bonafide store operation. Generally, however, commercial appliances such as those used to equip bakeries and restaurants are factory ordered items which are made to a customer's specifications from a manufacturer's representative.

Special note: Care should be taken when considering this classification for an antique or used appliance store since such establishments are primarily engaged in reconditioning appliances (service and repair) for resale and are to be reported separately in classification 0607.

Special note: Clerical office and outside sales employees may be reported separately provided all the conditions of

the general reporting rules covering standard exception employees have been met.

6306-03 Stores: Piano or organ - wholesale or retail

Applies to establishments engaged in the wholesale or retail sale of new pianos and organs. This classification includes all operations associated with the store including service, repair, and delivery. It is common for stores subject to this classification to carry other musical instruments such as, but not limited to, guitars, drums and wind instruments as well as provide instructions on the use of instruments.

This classification excludes establishments engaged exclusively in piano tuning which are to be reported separately in classification 4107; stores that sell musical instruments other than pianos or organs which are to be reported separately in classification 6406; and establishments engaged in the reconditioning of organs and pianos accompanied by the related sales of reconditioned pianos and organs which are to be reported separately in classification 2906.

Special note: Clerical office and outside sales employees may be reported separately provided all the conditions of the general reporting rules covering standard exception employees have been met.

6306-06 Stores: Office furniture - wholesale or retail

Applies to establishments engaged in the wholesale or retail sale of new, used, or antique office furniture. This classification also includes the sales of related items such as, but not limited to, lamps, floor and window coverings, framed pictures, art pieces and sculptures when sold in connection with an office furniture store operation. This classification includes the delivery of furniture and related items, and the incidental repair of office furniture items sold by the office furniture store such as upholstery repair and cleaning. The installation of carpet and window coverings may be included in this classification if such merchandise is part of the store's inventory and readily available for sale and delivery to the customer. The contract installation of any merchandise that must be ordered from a factory or distributor to fulfill the terms of contract is to be reported separately in the classification applicable to the work being performed. For example, an office furniture store could bid on a job to supply modular desk units for a large office complex. If the desk units are ordered from the factory as opposed to units carried at the store and in the stores inventory, then the installation is to be reported separately in classification 2002.

Special note: Care should be exercised when considering this classification for an antique or used office furniture store since such establishments may actually be a furniture refinishing business or an upholstery shop which are to be reported separately in the appropriate classification. Repair work covered by this classification (6306) is limited to such activities as fixing a small scratch on a table, replacing a piece of glass or mirror in a china or curio cabinet, sewing on a button or adjusting a reclining chair mechanism. Classification 6306 should not be assigned to an establishment that is engaged in furniture refinishing or upholstery work.

Special note: Clerical office and outside sales employees may be reported separately provided all the conditions of the general reporting rules covering standard exception employees have been met.

6306-07 Audio/visual equipment rental and event services

Applies to businesses engaged in renting audio/visual equipment and providing temporary setup or "staging" services at hotels, theaters, events, or businesses. Services may include, but are not limited to, the design, cost estimate, rental, and setup of audio/visual equipment such as projectors, cameras, videos, screens, microphones, sound systems, mixers, lights, or grip equipment. These businesses usually store the equipment in their warehouse, stage it in a loading area, load and transport it in a van or truck, or the customer may pick it up. Employees may be stationed at a customer's site, such as a hotel, and equipment may be stored at the customer's site for daily setup. Services provided are usually scheduling and coordination, delivery, equipment setup, testing, cleaning, and repair. Employees may operate equipment during an event or help troubleshoot problems, or return at the end of the event to disassemble the equipment and return it to the warehouse. Businesses in this classification may also offer sales of accessories or other new and used equipment. Repair is usually limited to the businesses' own equipment, but minimal repair services for customers are included in this classification.

This classification excludes:

- Contractors with a limited energy electrical license providing low voltage wiring with installation of audio/visual equipment, who are to be reported in classification 0608.
- Retail stereo component or camera stores which also rent, but provide no staging services, who are to be reported in classification 6406.
- Firms providing equipment setup or repair only, who are to be reported in classification 0607.
- Musicians and their own employees performing stage setup, who are to be reported in classification 6605.
- Sponsors of exhibitions or shows who are to be reported in classification 6208.

Special note: Clerical office and outside sales employees may be reported separately provided all the conditions of the general reporting rules covering standard exception employees have been met.

[Statutory Authority: RCW 51.16.035, 51.16.100, and Title 51 RCW. 09-20-039, § 296-17A-6306, filed 9/30/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-6306, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 51.16.100. 06-12-075, § 296-17-701, filed 6/6/06, effective 7/7/06; 05-12-031, § 296-17-701, filed 5/24/05, effective 7/1/05. Statutory Authority: RCW 51.16.035. 98-18-042, § 296-17-701, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-701, filed 5/31/96, effective 7/1/96; 85-24-032 (Order 85-33), § 296-17-701, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-701, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-701, filed 11/30/83, effective 1/1/84; Order 76-36, § 296-17-701, filed 11/30/76; Order 75-38, § 296-17-701, filed 11/24/75, effective 1/1/76; Order 73-22, § 296-17-701, filed 11/9/73, effective 1/1/74.]

WAC 296-17A-6601 Classification 6601.**6601-00 Detective agencies**

Applies to establishments engaged in providing investigative and related services for others. Services include, but are not limited to, investigating corporate embezzlement and fraud, employee theft, insurance fraud, missing person cases, matrimonial or child custody disputes, conducting background checks, tracking and apprehending fugitives, monitoring burglar or fire alarm systems, or provide polygraph

testing or fingerprinting services. Investigative methods include checking public records, conducting interviews, surveillance, and undercover operations. As a general rule, the detective agency provides clients with a final report, which includes documentation, photographs, or videotapes.

This classification excludes establishments engaged in providing customer shoplifting surveillance within retail stores which are to be reported separately in classification 6601-01 and surveillance employees hired as direct employees of a nondetective or security agency who are to be reported separately in the classification applicable to the establishment.

6601-01 Merchant police or patrol

Applies to establishments engaged in providing security services to shopping centers, malls, business parks, banks and other businesses. Services include, but are not limited to, monitoring parking lots and garages, maintaining public security in malls, hospitals, and banks, providing surveillance for theft or shoplifting, and monitoring alarm systems.

This classification excludes detective agencies which are to be reported separately in classification 6601-00 and security guard services which are to be reported separately in classification 6601-02.

6601-02 Security guard agencies

Applies to establishments engaged in providing general security guard services for clients such as airports, commercial, industrial, residential and governmental facilities. Services include, but are not limited to, protecting persons or buildings, responding to fire or burglar alarms, protecting and/or transporting executives, providing security at strikes, and conducting electronic sweeps. The clients' security systems may be connected to a central security system of the security guard agency, where employees of the security guard agency monitor the client's systems and notify the appropriate authorities if necessary. As a general rule, security guards, do not have police powers.

This classification excludes security guards at logging sites who are to be reported separately in classification 6601-03 and security guards at construction sites who are to be reported separately in classification 6601-04 provided the conditions in the special exception section of the general rules have been met.

6601-03 Security guards at logging sites

Applies to employees of logging contractors or landowners who are employed as security guards to maintain security at logging sites by preventing, deterring and detecting crime and/or fires. Security guards subject to this classification are limited to employment at the site only during those hours that the employer is not conducting any other operations at the site and may have no other duties during their shift as security guard. This classification also applies to establishments that contract to provide security guards at logging sites.

6601-04 Security guards at construction sites

Applies to employees of construction contractors or landowners who are employed as security guards to maintain security at construction sites by preventing, deterring and detecting crime and/or fires. Security guards subject to this classification are limited to employment at the site only during those hours that the employer is not conducting any other

operations at the site and may have no other duties during their shift as security guard. This classification also applies to establishments that contract to provide security guards at construction sites.

6601-05 Armored car services

Applies to establishments engaged in armored car services which transport cash or valuables for businesses such as, but not limited to, banks, supermarkets, and jewelry stores to other destinations. Also included are armored car services which collect or deposit money into or from automatic teller machines.

6601-06 Crowd control services

Applies to establishments engaged in providing crowd control services. Crowd control services is a growing field and may include, but not be limited to, crowd management at sporting events, race tracks, live concerts, rallies, conventions, rodeos, and fairs. This classification includes parking lot staff, and rule enforcement employees such as uniformed or plain clothes security guards who maintain order as well as providing personal protection.

This classification excludes theatre ushers, inside ticket takers, set up crews and stagehands who are to be reported separately in classification 4504.

6601-07 Process/legal messenger services

Applies to establishments engaged in providing process services and legal messenger services for others. Process servers deliver legal documents such as summonses, complaints, subpoenas and writs to individuals. A legal messenger delivers legal papers between legal representatives and the courts. Services may also include checking public records, surveillance work, and conducting interviews to locate recipients of legal documents. They will provide clients with a final report of service or nonservice on the recipient.

This classification excludes errand and parcel delivery services that are to be reported separately in classification 1101.

[Statutory Authority: RCW 51.16.035, 51.16.100, and Title 51 RCW. 09-20-039, § 296-17A-6601, filed 9/30/09, effective 1/1/10. 07-01-014, recodified as § 296-17A-6601, filed 12/8/06, effective 12/8/06. Statutory Authority: RCW 51.16.035, 98-18-042, § 296-17-723, filed 8/28/98, effective 10/1/98; 96-12-039, § 296-17-723, filed 5/31/96, effective 7/1/96; 85-24-032 (Order 85-33), § 296-17-723, filed 11/27/85, effective 1/1/86; 85-06-026 (Order 85-7), § 296-17-723, filed 2/28/85, effective 4/1/85; 83-24-017 (Order 83-36), § 296-17-723, filed 11/30/83, effective 1/1/84; Order 77-27, § 296-17-723, filed 11/30/77, effective 1/1/78; Order 73-22, § 296-17-723, filed 11/9/73, effective 1/1/74.]

Chapter 296-19A WAC

VOCATIONAL REHABILITATION

(Formerly chapter 296-18A WAC)

WAC

296-19A-500	Definitions.
296-19A-510	What training programs can the department approve and issue a provider account number to?
296-19A-520	What are the requirements for providing training services to Washington injured workers?
296-19A-530	What ownership and financial information must a non-accredited or unlicensed training provider submit as part of the application to provide training services to Washington injured workers?

296-19A-540	How long must a nonaccredited or unlicensed training provider be in operation before applying to provide services to Washington injured workers?
296-19A-550	When must an approved nonaccredited or unlicensed training provider reapply in order to continue providing services to Washington injured workers?
296-19A-560	What documentation does the department require from a nonaccredited or unlicensed training provider in order to be considered for approval to provide training to Washington injured workers?
296-19A-570	What factors will the department consider when deciding whether to approve a nonaccredited or unlicensed training provider for Washington injured workers?
296-19A-580	When must a nonaccredited or unlicensed training provider conform to the requirements of chapter 296-19A WAC?
296-19A-590	What criteria must training providers meet to maintain provider status?

WAC 296-19A-500 Definitions. (1) "Training provider" means any entity offering education in any form or manner for the purpose of instructing, training, or providing knowledge or skills.

(2) "Accredited" means the training provider has been approved by the state agency responsible for regulating degree granting institutions, or an accreditation body recognized by the secretary of the Department of Education, or the Commission on Accrediting Rehabilitation Facilities, or a public educational institution.

(3) "Licensed" means the training provider is regulated, licensed or approved by the state agency that regulates vocational education, or under any occupational licensing act, or a federal or local government agency, or the Washington state apprenticeship training council.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-500, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-510 What training programs can the department approve and issue a provider account number to? The department can approve and issue a provider account number to:

- (1) An accredited training program or provider.
- (2) A licensed training program or provider.
- (3) An apprenticeship program approved through the Washington state apprenticeship training council.
- (4) A training provider listed on the Washington state Workforce Training and Education Coordinating Board's Eligible Training Provider List or a list from a similar agency in another state.
- (5) Other nonaccredited or unlicensed programs approved by the department. Nonaccredited or unlicensed programs must file a separate application for approval by the department before a provider number can be issued.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-510, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-520 What are the requirements for providing training services to Washington injured workers? (1) A training provider must be approved by the department and receive a provider number to be eligible to provide training services or to receive payment for services.

- (2) All training providers must:
 - (a) Comply with all federal and state laws, regulations, and other requirements governing their business operations;

(b) Have an admission policy allowing all qualified members of the general population to be candidates for admission;

(c) Conform to the department's orders, rules, and policies, if any;

(d) Maintain accreditation or training provider licensing, when applicable.

(3) In addition training providers that provide services within the state of Washington must:

(a) Possess a master business license from the Washington state department of licensing;

(b) Register with the Washington state department of revenue;

(c) Possess a charter from the Washington secretary of state's office if operating a limited partnership or corporation; and

(d) Comply with local ordinances governing businesses within the city or county where they will operate.

(4) In addition training providers providing services outside the state of Washington must comply with all regulatory requirements and local ordinances within the state, city and county where they will operate.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-520, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-530 What ownership and financial information must a nonaccredited or unlicensed training provider submit as part of the application to provide training services to Washington injured workers? Application must include the following information attested by the training provider's chief administrative officer:

(1) An identification of owners, shareholders, and directors:

(a) The complete legal name, current telephone number, and current mailing address of the owner;

(b) The form of ownership; e.g., sole proprietorship, partnership, limited partnership, or corporation;

(c) Names, addresses, phone numbers, birth dates, and prior training provider affiliations, if any, of all individuals with ten percent or more ownership interest;

(d) A training provider that is a corporation or subsidiary of another corporation must submit:

(i) Current evidence that the corporation is registered with the Washington secretary of state's office; and

(ii) The name, address and telephone number of the corporation's registered agent.

(e) "Ownership" means:

(i) In the case of a training provider owned by an individual, that individual;

(ii) In the case of a training provider owned by a partnership, all full, silent and limited partners having ten percent or more ownership interest; and

(iii) In the case of a training provider owned by a corporation, the corporation, each corporate director, officer, and each shareholder owning shares of issued and outstanding stock aggregating at least ten percent of the total of the issued and outstanding shares.

(f) By written notice to the department, training providers under common ownership may designate a single location as the principal facility for recordkeeping.

(2) Financial statement. The training provider must submit information reflecting its financial status at the close of its most recent fiscal year demonstrating the provider has sufficient financial resources to fulfill its commitments to students.

(3) Financial references.

(a) The training provider must submit the names of at least one bank or other financial institution and two other entities that the department may consult as financial references.

(b) A statement must be included authorizing the department to obtain financial information from the references.

(c) For new training providers that have not operated another business during the past year, a recent credit report from Equifax, Experian, Trans Union or another credit rating firm recognized by the U.S. Department of Commerce.

(4) A program that is part of a publicly funded entity; e.g., city, state, county or federal, is exempt from financial disclosure requirements.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-530, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-540 How long must a nonaccredited or unlicensed training provider be in operation before applying to provide services to Washington injured workers? A nonaccredited or unlicensed training provider exempt from any other applicable state licensing requirement must provide proof of continuous operation for at least two years prior to the date of application.

Exception: A program that is part of a publicly funded entity; e.g., city, state, county or federal, is exempt from the two-year requirement.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-540, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-550 When must an approved nonaccredited or unlicensed training provider reapply in order to continue providing services to Washington injured workers? An approved nonaccredited or unlicensed training provider must reapply two years after the date of the most recent application to the department.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-550, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-560 What documentation does the department require from a nonaccredited or unlicensed training provider in order to be considered for approval to provide training to Washington injured workers?

When a nonaccredited or unlicensed training provider seeks a provider number from the department, the provider must give the department all the following documentation, or its request will be denied:

(1) A copy of the training provider's catalog. The training provider must publish a catalog or brochure that explains its operations and requirements. The catalog must be current, comprehensive, and accurate.

(2) A copy of the training provider's enrollment agreement/contract. An enrollment agreement is any agreement that creates a binding obligation to purchase a course of instruction from a training provider.

(3) A description of the instruction program including:

(a) The number of clock hours of instruction, the method of instruction (e.g., correspondence, classroom, lab, computer assisted), and the average length of time required for successful completion;

(b) If instruction is calculated in credit hours, a description of the contact hour formula applied by the training provider; i.e., the number of contact hours applicable to each quarter or semester credit hour of lecture, laboratory/practicum, and/or internship/externship;

(c) For distance education training providers, the instructional sequences as described in the number of lessons.

"Distance education" means education provided by written correspondence or any electronic medium for students who are enrolled in a private vocational school in pursuit of an identified occupational objective, but are not attending classes at an approved site or training establishment.

(4) A document outlining the scope and sequence of courses or programs required to achieve the educational objective.

(5) A copy of the training provider's admission procedures, including policies describing all prerequisites needed by entering students to successfully complete the programs of study.

(6) Documentation indicating the total cost of training for each program, including registration fees, if any, tuition, books, supplies, equipment, laboratory usage, special clothing, student activities, insurance and all other charges and expenses necessary for the completion of the program.

(7) A copy of the training provider's cancellation and refund policy including:

- (a) Cancellation before the training start date;
- (b) Cancellation within thirty days of the start date; and
- (c) Interruptions in service due to staffing or other reasons.

(8) The training calendar, including hours of operation, holidays, enrollment periods, and the start and end dates of terms, courses, or programs.

(9) An accurate description of the training provider's facilities and equipment available for student use, the maximum or usual class size and the average student/teacher ratio.

(10) The names and qualifications of faculty.

(11) A copy of the training provider's policy on standards of progress required including:

- (a) A definition of the grading system;
- (b) The minimum grades considered satisfactory;
- (c) Conditions for interruption for unsatisfactory progress;

(d) A description of the probationary period, if any, allowed by the training provider;

(e) Conditions for reentrance for students dismissed for unsatisfactory progress; and

(f) A statement that a progress report will be given to the student.

(12) The training provider's policy towards student conduct, including causes for dismissal and conditions for readmission.

(13) The training provider's policy on leave, absences, class cuts, makeup work, tardiness, and interruptions for unsatisfactory attendance.

(14) Training providers that prepare students for obtaining employment, documentation of the training provider's

completion rate and job placement rate, including the title, wages, and benefits obtained by graduates.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-560, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-570 What factors will the department consider when deciding whether to approve a nonaccredited or unlicensed training provider for Washington injured workers? The department will consider all of the information received from the training provider in its application for a provider number, including documents provided pursuant to WAC 296-19A-560. The department will review this information to ensure that the training provider provides services that are consistent with chapter 296-19A WAC and RCW 51.32.099. Furthermore, the department will consider the following factors:

(1) Whether the training provider adequately supervises its instructors to ensure that they are qualified and provide appropriate training and instruction.

(2) Whether any students have been injured as a result of the training provider's failure to use adequate safety protocols.

(3) Whether any complaints have been filed by current or former students against the training provider or any of its instructors, and, if so, whether any of these complaints have merit.

(4) Whether the training provider or any of its instructors have ever been convicted of a crime, and, if so, the nature of the crime.

(5) Whether there is any other information indicating the training provider does not provide services to its students in a manner consistent with the objectives of chapter 296-19A WAC or RCW 51.32.099.

(6) In addition training providers preparing students for employment must address the following factors:

(a) Whether any of the training provider's programs allow a student to obtain an educational or occupational credential awarded upon successful completion of program, and, if so, the type of credential(s) awarded;

(b) Whether any of the training provider's programs have clearly identified program objectives, such as information regarding specific job titles the student will qualify for on completion of training, and the projected wages and benefits of those jobs;

(c) Training provider's job placement rate, including job title, wages, and benefits obtained by graduates; and

(d) Whether the program achieved at least a thirty percent completion rate and a fifty percent job placement rate in the three quarters following graduation for the most recent fiscal year.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-570, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-580 When must a nonaccredited or unlicensed training provider conform to the requirements of chapter 296-19A WAC? (1) A nonaccredited or unlicensed training provider without a current department provider number must be approved by the department and receive a provider number in order to train Washington injured workers.

(2) A nonaccredited or unlicensed training provider who already has a department provider number must reapply for and receive approval by the department before June 30, 2010, in order to continue training Washington injured workers.

(3) A nonaccredited or unlicensed training provider must first obtain licensure or approval by the appropriate state agency and submit documentation of this licensure or approval when applying to the department to become a provider.

(4) A nonaccredited or unlicensed training provider exempt from the Washington state workforce training and education coordinating board licensure requirements must submit documentation of the exemption before an application can be reviewed.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-580, filed 12/2/09, effective 1/2/10.]

WAC 296-19A-590 What criteria must training providers meet to maintain provider status? (1) All accredited or licensed training providers with a department provider number must maintain their accreditation or licensure status.

(2) All approved nonaccredited or unlicensed training providers with department provider numbers must conform to all requirements in chapter 296-19A WAC, on an ongoing basis.

(3) Failure to maintain accreditation, licensure, or conformance to the requirements of chapter 296-19A WAC may result in termination of the provider number.

(4) Programs that prepare students for employment must maintain at least a thirty percent completion rate and fifty percent placement rate in jobs for which training was provided during the three quarters following graduation during the most recent fiscal year, July 1 through June 30.

The department may consider and grant exceptions based on unusual cause or circumstances.

[Statutory Authority: RCW 51.04.020, 51.04.030, 51.32.095, 51.32.099, and 2007 c 72. 09-24-108, § 296-19A-590, filed 12/2/09, effective 1/2/10.]

**Chapter 296-20 WAC
MEDICAL AID RULES**

WAC

296-20-03002	Treatment not authorized.
296-20-071	Concurrent treatment.
296-20-12055	Structured intensive multidisciplinary program (SIMP) for chronic noncancer pain.
296-20-12060	SIMP requirements for lumbar fusion and artificial disc replacement candidates.
296-20-12065	SIMP definitions.
296-20-12070	SIMP evaluation phase.
296-20-12075	SIMP treatment phase.
296-20-12080	SIMP follow up phase.
296-20-12085	Requirements the SIMP provider must meet.
296-20-12090	Requirements the worker must meet for a SIMP.
296-20-12095	SIMP referral and prior authorization requirements.

WAC 296-20-03002 Treatment not authorized. The department or self-insurer will not allow nor pay for following treatment:

(1) Use of diapulse, thermatic (standard model only), spectrowave and superpulse machines on workers entitled to benefits under the Industrial Insurance Act.

(2) Iontophoresis; prolotherapy; acupuncture; injections of colchicine; injections of fibrosing or sclerosing agents; and

injections of substances other than anesthetic or contrast into the subarachnoid space (intra-thecal injections).

(3) Treatment to improve or maintain general health (i.e., prescriptions and/or injection of vitamins or referrals to special programs such as health spas, swim programs, exercise programs, athletic-fitness clubs, diet programs, social counseling).

(4) Continued treatment beyond stabilization of the industrial condition(s), i.e., maintenance care, except where necessary to monitor prescription of medication necessary to maintain stabilization i.e., anti-convulsive, anti-spasmodic, etc.

(5) After consultation and advice to the department or self-insurer, any treatment measure deemed to be dangerous or inappropriate for the injured worker in question.

(6) Treatment measures of an unusual, controversial, obsolete, or experimental nature (see WAC 296-20-045). Under certain conditions, treatment in this category may be approved by the department or self-insurer. Approval must be obtained prior to treatment. Requests must contain a description of the treatment, reason for the request with benefits and results expected.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-03002, filed 9/30/09, effective 11/1/09. Statutory Authority: RCW 51.04.020, 51.04.030. 06-15-110, § 296-20-03002, filed 7/18/06, effective 8/18/06. Statutory Authority: RCW 51.04.020(4) and 51.04.030. 86-06-032 (Order 86-19), § 296-20-03002, filed 2/28/86, effective 4/1/86; 83-16-066 (Order 83-23), § 296-20-03002, filed 8/2/83. Statutory Authority: RCW 51.04.020(4), 51.04.030, and 51.16.120(3). 81-24-041 (Order 81-28), § 296-20-03002, filed 11/30/81, effective 1/1/82; 81-01-100 (Order 80-29), § 296-20-03002, filed 12/23/80, effective 3/1/81; Order 76-34, § 296-20-03002, filed 11/24/76, effective 1/1/77.]

WAC 296-20-071 Concurrent treatment. In some cases, treatment by more than one practitioner may be allowed. The department or self-insurer will consider concurrent treatment when the accepted conditions resulting from the injury involve more than one system and/or require specialty or multidisciplinary care.

When requesting consideration for concurrent treatment, the attending doctor must provide the department or self-insurer with the following:

The name, address, discipline, and specialty of all other practitioners assisting in the treatment of the injured worker and an outline of their responsibility in the case and an estimate of the length of the period of concurrent care.

When concurrent treatment is allowed, the department or self-insurer will recognize one primary attending provider, who will be responsible for directing the over-all treatment program, including monitoring or prescribing medications when appropriate, providing copies of all reports and other data received from the involved practitioners and, in time loss cases, providing adequate certification evidence of the worker's inability to work. The department or self-insurer may allow a concurrent care provider to prescribe medications. In such cases, the concurrent care provider is required to send the attending provider and the department or self-insurer all required reports, including a report of the medications prescribed.

The department or self-insurer will approve concurrent care on a case-by-case basis. Consideration will be given to

all factors in the case including availability of providers in the worker's geographic location.

[Statutory Authority: RCW 51.04.020, 51.04.030. 09-14-104, § 296-20-071, filed 6/30/09, effective 7/31/09. Statutory Authority: RCW 51.04.020(4) and 51.04.030. 86-06-032 (Order 86-19), § 296-20-071, filed 2/28/86, effective 4/1/86. Statutory Authority: RCW 51.04.020(4), 51.04.030, and 51.16.120(3). 81-01-100 (Order 80-29), § 296-20-071, filed 12/23/80, effective 3/1/81; Order 75-39, § 296-20-071, filed 11/28/75, effective 1/1/76; Order 70-12, § 296-20-071, filed 12/1/70, effective 1/1/71. Formerly WAC 296-20-060.]

WAC 296-20-12055 Structured intensive multidisciplinary program (SIMP) for chronic noncancer pain. (1) Injured workers eligible for benefits under Title 51 RCW may be evaluated for and enrolled in a comprehensive treatment program for chronic noncancer pain if it meets the definition of a structured, intensive, multidisciplinary program (SIMP). The goals for this program are to help workers recover their function, reduce or eliminate disability, and improve the quality of their lives by helping them cope effectively with chronic noncancer pain.

(2) Prior authorization is required for all workers to participate in a SIMP for functional recovery from chronic pain.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12055, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12060 SIMP requirements for lumbar fusion and artificial disc replacement candidates. Special conditions and requirements apply to workers who are considering having a lumbar fusion or lumbar intervertebral artificial disc replacement due to uncomplicated degenerative disc disease (referred to as lumbar surgery candidates as defined in WAC 296-20-12065). Lumbar surgery candidates must successfully complete a SIMP to obtain authorization for a lumbar fusion or a lumbar intervertebral artificial disc replacement. Refer to WAC 296-20-12095 for referral and prior authorization information.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12060, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12065 SIMP definitions. The definitions in this section refer to terms used in WAC 296-20-12055 through 296-20-12095.

(1) **SIMP** means a chronic pain management program with the following four components:

Structured means care is delivered through regular scheduled modules of assessment, education, treatment, and follow up evaluation where workers interact directly with licensed health care practitioners. Workers follow a treatment plan designed specifically to meet their needs.

Intensive means the treatment phase is delivered on a daily basis, six to eight hours per day, five days per week, for up to four consecutive weeks. Slight variations can be allowed if necessary to meet the worker's needs.

Multidisciplinary (interdisciplinary) means that structured care is delivered and directed by licensed health care professionals with expertise in pain management in at least the areas of medicine, psychology, and physical therapy or occupational therapy. The SIMP may add vocational, nursing, and additional health services depending on the workers' needs and covered benefits.

Program means an interdisciplinary pain rehabilitation program that provides outcome-focused, coordinated, goal-oriented team services. Care coordination is included within and across each service area. The program benefits workers who have impairments associated with pain that impact their participation in daily activities and their ability to work. This program measures and improves the functioning of persons with pain and encourages their appropriate use of healthcare systems and services.

(2) **Uncomplicated degenerative disc disease (UDDD)** means chronic low back pain of discogenic origin without objective clinical evidence of any of the following conditions:

- Radiculopathy;
- Functional neurologic deficits;
- Spondylolisthesis (> grade 1);
- Isthmic spondylolysis;
- Primary neurogenic claudication associated with stenosis;
- Fracture, tumor, infection, inflammatory disease; or
- Degenerative disease associated with significant deformity.

(3) **Lumbar surgery candidate** means an injured worker who is considering having a lumbar fusion or lumbar intervertebral artificial disc replacement due to uncomplicated degenerative disc disease.

(4) **Important associated conditions** means medical or psychological conditions (often referred to as comorbid conditions) that hinder functional recovery from chronic pain.

(5) **Treatment plan** means an individualized plan of action and care developed by licensed health care professionals that addresses the worker's identified needs and goals. It describes the intensity, duration, frequency, setting, and timeline for treatment and addresses the elements described in the treatment phase. It is established during the evaluation phase and may be revised during the treatment phase.

(6) **Valid tests and instruments** mean those that have been shown to be scientifically accurate and reliable for tracking functional progress over time.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12065, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12070 SIMP evaluation phase. See WAC 296-20-12095 SIMP referral and prior authorization requirements, for information about how and when each phase may be prior authorized by the claim manager.

Evaluation phase:

The Evaluation phase occurs before the treatment phase and includes treatment plan development and a report. Only one evaluation is allowed per authorization but it can be conducted over one to two days. The evaluation phase includes all of the following components:

(1) A history and physical exam along with a medical evaluation by a physician. Advanced registered nurse practitioners and certified physician assistants can perform those medical portions of the pretreatment evaluation that are allowed by the commission on accreditation of rehabilitation facilities (CARF);

(2) Review of medical records and reports, including diagnostic tests and previous efforts at pain management;

(3) Assessment of any important associated conditions that may hinder recovery (e.g., opioid dependence and other substance use disorders, smoking, significant mental health disorders, and unmanaged chronic disease). If such conditions exist, see WAC 296-20-12095 SIMP referral and prior authorization requirements;

(4) Assessment of past and current use of all pain management medications, including over the counter, prescription, scheduled, and illicit drugs;

(5) Psychological and social assessment by a licensed clinical psychologist using valid tests and instruments;

(6) Identification of the worker's family and support resources;

(7) Identification of the worker's reasons and motivation for participation and improvement;

(8) Identification of factors that may affect participation in the program;

(9) Assessment of pain and function using valid tests and instruments; it should include the current levels, future goals, and the estimated treatment time to achieve them for each of the following areas:

- Activities of daily living (ADLs);
- Range of motion (ROM);
- Strength;
- Stamina;
- Capacity for and interest in returning to work.

(10) If the claim manager has assigned a vocational counselor, the SIMP vocational provider must coordinate with the vocational counselor to assess the likelihood of the worker's ability to return to work and in what capacity;

(11) A summary report of the evaluation and a preliminary recommended treatment plan. If there are any barriers preventing the worker from moving on to the treatment phase, the report should explain the circumstances;

(12) For lumbar surgery candidates, the report should address their expectation and interest in having surgery.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12070, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12075 SIMP treatment phase. Treatment phase services may be provided for up to twenty consecutive days (excluding weekends and holidays) depending on individual needs and progress toward treatment goals. Each treatment day lasts six to eight hours. Services are coordinated and provided by an interdisciplinary team of physicians, psychologists, physical or occupational therapists, and may include nurses, vocational counselors, and care coordinators. Treatment must include all the following elements:

(1) Graded exercise: Progressive physical activities guided by a physical or occupational therapist that promote flexibility, strength, and endurance to improve function and independence;

(2) Cognitive behavioral therapy: Individual or group cognitive behavioral therapy with the psychologist, psychiatrist or psychiatric advanced registered nurse practitioner;

(3) Coordination of health services: Coordination and communication with the attending provider, claim manager, family, employer, and community resources as needed to accomplish the goals set forth in the treatment plan;

- For lumbar surgery candidates, communication and consultation with the spine surgeon is recommended;

(4) Education and skill development on the factors that contribute to pain, responses to pain, and effective pain management;

- For lumbar surgery candidates, this includes provision and review of a patient education aid, provided by the insurer, describing the risks associated with lumbar fusion;

(5) Tracking of pain and function: Individual medical assessment of pain and function levels using valid tests and instruments;

(6) Ongoing assessment of important associated conditions, medication tapering, and clinical assessment of progress toward goals; opioid and mental health issues can be treated concomitantly with pain management treatment;

(7) Performance of real or simulated work or daily functional tasks;

(8) SIMP vocational services may include instruction regarding workers' compensation requirements. Vocational services with return to work goals are needed in accordance with the return to work action plan when a vocational referral has been made;

(9) A discharge care plan for the worker to continue exercises, cognitive and behavioral techniques and other skills learned during the treatment phase;

(10) A report at the conclusion of the treatment phase that addresses all the following questions:

- To what extent did the worker meet his or her treatment goals?
 - What changes, if any, have occurred in the worker's medical and psycho-social conditions, including dependence on opioids and other medications?
 - What changes, if any, have occurred in the worker's pain level and functional capacity as measured by valid tests and instruments?
 - What changes, if any, have occurred in the worker's ability to manage pain?
 - What is the status of the worker's readiness to return to work or daily activities?
 - What is the status of progress in achieving the goals listed in the return to work action plan, if applicable?
 - How much and what kind of follow up care does the worker need?
 - For lumbar surgery candidates, what is the worker's current expectation and interest in having surgery?

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12075, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12080 SIMP follow up phase. (1) So long as the claim remains open, a follow up phase may occur within six months after the treatment phase has concluded. This phase is not a substitute for and cannot serve as an extended treatment phase. The goals of the follow up phase are to:

(a) Improve and reinforce the pain management gains made during the treatment phase;

(b) Help the worker integrate the knowledge and skills gained during the treatment phase into his or her job, daily activities, and family and community life;

(c) Evaluate the degree of improvement in the worker's condition at regular intervals and produce a written report describing the evaluation results;

(d) Address the goals listed in the return to work action plan if one was developed.

(2) Site of the follow up phase. The activities of the follow up phase may occur at the original multidisciplinary clinic (clinic-based) or at the worker's home, workplace, or healthcare provider office (community-based). This approach permits maximum flexibility for workers whose needs may range from intensive, focused follow up care at the clinic to more independent episodes of care closer to home. It also enables workers to establish relationships with providers in their communities so they have increased access to healthcare resources.

(3) Face-to-face vs. nonface-to-face services: Follow up services are payable as "face-to-face" and "nonface-to-face" services. Face-to-face services are when the provider interacts directly with the worker, the worker's family, employer, or other healthcare providers. Nonface-to-face services are when the SIMP provider uses the telephone or other electronic media to communicate with the worker, worker's family, employer, or other healthcare providers for the purpose of coordinating care in the worker's home community. Both are subject to the following limits:

(a) Face-to-face services: Up to twenty-four hours are allowed with a maximum of four hours per day.

(b) Nonface-to-face services: Up to forty hours are allowed.

(4) Reporting requirements.

(a) If a worker has been receiving follow up services, a summary report must be submitted to the insurer that provides the following information:

- The worker's status, including whether the worker returned to work, how pain is being managed, medication use, whether the worker is getting services in his or her community, activity levels, and support systems;
- What was done during the follow up phase;
- What resulted from the follow up care; and
- Measures of pain and function using valid tests and instruments.

(b) This summary report must be submitted at the following intervals:

- For nonlumbar surgery candidates: At one and three months.
- For lumbar surgery candidates (regardless of whether they had lumbar surgery after successfully completing SIMP treatment): At one, three, and six months.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12080, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12085 Requirements the SIMP provider must meet. Refer to department policy on comprehensive treatment for chronic noncancer pain for requirements the SIMP provider must meet.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12085, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12090 Requirements the worker must meet for a SIMP. An injured worker must make a good faith effort to participate and comply with the treatment plan prescribed for him or her by the SIMP provider. To successfully complete a SIMP, the worker must meet all the requirements in this section. The worker must:

(1) Be medically and physically stable enough to safely tolerate and participate in all physical activities and treatments that are part of his or her treatment plan;

(2) Be psychologically stable enough to understand and follow instructions and to put forth an effort to work toward the goals that are part of his or her treatment plan;

(3) Agree to be evaluated and comply with treatment prescribed for any important associated conditions that hinder progress or recovery (e.g., opioid dependence and other substance use disorders, smoking, significant mental health disorders, and other unmanaged chronic disease);

(4) Attend each day and each session that is part of his or her treatment plan. Sessions may be made up if, in the opinion of the provider, they do not interfere with the worker's progress toward treatment plan goals;

(5) Cooperate and comply with his or her treatment plan;

(6) Not pose a threat or risk to himself or herself, to staff, or to others;

(7) Review and sign a participation agreement with the provider;

(8) Participate with coordination efforts at the end of the treatment phase to help him or her transition back to his or her home, community, and workplace.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12090, filed 9/30/09, effective 11/1/09.]

WAC 296-20-12095 SIMP referral and prior authorization requirements. (1) All SIMP services require:

- Prior authorization by the claim manager; and
- A referral from the worker's attending provider.

An occupational nurse consultant, claim manager, or insurer assigned vocational counselor may recommend a SIMP for the worker, but this cannot substitute for a referral from the attending provider.

(2) When the attending provider refers a worker to a chronic pain management program (i.e., a SIMP), the claim manager may authorize an evaluation if the worker has had unresolved chronic pain for longer than three months despite conservative care and has one or more of the following conditions:

(a) Is unable to return to work due to the chronic pain;

(b) Has returned to work but needs help with chronic pain management;

(c) Has significant pain medication dependence, tolerance, abuse, or addiction;

(d) Is a lumbar surgery candidate. It is recommended that lumbar surgery candidates be evaluated by a SIMP provider prior to requesting surgery.

(3) Prior authorization for the evaluation phase occurs first and includes only one evaluation. Once authorized, the SIMP provider verifies the worker meets the requirements set forth in WAC 296-20-12090 and can fully participate in the program. If the worker:

(a) Meets the requirements and the SIMP provider recommends the worker move on to the treatment phase, the SIMP provider must provide the insurer with a report and treatment plan as described under the evaluation phase.

(b) Does not meet the requirements, the SIMP provider must provide the insurer with a report explaining what requirements are not met and the goals the worker must meet before he or she can return and participate in the program. If

the worker is found to have important associated conditions during the evaluation phase that prevent him or her from participating in the treatment phase, the SIMP provider must either treat the worker or recommend to the worker's attending provider and the claim manager what type of treatment the worker needs.

(4) The treatment phase must be prior authorized separately from the evaluation phase. Treatment phase authorization includes authorization for the follow up phase.

(5) SIMP services are authorized on an individual basis. If there are extenuating circumstances that warrant additional treatment or a restart of the program, providers must submit this request along with supporting documentation to the claim manager.

(6) If a lumbar surgery candidate previously participated in a SIMP as a lumbar surgery candidate but did not successfully complete treatment, one additional SIMP may be authorized only if:

(a) The worker obtains an additional surgical recommendation noting clinical changes one year or more after the date first referred to a SIMP; or

(b) The reason the worker did not participate fully or successfully complete a SIMP the first time was because of important associated conditions that are now fully resolved.

(7) If a lumbar surgery candidate successfully completed a SIMP and did not have surgery, and in the future becomes a lumbar surgery candidate again, another SIMP may be authorized but is not required.

(8) If a worker's treatment is interrupted due to significant family or life circumstances such as a death in the family, the claim manager may authorize resuming or restarting the SIMP if recommended by the SIMP provider.

(9) If a SIMP provider plans to travel to the worker's community to deliver face-to-face services, mileage may be reimbursed, but only if it is authorized prior to travel. Lodging or meals (per diem expenses) are not reimbursable. Actual travel time is not included in the twenty-four-hour limit as stated in WAC 296-20-12080. When requesting prior authorization for mileage, the SIMP provider must explain the reason for the visit and how it will benefit the worker.

[Statutory Authority: RCW 70.14.120, 51.04.020, 51.04.030. 09-20-040, § 296-20-12095, filed 9/30/09, effective 11/1/09.]

Chapter 296-21 WAC

REIMBURSEMENT POLICIES: PSYCHIATRIC SERVICES, BIOFEEDBACK, PHYSICAL MEDICINE

WAC

296-21-270 Psychiatric services.

WAC 296-21-270 Psychiatric services. The following rule supplements information contained in the fee schedules regarding coverage and reimbursement for psychiatric services.

Treatment of mental conditions to workers is to be goal directed, time limited, intensive, and limited to conditions caused or aggravated by the industrial condition. Psychiatric services to workers are limited to those provided by psychiatrists, clinical PhD psychologists, and psychiatric advanced registered nurse practitioners and according to department policy. Psychiatrists and psychiatric advanced registered

nurse practitioners may prescribe medications while providing concurrent care. For purposes of this rule, the term "psychiatric" refers to treatment by psychologists, psychiatric advanced registered nurse practitioners, and psychiatrists.

Initial evaluation, and subsequent treatment must be authorized by department staff, as outlined by department policy. The report of initial evaluation, including test results, and treatment plan are to be sent to the worker's attending provider, as well as to the department or self-insurer. A copy of sixty-day narrative reports are to be sent to the department or self-insurer and to the attending provider.

All providers are bound by the medical aid rules in chapter 296-20 WAC. Reporting requirements are defined in chapter 296-20 WAC. In addition, the following are required: Testing results with scores, scales, and profiles; report of raw data sufficient to allow reassessment by a panel or independent medical examiner. Use of the current Diagnostic and Statistical Manual of the American Psychiatric Association axis format in the initial evaluation and sixty-day narrative reports, and explanation of the numerical scales are required.

A report to the department will contain, at least, the following elements:

Subjective complaints;

Objective observations;

Assessment of the worker's condition and goals accomplished; and

Plan of care.

The codes, reimbursement levels, and other policies for psychiatric services are listed in the fee schedules.

[Statutory Authority: RCW 51.04.020, 51.04.030. 09-14-104, § 296-21-270, filed 6/30/09, effective 7/31/09. Statutory Authority: RCW 51.04.020, 51.04.030 and 1993 c 159. 93-16-072, § 296-21-270, filed 8/1/93, effective 9/1/93.]

Chapter 296-23 WAC

RADIOLOGY, RADIATION THERAPY, NUCLEAR MEDICINE, PATHOLOGY, HOSPITAL, CHIROPRACTIC, PHYSICAL THERAPY, DRUGLESS THERAPEUTICS AND NURSING— DRUGLESS THERAPEUTICS, ETC.

WAC

296-23-241	Advanced registered nurse practitioners.
296-23-302	Definitions.
296-23-317	What qualifications must a provider meet to become an approved independent medical examination (IME) provider and be assigned an IME provider number?
296-23-337	For what reasons shall the department's medical director or designee suspend or terminate approval of an independent medical examination (IME) examiner or firm?
296-23-387	What are the responsibilities of an independent medical examination (IME) provider regarding testimony?

WAC 296-23-241 Advanced registered nurse practitioners. (1) Advanced registered nurse practitioners (ARNPs) may independently perform the functions of an attending provider under the Industrial Insurance Act, with the exception of rating permanent impairment. These functions are referenced in the medical aid rules as those of an attending or treating provider, and include, but are not limited to:

- Completing and signing the report of accident or provider's initial report, where applicable;

- Certifying time-loss compensation;
- Completing and submitting all required or requested reports;
- Referring workers for consultations;
- Performing consultations;
- Facilitating early return to work offered by and performed for the employer(s) of record;
- Doing all that is possible to expedite the vocational process, including making an estimate of the worker's physical or mental capacities that affect the worker's employability.

(2) Psychiatric advanced registered nurse practitioners can provide psychiatric services as defined in WAC 296-21-270.

(3) ARNPs can state whether a worker has permanent impairment, such as on the department's activity prescription form (APF). ARNPs cannot rate permanent impairment or perform independent medical examinations (IMEs).

[Statutory Authority: RCW 51.04.020, 51.04.030, 09-14-104, § 296-23-241, filed 6/30/09, effective 7/31/09. Statutory Authority: 2007 c 275, RCW 51.04.020 and 51.04.030, 08-04-094, § 296-23-241, filed 2/5/08, effective 2/22/08. Statutory Authority: 2004 c 65 and 2004 c 163, 04-22-085, § 296-23-241, filed 11/2/04, effective 12/15/04.]

WAC 296-23-302 Definitions. Approved independent medical examination (IME) provider - A doctor or firm whose credentials are approved to conduct an independent medical examination, rating evaluation, or provide IME associated services including but not limited to file preparation, scheduling of examinations and processing billing. An approved IME provider is assigned a unique provider number.

Department - For the purpose of this section, department means the department of labor and industries industrial insurance workers' compensation state fund and self-insured programs.

Direct patient care - For the purpose of meeting the qualifications of an independent medical examination (IME) provider, direct patient care means face-to-face contact with the patient for the purpose of evaluation and management of care that includes, but is not limited to:

- History taking and review of systems;
- Physical examination;
- Medical decision making;
- Coordination of care with other providers and agencies.

This does not include time spent in independent medical examinations.

Impairment rating examination - An examination to determine whether or not the injured/ill worker has any permanent impairment(s) as a result of the industrial injury or illness after the worker has reached maximum medical improvement. An impairment rating may be conducted by a qualified attending provider, a medical consultant, or an approved examiner. An impairment rating may be a component of an IME.

Independent medical examination (IME) - An objective medical-legal examination requested (by the department or self-insurer) to establish medical facts about a worker's physical condition. These examinations may only be conducted by department-approved examiners.

Independent medical examination (IME) provider - A firm, partnership, corporation, or individual doctor (exam-

iner) who has been approved and given an independent medical examination (IME) provider number by the department to perform IMEs.

Medical director - A licensed doctor in the firm, partnership, corporation or other legal entity responsible to provide oversight on quality of independent medical examinations, impairment ratings and reports.

Medical Examiners' Handbook - A handbook distributed by the department containing department policy and information to assist providers who perform independent medical examinations and impairment rating examinations.

Patient related services - Patient related services are defined as one or more of the following professional activities:

- Direct patient care;
- Locum tenens;
- Clinical consultations for treating/attending doctors;
- Clinical or classroom instruction of medical, osteopathic, dental, podiatry, or chiropractic students and/or residents;
- On-call emergency services;
- Volunteer clinician providing patient care services in his or her specialty;
- Participation in clinically based peer review or quality review activities.

Provider number - A unique number(s) assigned to a provider by the department of labor and industries. The number identifies the provider and is linked to a tax identification number that has been designated by the provider for payment purposes. A provider may have more than one provider number assigned by the department.

Suspension - A department action during which the provider is approved by the department but not available to accept referrals.

Temporarily unavailable - Provider is approved by the department but is temporarily unavailable to accept referrals. Temporarily unavailable applies at the provider's request for personal reasons or by the department as part of an administrative action. Provider remains unavailable until the issue is resolved.

Termination - The permanent removal of a provider from the list of approved IME examiners. All IME provider numbers assigned to the examiner are inactivated.

[Statutory Authority: RCW 51.32.055, 51.32.112 [51.32.112], 51.32.114, 51.36.060, and 51.36.070, 09-24-085, § 296-23-302, filed 11/30/09, effective 3/1/10; 04-04-029, § 296-23-302, filed 1/27/04, effective 3/1/04.]

WAC 296-23-317 What qualifications must a provider meet to become an approved independent medical examination (IME) provider and be assigned an IME provider number? In order to ensure that independent medical examinations are of the highest quality and propriety, examiners, firms, partnerships, corporations, or other legal entities must apply and meet the following requirements for department approval:

- (1) For all examiner applicants:
 - (a) Have a current, unrestricted, and active professional license to practice in this state or in any other jurisdiction where the applicant would conduct an examination.
 - (i) Unrestricted is defined as not currently having a temporary or permanent probation, suspension, revocation or any

other limitation of any kind placed on a professional license or privilege to practice by any court, board, or administrative agency in any jurisdiction.

(ii) If any restriction once existed against the applicant's license, the department must automatically deny the application if the applicant's record has not been clear for at least five years. If after five years the record has been cleared, then the department exclusively reserves the right to grant or deny the application based on the nature of the prior restriction.

(iii) Exception to the five-year limit may be granted for any restriction or offense deemed by the department to be of a minor or clerical nature.

(iv) If an applicant has any pending action on their privilege to practice by any court, board, or administrative agency, or by any health care institution such as a hospital in any jurisdiction, the department exclusively reserves the right to grant or deny the application based upon the nature of the action.

(b) Have no final action by the department to suspend or revoke a previously assigned provider number as a treating or independent medical provider.

(i) If the applicant has any criminal history, history of a violation of statutes or rules by any administrative agency, court or board in any jurisdiction, the department must automatically deny the application if such history exists within five years of the application. If such history exists but is older than five years, then the department exclusively reserves the right to grant or deny the application based upon the nature of the history.

(ii) Exception to the five-year limit may be granted for any restriction or offense deemed by the department to be of a minor or clerical nature.

(c) If an applicant has any pending action in any jurisdiction, the department will not process the application until the matter has been resolved.

(d) Applicants must attest that all information submitted on the application is true and accurate and must sign under penalty of perjury.

(e) Other requirements:

(i) Providers must comply with all federal and state laws, regulations, and other requirements with regard to business operations, including specific requirements for the provision of medical services.

(ii) Providers must adhere to the independent medical examination standards of conduct, and all other laws, rules, and policies. These include but are not limited to the following:

- Provider application agreement;
- *Medical Aid Rules and Fee Schedules (MARFS)*;
- Payment policies;
- *Medical Examiners' Handbook*.

(iii) Providers must review and sign the IME report and attest to its accuracy.

(iv) Providers must achieve a passing score on the *Medical Examiners' Handbook* test prior to initial application and every three years thereafter.

(v) Providers must meet one of the following two criteria:

(A) Providers must document a minimum of three hundred eighty-four hours of patient related services (excluding independent medical examinations) per calendar year; or

(B) Providers may complete a minimum of twelve continuing medical education (CME) units of department-approved education and training per year or a total of thirty-six CMEs in three years. This training would focus on improving the provider's skills in completing IMEs or staying current in the provider's specialty. Topics include but are not limited to:

- Report writing;
- Providing testimony;
- Standards of practice;
- Medical ethics;
- Patient care;
- Impairment rating.

(vi) Providers must conduct examinations in a facility designed as a professional office suitable for medical, dental, podiatric, chiropractic or psychiatric examinations where the primary use of the site is for medical services. The site must not be residential, commercial, educational or retail in nature. The site must be clean, sanitary and provide adequate access, climate control, light, space, and equipment. The site must provide for the comfort and safety of the worker and for the privacy necessary to conduct examinations and discuss medical issues. Providers must have a private disrobing area and adequate provision of examination gowns.

(vii) Providers must have telephone answering capability during regular business hours, Monday through Friday, in order to facilitate scheduling of independent examinations and means for workers to contact the provider regarding their scheduled examination. If the office is open on Saturday, telephone access must be available.

(viii) Providers will agree that either they or the department may inactivate their IME provider number or numbers. If an IME provider number has been inactivated and the provider wishes to resume performing IMEs, they must reapply and meet current requirements.

(ix) Providers must keep the department informed and updated with any new information.

(x) In order to maintain an active IME provider number, providers must reapply every three years. For the current IME providers to be in compliance with the new rule, they must reapply in the first year. Each provider will be notified by mail sixty days prior to their application due date.

(2) Additional examiner requirements:

(a) Medical physician and surgeon (MD) or osteopathic physician and surgeon (DO) applicants must: Hold a current board certification in their specialty; or have completed a residency and be within five years of obtaining board certification.

(i) Residency must be in a program approved by the American College of Graduate Medical Education (ACGME) or the American Osteopathic Association (AOA) or equivalent approving body.

(ii) Fellowships will not be accepted in lieu of accredited residency training though they may be used to determine examination specialty qualifications.

(b) Chiropractic physician (DC) applicants must be a chiropractic consultant for the department for at least two years.

(c) Podiatric physician (DPM) applicants must: Have a current board certification in his or her specialty; or have completed a residency and be within five years of obtaining board certification.

(i) Complete a residency program approved by the American Podiatric Medical Association (APMA).

(ii) Fellowships will not be accepted in lieu of accredited residency training though they may be used to determine examination specialty qualifications.

(d) Dentist (doctor of dental science/doctor of dental medicine) (DDS/DMD) applicants must:

(i) Hold current certification in their specialty; or

(ii) Have two years of postdoctoral clinical experience, and complete at least one year of postdoctoral training in a program approved by the American Dental Association Commission on Dental Accreditation (CODA).

Only providers in the following practice specialties who meet all other requirements may perform IMEs:

Doctors licensed to practice:					
Examiner is:	Medicine & surgery	Osteopathic medicine & surgery	Podiatric medicine & surgery	Chiropractic	Dentistry
In Washington	Yes	Yes	Yes	Yes	Yes
Outside Washington	Yes	Yes	Yes	No	Yes

(3) All other provider applicants that derive income from independent medical examinations must:

(a) Comply with all federal and state laws, regulations, and other requirements with regard to business operations including specific requirements for any business operations for the provision of medical services.

(b) Attest that all information submitted on the application is true and accurate and must sign under penalty of perjury.

(c) Have no previous action taken by any federal or state agency for any business previously owned or operated.

(d) Have no previous business or audit action by the department to suspend or revoke an assigned provider number.

(e) In order to be assigned an IME provider number, an IME firm, partnership, corporation or other legal entity, have a medical director. The medical director must be a licensed provider, be responsible to provide oversight on the quality of independent medical examinations, impairment ratings and reports, and be available to resolve any issue that department staff may bring to the medical director's attention.

(f) Conduct examinations in a facility designed as a professional office suitable for medical, dental, podiatric, chiropractic or psychiatric examinations where the primary use of the site is for medical services. The site must not be residential, commercial, educational or retail in nature. The site must be clean, sanitary and provide adequate access, climate control, light, space, and equipment. The site must provide for the comfort and safety of the worker and for the privacy necessary to conduct examinations and discuss medical issues. Providers must have a private disrobing area and adequate provision of examination gowns.

(g) Have telephone answering capability during regular business hours, Monday through Friday, in order to schedule independent medical examinations and communicate with workers about scheduled examinations. If the office is open on Saturday, telephone access must be available.

(h) Facilitate scheduling of providers both for the examination and for any required follow up, including amendments to the report, subsequent reports, or for any testimony required. If the provider fails to participate in scheduling or otherwise causes an undue expense to the department, whether intentionally or not, the department may fine the provider up to five hundred dollars per violation.

(i) Agree to keep the department informed and updated with any new information such as exam site or administrative office locations, phone numbers or contact information.

(j) Agree that either the provider or the department may inactivate their IME provider number or numbers. If an IME provider number has been inactivated and the provider wishes to resume performing IMEs, they must reapply and meet current requirements.

(k) In order to maintain an active IME provider number, the provider must reapply every three years.

[Statutory Authority: RCW 51.32.055, 51.32.112 [51.32.112], 51.32.114, 51.36.060, and 51.36.070. 09-24-085, § 296-23-317, filed 11/30/09, effective 3/1/10; 04-04-029, § 296-23-317, filed 1/27/04, effective 3/1/04.]

WAC 296-23-337 For what reasons shall the department's medical director or designee suspend or terminate approval of an independent medical examination (IME) examiner or firm? In order to ensure high quality independent medical examinations (IMEs), the department's medical director or designee shall terminate, suspend or inactivate approval of examiners, firms, partnerships, corporations, or other legal entities in the situations described below. When an IME examiner or other entity is terminated or suspended, they may not perform IMEs for the department.

(1) AUTOMATIC TERMINATION OF EXAMINERS. The department's medical director or designee shall terminate approval of examiners in situations including, but not limited to the following:

(a) Their license has been revoked in any jurisdiction.

(b) A final order or stipulation to informal disposition has been issued against the examiner by a state authority in any jurisdiction, including, but not limited to the Washington state department of health, when such charges involve conduct or behavior as defined in chapter 18.130 RCW, Uniform Disciplinary Act. These include, but are not limited to:

(i) Sexually inappropriate conduct, behavior or language.

(ii) Behavior that puts patients' safety or well-being at risk.

(c) The examiner has committed perjury or falsified documents provided to the department or insurer.

(d) The examiner has a criminal felony history in any jurisdiction.

(e) The examiner has failed to reapply every three years.

(2) **AUTOMATIC SUSPENSION FOR REVIEW.** The department's medical director or designee shall suspend approval of examiners in situations listed below. The department will initiate the review within ninety days of notification. The results of the review will determine if further action is necessary, which may include termination.

(a) The examiner has failed to meet all qualifications for approval as an IME provider.

(b) The examiner's license has been restricted in any jurisdiction. Exceptions may be granted for any restriction or offense deemed by the department to be of a minor or clerical nature.

(c) The examiner has lost hospital privileges for cause.

(d) A statement of charges has been filed against the examiner by a state authority in any jurisdiction, including, but not limited to the Washington state department of health, when such charges involve conduct or behavior as defined in chapter 18.130 RCW, Uniform Disciplinary Act. These include, but are not limited to:

(i) Sexually inappropriate conduct, behavior or language.

(ii) Behavior that puts patients' safety or well-being at risk.

(e) The examiner has any pending or history of criminal charges or violation of statutes or rules by any administrative agency, court or board in any jurisdiction.

(3) **AUTOMATIC TERMINATION OF NONEXAMINER IME PROVIDERS.** The department's medical director or designee shall terminate approval of firms, partnerships, corporations, or other legal entities that derive income from independent medical examinations in situations when they fail to meet all requirements for approval as an IME provider, including failing to reapply every three years.

(4) **AUTOMATIC SUSPENSION OF NONEXAMINER IME PROVIDERS.** The department's medical director or designee shall suspend approval of firms, partnerships, corporations, or other legal entities that derive income from independent medical examinations in situations listed below. The department will review the matter to determine if further action is necessary, which may include termination.

(a) The provider has failed to meet all qualifications for approval as an IME provider.

(b) The provider has committed perjury or falsified documents provided to the department or insurer.

(c) The provider's behavior has placed patients' safety or well-being at risk.

(5) **NONAUTOMATIC TERMINATIONS AND SUSPENSIONS.** In addition to automatic terminations and suspensions described in subsections (1) through (4) of this section, the department's medical director or designee shall consider any of the following factors in determining a change in status for all providers. These status changes include temporarily unavailable, suspension or termination of the approval to conduct IMEs.

These factors include, but are not limited to:

(a) Substantiated complaints or pattern of complaints about the provider.

(b) Other disciplinary proceedings or actions not listed in subsections (1) through (4) of this section.

(c) Other proceedings in any court dealing with the provider's professional conduct, quality of care or criminal

actions not listed in subsections (1) through (4) of this section.

(d) Substandard quality of reports, failure to comply with current department policy on report contents, or inability to effectively convey and substantiate medical opinions and conclusions concerning workers.

(e) Untimely reports.

(f) Unavailable or unwilling to responsibly communicate with the department.

(g) Unavailable or unwilling to testify on behalf of the department, worker, or employer.

(h) Failure to cooperate with all attorneys representing a party in industrial insurance litigation at the board of industrial insurance appeals (board) by not cooperating in a timely manner to schedule preparatory activities and/or testimony during business hours and within the dates ordered by the board to complete testimony.

(i) Inability to support examination and report findings in any legal proceeding as evidenced by board decisions finding the testimony less credible.

(j) Failure to stay current in the area of specialty and in the areas of impairment rating, performance of IMEs, industrial injury and occupational disease/illness, industrial insurance statutes, regulations and policies.

(k) Failure to maintain the criteria to be an IME provider.

(l) Misrepresentation of information provided to the department.

(m) Failure to inform the department of changes affecting the provider's status as an IME provider.

(n) Failure to comply with the department's orders, statutes, rules, or policies.

(o) Failure to accept the department fee schedule rate for independent medical examinations.

(p) Any pending action in any jurisdiction.

[Statutory Authority: RCW 51.32.055, 51.32.112 [51.32.112], 51.32.114, 51.36.060, and 51.36.070. 09-24-085, § 296-23-337, filed 11/30/09, effective 3/1/10; 04-04-029, § 296-23-337, filed 1/27/04, effective 3/1/04.]

WAC 296-23-387 What are the responsibilities of an independent medical examination (IME) provider regarding testimony? IME providers must make themselves reasonably available to testify at the board of industrial insurance appeals (board) or by deposition. Reasonably available to all parties means cooperating in the timely scheduling of the pretestimony conference and testimony and being available to testify during business hours (7:00 a.m. to 6:00 p.m.) as ordered by the judge and within the dates ordered by the board to complete testimony, unless a different time is needed and agreed upon by all parties. In signing the application to be an independent medical examination provider, the provider agrees to perform examinations and be available to testify and to answer questions about the medical facts of the case at rates established under the authority of Washington industrial insurance law. The department may fine the firm and/or examiner up to five hundred dollars per violation for failure to comply with these requirements, whether the failure was intentional or not.

In addition, failure to comply with these requirements may result in suspension or termination of the IME provider number.

[Statutory Authority: RCW 51.32.055, 51.32.112 [51.32.112], 51.32.114, 51.36.060, and 51.36.070. 09-24-085, § 296-23-387, filed 11/30/09, effective 3/1/10; 04-04-029, § 296-23-387, filed 1/27/04, effective 3/1/04.]

Chapter 296-32 WAC
SAFETY STANDARDS FOR TELECOMMUNICATIONS

WAC

296-32-250 Tools and personal protective equipment—General.

WAC 296-32-250 Tools and personal protective equipment—General. (1) Personal protective equipment (PPE), protective devices and special tools needed for the work of employees shall be provided and the employer shall ensure that they are used by employees.

(a) Before each day's use the employer shall ensure that these personal protective devices, tools, and equipment are carefully inspected by a competent person to ascertain that they are in good condition.

(b) Tools found to be defective shall be taken out of service.

(c) PPE shall be provided at no cost to the employee.

(2) Head protection. Head protection meeting the requirements of ANSI Z89.2-1971, "Safety Requirements for Industrial Protective Helmets for Electrical Workers, Class B", must be provided whenever there is possible exposure to high voltage electrical contact. Employers must make sure that employees use the head protection.

(3) Eye protection. Protective eye and face equipment shall be required where there is a possibility of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors.

Note: See WAC 296-800-160 for additional personal protective equipment requirements.

(4) Tent heaters, torches and open flame. Open flames shall not be used within ground tents or on platforms within aerial tents unless:

(a) The tent covers are constructed of fire resistant materials, and

(b) Ventilation is provided to maintain safe oxygen levels and avoid harmful buildup of combustion products and combustible gases.

(5) Portable power equipment.

(a) All portable power equipment used in the telecommunications industry shall be grounded.

(b) Nominal 120V, or less, portable generators used for providing power at work locations do not require grounding if the output circuit is completely isolated from the frame of the unit.

(c) Grounding shall be omitted when using soldering irons, guns or wire-wrap tools on telecommunication circuits.

(6) Vehicle-mounted utility generators. Vehicle-mounted utility generators used for providing nominal 240V AC or less for powering portable tools and equipment need not be grounded to earth if all of the following conditions are met:

(a) One side of the voltage source is solidly strapped to the metallic structure of the vehicle;

(b) Grounding-type outlets are used, with a "grounding" conductor between the outlet grounding terminal and the side of the voltage source that is strapped to the vehicle;

(c) All metallic encased tools and equipment that are powered from this system are equipped with three-wire cords and grounding-type attachment plugs, except as designated in subsection (7) of this section.

(7) Portable lights, tools and appliances. When operated from commercial power such metal parts of these devices shall be grounded, unless these tools or appliances are protected by a system of double insulation, or its equivalent. Where such a system is employed, the equipment shall be distinctively marked to indicate double insulation.

(8) Lead work. When operated from commercial power the metal housing of electric solder pots shall be grounded. Electric solder pots may be used with the power equipment described in this subsection, without a grounding conductor.

The employer shall ensure that wiping gloves or cloths and eye protection are used in lead wiping operations. A drip pan to catch hot lead drippings shall also be provided and used.

(9) Fire extinguishers.

(a) Fire extinguishers shall be provided for the protection of both the building structure and the occupancy hazards contained therein.

(b) Employees shall be familiar with the location and operation of fire extinguishers.

(c) Any fire extinguishers showing defects shall be removed from service.

(d) Fire extinguishers shall be thoroughly examined and/or recharged or repaired to insure operability and safety once every year.

(e) Each fire extinguisher shall have a durable tag securely attached to show the maintenance or recharge date and the initials or signature of the person performing this service.

Note: For additional requirements relating to portable fire extinguishers see WAC 296-800-300.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-05-071, § 296-32-250, filed 2/17/09, effective 4/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050. 02-12-098, § 296-32-250, filed 6/5/02, effective 8/1/02; 01-23-060, § 296-32-250, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-32-250, filed 5/9/01, effective 9/1/01. Statutory Authority: Chapter 49.17 RCW. 94-20-057 (Order 94-16), § 296-32-250, filed 9/30/94, effective 11/20/94. Statutory Authority: RCW 49.17.040 and 49.17.050. 82-13-045 (Order 82-22), § 296-32-250, filed 6/11/82; Order 76-38, § 296-32-250, filed 12/30/76; Order 75-41, § 296-32-250, filed 12/19/75.]

Chapter 296-45 WAC

SAFETY STANDARDS FOR ELECTRICAL WORKERS

WAC

296-45-25505 Personal protective equipment.
296-45-475 Substations.

WAC 296-45-25505 Personal protective equipment.

(1) General. Personal protective equipment (PPE) shall meet the requirements of chapter 296-24 WAC, Part L and the PPE requirements in chapter 296-800 WAC. PPE required by these chapters or a hazard assessment will be provided by the employer at no cost to the employee.

(2) All protective hats shall be in accordance with the specifications of ANSI Z89.2-1971 Edition Industrial Protective Helmets for Electrical Workers, Class B, and shall be worn at the job site by employees who are exposed to overhead or electrical hazards.

(3) Wearing apparel. Goggles, hearing protection, respirators, rubber gloves, and other such personal protective devices shall not be interchanged among employees unless they have been sanitized.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-45-25505, filed 2/17/09, effective 4/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 01-11-038, § 296-45-25505, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050 and [49.17].060, 98-07-009, § 296-45-25505, filed 3/6/98, effective 5/6/98.]

WAC 296-45-475 Substations. This section provides additional requirements for substations and for work performed in them.

(1) Access and working space. Sufficient access and working space shall be provided and maintained about electric equipment to permit ready and safe operation and maintenance of such equipment.

Note: Guidelines for the dimensions of access and working space about electric equipment in substations are contained in American National Standard-National Electrical Safety Code, ANSI C2-1997. Installations meeting the ANSI provisions comply with WAC 296-45-475(1). An installation that does not conform to this ANSI standard will, nonetheless, be considered as complying with WAC 296-45-475(1) if the employer can demonstrate that the installation provides ready and safe access based on the following evidence:

(a) That the installation conforms to the edition of ANSI C2 that was in effect at the time the installation was made;

(b) That the configuration of the installation enables employees to maintain the minimum approach distances required by WAC 296-45-325(5) while they are working on exposed, energized parts; and

(c) That the precautions taken when work is performed on the installation provide protection equivalent to the protection that would be provided by access and working space meeting ANSI C2-1997.

(d) Precaution must be taken to prevent accidental operation of relays or other protective devices due to jarring, vibration, or improper wiring.

(2) Draw-out-type circuit breakers. When draw-out-type circuit breakers are removed or inserted, the breaker shall be in the open position. The control circuit shall also be rendered inoperative, if the design of the equipment permits.

(3) Substation fences. Conductive fences around substations must be grounded. When a substation fence must be expanded or removed fence continuity must be maintained and bonding must be used to prevent electrical discontinuity. A temporary fence affording similar protection when the site is unattended, must be provided. Adequate interconnection with ground must be maintained between temporary fence and permanent fence.

(4) Guarding of rooms containing electric supply equipment.

(a) Rooms and spaces in which electric supply lines or equipment are installed shall meet the requirements of sub-

section (4)(b) through (e) of this section under the following conditions:

(i) If exposed live parts operating at 50 to 150 volts to ground are located within 8 feet of the ground or other working surface inside the room or space;

(ii) If live parts operating at 151 to 600 volts and located within 8 feet of the ground or other working surface inside the room or space are guarded only by location, as permitted under subsection (5)(a) of this section; or

(iii) If live parts operating at more than 600 volts are located within the room or space, unless:

(A) The live parts are enclosed within grounded, metal-enclosed equipment whose only openings are designed so that foreign objects inserted in these openings will be deflected from energized parts; or

(B) The live parts are installed at a height above ground and any other working surface that provides protection at the voltage to which they are energized corresponding to the protection provided by an 8-foot height at 50 volts.

(b) The rooms and spaces shall be so enclosed within fences, screens, partitions, or walls as to minimize the possibility that unqualified persons will enter.

(c) Signs warning unqualified persons to keep out shall be displayed at entrances to the rooms and spaces.

(d) Entrances to rooms and spaces that are not under the observation of an attendant shall be kept locked.

(e) Unqualified persons may not enter the rooms or spaces while the electric supply lines or equipment are energized.

(5) Guarding of energized parts.

(a) Guards shall be provided around all live parts operating at more than 150 volts to ground without an insulating covering, unless the location of the live parts gives sufficient horizontal or vertical or a combination of these clearances to minimize the possibility of accidental employee contact.

Note: Guidelines for the dimensions of clearance distances about electric equipment in substations are contained in American National Standard-National Electrical Safety Code, ANSI C2-1997. Installations meeting the ANSI provisions comply with subsection (5)(a) of this section. An installation that does not conform to this ANSI standard will, nonetheless, be considered as complying with subsection (5)(a) of this section if the employer can demonstrate that the installation provides sufficient clearance based on the following evidence:

(i) That the installation conforms to the edition of ANSI C2 that was in effect at the time the installation was made;

(ii) That each employee is isolated from energized parts at the point of closest approach; and

(iii) That the precautions taken when work is performed on the installation provide protection equivalent to the protection that would be provided by horizontal and vertical clearances meeting ANSI C2-1997.

(b) Except for fuse replacement and other necessary access by qualified persons, the guarding of energized parts within a compartment shall be maintained during operation and maintenance functions to prevent accidental contact with energized parts and to prevent tools or other equipment from being dropped on energized parts.

(c) When guards are removed from energized equipment, barriers shall be installed around the work area to pre-

vent employees who are not working on the equipment, but who are in the area, from contacting the exposed live parts.

(6) Substation entry.

(a) Upon entering an attended substation, each employee other than those regularly working in the station shall report his or her presence to the employee in charge in order to receive information on special system conditions affecting employee safety.

(b) The job briefing required by WAC 296-45-135 shall cover such additional subjects as the location of energized equipment in or adjacent to the work area and the limits of any deenergized work area.

(c) Nonqualified persons may only approach exposed energized electrical equipment located in substations or switch yards up to the distances set forth in Tables 1 through 4 when under the direct supervision of a qualified person acting as a safety watch. The safety watch will make sure that the nonqualified person does not encroach or take conductive objects closer to exposed energized parts than set forth in Tables 1 through 4.

(i) Nonqualified persons must have hazard recognition training and attend a documented tailgate meeting prior to entering the substation.

(ii) The safety watch must be a qualified employee as defined by WAC 296-45-035.

(iii) The safety watch will have the responsibility and authority to monitor work on a continuous basis and/or stop work until the hazard is eliminated or protected.

(iv) The safety watch will maintain a direct line of sight and voice communications with all nonqualified persons under their direct supervision. If the safety watch cannot meet these requirements, additional safety watches must be assigned or work must be stopped. Each safety watch will monitor no more than four persons.

(v) The safety watch will perform no other duties while acting as a safety watch.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 09-10-077, § 296-45-475, filed 5/5/09, effective 7/1/09; 05-17-038, § 296-45-475, filed 8/9/05, effective 10/1/05; 98-07-009, § 296-45-475, filed 3/6/98, effective 5/6/98.]

Chapter 296-46B WAC

ELECTRICAL SAFETY STANDARDS, ADMINISTRATION, AND INSTALLATION

WAC

296-46B-100	General definitions.
296-46B-445	Wind driven generator equipment.
296-46B-690	Solar photovoltaic systems.
296-46B-901	General—Electrical work permits and fees.
296-46B-906	Inspection fees.
296-46B-907	Provisional permits.
296-46B-908	Class B permits.
296-46B-909	Electrical/telecommunications contractor's license, administrator certificate and examination, master electrician certificate and examination, electrician certificate and examination, copy, and miscellaneous fees.
296-46B-915	Civil penalty schedule.
296-46B-935	Administrator certificate.
296-46B-940	Electrician/training/certificate of competency or permit required.
296-46B-945	Qualifying for master, journeyman, specialty electrician examinations.
296-46B-960	Administrator and electrician certificate of competency examinations.
296-46B-965	Training certificate required.

296-46B-970	Continuing education.
296-46B-980	Enforcement—Installations, licensing, and certification requirements.
296-46B-985	Penalties for false statements or material misrepresentations.
296-46B-990	Failure to comply with the electrical contractor licensing, administrator certification, or electrician certification laws.
296-46B-995	Electrical board—Appeal rights and hearings.
296-46B-997	Engineer approval.

WAC 296-46B-100 General definitions. (1) All definitions listed in the National Electrical Code and chapter 19.28 RCW are recognized in this chapter unless other specific definitions are given in this chapter. The definitions in this section apply to all parts of this chapter. Some sections may have definitions specific to that section.

(2) "Accreditation" is a determination by the department that a laboratory meets the requirements of this chapter and is therefore authorized to evaluate electrical products that are for sale in the state of Washington.

(3) "Administrative law judge" means an administrative law judge (ALJ) appointed pursuant to chapter 34.12 RCW and serving in board proceedings pursuant to chapter 19.28 RCW and this chapter.

(4) "ANSI" means American National Standards Institute. Copies of ANSI standards are available from the National Conference of States on Building Codes and Standards, Inc.

(5) "Appeal" is a request for review of a department action by the board as authorized by chapter 19.28 RCW.

(6) "Appellant" means any person, firm, partnership, corporation, or other entity that has filed an appeal or request for board review.

(7) "Appliance" means household appliance.

(8) "ASTM" means the American Society for Testing and Materials. Copies of ASTM documents are available from ASTM International.

(9) "AWG" means American Wire Gauge.

(10) "Basement" means that portion of a building that is partly or completely below grade plane. A basement shall be considered as a story above grade plane and not a basement where the finished surface of the floor above the basement is:

(a) More than 1829 mm (six feet) above grade plane;

(b) More than 1829 mm (six feet) above the finished ground level for more than 50% of the total building perimeter; or

(c) More than 3658 mm (twelve feet) above the finished ground level at any point. Also see "mezzanine" and "story."

(11) "Board" means the electrical board established and authorized under chapter 19.28 RCW.

(12) "Chapter" means chapter 296-46B WAC unless expressly used for separate reference.

(13) "Category list" is a list of manufacturing safety standards or product types determined by the department.

(14) A "certified electrical product" is an electrical product to which a laboratory, accredited by the state of Washington, has the laboratory's certification mark attached.

(15) A "certification mark" is a specified laboratory label, symbol, or other identifying mark that indicates the manufacturer produced the product in compliance with appropriate standards or that the product has been tested for specific end uses.

(16) "Certificate of competency" includes the certificates of competency for master journeyman electrician, master specialty electrician, journeyman, and specialty electrician.

(17) A laboratory "certification program" is a specified set of testing, inspection, and quality assurance procedures, including appropriate implementing authority, regulating the evaluation of electrical products for certification marking by an electrical products certification laboratory.

(18) A "complete application" includes the submission of all appropriate fees, documentation, and forms.

(19) "Construction," for the purposes of chapter 19.28 RCW, means electrical construction.

(20) "Coordination (selective)" as defined in NEC 100 shall be determined and documented by a professional engineer registered under chapter 18.43 RCW.

(21) "Department" means the department of labor and industries of the state of Washington.

(22) "Director" means the director of the department, or the director's designee.

(23) "Egress - unobstructed (as applied to NEC 110.26 (C)(2)(a))" means an egress path that allows a worker to travel to the exit from any other area in the room containing the equipment described in NEC 110.26 (C)(2) without having to pass through that equipment's required working space.

(24) "Electrical equipment" includes electrical conductors, conduit, raceway, apparatus, materials, components, and other electrical equipment not exempted by RCW 19.28.006 (9). Any conduit/raceway of a type listed for electrical use is considered to be electrical equipment even if no wiring is installed in the conduit/raceway at the time of the conduit/raceway installation.

(25) An "electrical products certification laboratory" is a laboratory or firm accredited by the state of Washington to perform certification of electrical products.

(26) An "electrical products evaluation laboratory" is a laboratory or firm accredited by the state of Washington to perform on-site field evaluation of electrical products for safety.

(27) "Field evaluated" means an electrical product to which a field evaluation mark is attached. Field evaluation must include job site inspection unless waived by the department, and may include component sampling and/or laboratory testing.

(28) "Field evaluation mark" is a specified laboratory label, symbol, or other identifying mark indicating the manufacturer produced the product in essential compliance with appropriate standards or that the product has been evaluated for specific end uses.

(29) A "field evaluation program" is a specified set of testing, inspection, and quality assurance procedures, including appropriate implementing authority regulating the testing and evaluation of electrical products for field evaluation marking.

(30) The "filing" is the date the document is actually received in the office of the chief electrical inspector.

(31) "Final judgment" means any money that is owed to the department under this chapter, including fees and penalties, or any money that is owed to the department as a result of an individual's or contractor's unsuccessful appeal of a citation.

(32) "Fished wiring" is when cable or conduit is installed within the finished surfaces of an existing building or building structure (e.g., wall, floor or ceiling cavity).

(33) "Household appliance" means utilization equipment installed in a dwelling unit that is built in standardized sizes or types and is installed or connected as a unit to perform one or more functions such as cooking and other equipment installed in a kitchen, clothes drying, clothes washing, portable room air conditioning units and portable heaters, etc. Fixed electric space-heating equipment covered in NEC 424 (furnaces, baseboard and wall heaters, electric heat cable, etc.) and fixed air-conditioning/heat pump equipment (NEC 440) are not household appliances. Household appliance does not mean any utilization equipment that:

(a) Supplies electrical power, other than Class 2, to other utilization equipment; or

(b) Receives electrical power, other than Class 2, through other utilization equipment.

(34) HVAC/refrigeration specific definitions:

(a) "HVAC/refrigeration" means heating, ventilation, air conditioning, and refrigeration.

(b) "HVAC/refrigeration component" means electrical power and limited energy components within the "HVAC/refrigeration system," including, but not limited to: Pumps, compressors, motors, heating coils, controls, switches, thermostats, humidistats, low-voltage damper controls, outdoor sensing controls, outside air dampers, stand-alone duct smoke detectors, air monitoring devices, zone control valves and equipment for monitoring of HVAC/refrigeration control panels and low-voltage connections. This definition excludes equipment and components of non-"HVAC/refrigeration control systems."

(c) "HVAC/refrigeration control panel" means an enclosed, manufactured assembly of electrical components designed specifically for the control of a HVAC/refrigeration system. Line voltage equipment that has low voltage, NEC Class 2 control or monitoring components incidental to the designed purpose of the equipment is not an HVAC/refrigeration control panel (e.g., combination starters).

(d) "HVAC/refrigeration control system" means a network system regulating and/or monitoring a HVAC/refrigeration system. Equipment of a HVAC/refrigeration control system includes, but is not limited to: Control panels, data centers, relays, contactors, sensors, and cables related to the monitoring and control of a HVAC/refrigeration system(s).

(e) "HVAC/refrigeration equipment" means the central unit primary to the function of the "HVAC/refrigeration system." HVAC/refrigeration includes, but is not limited to: Heat pumps, swamp coolers, furnaces, compressor packages, and boilers.

(f) "HVAC/refrigeration system" means a system of HVAC/refrigeration: Wiring, equipment, and components integrated to generate, deliver, or control heated, cooled, filtered, refrigerated, or conditioned air. This definition excludes non-HVAC/refrigeration control systems (e.g., fire alarm systems, intercom systems, building energy management systems, and similar non-HVAC/refrigeration systems) (see Figure 920-1 and Figure 920-2).

(35) "IBC" means the International Building Code. Copies of the IBC are available from the International Code Council.

(36) An "individual" or "party" or "person" means an individual, firm, partnership, corporation, association, government subdivision or unit thereof, or other entity.

(37) An "installation" includes the act of installing, connecting, repairing, modifying, or otherwise performing work on an electrical system, component, equipment, or wire except as exempted by WAC 296-46B-925.

(38) An "identification plate" is a phenolic or metallic plate or other similar material engraved in block letters at least 1/4" (6 mm) high unless specifically required to be larger by this chapter, suitable for the environment and application. The letters and the background must be in contrasting colors. Screws, rivets, or methods specifically described in this chapter must be used to affix an identification plate to the equipment or enclosure.

(39) "License" means a license required under chapter 19.28 RCW.

(40) "Labeled" means an electrical product that bears a certification mark issued by a laboratory accredited by the state of Washington.

(41) A "laboratory" may be either an electrical product(s) certification laboratory or an electrical product(s) evaluation laboratory.

(42) A "laboratory operations control manual" is a document to establish laboratory operation procedures and may include a laboratory quality control manual.

(43) "Like-in-kind" means having similar characteristics such as voltage requirement, current draw, circuit overcurrent and short circuit characteristics, and function within the system and being in the same location. Like-in-kind also includes any equipment component authorized by the manufacturer as a suitable component replacement part.

(44) For the purpose of WAC 296-46B-940(6), a "lineman" is a person employed by a serving electrical utility or employed by a licensed general electrical contractor who carries, on their person, evidence that they:

(a) Have graduated from a department-approved lineman's apprenticeship course; or

(b) Are currently registered in a department-approved lineman's apprenticeship course and are working under the direct one hundred percent supervision of a journeyman electrician or a graduate of a lineman's apprenticeship course approved by the department. The training received in the lineman's apprenticeship program must include training in applicable articles of the currently adopted National Electrical Code.

(45) "Listed" means equipment has been listed and identified by a laboratory approved by the state of Washington for the appropriate equipment standard per this chapter.

(46) "Low voltage" means:

(a) NEC, Class 1 power limited circuits at 30 volts maximum.

(b) NEC, Class 2 circuits powered by a Class 2 power supply as defined in NEC 725.121(A).

(c) NEC, Class 3 circuits powered by a Class 3 power supply as defined in NEC 725.121(A).

(d) Circuits of telecommunications systems as defined in chapter 19.28 RCW.

(47) "Mezzanine" is the intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room

or space in which the level or levels are located. Also see "basement" and "story."

(48) "NEC" means National Electrical Code. Copies of the NEC are available from the National Fire Protection Association.

(49) "NEMA" means National Electrical Manufacturer's Association. Copies of NEMA standards are available from the National Electrical Manufacturer's Association.

(50) "NESC" means National Electrical Safety Code. Copies of the NESC are available from the Institute of Electrical and Electronics Engineers, Inc.

(51) "NETA" means International Electrical Testing Association, Inc. Copies of the NETA standards and information are available from the International Electrical Testing Association, Inc.

(52) "NFPA" means the National Fire Protection Association. Copies of NFPA documents are available from the National Fire Protection Association.

(53) "NRTL" means Nationally Recognized Testing Laboratory accredited by the federal Occupational Safety and Health Administration (OSHA) after meeting the requirements of 29 CFR 1910.7.

(54) "Point of contact" or "point of connection" means the service point.

(55) "Proceeding" means any matter regarding an appeal before the board including hearings before an administrative law judge.

(56) "Public area or square" is an area where the public has general, clear, and unrestricted access.

(57) A "quality control manual" is a document to maintain the quality control of the laboratory's method of operation. It consists of specified procedures and information for each test method responding to the requirements of the product standard. Specific information must be provided for portions of individual test methods when needed to comply with the standard's criteria or otherwise support the laboratory's operation.

(58) "RCW" means the Revised Code of Washington. Copies of electrical RCWs are available from the department and the office of the code reviser.

(59) "Readily accessible" means the definition as defined in NEC 100. In addition, it means that, except for keys, no tools or other devices are necessary to gain access (e.g., covers secured with screws, etc.).

(60) Service specific definitions replacing those found in NEC Article 100:

(a) "Service drop" means the overhead service conductors from the service point to the connection to the service-entrance conductors at the building or other structure.

(b) "Service-entrance conductors, overhead system" means the service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop or service point.

(c) "Service-entrance conductors, underground system" means the service conductors between the terminals of the service equipment and the point of connection to the service lateral or service point. Where the service equipment is located outside the building walls, there may be no service-entrance conductors or they may be entirely outside the building.

(d) "Service lateral" means the underground service conductors from the service point to the point of connection to the service-entrance conductors in a terminal box, meter, or other enclosure. Where there is not a terminal box, meter, or other enclosure, the point of connection is the point of entrance of the service conductors into the building.

(61) A "stand-alone amplified sound or public address system" is a system that has distinct wiring and equipment for audio signal generation, recording, processing, amplification, and reproduction. This definition does not apply to telecommunications installations.

(62) "Service" or "served" means that as defined in RCW 34.05.010(19) when used in relation to department actions or proceedings.

(63) A "sign," when required by the NEC, for use as an identification method means "identification plate."

(64) "Story" is that portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above. Next above means vertically and not necessarily directly above. Also see "basement" and "mezzanine."

(65) "Structure," for the purposes of this chapter and in addition to the definition in the NEC, means something constructed either in the field or factory that is used or intended for supporting or sheltering any use or occupancy as defined by the IBC.

(66) A "telecommunications local service provider" is a regulated or unregulated (e.g., by the Federal Communications Commission or the utilities and transportation commission as a telephone or telecommunications provider) firm providing telecommunications service ahead of the telecommunications network demarcation point to an end-user's facilities.

(67) "TIA/EIA" means the Telecommunications Industries Association/Electronic Industries Association which publishes the TIA/EIA Telecommunications Building Wiring Standards. Standards and publications are adopted by TIA/EIA in accordance with the American National Standards Institute (ANSI) patent policy.

(68) A "training school" is a public community or technical college or not-for-profit nationally accredited technical or trade school licensed by the work force training and education coordinating board under chapter 28C.10 RCW.

(69) "Under the control of a utility" for the purposes of RCW 19.28.091 and 19.28.101 is when electrical equipment is not owned by a utility and:

(a) Is located in a vault, room, closet, or similar enclosure that is secured by a lock or seal so that access is restricted to the utility's personnel; or

(b) The utility is obligated by contract to maintain the equipment and the contract provides that access to the equipment is restricted to the utility's personnel or other qualified personnel.

(70) "UL" means Underwriters Laboratory.

(71) "Utility" means an electrical utility.

(72) "Utility system" means electrical equipment owned by or under the control of a serving utility that is used for the transmission or distribution of electricity from the source of supply to the point of contact and is defined in section 90.2 (b)(5) of the National Electrical Code, 1981 edition (see RCW 19.28.010(1)).

(73) "Utilization voltage" means the voltage level employed by the utility's customer for connection to lighting fixtures, motors, heaters, or other electrically operated equipment other than power transformers.

(74) "Variance" is a modification of the electrical requirements as adopted in chapter 19.28 RCW or any other requirements of this chapter that may be approved by the chief electrical inspector if assured that equivalent objectives can be achieved by establishing and maintaining effective safety.

(75) "WAC" means the Washington Administrative Code. Copies of this chapter of the WACs are available from the department and the office of the code reviser.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-100, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-100, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-100, filed 11/30/06, effective 12/31/06.]

WAC 296-46B-445 Wind driven generator equipment. This equipment includes alternators or generators that produce electrical current through the conversion of wind energy into electrical energy. Wind driven generation equipment must demonstrate conformance to applicable safety standards recognized by the department.

Installation.

(1) A wind driven generator system design review must be submitted at the time of the first inspection. The design review must be available to the inspector on the job site. Permit holders must submit a copy of the wind driven generator equipment manufacturer's installation information and a legible one-line diagram of the wind driven generator design and calculations used to determine voltage and current within the generation system to the electrical inspector. This diagram must show the wind driven generator equipment, devices, overcurrent protection, conductor sizing, grounding, ground fault protection if required, and any system interconnection points.

(2) For utility interactive systems, any person making interconnections between the generator system and the utility distribution network must consult the serving utility and is required to meet all additional utility standards.

(3) All wind driven generator equipment and disconnecting means must be permanently identified as to their purpose, maximum voltages and type of current within the system with an identification plate.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-445, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-445, filed 11/25/08, effective 12/31/08.]

WAC 296-46B-690 Solar photovoltaic systems.

002 Definitions.

(1) Photovoltaic system. The photovoltaic system may conduct alternating current, direct current, or both and will comprise all interconnected circuits to the point of connection with the building distribution circuits or utility service conductors.

(2) Support structure, foundation, and tracker. For the purposes of this section, those portions of the array or tracker that are exclusively mechanical and are built specifically for the purpose of physically supporting the modules or panels will not be considered part of the photovoltaic system as defined by this article.

004 Installation.

(3) A photovoltaic system design review must be submitted at the time of the first inspection. The design review must be available to the inspector on the job site. Permit holders must submit, to the electrical authority having jurisdiction, copies of the photovoltaic equipment manufacturer's installation information, accompanied by a legible one-line diagram of the photovoltaic design and calculations used to determine voltage and current within the photovoltaic system. This diagram must show the photovoltaic equipment, devices, over-current protection, conductor sizing, grounding, ground fault protection if required, and any system interconnection points.

(4) For utility interactive systems, persons making interconnections between solar photovoltaic system and the utility distribution network must consult the serving utility and are required to meet all additional utility standards.

007 Maximum voltage.

(5) The open-circuit voltage temperature coefficients supplied in the instructions of listed photovoltaic modules will be used to determine the maximum direct current photovoltaic system voltage. Otherwise the voltage will be calculated using Table 690.7 of the NEC. For the purposes of this calculation, a temperature correction factor of 1.25 will be used unless another factor can be justified and is approved by the authority having jurisdiction.

053 Direct-current photovoltaic power source.

(6) All photovoltaic equipment and disconnecting means must be permanently identified as to their purpose, maximum voltages, and type of current within the system with an identification plate. All photovoltaic circuits must be identified at each overcurrent protection device(s) and panel directories.

(7) Required "WARNING" labels as specified by NEC 690 are required to be an identification plate on or immediately adjacent to the pertinent equipment.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-690, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-690, filed 11/25/08, effective 12/31/08.]

WAC 296-46B-901 General—Electrical work permits and fees. (1) When an electrical work permit is required by chapter 19.28 RCW or this chapter, inspections may not be made, equipment must not be energized, or services connected unless:

(a) A valid electrical work permit is completely and legibly filled out and readily available;

(b) The classification or type of facility to be inspected and the exact scope and location of the electrical work to be performed are clearly shown on the electrical work permit;

(c) The address where the inspection is to be made is clearly identifiable from the street, road or highway that serves the premises; and

(d) Driving directions are provided for the inspectors' use.

(2) An electrical work permit is valid for only one specific site address.

(3) Except as provided in subsection (8) of this section, a valid electrical work permit must be posted on the job site at a readily accessible and conspicuous location prior to beginning electrical work and at all times until the electrical inspection process is completed.

Permit - responsibility for.

(4) Each person, firm, partnership, corporation, or other entity must furnish a valid electrical work permit for the installation, alteration, or other electrical work performed or to be performed solely by that entity. When the permitted work is performed solely or in part by another entity, the electrical work permit purchaser must request approval from the chief electrical inspector or the city that is authorized to do electrical inspections to take responsibility for the work of the original installing entity. Each electrical work permit application must be signed by the electrical contractor's administrator (or designee) or the person, or authorized representative of the firm, partnership, corporation, or other entity that is performing the electrical installation or alteration. Permits purchased electronically do not require a handwritten signature. An entity designated to sign electrical permits must provide written authorization of the purchaser's designation when requested by the department or city that is authorized to do electrical inspections.

(5) Permits to be obtained by customers. Whenever a serving electrical utility performs work for a customer under one of the exemptions in WAC 296-46B-925 and the work is subject to inspection, the customer is responsible for obtaining all required permits.

(6) Posting of permits: Where an electrical work permit is required, the work permit must be obtained and posted at the job site prior to beginning any electrical work. Exceptions:

(a) For an owner, an electrical work permit for emergency repairs to an existing electrical system(s) must be obtained and posted at the job site no later than the next business day after the work is begun.

(b) For an electrical contractor, in a city's jurisdiction where the city is authorized to do electrical inspections and does not have a provisional and a Class B permit system, an electrical work permit for emergency repairs to an existing electrical system(s) must be obtained and posted at the job site no later than the next business day after the work is begun.

(7) Fees must be paid in accordance with the inspection fee schedule in Part C of this chapter. The amount of the fee due is calculated based on the fee effective at the date payment is made. If the project is required to have an electrical plan review, the plan review fees will be based on the fees effective at the date the plans are received by the department for review. In a city where the department is doing inspections as the city's contractor, a supplemental fee may apply.

Permit - requirements for.

(8) As required by chapter 19.28 RCW or this chapter, an electrical work permit is required for the installation, alteration, or maintenance of all electrical systems or equipment except for:

(a) Travel trailers;

(b) Class A basic electrical work which includes:

(i) The **like-in-kind replacement** of a: Contactor, relay, timer, starter, circuit board, or similar control component; household appliance; circuit breaker; fuse; residential luminaire; lamp; snap switch; dimmer; receptacle outlet; thermostat; heating element; luminaire ballast with an exact same ballast; component(s) of electric signs, outline lighting, skeleton neon tubing when replaced on-site by an appropriate electrical contractor and when the sign, outline lighting or skeleton neon tubing electrical system is not modified; ten horsepower or smaller motor;

(ii) Induction detection loops described in WAC 296-46B-300(2) and used to control gate access devices;

(iii) Heat cable repair; and

(iv) Embedding premanufactured heat mats in tile grout where the mat is listed by an approved testing laboratory and comes from the manufacturer with preconnected lead-in conductors. All listing marks and lead-in conductor labels must be left intact and visible for evaluation and inspection by the installing electrician and the electrical inspector.

Unless specifically noted, the exemptions listed do not include: The replacement of an equipment unit, assembly, or enclosure that contains an exempted component or combination of components (e.g., an electrical furnace/heat pump, industrial milling machine, etc.) or any appliance/equipment described in this section for Class B permits.

In the department's jurisdiction, a provisional electrical work permit label may be posted in lieu of an electrical work permit. If a provisional electrical work permit label is used, an electrical work permit must be obtained within two working days after posting the provisional electrical work permit label. See WAC 296-46B-907(2) for provisional label requirements.

(9) An electrical work permit is required for all installations of telecommunications systems on the customer side of the network demarcation point for projects greater than ten telecommunications outlets. All backbone installations regardless of size and all telecommunications cable or equipment installations involving penetrations of fire barriers or passing through hazardous locations require permits and inspections. For the purposes of determining the inspection threshold for telecommunications projects greater than ten outlets, the following will apply:

(a) An outlet is the combination of jacks and mounting hardware for those jacks, along with the associated cable and telecommunications closet terminations, that serve one workstation. In counting outlets to determine the inspection threshold, one outlet must not be associated with more than six standard four-pair cables or more than one twenty-five-pair cable. Therefore, installations of greater than sixty standard four-pair cables or ten standard twenty-five-pair cables require permits and inspections. (It is not the intent of the statute to allow large masses of cables to be run to workstations or spaces serving telecommunications equipment without inspection. Proper cable support and proper loading of building structural elements are safety concerns. When considering total associated cables, the telecommunications availability at one workstation may count as more than one outlet.)

(b) The installation of greater than ten outlets and the associated cables along any horizontal pathway from a telecommunications closet to work areas during any continuous ninety-day period requires a permit and inspection.

(c) All telecommunications installations within the residential dwelling units of single-family, duplex, and multi-family dwellings do not require permits or inspections. In residential multifamily dwellings, permits and inspections are required for all backbone installations, all fire barrier penetrations, and installations of greater than ten outlets in common areas.

(d) No permits or inspections are required for installation or replacement of cord and plug connected telecommunications equipment or for patch cord and jumper cross-connected equipment.

(e) Definitions of telecommunications technical terms will come from chapter 19.28 RCW, this chapter, TIA/EIA standards, and NEC.

Permit - inspection and approval.

(10) Requests for inspections.

(a) Requests for inspections must be made no later than three business days after completion of the electrical/telecommunications installation or one business day after any part of the installation has been energized, whichever occurs first.

(b) Requests for after hours or weekend inspections must be made by contacting the local electrical inspection supervisor at least three working days prior to the requested date of inspection. The portal-to-portal inspection fees required for after hours or weekend inspections are in addition to the cost of the original electrical work permit.

(c) Emergency requests to inspect repairs necessary to preserve life and equipment safety may be requested at any time.

(d) Inspections for annual electrical maintenance permits and annual telecommunications permits may be done on a regular schedule arranged by the permit holder with the department.

(11) Final inspection approval will not be made until all inspection fees are paid in full.

Permit - duration/refunds.

(12) Electrical work permits will expire one year after the date of purchase unless electrical work is actively and consistently in progress and inspections requested. Refunds are not available for:

(a) Expired electrical work permits;

(b) Electrical work permits where the electrical installation has begun; or

(c) Any electrical work permit where an electrical inspection or electrical inspection request has been made.

Permit - annual telecommunications.

(13) The chief electrical inspector or city that is authorized to do electrical inspections can allow annual permits for the inspection of telecommunications installations to be purchased by a building owner or licensed electrical/telecommunications contractor. The owner's full-time telecommunications maintenance staff, or a licensed electrical/telecommunications contractor(s) can perform the work done under this annual permit. The permit holder is responsible for correcting all installation deficiencies. The permit holder must make available, to the electrical inspector, all records of all the tele-

communications work performed and the valid electrical or telecommunications contractor's license numbers for all contractors working under the permit.

Permit - annual electrical.

(14) The chief electrical inspector or city that is authorized to do electrical inspections can allow annual permits for the inspection of electrical installations to be purchased by a building owner or licensed electrical contractor. This type of permit is available for commercial/industrial locations employing a full-time electrical maintenance staff or having a yearly maintenance contract with a licensed electrical contractor.

The permit holder is responsible for correcting all installation deficiencies. The permit holder must make available, to the electrical inspector, all records of all electrical work performed.

This type of electrical permit may be used for retrofit, replacement, maintenance, repair, upgrade, and alterations to electrical systems at a single plant or building location. This type of permit does not include new or increased service or new square footage.

Permit - temporary installations.

(15) For temporary electrical installations, the department will consider a permit applicant to be the owner per RCW 19.28.261 under the conditions below:

Any person, firm, partnership, corporation, or other entity registered as a general contractor under chapter 18.27 RCW will be permitted to install a single electrical service per address for the purposes of temporary power during the construction phase of a project, when all of the following conditions are met:

(a) The installation is limited to the mounting and bracing of a preassembled pole or pedestal mounted service, the installation of a ground rod or ground plate, and the connection of the grounding electrode conductor to the ground rod or plate;

(b) The total service size does not exceed 200 amperes, 250 volts nominal;

(c) The service supplies no feeders;

(d) Branch circuits not exceeding 50 amperes each are permitted, provided such branch circuits supply only receptacles that are either part of the service equipment or are mounted on the same pole;

(e) The general contractor owns the electrical equipment;

(f) The general contractor has been hired by the property owner as the general contractor for the project;

(g) The general contractor must purchase an electrical work permit for the temporary service, request inspection, and obtain approval prior to energizing the service.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-901, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-901, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-901, filed 11/30/06, effective 12/31/06.]

WAC 296-46B-906 Inspection fees. To calculate inspection fees, the amperage is based on the conductor ampacity or the overcurrent device rating. The total fee must not be less than the number of progress inspection (one-half

hour) units times the progress inspection fee rate from subsection (8) of this section, PROGRESS INSPECTIONS.

The amount of the fee due is calculated based on the fee effective at the date of a department assessed fee (e.g., plan review or fee due) or when the electrical permit is purchased.

(1) Residential.

(a) Single- and two-family residential (New Construction).

Notes:

(1) Square footage is the area included within the surrounding exterior walls of a building exclusive of any interior courts. (This includes any floor area in an attached garage, basement, or unfinished living space.)

(2) "Inspected with the service" means that a separate service inspection fee is included on the same electrical work permit.

(3) "Inspected at the same time" means all wiring is to be ready for inspection during the initial inspection trip.

(4) An "outbuilding" is a structure that serves a direct accessory function to the residence, such as a pump house or storage building. Outbuilding does not include buildings used for commercial type occupancies or additional dwelling occupancies.

(i) First 1300 sq. ft.	\$76.70
Each additional 500 sq. ft. or portion of	\$24.60
(ii) Each outbuilding or detached garage - inspected at the same time as a dwelling unit on the property	\$32.00
(iii) Each outbuilding or detached garage - inspected separately	\$50.60
(iv) Each swimming pool - inspected with the service	\$50.60
(v) Each swimming pool - inspected separately	\$76.70
(vi) Each hot tub, spa, or sauna - inspected with the service	\$32.00
(vii) Each hot tub, spa, or sauna - inspected separately	\$50.60
(viii) Each septic pumping system - inspected with the service	\$32.00
(ix) Each septic pumping system - inspected separately	\$50.60

(b) Multifamily residential and miscellaneous residential structures, services and feeders (New Construction).

Each service and/or feeder

Ampacity	Service/Feeder	Additional Feeder
0 to 200	\$82.70	\$24.60
201 to 400	\$102.80	\$50.60
401 to 600	\$141.20	\$70.30
601 to 800	\$181.20	\$96.50
801 and over	\$258.40	\$193.80

(c) Single or multifamily altered services or feeders including circuits.

(i) Each altered service and/or altered feeder

Ampacity	Service/Feeder
0 to 200	\$70.30
201 to 600	\$102.80
601 and over	\$155.00

(ii) Maintenance or repair of a meter or mast (no alterations to the service or feeder) \$38.10

(d) Single or multifamily residential circuits only (no service inspection).

Note:

Altered or added circuit fees are calculated per panelboard. Total cost of the alterations in an individual panel should not exceed the cost of a complete altered service or feeder of the same rating, as shown in subsection (1) RESIDENTIAL (c) (table) of this section.

(i) 1 to 4 circuits (see note above)	\$50.60
(ii) Each additional circuit (see note above)	\$5.50

(e) Mobile homes, modular homes, mobile home parks, and RV parks.

(i) Mobile home or modular home service or feeder only	\$50.60
(ii) Mobile home service and feeder	\$82.70

(f) Mobile home park sites and RV park sites.

Note:

For master service installations, see subsection (2) COMMERCIAL/INDUSTRIAL of this section.

(i) First site service or site feeder	\$50.60
(ii) Each additional site service; or additional site feeder inspected at the same time as the first service or feeder	\$32.00

(2) **Commercial/industrial.**

(a) **New service or feeder, and additional new feeders inspected at the same time (includes circuits).**

Note:

For large COMMERCIAL/INDUSTRIAL projects that include multiple feeders, "inspected at the same time" can be interpreted to include additional inspection trips for a single project. The additional inspections must be for electrical work specified on the permit at the time of purchase. The permit fee for such projects must be calculated using this section. However, the total fee must not be less than the number of progress inspection (one-half hour) units times the progress inspection fee rate from subsection (8) PROGRESS INSPECTIONS of this section.

Ampacity	Service/Feeder	Additional Feeder
0 to 100	\$82.70	\$50.60
101 to 200	\$100.70	\$64.40
201 to 400	\$193.80	\$76.70
401 to 600	\$225.90	\$90.20
601 to 800	\$292.10	\$122.90
801 to 1000	\$356.60	\$148.70
1001 and over	\$389.00	\$207.50

(b) **Altered services/feeders (no circuits).**

(i) Service/feeder

Ampacity	Service/Feeder
0 to 200	\$82.70
201 to 600	\$193.80
601 to 1000	\$292.10
1001 and over	\$324.40

(ii) Maintenance or repair of a meter or mast (no alterations to the service or feeder) \$70.30

(c) **Circuits only.**

Note:

Altered/added circuit fees are calculated per panelboard. Total cost of the alterations in a panel (or panels) should not exceed the cost of a new feeder (or feeders) of the same rating, as shown in subsection (2) COMMERCIAL/INDUSTRIAL (2)(a)(table) above.

- (i) First 5 circuits per branch circuit panel \$64.40
- (ii) Each additional circuit per branch circuit panel \$5.50
- (d) **Over 600 volts surcharge per permit.** \$64.40

(3) **Temporary service(s).**

Note:

- (1) See WAC 296-46B-590 for information about temporary installations.
- (2) Temporary stage or concert inspections requested outside of normal business hours will be subject to the portal-to-portal hourly fees in subsection (11) OTHER INSPECTIONS. The fee for such after hours inspections shall be the greater of the fee from this subsection or the portal-to-portal fee.

Temporary services, temporary stage or concert productions.

Ampacity	Service/Feeder	Additional Feeder
0 to 60	\$44.30	\$22.70
61 to 100	\$50.60	\$24.60
101 to 200	\$64.40	\$32.00
201 to 400	\$76.70	\$38.20
401 to 600	\$102.80	\$50.60
601 and over	\$116.60	\$58.10

(4) **Irrigation machines, pumps, and equipment.**

Irrigation machines.

- (a) Each tower - when inspected at the same time as a service and feeder from (2) COMMERCIAL/INDUSTRIAL \$5.50
- (b) Towers - when not inspected at the same time as a service and feeder - 1 to 6 towers \$76.70
- (c) Each additional tower \$5.50

(5) **Miscellaneous - commercial/industrial and residential.**

(a) **A Class 2 low-voltage thermostat** and its associated cable controlling a single piece of utilization equipment or a single furnace and air conditioner combination.

- (i) First thermostat \$38.20
- (ii) Each additional thermostat inspected at the same time as the first \$11.90

(b) **Class 2 or 3 low-voltage systems and telecommunications systems.**

Includes all telecommunications installations, fire alarm, nurse call, energy management control systems, industrial and automation control systems, lighting control systems, and similar Class 2 or 3 low-energy circuits and equipment not included in WAC 296-46B-908 for Class B work.

- (i) First 2500 sq. ft. or less \$44.30

- (ii) Each additional 2500 sq. ft. or portion thereof \$11.90

(c) **Signs and outline lighting.**

- (i) First sign (no service included) \$38.20
- (ii) Each additional sign inspected at the same time on the same building or structure \$18.10

(d) **Berth at a marina or dock.**

Note:

Five berths or more shall be permitted to have the inspection fees based on appropriate service and feeder fees from section (2) COMMERCIAL/INDUSTRIAL above.

- (i) Berth at a marina or dock \$50.60
- (ii) Each additional berth inspected at the same time \$32.00

(e) **Yard pole, pedestal, or other meter loops only.**

- (i) Yard pole, pedestal, or other meter loops only \$50.60
- (ii) Meters installed remote from the service equipment and inspected at the same time as a service, temporary service or other installations \$11.90

(f) **Emergency inspections requested outside of normal working hours.**

Regular fee plus surcharge of: \$96.50

(g) **Generators.**

Note:

Permanently installed generators: Refer to the appropriate residential or commercial new/altered service or feeder section.

Portable generators: Permanently installed transfer equipment for portable generators \$70.30

(h) **Electrical - annual permit fee.**

Note:

See WAC 296-46B-901(14).

For commercial/industrial location employing full-time electrical maintenance staff or having a yearly maintenance contract with a licensed electrical contractor. Note, all yearly maintenance contracts must detail the number of contractor electricians necessary to complete the work required under the contract. This number will be used as a basis for calculating the appropriate fee. Each inspection is based on a 2-hour maximum.

Inspections	Fee
1 to 3 plant electricians	\$1,857.30
4 to 6 plant electricians	\$3,716.50
7 to 12 plant electricians	\$5,574.40
13 to 25 plant electricians	\$7,433.60
More than 25 plant electricians	\$9,292.80

(i) **Telecommunications - annual permit fee.**

Notes:

- (1) See WAC 296-46B-901(13).
- (2) Annual inspection time required may be estimated by the purchaser at the rate for "OTHER INSPECTIONS" in this section, charged portal-to-portal per hour.

For commercial/industrial location employing full-time telecommunications maintenance staff or having a yearly maintenance contract with a licensed electrical/telecommunications contractor.

- 2-hour minimum \$153.60
- Each additional hour, or portion thereof, of portal-to-portal inspection time \$76.70

(j) **Permit requiring ditch cover inspection only.**

Each 1/2 hour, or portion thereof \$38.20

(k) **Cover inspection for elevator/conveyance installation. This item is only available to a licensed/registered elevator contractor.** \$64.40

(6) **Carnival inspections.**

(a) **First carnival field inspection each calendar year.**

- (i) Each ride and generator truck \$18.10
- (ii) Each remote distribution equipment, concession, or gaming show \$5.50
- (iii) If the calculated fee for first carnival field inspection above is less than \$89.00, the minimum inspection fee shall be: \$96.50

(b) **Subsequent carnival inspections.**

- (i) First ten rides, concessions, generators, remote distribution equipment, or gaming show \$96.50
- (ii) Each additional ride, concession, generator, remote distribution equipment, or gaming show \$5.50

(c) **Concession(s) or ride(s) not part of a carnival.**

(i) First field inspection each year of a single concession or ride, not part of a carnival \$76.70

(ii) Subsequent inspection of a single concession or ride, not part of a carnival	\$ 50.60
(7) Trip fees.	
(a) Requests by property owners to inspect existing installations. (This fee includes a maximum of one hour of inspection time. All inspection time exceeding one hour will be charged at the rate for progressive inspections.)	\$76.70
(b) Submitter notifies the department that work is ready for inspection when it is not ready.	\$38.20
(c) Additional inspection required because submitter has provided the wrong address or incomplete, improper or illegible directions for the site of the inspection.	\$38.20
(d) More than one additional inspection required to inspect corrections; or for repeated neglect, carelessness, or improperly installed electrical work.	\$38.20
(e) Each trip necessary to remove a noncompliance notice.	\$38.20
(f) Corrections that have not been made in the prescribed time, unless an exception has been requested and granted.	\$38.20
(g) Installations that are covered or concealed before inspection.	\$38.20
(8) Progress inspections.	
Note:	
The fees calculated in subsections (1) through (6) of this section will apply to all electrical work. This section will be applied to a permit where the permit holder has requested additional inspections beyond the number supported by the permit fee calculated at the rate in subsections (1) through (6) of this section.	
On partial or progress inspections, each 1/2 hour.	\$38.20
(9) Plan review.	
Fee is thirty-five percent of the electrical work permit fee as determined by WAC 296-46B-906, plus a plan review submission and shipping/handling fee of:	
(a) Supplemental submissions of plans per hour or fraction of an hour of review time.	\$76.70
(b) Plan review shipping and handling fee.	\$18.10
(10) Out-of-state inspections.	
(a) Permit fees will be charged according to the fees listed in this section.	
(b) Travel expenses:	
All travel expenses and per diem for out-of-state inspections are billed following completion of each inspection(s). These expenses can include, but are not limited to: Inspector's travel time, travel cost and per diem at the state rate. Travel time is hourly based on the rate in subsection (11) of this section.	
(11) Other inspections.	\$76.70
Inspections not covered by above inspection fees must be charged portal-to-portal per hour:	
(12) Variance request processing fee.	
Variance request processing fee. This fee is nonrefundable once the transaction has been validated.	
(13) Marking of industrial utilization equipment.	\$76.70
(a) Standard(s) letter review (per hour of review time).	\$76.70
(b) Equipment marking - charged portal-to-portal per hour:	\$76.70
(c) All travel expenses and per diem for in/out-of-state review and/or equipment marking are billed following completion of each inspection(s). These expenses can include, but are not limited to: Inspector's travel time, travel cost and per diem at the state rate. Travel time is hourly based on the rate in (b) of this subsection.	
(14) Class B basic electrical work labels.	
(a) Block of twenty Class B basic electrical work labels (not refundable).	\$210.40
(b) Reinspection of Class B basic electrical work to assure that corrections have been made (per 1/2 hour timed from leaving the previous inspection until the reinspection is completed). See WAC 296-46B-908(5).	\$38.20
(c) Reinspection of Class B basic electrical work because of a failed inspection of another Class B label (per 1/2 hour from previous inspection until the reinspection is completed). See WAC 296-46B-908(5).	\$38.20
(15) Provisional electrical work permit labels.	
Block of twenty provisional electrical work permit labels.	\$210.40

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-906, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-906, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-906, filed 11/30/06, effective 12/31/06.]

WAC 296-46B-907 Provisional permits.

Provisional electrical work permit - use/duration/refunds.

(1) Only licensed electrical or telecommunications contractors can use provisional electrical work permits.

(2) If a provisional electrical work permit label is used, the following requirements must be met:

(a) Prior to beginning the work, the certified electrician or telecommunications worker performing the installation must affix the provisional electrical work permit label on the cover of the panelboard, overcurrent device, or telecommunications equipment supplying the circuit or equipment.

(b) The job site portion of the label must include the following:

- (i) Date the work is begun;
- (ii) Contractor's name;
- (iii) Contractor's license number; and
- (iv) Short description of the work.

(c) The contractor portion of the label must include the following:

- (i) Date the work is begun;
- (ii) Contractor's license number;
- (iii) Job site address;
- (iv) Owner's name; and
- (v) Short description of the work.

(d) The label must be filled in using sunlight and weather resistant ink.

(e) The contractor must return the contractor's portion of the label to the department of labor and industries, electrical section office having jurisdiction for the inspection, within two working days after the job site portion of the label is affixed. Either receipt by department of labor and industries or postmark to a valid department of labor and industries electrical address is acceptable for meeting this requirement.

(f) The contractor must return the contractor's portion of the label to the department of labor and industries, chief electrical inspector, within five working days after destroying or voiding any label.

(g) The contractor is responsible for safekeeping of all purchased labels.

(3) Refunds are not available for provisional electrical work permit labels.

(4) Provisional electrical work permit labels will be sold in blocks of twenty.

(5) Any contractor purchasing a provisional electrical work permit label may be audited for compliance with the provisions for purchasing, inspection, reporting of installations, and any other requirement of usage.

(6) An electrical work permit must be obtained within two working days after posting the provisional work permit label. See WAC 296-46B-907 (2)(e).

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321,

19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-907, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-907, filed 11/25/08, effective 12/31/08.]

WAC 296-46B-908 Class B permits.

Class B electrical work permit - use.

(1) The electrical contractor must return the contractor's portion of the Class B label to the department of labor and industries, chief electrical inspector, within five working days after destroying or voiding any label.

(2) The electrical contractor is responsible for safekeeping of all purchased Class B labels.

(3) Only licensed electrical/telecommunication contractors can use the Class B basic electrical inspection random inspection process. Health care, large commercial or industrial facilities using an employee who is a certified electrician(s) can use the Class B random electrical inspection process after permission from the chief electrical inspector.

(4) If the Class B random electrical inspection process is used, the following requirements must be met:

(a) The certified electrician/telecommunications worker performing the installation must affix a Class B installation label on the cover of the panelboard or overcurrent device supplying power to the circuit or equipment prior to beginning the work.

(b) The job site portion of the label must include the following:

- (i) Date of the work;
- (ii) Electrical/telecommunication contractor's name;
- (iii) Electrical/telecommunication contractor's license number;

(iv) Installing electrician's certificate number, except for telecommunication work. For thermostat installations described in WAC 296-46B-965(15), the installing trainee may enter their training certificate number; and

(v) Short description of the work.

(c) The contractor portion of the label must include the following:

- (i) Date of the work;
- (ii) Electrical/telecommunication contractor's license number;

(iii) Installing electrician's certificate number, except for telecommunication work;

(iv) Job site address;

(v) Contact telephone number for the job site's owner (to be used to arrange inspection); and

(vi) Short description of the work.

(d) The label must be filled in using sunlight and weather resistant ink.

(e) The electrical/telecommunication contractor must return the contractor's portion of the label to the Department of Labor and Industries, Electrical Section, Chief Electrical Inspector, P.O. Box 44460, Olympia, WA 98504-4460 within fifteen working days after the job site portion of the Class B installation label is affixed.

(5) Class B basic installation labels will be sold in blocks. Installations where a Class B basic installation label is used will be inspected on a random basis as determined by the department.

(a) If any such random inspection fails, a subsequent label in the block must be inspected.

(b) If any such subsequent installation fails inspection, another label in the block must be inspected until a label is approved without a correction(s).

(c) A fee is required for any inspection required when a correction(s) is issued as a result of the inspection of any Class B label or if an inspection is required because of (a) or (b) of this subsection. See Part C of this chapter for fees.

(6) Any electrical/telecommunication contractor or other entity using the Class B basic electrical inspection random inspection process may be audited for compliance with the provisions for purchasing, inspection, reporting of installations, and any other requirement of usage.

(7) Class B basic electrical work means work other than Class A basic electrical work. See WAC 296-46B-901(8) for Class A definition.

(a) Class B basic electrical work includes the following:

(i) Extension of not more than one branch electrical circuit limited to 120 volts and 20 amps each where:

(A) No cover inspection is necessary. For the purposes of this section, cover inspection does not include work covered by any surface that may be removed for inspection without damaging the surface; and

(B) The extension does not supply more than two outlets as defined by the NEC.

(ii) Like-in-kind replacement of:

(A) A single luminaire not exceeding 277 volts and 20 amps; or

(B) A motor larger than 10 horsepower; or

(C) The internal wiring of a furnace, air conditioner, refrigeration unit or household appliance; or

(D) An electric/gas/oil furnace not exceeding 240 volts and 100 amps when the furnace is connected to an existing branch circuit. For the purposes of this section, a boiler is not a furnace; or

(E) An individually controlled electric room heater (e.g., baseboard, wall, fan forced air, etc.), air conditioning unit or refrigeration unit not exceeding 240 volts, 30 minimum circuit amps when the unit is connected to an existing branch circuit; or

(F) Circuit modification required to install not more than five residential load control devices in a residence where installed as part of an energy conservation program sponsored by an electrical utility and where the circuit does not exceed 240 volts and 30 amps.

(iii) The following low voltage systems:

(A) Repair and replacement of devices not exceeding 100 volt-amperes in Class 2, Class 3, or power limited low voltage systems in one- and two-family dwellings; or

(B) Repair and replacement of devices not exceeding 100 volt-amperes in Class 2, Class 3, or power limited low voltage systems in other buildings, provided the equipment is not for fire alarm or nurse call systems and is not located in an area classified as hazardous by the NEC; or

(C) The installation of Class 2 or 3 device(s) or wiring for thermostat, audio, security, burglar alarm, intercom, amplified sound, public address, or access control systems. This does not include fire alarm, nurse call, lighting control, industrial automation/control or energy management systems; or

(D) Telecommunications cabling and equipment requiring inspection in RCW 19.28.470;

(iv) The replacement of not more than ten standard receptacles with GFCI receptacles;

(v) The conversion of not more than ten snap switches to dimmers for the use of controlling a luminaire(s) conversion.

(b) Class B basic electrical work does not include any work in:

(i) Areas classified as Class I, Class II, Class III, or Zone locations per NEC 500; or

(ii) Areas regulated by NEC 517 or 680; or

(iii) Any work where electrical plan review is required; or

(iv) Fire alarm, nurse call, lighting control, industrial automation/control or energy management systems.

(8) An entity using a Class B basic inspection label is restricted to using no more than two labels per week per job site.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-908, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-908, filed 11/25/08, effective 12/31/08.]

WAC 296-46B-909 Electrical/telecommunications contractor's license, administrator certificate and examination, master electrician certificate and examination, electrician certificate and examination, copy, and miscellaneous fees.

- Notes:**
- (1) The department will deny renewal of a license, certificate, or permit if an individual owes money as a result of an outstanding final judgment(s) to the department or is in revoked status. The department will deny application of a license, certificate, or permit if an individual is in suspended status or owes money as a result of an outstanding final judgment(s) to the electrical program.
 - (2) Certificates may be prorated for shorter renewal periods in one-year increments. Each year or part of a year will be calculated to be one year.
 - (3) The amount of the fee due is calculated based on the fee effective at the date payment is made.

(1) General or specialty contractor's license per twenty-four month period. (Nonrefundable after license has been issued.)	
(a) Initial application or renewal made in person, by mail, or by fax	\$245.00
(b) Renewal fully completed using the on-line web process	\$221.00
(c) Reinstatement of a general or specialty contractor's license after a suspension	\$49.70
(2) Master electrician/administrator/electrician/trainee certificate.	
(a) Examination application (nonrefundable)	
Administrator certificate examination application. (Required only for department administered examinations.) (Not required when testing with the department's contractor.)	\$30.80
(b) Examination fees (nonrefundable)	
Note:	
Normal examination administration is performed by a state authorized contractor. The fees for such examinations are set by contract with the department. For written examinations administered by the department, use the following fee schedule.	
(i) Master electrician or administrator first-time examination fee (when administered by the department)	\$74.10
(ii) Master electrician or administrator retest examination fee (when administered by the department)	\$86.70
(iii) Journeyman or specialty electrician examination fee (first test or retest when administered by the department)	\$55.70
(iv) Certification examination review fee	\$114.80

(c) Original certificates (nonrefundable after certificate has been issued)

(i) Electrical administrator original certificate (except 09 telecommunication)	\$110.80
(ii) Telecommunications administrator original certificate (for 09 telecommunications)	\$73.80
(iii) Master electrician exam application (includes original certificate and application processing fee) (\$30.80 is nonrefundable after application is submitted)	\$141.70
(iv) Journeyman or specialty electrician application (includes original certificate and application processing fee) (\$30.80 is nonrefundable after application is submitted)	\$79.50
(v) Training certificate	
(A) Initial application made in person, by mail, or by fax	\$39.00
(B) Initial application fully completed on-line using the on-line web process	\$35.00
(C) 0% supervision modified training certificate. Includes trainee update of hours (i.e., submission of affidavit of experience) (\$47.20 is nonrefundable after application is submitted)	\$70.90
(D) 75% supervision modified training certificate.	\$47.20
(E) Unsupervised training certificate as allowed by RCW 19.28.161 (4)(b).	\$23.50
(d) Certificate renewal (nonrefundable)	
(i) Master electrician or administrator certificate renewal	
(A) Renewal made in person, by mail, or by fax	\$140.10
(B) Renewal fully completed using the on-line web process	\$127.00
(ii) Telecommunications (09) administrator certificate renewal	
(A) Renewal made in person, by mail, or by fax	\$93.40
(B) Renewal fully completed using the on-line web process	\$84.00
(iii) Late renewal of master electrician or administrator certificate	
(A) Renewal made in person, by mail, or by fax	\$280.20
(B) Renewal fully completed using the on-line web process	\$254.00
(iv) Late renewal of telecommunications (09) administrator certificate	
(A) Renewal made in person, by mail, or by fax	\$186.80
(B) Renewal fully completed using the on-line web process	\$168.00
(v) Journeyman or specialty electrician certificate renewal	
(A) Renewal made in person, by mail, or by fax	\$73.80
(B) Renewal fully completed using the on-line web process	\$67.00
(vi) Late renewal of journeyman or specialty electrician certificate	
(A) Renewal made in person, by mail, or by fax	\$147.60
(B) Renewal fully completed using the on-line web process	\$134.00
(vii) Trainee update of hours outside of renewal period (i.e., submission of affidavit of experience outside of the timeline in WAC 296-46B-965 (7)(d))	\$47.20
(viii) Trainee certificate renewal	
(A) Renewal made in person, by mail, or by fax	\$47.20
(B) Renewal fully completed using the on-line web process when the affidavit of experience is submitted per WAC 296-46B-965 (7)(d)	\$43.00
(ix) Late trainee certificate renewal	
(A) Renewal made in person, by mail, or by fax	\$66.20
(B) Renewal fully completed using the on-line web process	\$60.00
(e) Certificate - reinstatement (nonrefundable)	
(i) Reinstatement of a suspended master electrician or administrator's certificate (in addition to normal renewal fee)	\$49.70
(ii) Reinstatement of suspended journeyman, or specialty electrician certificate (in addition to normal renewal fee)	\$23.50
(f) Assignment/unassignment of master electrician/administrator designation (nonrefundable)	\$36.80

(3) Certificate/license.	
(a) Replacement for lost or damaged certificate/license. (Nonrefundable.)	\$16.20
(b) Optional display quality General Master Electrician certificate.	\$26.30
(4) Continuing education courses or instructors. (Nonrefundable.)	
(a) If the course or instructor review is performed by the electrical board or the department The course or instructor review	\$47.30
(b) If the course or instructor review is contracted out by the electrical board or the department	
(i) Continuing education course or instructor submittal and approval (per course or instructor)	As set in contract
(ii) Applicant's request for review, by the chief electrical inspector, of the contractor's denial	\$115.10
(5) Copy fees. (Nonrefundable.)	
(a) Certified copy of each document (maximum charge per file):	\$52.30
(i) First page:	\$23.50
(ii) Each additional page:	\$2.10
(b) Replacement RCW/WAC printed document:	\$5.20
(6) Training school program review fees. Initial training school program review fee. (Nonrefundable.)	
(a) Initial training school program review fee submitted for approval. Valid for three years or until significant changes in program content or course length are implemented (see WAC 296-46B-971(4)).	\$542.80
(b) Renewal of training school program review fee submitted for renewal. Valid for 3 years or until significant changes in program content or course length are implemented (see WAC 296-46B-971(4)).	\$271.40

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.-201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-909, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-909, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-909, filed 11/30/06, effective 12/31/06.]

WAC 296-46B-915 Civil penalty schedule. Each day that a violation occurs will be a separate offense.

Once a violation of chapter 19.28 RCW or chapter 296-46B WAC becomes a final judgment, any additional violation within three years becomes a "second" or "additional" offense subject to an increased penalty as set forth in the following tables.

In case of continued, repeated or gross violation of the provisions of chapter 19.28 RCW or this chapter, or if property damage or bodily injury occurs as a result of the failure of a person, firm, partnership, corporation, or other entity to comply with chapter 19.28 RCW or this chapter the department may double the penalty amounts shown in subsections (1) through (13) of this section.

Continued or repeated violation may occur if the person, firm, partnership, corporation or other entity who violates a provision of chapter 19.28 RCW, chapter 296-46B WAC has received one or more written warnings or citations of a similar violation within a one-year period.

A person, firm, partnership, corporation or other entity who violates a provision of chapter 19.28 RCW or chapter 296-46B WAC is liable for a civil penalty based upon the following schedule.

(1) Offering to perform, submitting a bid for, advertising, installing or maintaining cables, conductors or equipment:	
(a) That convey or utilize electrical current without having a valid electrical contractor's license.	

(b) Used for information generation, processing, or transporting of signals optically or electronically in telecommunications systems without having a valid telecommunications contractor's license.	
First offense:	\$500
Second offense:	\$1,500
Third offense:	\$3,000
Each offense thereafter:	\$6,000
(2) Employing an individual for the purposes of chapter 19.28 RCW who does not possess a valid certificate of competency or training certificate to do electrical work.	
First offense:	\$250
Each offense thereafter:	\$500
(3) Performing electrical work without having a valid certificate of competency or electrical training certificate.	
First offense:	\$250
Each offense thereafter:	\$500
(4) Employing electricians and electrical trainees for the purposes of chapter 19.28 RCW in an improper ratio. Contractors found to have violated this section three times in a three-year period must be the subject of an electrical audit in accordance with WAC 296-46B-975.	
First offense:	\$250
Each offense thereafter:	\$500
(5) Failing to provide proper supervision to an electrical trainee as required by chapter 19.28 RCW. Contractors found to have violated this section three times in a three-year period must be the subject of an electrical audit in accordance with WAC 296-46B-975.	
First offense:	\$250
Each offense thereafter:	\$500
(6) Working as an electrical trainee without proper supervision as required by chapter 19.28 RCW.	
First offense:	\$50
Second offense:	\$250
Each offense thereafter:	\$500
(7) Offering, bidding, advertising, or performing electrical or telecommunications installations, alterations or maintenance outside the scope of the firm's specialty electrical or telecommunications contractors license.	
First offense:	\$500
Second offense:	\$1,500
Third offense:	\$3,000
Each offense thereafter:	\$6,000
(8) Selling or exchanging electrical equipment associated with spas, hot tubs, swimming pools or hydromassage bathtubs which are not listed by an approved laboratory.	
First offense:	\$500
Second offense:	\$1,000
Each offense thereafter:	\$2,000
Definition:	
The sale or exchange of electrical equipment associated with hot tubs, spas, swimming pools or hydromassage bathtubs includes to: "Sell, offer for sale, advertise, display for sale, dispose of by way of gift, loan, rental, lease, premium, barter or exchange."	
(9) Covering or concealing installations prior to inspection.	
First offense:	\$250
Second offense:	\$1,000
Each offense thereafter:	\$2,000
(10) Failing to make corrections within fifteen days of notification by the department.	
Exception:	
Where an extension has been requested and granted, this penalty applies to corrections not completed within the extended time period.	
First offense:	\$250
Second offense:	\$1,000
Each offense thereafter:	\$2,000
(11) Failing to obtain or post an electrical/telecommunications work permit or provisional electrical work permit label prior to beginning the electrical/telecommunications installation or alteration.	
Exception:	
In cases of emergency repairs, for owners, to existing electrical/telecommunications systems, this penalty will not be charged if the permit is obtained and posted no later than the business day following beginning work on the emergency repair.	
First offense:	\$250
Second offense:	\$1,000
Each offense thereafter:	\$2,000

(12) Violating chapter 19.28 RCW duties of the electrical/telecommunications administrator or master electrician.

(a) Failing to be a member of the firm or a supervisory employee and shall be available during working hours to carry out the duties of an administrator or master electrician.

First offense: \$1,000
 Second offense: \$1,500
 Each offense thereafter: \$3,000

(b) Failing to ensure that all electrical work complies with the electrical installation laws and rules of the state.

First offense: \$100
 Second offense: \$250
 Third offense: \$1,000
 Each offense thereafter: \$3,000

(c) Failing to ensure that the proper electrical safety procedures are used.

First offense: \$500
 Second offense: \$1,500
 Each offense thereafter: \$3,000

(d) Failing to ensure that all electrical labels, permits, and certificates required to perform electrical work are used.

First offense: \$250
 Each offense thereafter: \$500

(e) Failing to ensure that all electrical licenses, required to perform electrical work are used (i.e., work performed must be in the allowed scope of work for the contractor).

First offense: \$500
 Second offense: \$1,500
 Third offense: \$3,000
 Each offense thereafter: \$6,000

(f) Failing to see that corrective notices issued by an inspecting authority are complied with within fifteen days.

Exception: Where an extension has been requested and granted, this penalty applies to corrections not completed within the extended time period.

First offense: \$250
 Second offense: \$1,000
 Each offense thereafter: \$2,000

(g) Failing to notify the department in writing within ten days if the master electrician or administrator terminates the relationship with the electrical contractor.

First offense: \$500
 Second offense: \$1,000
 Each offense thereafter: \$3,000

(13) Violating any of the provisions of chapter 19.28 RCW or chapter 296-46B WAC which are not identified in subsections (1) through (12) of this section.

RCW 19.28.161 through 19.28.271 and the rules developed pursuant to them.

First offense: \$250
 Each offense thereafter: \$500

All other chapter 19.28 RCW provisions and the rules developed pursuant to them.

First offense: \$250
 Second offense: \$750
 Each offense thereafter: \$2,000

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-915, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-915, filed 11/25/08, effective 12/31/08; 06-05-028, § 296-46B-915, filed 2/7/06, effective 5/1/06; 05-22-025, § 296-46B-915, filed 10/25/05, effective 11/25/05; 05-10-024, § 296-46B-915, filed 4/26/05, effective 6/30/05. Statutory Authority: Chapter 19.28 RCW. 04-21-086, § 296-46B-915, filed 10/20/04, effective 11/22/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-915, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-915, filed 4/22/03, effective 4/22/03.]

WAC 296-46B-935 Administrator certificate. General.

(1) The department will deny application or renewal of a certificate if an individual owes money as a result of an outstanding final judgment(s) to the department.

(2) For special accommodation see WAC 296-46B-960.

(3) An applicant will not be issued a specialty administrator certificate that is a subspecialty of a certificate the applicant currently holds (i.e., the applicant is not eligible to take the domestic well administrator examination if the applicant currently possesses a pump and irrigation administrator certificate).

Qualifying for examination.

(4) There are no qualification requirements for taking an administrator certificate examination. Applicants should contact the testing agency directly.

Original - administrator certificates.

(5) The scope of work for electrical administrators is described in WAC 296-46B-920. The department will issue an original administrator certificate to a general administrator, or specialty administrator who:

(a) Successfully completes the appropriate administrator examination; and

(b) Submits the appropriate examination passing report from the testing agency with the applicant's: Date of birth, mailing address, and Social Security number; and

(c) Pays all appropriate fees as listed in WAC 296-46B-909.

For an examination report to be considered, all the above must be submitted within ninety days after the completion of the examination. After ninety days, the applicant will be required to successfully retake the complete examination. An individual's original administrator certificate will expire on their birth date at least one year, and not more than three years, from the date of original issue.

Combination - specialty administrator certificate.

(6) The department may issue a combination specialty administrator certificate to an individual who qualifies for more than one specialty administrators' certificate. The combination specialty administrators' certificate will plainly indicate the specialty administrator's certificate(s) the holder has qualified for. Telecommunications cannot be issued a combination because the renewal requirements are different from those required for electrical administrators.

Renewal - administrator certificate.

(7) An individual must apply for renewal of their administrator certificate on or before the expiration date of the certificate. The individual may not apply for renewal more than ninety days prior to the expiration date. Renewed certificates are valid for three years, with the exception of telecommunications administrators, who will be renewed for two years.

(8) An individual may renew their administrator certificate within ninety days after the expiration date without reexamination if the individual pays the late renewal fee listed in WAC 296-46B-909.

(9) All renewals received more than ninety days after the expiration date of the certificate will be denied. The administrator will be required to pass the appropriate administrator examination before being recertified.

(10) All applicants for certificate renewal must:

(a) Submit a complete renewal application;

(b) Pay all appropriate fees as listed in WAC 296-46B-909; and

(c) Provide accurate evidence on the renewal form that the individual has completed the continuing education requirements described in WAC 296-46B-970. If an individual files inaccurate or false evidence of continuing education information when renewing a certificate, the individual's certificate may be suspended or revoked.

Telecommunications administrators are not required to provide continuing education information.

Continuing education for pump and irrigation **(03)** and domestic pump **(03A)** administrators may be comprised of fifty percent electrical and fifty percent plumbing instruction.

(11) An individual who has not completed the required hours of continuing education can renew an administrator's certificate if the individual applies for renewal on or before the certificate expires and pays the appropriate renewal fee. However, the certificate will be placed in an inactive status.

When the certificate is placed in inactive status, an assigned administrator will be automatically unassigned from the electrical contractor. The electrical contractor will be notified of the unassignment and has ninety days to replace the administrator. An assignment fee will then be required per WAC 296-46B-909.

The inactive certificate will be returned to current status upon validation, by the department, of the required continuing education requirements. If the certificate renewal date occurs during the inactive period, the certificate must be renewed on or before the renewal date to allow the return to current status.

(12) An individual may renew a suspended administrator's certificate by submitting a complete renewal application including obtaining and submitting the continuing education required for renewal. However, the certificate will remain in a suspended status for the duration of the suspension period.

(13) An individual may not renew a revoked administrator's certificate.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-935, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-935, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-935, filed 11/30/06, effective 12/31/06; 05-10-024, § 296-46B-935, filed 4/26/05, effective 6/30/05. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-935, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-935, filed 4/22/03, effective 4/22/03.]

WAC 296-46B-940 Electrician/training/certificate of competency or permit required.

Electrician - general.

(1) The department will deny application or renewal of a certificate or permit if an individual owes money as a result of an outstanding final judgment(s) to the department.

Electrician - scope of work.

(2) The scope of work for electricians and trainees is described in WAC 296-46B-920.

Electrician - certificate of competency required.

(3) To work in the electrical construction trade, an individual must possess a current valid:

(a) Master journeyman electrician certificate of competency issued by the department;

(b) Journeyman electrician certificate of competency issued by the department;

(c) Master specialty electrician certificate of competency issued by the department;

(d) Specialty electrician certificate of competency issued by the department; or

(e) Electrical training certificate, learning the trade in the proper ratio, per RCW 19.28.161, under the supervision of a certified master journeyman electrician, journeyman electrician, master specialty electrician working in their specialty, or specialty electrician working in their specialty.

(4) The department issues master electrician and electrician certificates of competency in the following areas of electrical work:

(a) General journeyman **(01)**;

(b) Specialties:

(i) Residential **(02)**;

(ii) Pump and irrigation **(03)**;

(iii) Domestic pump **(03A)**;

(iv) Signs **(04)**;

(v) Limited energy system **(06)**;

(vi) HVAC/refrigeration **(06A)**;

(vii) HVAC/refrigeration - restricted **(06B)**;

(viii) Nonresidential maintenance **(07)**;

(ix) Nonresidential lighting maintenance and lighting retrofit **(07A)**;

(x) Residential maintenance **(07B)**;

(xi) Restricted nonresidential maintenance **(07C)**;

(xii) Appliance repair **(07D)**;

(xiii) Equipment repair **(07E)**; and

(xiv) Door, gate, and similar systems **(10)**.

Exemptions - linemen.

(5) When performing the work described and allowed in WAC 296-46B-925 (17)(a) or (b)(i), when employed by the serving utility or its contractor or subcontractor(s), a lineman is exempt from the requirements of chapter 19.28 RCW.

(6) When performing the work described and allowed in WAC 296-46B-925 (17)(b)(ii) or (c), when employed by the serving utility or its licensed electrical contractor or subcontractor(s), a lineman must meet the requirements of RCW 19.28.261 (5)(b) or be an appropriately certified electrician. See the definition of a lineman in WAC 296-46B-100.

Exemptions - plumbers.

(7) Coincidental electrical/plumbing work. See RCW 19.28.091(8) for the plumber exemption.

Original - master electrician, journeyman, and specialty electrician certificates of competency.

(8) The department will issue an original certificate of competency to master, journeyman, or specialty electricians who meet the eligibility requirements listed in:

(a) RCW 19.28.191 (1)(a) or (b); and

(i) Submit an application for an original master electrician certificate including: Date of birth, mailing address and Social Security number; and

(ii) Pay all appropriate fees, as listed in WAC 296-46B-909;

(b) RCW 19.28.191 (1)(d) through (e);

(i) Submit an original master electrician certification examination application including: Date of birth, mailing address and Social Security number; and

(ii) Pay all appropriate fees, as listed in WAC 296-46B-909; or

(c) RCW 19.28.191 (1)(f) through (g);

(i) Submit an original electrician certification examination application including: Date of birth, mailing address and Social Security number; and

(ii) Pay all appropriate fees, as listed in WAC 296-46B-909.

(9) An individual's original electrician certificate of competency will expire on their birth date at least two years, and not more than three years, from the date of original issue.

Renewal - master electrician, journeyman, and specialty electrician certificates of competency.

(10) An individual must apply for renewal of their electrician certificate of competency on or before the expiration date of the certificate. The individual may not apply for renewal more than ninety days prior to the expiration date. Renewed certificates are valid for three years.

(11) An individual may renew their certificate of competency within ninety days after the expiration date without reexamination if the individual pays the late renewal fee listed in WAC 296-46B-909.

(12) All applications for renewal received more than ninety days after the expiration date of the certificate of competency require that the electrician pass the appropriate competency examination before being recertified.

(13) All applicants for certificate of competency renewal must:

(a) Submit a complete renewal application;

(b) Pay all appropriate fees; and

(c) Provide accurate evidence on the renewal form that the individual has completed the continuing education requirements described in WAC 296-46B-970. Continuing education classes are only valid when all the requirements of WAC 296-46B-970 are completed. If an individual files inaccurate or false evidence of continuing education information when renewing a certificate of competency, the individual's certificate of competency may be suspended or revoked.

Continuing education for pump and irrigation (03) and domestic pump (03A) electricians may be comprised of fifty percent electrical and fifty percent plumbing instruction.

(14) An individual who has not completed the required hours of continuing education can renew a certificate of competency if the individual applies for renewal before the certificate of competency expires and pays the appropriate renewal fee. However, the certificate of competency will be placed in an inactive status. The inactive certificate of competency will be returned to current status upon validation, by the department, of the required continuing education. If the certificate renewal date occurs during the inactive period, the certificate must be renewed on or before the renewal date to allow the return to current status.

(15) An individual may renew a suspended certificate of competency by submitting a complete renewal application including obtaining and submitting the continuing education required for renewal. However, the certificate will remain in a suspended status for the duration of the suspension period.

(16) An individual may not renew a revoked certificate of competency.

Military/shipyard experience.

(17) An individual who has worked in the electrical construction trade performing work described in WAC 296-46B-920 while serving in the armed forces of the United States may be eligible to take the examination for the certificate of competency as a journeyman or specialty electrician. Credit may be allowed for hours worked or training received.

If an individual has military experience in a specialized electrical field (e.g., rating) that is similar to a specialty electrician category listed in WAC 296-46B-920, credit may be allowed toward the appropriate specialty certificate. Nuclear, marine, shipyard, shipboard, radar, weapons, aeronautical experience, or similar experience may be acceptable for no more than fifty percent of the minimum required work experience for qualifying for electrician examination.

The department will evaluate and determine whether the submitted experience is related specifically to the electrical construction/maintenance trade regulated by chapter 19.28 RCW.

Experience in another country.

(18) If an individual has a journeyman electrician certificate from a country outside the United States that requires that at least four years of electrical construction training and certification is obtained by examination, the individual may be eligible for four thousand hours of the specialty credit allowed towards the qualification to take the Washington journeyman electrician examination.

No more than two years of the required training to become a Washington journeyman electrician may be for work described for specialty electricians or technicians in WAC 296-46B-920. In addition to the maximum of four thousand hours credit that may be allowed by this subsection, an additional four thousand hours of new commercial/industrial experience must be obtained using a training certificate in the state while under the supervision of a master journeyman electrician or journeyman electrician.

Documentation substantiating the individual's out-of-country experience must be submitted in English.

(19) Out-of-country experience credit is not allowed toward a specialty electrician certificate.

Training school credit.

(20) No more than fifty percent of the minimum work experience needed to qualify for specialty electrician certification is allowed for any training school program (e.g., a specialty requiring two thousand hours of minimum required work experience may receive no more than one thousand hours credit from an electrical construction training program).

(21) See RCW 19.28.191 (1)(h) for training school credit allowed for journeyman applicants.

(22) See WAC 296-46B-971 for additional information on training schools.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-940, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-940, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-940, filed 11/30/06, effective 12/31/06; 05-10-024, § 296-46B-940, filed 4/26/05, effective 6/30/05. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-940, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-940, filed 4/22/03, effective 4/22/03.]

WAC 296-46B-945 Qualifying for master, journeyman, specialty electrician examinations. Qualifying for master, journeyman, specialty electrician examinations.

(1) All applicants must be at least sixteen years of age.

Qualifying for the master electrician examination.

(2) An individual may take the master electrician's certificate of competency examination if the individual meets the requirements described in RCW 19.28.191 (1)(d) or (e).

Qualifying for the master electrician examination from out-of-state.

(3) No credit may be applied from out-of-state toward qualifying for a master electrician certificate of competency examination.

Qualifying for the journeyman electrician competency examination.

(4) An individual may take the journeyman electrician's certificate of competency examination if the individual held a current electrical training certificate and has worked for an employer who employs at least one certified master electrician, journeyman, or specialty electrician on staff and the individual:

(a) Has been employed, in the electrical construction trade, under the direct supervision of a master electrician, journeyman electrician or specialty electrician working in the appropriate specialty in the proper ratio, per RCW 19.28.161,

for four years (eight thousand hours). Of the eight thousand hours:

(i) At least two years (four thousand hours) must be in new industrial and/or new commercial electrical installation (excluding all work described for specialty electricians or technicians) under the direct supervision of a master journeyman electrician or journeyman electrician while working for a general electrical contractor; and

(ii) Not more than a total of two years (four thousand hours) may be for work described as an electrical specialty in WAC 296-46B-920(2).

(b) Has completed a four-year apprenticeship program in the electrical construction trade that is registered with the state apprenticeship council while working under the direct supervision of a master journeyman or journeyman electrician in the proper ratio, per RCW 19.28.161; or

(c) Has completed a two-year electrical construction training program as described in RCW 19.28.191 for journeyman electricians, and two years (four thousand hours) of work experience in new industrial and/or new commercial electrical installations (excluding work described for specialty electricians or electrical technicians) under the direct supervision of a journeyman electrician while working for a general electrical contractor in the proper ratio, per RCW 19.28.161. See WAC 296-46B-971 for additional training school information.

Electrical construction training hours gained in specialties requiring less than two years (i.e., four thousand hours) will not be credited towards qualification for journeyman electrician.

The trainee and their employer and/or apprenticeship training director must attest to the accuracy of all information contained on affidavits of experience and apprenticeship graduation certificates used to verify eligibility for the examination.

Qualifying for the journeyman/specialty electrician competency examination when work was performed in a state requiring electrician certification.

(5) An individual may take the journeyman/specialty electrician's competency examination when the appropriate state having authority certifies to the department that:

(a) The work was legally performed under the other state's licensing and certification requirements;

(i) For journeyman applicants who meet the minimum hour requirements described in WAC 296-46B-945(4).

(ii) For specialty applicants who meet the minimum hour requirements described in WAC 296-46B-945(9).

(b) The other state's certificate of competency was obtained by examination.

Electrical construction training hours gained in specialties requiring less than two years (i.e., four thousand hours) may not be credited towards qualification for journeyman electrician.

Qualifying for the journeyman/specialty electrician competency examination when work was performed in a state that does not require electrician certification.

(6) If the other state requires electrical contractor licens-

ing:

(a) An individual may take the journeyman/specialty electrician's competency examination when an appropriately licensed electrical contractor(s), registered apprenticeship training director, or nationally recognized contractor or labor organization files a notarized letter of experience with the department accompanied by payroll documentation which certifies and shows that:

(i) For journeyman applicants: The individual meets the minimum hour requirements described in WAC 296-46B-945(4).

(ii) For specialty applicants: The individual meets the minimum hour requirements described in WAC 296-46B-945(9).

(b) An individual may take the journeyman/specialty electrician's competency examination when an employer(s), acting under a property owner exemption, files a notarized letter of experience from the property owner with the department accompanied by payroll documentation which certifies and shows that:

(i) For journeyman applicants: The individual meets the minimum hour requirements described in WAC 296-46B-945(4).

(ii) For specialty applicants: The individual meets the minimum hour requirements described in WAC 296-46B-945(9).

(7) If the other state does not require electrical contractor licensing or registration: An individual may take the journeyman/specialty electrician's competency examination when the individual's employer(s), registered apprenticeship training director, or nationally recognized contractor or labor organization files a notarized letter(s) of experience with the department accompanied by payroll documentation which certifies and shows that:

(a) For journeyman applicants: The individual meets the minimum work requirements described in WAC 296-46B-945(4).

(b) For specialty applicants: The individual meets the minimum work requirements described in WAC 296-46B-945(9).

(8) The letter of experience described in subsections (6) and (7) of this section should include a complete list of the individual's usual duties with percentages attributed to each.

Qualifying for a specialty electrician certificate of competency or examination.

(9) An individual may qualify for a specialty electrician's examination and certificate of competency if the individual held a current electrical training certificate, and has worked for an employer who employs at least one certified master journeyman electrician, journeyman electrician, appropriate master specialty electrician, or appropriate specialty electrician on staff and the individual:

(a) Has been employed, in the electrical construction trade, under the direct supervision of an appropriate electrician in the appropriate specialty as follows:

Table 945-1 Experience Hours

Specialty	Minimum Hours of Work Experience Required to be Eligible for Examination⁽⁴⁾⁽⁵⁾	Minimum Hours of Work Experience Required for Certification
Residential certificate (02)	4,000 ⁽³⁾	4,000
Pump and irrigation certificate (03)	4,000 ⁽³⁾	4,000
Domestic pump certificate (03A)	720 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Signs certificate (04)	4,000 ⁽³⁾	4,000
Limited energy system certificate (06)	4,000 ⁽³⁾	4,000
HVAC/refrigeration system certificate (06A)	4,000 ⁽³⁾	4,000 ⁽⁷⁾
HVAC/refrigeration - restricted (06B)	1,000 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Nonresidential maintenance certificate (07)	4,000 ⁽³⁾	4,000
Nonresidential lighting maintenance and lighting retrofit certificate (07A)	720 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Residential maintenance certificate (07B)	720 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Restricted nonresidential maintenance certificate (07C)	1,000 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Appliance repair certificate (07D)	720 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Equipment repair certificate (07E)	1,000 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾
Door, gate, and similar systems certificate (10)	720 ⁽¹⁾⁽²⁾	2,000 ⁽⁶⁾

Notes: (1)Until the examination is successfully completed, the trainee must work under one hundred percent supervision. Once the appropriate examination is successfully completed, the modified supervision trainee may work under zero percent supervision.

(2)The trainee may have only one zero percent supervision certificate in a specialty (valid for no more than two years). If the trainee has not gained the required work experience by the time the zero percent supervision certificate has expired, the trainee must get a seventy-five percent supervision certificate and work under supervision until all required work experience hours are gained and credited towards the minimum work experience requirement.

(3)This specialty is not eligible for unsupervised trainee status as allowed in chapter 19.28 RCW.

(4)The trainee and their employer and/or apprenticeship training director must attest to the accuracy of all information contained on affidavits of experience used to verify eligibility for the examination.

(5)Neither previous work experience credit nor training school credit is allowed as a substitute for the initial hours of minimum work experience required to be eligible for examination unless the trainee's work experience hours under direct supervision are provided as required in RCW 19.28.191 (1) (g)(ii).

(6)Electrical construction training hours gained in specialties requiring less than two years for certification may not be credited towards qualification for journeyman electrician.

(7)The 2,000 minimum hours of work experience required for certification as a HVAC/refrigeration-restricted (06B) specialty electrician may be credited as 2,000 hours towards the 4,000 minimum hours of work experience required for certification as a HVAC/refrigeration (06A) specialty electrician. Hours of work experience credited from the HVAC/refrigeration-restricted (06B) specialty cannot be credited towards qualification for taking the general electrician (01) examination or minimum work experience requirements.

⁽⁸⁾Experience hours may be coincidentally credited towards qualifying for electrician and plumber certifications. See RCW 19.28.191 (1)(g)(v).

(b) Or has completed an appropriate two-year apprenticeship program in the electrical construction trade that is registered with the state apprenticeship council while working under the direct supervision of an electrician in the appropriate specialty in the proper ratio, per RCW 19.28.161.

Qualifying for a certificate of competency when the Washington electrical work experience is exempt from certification requirements in RCW 19.28.261.

(10) To receive credit for electrical work experience that is exempted in RCW 19.28.261, an individual must provide the department with verification from the employer or owner according to WAC 296-46B-965 (i.e., affidavit(s) of experience). For the purposes of this section, exempt work does not include work performed on property owned by the individual seeking credit.

(11) All exempt individuals learning the electrical trade must obtain an electrical training certificate from the department and renew it biennially in order to receive credit for hours worked in the trade according to WAC 296-46B-965.

(12) The department may require verification of supervision in the proper ratio from the certified supervising electrician(s).

(13) Telecommunications work experience:

(a) Credit may be verified only by employers exempted by RCW 19.28.261, general electrical **(01)** contractors, and limited energy system **(06)** electrical contractors for limited energy experience for telecommunications work done:

(i) Under the supervision of a certified journeyman or limited energy electrician; and

(ii) In compliance with RCW 19.28.191.

(b) Individuals who want to obtain credit for hours of experience toward electrician certification for work experience doing telecommunications installations must:

(i) Obtain an electrical training certificate;

(ii) Renew the training certificate biennially in order to receive credit for hours worked in the trade according to WAC 296-46B-965.

(c) Telecommunications contractors may not verify telecommunications work experience toward electrician certification.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-945, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-945, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-945, filed 11/30/06, effective 12/31/06; 06-05-028, § 296-46B-945, filed 2/7/06, effective 5/1/06; 05-10-024, § 296-46B-945, filed 4/26/05, effective 6/30/05. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-945, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-945, filed 4/22/03, effective 4/22/03.]

WAC 296-46B-960 Administrator and electrician certificate of competency examinations. General.

(1) The minimum passing score on any examination or examination section is seventy percent. If examination is requested to be administered by the department, an application is required and the examination must be successfully completed within one year of application or the individual must submit a new application for exam including all appropriate fees.

(2) All examinations are open book.

(a) Candidates may use:

(i) Any original copyrighted material;

(ii) A silent, nonprinting, nonprogrammable calculator that is not designed for preprogrammed electrical calculations;

(iii) Copies of chapter 19.28 RCW and this chapter; or

(iv) A foreign language dictionary that does not contain definitions.

(b) Candidates may not use:

(i) Copies of copyrighted material;

(ii) Copies of internet publications, except for RCWs or WACs;

(iii) Personal notes; or

(iv) A personal computing device of any type other than the calculator in (a)(ii) of this subsection.

(3) Administrator, master electrician, and electrician examinations may consist of multiple sections. All sections must be successfully completed within a one-year examination period after beginning the examination. Within the one-year examination period, the candidate does not have to retake any sections successfully completed within the examination period. If all sections are not successfully completed within the one-year period, the candidate must begin a new examination period and retake all sections.

Special accommodations for examination.

(4) An applicant for an examination who, due to a specific physical, mental, or sensory impairment, requires special accommodation in examination procedures, may submit a written request to the chief electrical inspector for the specific accommodation needed.

(a) The applicant must also submit to the department a signed and notarized release, authorizing the specifically identified physician or other specialist to discuss the matter with the department representative. The applicant must also submit an individualized written opinion from a physician or other appropriate specialist:

(i) Verifying the existence of a specific physical, mental, or sensory impairment;

(ii) Stating whether special accommodation is needed for a specific examination;

(iii) Stating what special accommodation is necessary; and

(iv) Stating if extra time for an examination is necessary and if so, how much time is required. The maximum allowance for extra time is double the normal time allowed.

(b) The written request for special accommodation and individualized written opinion must be submitted to the department at least six weeks in advance of the examination date and must be accompanied by a completed application and fees as described in WAC 296-46B-909.

(c) Only readers and interpreters provided from the administrative office of the courts and/or approved by the department may be used for reading or interpreting the examination. The applicant will be required to bear all costs associated with providing any reading or interpretive services used for an examination.

(d) Applicants who pass the examination with the assistance of a reader or interpreter will be issued a certificate with the following printed restriction: "Requires reading supervision for product usage." A competent reader or interpreter must be present on any job site where a person with this restriction is performing electrical work as described in chapter 19.28 RCW.

Applicants who pass the examination with the assistance of a mechanical device (e.g., magnifier, etc.) will be issued a certificate with the following printed restriction: "Requires mechanical reading assistance for product usage." Appropriate mechanical reading assistance must be present on any job site where a person with this restriction is performing electrical work as described in chapter 19.28 RCW.

If a candidate successfully retakes the examination without the assistance of a reader or translator, a new certificate will be issued without the restriction.

(5) Applicants who wish to use a foreign language dictionary during an examination must obtain approval at the examination site prior to the examination. Only dictionaries without definitions will be approved for use.

Failed examination appeal procedures.

(6) Any candidate who takes an examination and does not pass the examination may request a review of the examination.

(a) The department will not modify examination results unless the candidate presents clear and convincing evidence of error in the grading of the examination.

(b) The department will not consider any challenge to examination grading unless the total of the potentially revised score would result in a passing score.

(7) The procedure for requesting an informal review of examination results is as follows:

(a) The request must be made in writing to the chief electrical inspector and must be received within twenty days of the date of the examination and must request a rescore of the examination. The written request must include the appropriate fees for examination review described in WAC 296-46B-909.

(b) The following procedures apply to a review of the results of the examination:

(i) The candidate will be allowed one hour to review their examination.

(ii) The candidate must identify the challenged questions of the examination and must state the specific reason(s) why the results should be modified with multiple published reference material supporting the candidate's position.

(iii) Within fifteen days of the candidate's review, the department will review the examination and candidate's justification and notify the candidate in writing of the department's decision.

Subjects included in administrator certificate, or master electrician, journeyman, or specialty electrician competency examinations.

(8) The following subjects are among those that may be included in the examination for an administrator certificate or electrician certificate of competency. The list is not exclusive. The examination may also contain subjects not on the list.

(a) For general administrators, master journeyman, and journeyman electricians:

AC - Generator; 3-phase; meters; characteristics of; power in AC circuits (power factor); mathematics of AC circuits.

Administration - Chapter 19.28 RCW and this chapter.

Air conditioning - Basic.

Blueprints - Surveys and plot plans; floor plans; service and feeders; electrical symbols; elevation views; plan views.

Building wire.

Cable trays.

Calculations.

Capacitive reactance.

Capacitor - Types; in series and parallel.

Circuits - Series; parallel; combination; basic; branch; outside branch circuits; calculations.

Conductor - Voltage drop (line loss); grounded.

Conduit - Wiring methods.

DC - Generator; motors; construction of motors; meters.

Definitions - Electrical.

Electrical units.

Electron theory.

Fastening devices.

Fire alarms - Introduction to; initiating circuits.

Fuses.

Generation - Electrical principles of.

Grounding.

Incandescent lights.

Inductance - Introduction to; reactance.

Insulation - Of wire.

Mathematics - Square root; vectors; figuring percentages.

Motors/controls - Motors vs. generators/CEMF; single phase; capacitor; repulsion; shaded pole; basic principles of AC motors.

Ohm's Law.

Power.

Power factor - AC circuits; correction of; problems.

Rectifiers.

Resistance - Of wire.

Rigging.

Safety - Electrical shock.

Services.

3-wire system.

Tools.

Transformers - Principles of; types; single-phase; 3-phase connections.

Voltage polarity across a load.

Wiring methods - Conduit; general.

Wiring systems - Less than 600 volts; 480/277 volts; single- and 3-phase delta or wye; distribution systems over 600 volts.

Note: The general administrator, master journeyman, and journeyman electrician examinations may also include the subjects listed below for specialty electrician examinations.

(b) For specialty administrators, master specialty and specialty electricians, the following subjects are among those that may be included in the examination. Examination subjects are restricted to those subjects related to the scope of work of the specialty described in WAC 296-46B-920. The list is not exclusive. The examination may also contain subjects not on the list.

AC - Meters.

Administration - Chapter 19.28 RCW and this chapter.

Appliance circuits or controls.

Blueprints - Floor plans; service and feeders.

Cables - Wiring methods.

Calculations.

Circuits - Series; parallel; combination; basic; outside branch.

Conductor - Voltage drop (line loss); grounded; aluminum or copper.

Conduit - Wiring methods.

Electrical signs, circuits, controls, or services.

Electrical units.

First aid.

Fuses.

General lighting.

Grounding of conductors.

Insulation of wire.

Limited energy circuits or systems.

Maintenance of electrical systems.

Mathematics - Figuring percentage.

Motor circuits, controls, feeders, or services.

Ohm's Law.

Overcurrent protection.

Resistance of wire.

Safety - Electrical shock.

Services.

Sizes of building wire.

3-wire system.

Tools.

Transformer - Ratios; single-phase/3-phase connections.

Failing an administrator certificate exam or electrician certificate of competency examination.

(9) Anyone failing an administrator or electrician competency examination may retake the examination by making arrangements with the testing agency and paying the retesting fee.

(10) If the individual makes a failing score, the individual must wait two weeks before being eligible to retest.

(11) If the individual fails an electrician examination or a part of an administrator or master electrician examination three times within a one-year period, the individual must wait three months to retake the failed portion of the examination.

(12) Anyone failing an electrician competency examination may continue to work in the electrical trade if they have a valid electrical training certificate and work under the direct supervision of a certified journeyman or specialty electrician in the proper ratio, per RCW 19.28.161.

Cheating on an examination.

(13) Anyone found cheating on an examination, attempting to bribe a proctor or other agent involved in administering an examination, or using inappropriate materials/equipment during an examination will be required to wait at least eleven months before being allowed to reexamine. All such reexaminations will be administered by the department in Tumwater, Washington and the candidate will be required to apply and schedule for the examination with the chief electrical inspector.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-960, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-960, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-960, filed 11/30/06, effective 12/31/06; 06-05-028, § 296-46B-960, filed 2/7/06, effective 5/1/06; 05-10-024, § 296-46B-960, filed 4/26/05, effective 6/30/05. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-960, filed 4/22/03, effective 4/22/03.]

WAC 296-46B-965 Training certificate required. General.

(1) A training certificate is required for all individuals throughout the individual's enrollment and matriculation in an approved construction electrician training school program described in RCW 19.28.191. A training certificate is required to work in the electrical construction trade if an individual does not:

(a) Possess a current journeyman certificate of competency issued by the department;

(b) Possess a current specialty electrician certificate of competency issued by the department while working in that specialty's scope of work; or

(c) Is not working in exempt status as allowed by chapter 19.28 RCW.

(2) Trainees who have had their training certificates revoked or suspended (during the duration of the revocation or suspension) will not be issued a training certificate.

Original training certificates.

(3) The department will issue an original training certificate when the trainee applicant submits a complete training certificate application including:

(a) Date of birth, mailing address, Social Security number; and

(b) All appropriate fees as listed in WAC 296-46B-909.

All applicants for an electrical training certificate must be at least sixteen years of age. The original training certificate will be valid for two years.

(c) If an individual has previously held an electrical training certificate, then that individual is not eligible for a subsequent original training certificate.

Specialty specific - zero percent and seventy-five percent supervision modified training certificates.

(4) For specialties as allowed in Table 945-1 (i.e., specialties with seven hundred twenty minimum hours of work experience required to be eligible for examination):

(a) The department will approve the trainee to take the appropriate specialty competency examination necessary to qualify for a zero percent supervision modified training certificate. To qualify, the trainee applicant must submit a complete zero percent supervision modified training certificate application including:

- (i) Date of birth, mailing address, Social Security number;
- (ii) Affidavit of experience fulfilling the minimum work experience hours required to qualify for the specialty examination described in Table 945-1; and
- (iii) All appropriate fees as listed in WAC 296-46B-909.

Upon successful completion of the appropriate examination, the trainee will be issued a nonrenewable zero percent supervision modified training certificate for the appropriate specialty. The zero percent supervision modified training certificate will be restricted in duration to the time allowed in Table 945-1, note 2.

(b) Prior to the expiration of the zero percent supervision modified training certificate, the individual must submit a complete application for a seventy-five percent supervision modified training certificate for the appropriate specialty including:

- (i) Seventy-five percent supervision training certificate application including: Date of birth, mailing address, Social Security number; and
- (ii) All appropriate fees as listed in WAC 296-46B-909.
- (c) A trainee may possess multiple (i.e., in different specialties) modified supervision training certificates for specialties where reduced supervision is allowed in Table 945-1. Combination training certificates will not be issued.

Renewal of training certificates.

(5) An individual must apply for renewal of their training certificate on or before the expiration date of the certificate. The individual may not apply for renewal more than ninety days prior to the expiration date. Renewed certificates are valid for two years.

(6) An individual may renew their training certificate after the expiration date if the individual pays the late renewal fee listed in WAC 296-46B-909.

(7) All applicants for training certificate renewal must:

- (a) Submit a complete renewal application;
- (b) Pay all appropriate fees; and

(c) Provide accurate evidence on the renewal form that the individual has completed the continuing education requirements described in WAC 296-46B-970. Continuing education classes are only valid when all the requirements of WAC 296-46B-970 are completed. If an individual files inaccurate or false evidence of continuing education information when renewing a training certificate, the individual's training certificate may be suspended.

Continuing education for trainees seeking pump and irrigation (03) and domestic pump (03A) experience credit may be comprised of fifty percent electrical and fifty percent plumbing instruction.

(d) Within thirty days after renewing an electrical training certificate, the individual, if not enrolled in a department approved apprenticeship program, must submit a completed, signed, and notarized affidavit(s) of experience for all hours

of experience gained since the individual's last training certificate was effective.

Employers are required to provide the necessary documentation and signed affidavit of experience to the trainee within twenty days after the trainee requests the affidavit. See WAC 296-46B-965(6). See WAC 296-46B-985(4) for the penalty for providing a false or inaccurate affidavit of experience. If the individual is enrolled in a department approved apprenticeship program, the program may submit the required affidavit(s) of experience upon the individual's completion of the required experience hours without cost to the individual. The affidavit of experience must accurately attest to:

(i) The electrical installation work performed for each employer the individual worked for in the electrical trade during the previous period;

(ii) The correct electrical category the individual worked in; and

(iii) The actual number of hours worked in each category worked under the proper supervision of a Washington certified, master journeyman electrician, journeyman electrician or appropriate master specialty electrician or specialty electrician under that specific training certificate. If a trainee possesses multiple training certificates, an affidavit must be submitted for each training certificate for the hours worked under that specific training certificate.

If the individual is enrolled in a department approved apprenticeship program, the program may submit the required affidavit(s) of experience upon the individual's completion of the required experience hours without cost to the individual.

(8) An individual who has not completed the required hours of continuing education can renew a training certificate if the individual applies for renewal before the training certificate expires and pays the appropriate renewal fee. However, the training certificate will be placed in an inactive status. The inactive training certificate will be returned to current status upon validation, by the department, of the required continuing education.

(9) An individual may renew a suspended training certificate by submitting a complete renewal application including obtaining and submitting the continuing education required for renewal. However, the certificate will remain in a suspended status for the duration of the suspension period.

(10) An individual will not be issued a renewed or reinstated training certificate if the individual owes the department money as a result of an outstanding final judgment.

(11) The individual should ask each employer and/or apprenticeship training director for an accurately completed, signed, and notarized affidavit of experience for the previous certification period. The employer(s) or apprenticeship training director(s) must provide the previous period's affidavit of experience to the individual within twenty days of the request. If an individual is enrolled in an approved electrical construction trade apprenticeship program under chapter 49.04 RCW when the individual renews an electrical training certificate, the individual and their apprenticeship training director and/or each employer must give the department an accurately completed, signed, and notarized affidavit of experience accurately attesting to:

(a) The electrical installation work the individual performed in the electrical trade during the previous certification period;

(b) The correct electrical category the individual worked in; and

(c) The actual number of hours worked in each category under the proper supervision of a Washington certified master journeyman electrician, journeyman electrician or appropriate master specialty or specialty electrician for each employer. For apprentices enrolled in a registered apprenticeship program, the applicant and the training director are the only authorized signatures the department will accept on affidavits of experience.

(12) The individual and their employer(s) and/or apprenticeship training director(s) must sign and have notarized the affidavit of experience attesting to the accuracy of all information contained in the affidavit.

Trainees without supervision present on the job site.

(13) When the supervising electrician is found to not be present on the job site, the trainee will be given a form by the inspector that must be returned or postmarked within twenty-four hours to the inspector. If the supervising electrician fails or refuses to assist the trainee in completing the form, the trainee must return the form with a signed and dated statement stating the supervising electrician's name and saying that the supervising electrician refused to assist. The form will require the following information:

(a) Date and time the form was given to the trainee;

(b) Job site address;

(c) Contractor's name and contractor's license number;

(d) Electrical work permit number;

(e) The times the supervising electrician left and returned to the job site;

(f) The trainee's beginning and ending times for that day for each job;

(g) The trainee's name, training certificate number, and signature;

(h) The supervising electrician's name, electrician certificate number, and signature.

(14) The trainee, supervising electrician, contractor, and assigned administrator or master electrician are responsible for ensuring compliance with subsection (13) of this section. See WAC 296-46B-985 and 296-46B-990 (3)(c) and (f) for information about failing to submit or submitting false/fraudulent documents. Falsifying documents may be considered perjury and might result in criminal prosecution, civil penalty, or certificate revocation or suspension.

Trainees seeking a journeyman electrician certificate - working with no supervision.

(15) Trainee seeking a general (01) journeyman electrician certificate of competency. After review by the department, a trainee may be issued a six-month, nonrenewable unsupervised electrical training certificate that will allow the individual to work without supervision if the trainee:

(a) Has submitted a complete application for an unsupervised electrical training certificate;

(b) Has worked over seven thousand hours properly supervised not to include more than four thousand of specialty experience;

(c) Has successfully completed or is currently enrolled in an approved apprenticeship program or an electrical construction trade program in a school approved by the board of community and technical colleges;

(d) Has paid all appropriate training certificate fees listed in WAC 296-46B-909; and

(e) Is currently working for and continues to work for a licensed electrical contractor that employs at least one certified journeyman or specialty electrician in the appropriate specialty.

Trainees seeking certain specialty electrician certificates - working with reduced or no supervision.

(16) After review by the department, a trainee may be issued a nonrenewable zero percent supervision training certificate that will allow the individual to work without supervision if the trainee meets the requirements in subsection (4) of this section.

(17) Electrical trainees may work unsupervised when installing HVAC/R thermostat cable when the HVAC/R system consists of a single thermostat in one- and two-family dwelling units where line voltage power has not been connected to the dwelling's electrical system.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-965, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-965, filed 11/25/08, effective 12/31/08; 06-24-041, § 296-46B-965, filed 11/30/06, effective 12/31/06; 05-10-024, § 296-46B-965, filed 4/26/05, effective 6/30/05. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-965, filed 4/22/03, effective 4/22/03.]

WAC 296-46B-970 Continuing education. General requirements - continuing education classes requirements for administrator, master electrician, and electrician renewal.

(1) DEFINITIONS - for purposes of this section.

(a) "Applicant" means the entity submitting an application for review.

(b) "Application" means a submittal made by an applicant seeking instructor or class approval.

(c) "Calendar day" means each day of the week, including weekends and holidays.

(d) "Class" means continuing education class or course.

(e) "Contractor" means the entity who has contracted with the department to review and approve/deny continuing education classes and instructors.

(f) "Date of notification" means the date of a request for additional information from the contractor or the approval/denial letter sent to the applicant by the contractor.

(g) "Individual" means an administrator or electrician seeking credit for continuing education.

(h) "Instructor" means an individual who is authorized to instruct an approved continuing education class.

(i) "Working day" means Monday through Friday, excluding state of Washington holidays.

(2) GENERAL.

(a) The department and the electrical board have the right to monitor all approved classes without notice and at no charge.

If the department or electrical board determines that the class or instructor does not meet or exceed the minimum requirements for approval or course length or instructor qualifications, the department may revoke the class or instructor approval and reduce the number of credited hours for the class.

(b) Department-offered classes and the instructors used for those classes are automatically approved and do not need to be sent to the contractor for review.

(c) Instructors who meet the minimum requirements using subsection (5)(b)(i)(D) of this section may only instruct classes sponsored by the manufacturer(s) who verified the instructors' qualifications under subsection (5)(b)(i)(D) of this section.

(d) An individual will not be given credit for the same approved continuing education class taken more than once. A course sponsor may not submit an individual's name on a roster(s) for multiple classes (i.e., multiple class numbers) when the classes are given simultaneously (e.g., code update, industry related, and/or basic electrical classroom training class that have similar class content given during the same class session). No credit will be granted for any class not approved per this section.

(e) Telecommunications administrators do not require continuing educations.

(f) Other administrators, master electricians, and electricians:

(i) To be eligible for renewal of an administrator certificate, master electrician or electrician certificate of competency, the individual must have completed at least eight hours of approved continuing education for each year of the prior certification period. The individual is not required to take the classes in separate years.

(A) At least eight hours of the total required continuing education must be on the changes in the 2008 National Electrical Code. For certificate renewal, "currently adopted" means a valid course approved as code update by the department and taken by the applicant since their last renewal date.

(B) Four hours of the required continuing education must be on the currently adopted chapter 19.28 RCW and its related WAC(s).

(ii) An individual changing an electrical administrator and an electrician certificate of competency into a master electrician's certificate of competency as allowed in RCW 19.28.191 (1)(a) or (b) must have completed at least eight hours of approved continuing education for each year of the prior electrician certificate period. The individual is not required to take the classes in separate years.

(A) Eight hours of the required continuing education must be on the changes in the currently adopted National Electrical Code. For certificate renewal, "currently adopted" means a valid course approved as code update by the department and taken by the applicant since their last renewal date.

(B) Four hours of the required continuing education must be on the currently adopted chapter 19.28 RCW and its related WAC(s).

(iii) Any portion of a year of a prior administrator or electrician certificate period is equal to one year for the purposes of the required continuing educations.

(iv) An individual who has both an electrician certificate and an administrator certification may use the same class to fulfill the requirements for continuing education.

(g) Training certificates:

(i) To be eligible for renewal of a training certificate, the individual must have completed:

(A) At least sixteen hours of approved basic classroom electrical training classes. The individual cannot use a basic classroom electrical training class as credit for the continuing education requirements for renewing an electrician or administrator certificate(s) when the class is also used to satisfy the training certificate renewal requirements; or

(B) Equivalent electrical training courses taken as a part of an approved:

- Apprenticeship program under chapter 49.04 RCW; or
- Electrical training program under RCW 19.28.191

(1)(h).

Note that only trainees seeking experience credit in the pump and irrigation **(03)** or domestic pumping **(03A)** specialties may take pumping industry basic classroom training classes;

In addition, trainees working in the pump and irrigation **(03)** or domestic pump **(03A)** specialties may be credited for courses approved as a part of the requirements for plumber trainees required in RCW 18.106.070(5).

(h) A continuing education class attended or completed by an individual before the class's effective date cannot be used to meet the certificate renewal requirements.

(i) If neither the electrical board nor the department has a contract in effect as described in this section, the department may, at its option, elect to act as the contractor. If a contractor is not in place and the department elects not to act as the contractor, the electrical board will act as the contractor. If either the electrical board or the department acts as the contractor, the following will apply:

(i) The fee for class or instructor submittal is as set in WAC 296-46B-909.

(ii) The electrical board or the department will:

(A) Review the application for completeness within fifteen working days after receipt.

(B) If the application is incomplete, notify the applicant within seven working days of the status of the review and what additional information is required.

(C) Complete the review and approval/denial process within fifteen working days upon receipt of a complete application or additional requested information.

(iii) An appeal of a denial by the department will be heard by the full electrical board in accordance with WAC 296-46B-995.

(3) CLASS AND INSTRUCTOR - GENERAL APPROVAL PROCESS.

(a) The contractor will review submitted class and instructor applications to determine whether the application meets the minimum requirements for approval.

(b) The contractor will deny approval of applications that do not meet the minimum requirements.

(c) All applications will be considered to be new applications (i.e., Classes and instructors may not be renewed. All

applications must include all information necessary to show conformance with the minimum requirements).

(d) Minimum requirements:

(i) Application review fees:

(A) The contractor may charge a fee for review of an application. Such fees, paid by the applicant, are nonrefundable.

(B) The fee will be as set by contractor between the department and the contractor.

(C) The fee will be set for a minimum of one year.

(D) Upon mutual agreement between the department and the contractor, the fee may be raised or lowered.

(ii) Application:

(A) The applicant must submit a complete application to the contractor at least thirty calendar days prior to offering or instructing a class.

(B) The contractor will only consider material included with the application when reviewing an application.

(C) All applications will consist of:

- One copy of all material;
- Applicant's name, address, contact name, and telephone number;
- All required fees;
- Any other information the applicant wants to consider during the review; and
- Class applications will include:
 - Sponsor's name, address, contact name, and telephone number;
 - Class title;
 - Number of continuing education hours requested for the class;
 - Category of class for which approval is sought (i.e., code update, RCW/WAC update, industry related, basic classroom electrical training, pumping industry, or pumping industry basic classroom training);
 - Any required examinations;
 - Statement of whether the class is open to the public;
 - Class syllabus (e.g., general description of the training, specific NEC articles referenced, time allowed for various subject matter, etc.). Note that for all pumping industry classes, curriculum must include fifty percent electrical and fifty percent plumbing instruction;
 - List of resources (e.g., texts, references, etc.);
 - Copies of all visual aids;
 - Sample of the completion certificate.
- Instructor application will include:
 - Instructor's name, address, telephone number;
 - Copies of credentials or other information showing conformance with the instructor minimum qualifications.
- The sponsor of a distance learning (i.e., correspondence and internet classes) class will provide the following information with the application:
 - How will the sponsor provide an orientation session with the instructor or an affiliated representative of the sponsor.
 - The application must include a complete description of any hardware, software, or other technology to be used by the provider and needed by the student to effectively engage in the delivery and completion of the class material. Provide an assessment of the availability and adequacy of the equipment, software, or other technologies. In the case of computer-

based instruction, describe how the class software addresses automatic shutdown after a period of inactivity.

– How will the sponsor provide security to ensure that the student who receives credit for the class is the student who enrolled in and completed the class. The approved sponsor and the student must certify that the student has completed the class and the required number of clock hours.

– The application must describe the process and the acceptable methods of how students can contact approved instructors to answer questions regarding the class.

– The application must describe the consistent and regular interactive events appropriate to the delivery method. The interactive elements must be designed to promote student involvement in the learning process and must directly support the student's achievement of the class learning objectives.

– The application must demonstrate that the class includes the same or reasonably similar information content as a course that would otherwise qualify for the requisite number of clock hours of classroom-based instruction.

– The application must demonstrate how you determined the number of clock hours requested.

– The application must demonstrate how mastery of the material is provided by: Describing how the material is divided into major learning units and describing how these learning units are divided into modules of instruction, describing how the student's progress toward completion of the mastery requirement will be measured, and describing how the class will provide a mechanism of individual remediation to correct any deficiencies in each module of instruction.

(e) Contractor's review process:

(i) When the application is received, the contractor must:

(A) Date stamp the application;

(B) Review the application for completeness within seven working days after receipt.

(ii) If the application is incomplete, the contractor must within two working days notify the applicant of the status of the review and what additional information is required.

(A) The applicant must provide any additional information requested by the contractor within five working days after the date of notification.

(B) The contractor will deny the application if the additional required information is not received within the five working days after the date of notification.

(iii) When the contractor has received a complete application, the contractor must review and evaluate the application for compliance with the minimum requirements.

The contractor must complete the review and approval/denial process within seven working days upon receipt of a complete application or additional requested information and within two working days notify:

• The applicant in writing; and

• The chief electrical inspector in writing and electronically. The contractor's electronic notification to the chief electrical inspector must be made in a format approved by the chief electrical inspector.

(iv) A notification of denial must include:

(A) Applicant's name and telephone number;

(B) Date of denial;

(C) Sponsor's name and class title if applicable;

(D) Instructor's name if applicable; and

(E) The reason for denial.

(v) A notification of approval:

(A) For classes must include:

- Applicant's name and telephone number;
- Sponsor's name and telephone number;
- Class title;
- Class number;
- Number of hours approved for the class. Note that the

contractor may reduce the hours requested in the application if the review shows that the requested number of hours is excessive;

- Effective date for this class;
- Expiration date of class;
- Category for which the class is approved (i.e., code update, RCW/WAC update, industry related, basic classroom electrical training, pumping industry, or pumping industry basic classroom training);
- Sample of written class roster and attendance sheet;
- Type of class (i.e., classroom, correspondence, internet); and

• Whether the class is open to the public.

(B) For instructors must include:

- Applicant's name and telephone number;
- Instructor's name and telephone number;
- Effective date for the approval; and
- Expiration date of the approval.

(vi) Applicant's request for review of the contractor's decision:

The applicant's may request a review of the contractor's decision to deny or modify an application:

- All requests for review must be:
- Made in writing;
- Received by the chief electrical inspector within twenty calendar days of the contractor's denial; and
- Accompanied by a review fee of \$109.50. The review fee is nonrefundable.

(4) CLASS APPROVAL PROCESS.

(a) Class approval will be valid for three years except:

(i) If the class is "code update" and a new NEC is adopted by the department within the class approval period, the class approval will be considered automatically revoked; or

(ii) If the class is modified after the application is approved, the class approval will be considered automatically revoked (i.e., change in syllabus, hours, examination, etc.).

(b) Minimum requirements:

(i) Class content:

(A) Industry-related classes must be based on:

- Codes or rules included in the NEC chapters 19.28 RCW or 296-46B WAC;
- Electrical theory based on currently published documents that are readily available for retail purchase; and/or
- Materials and methods that pertain to electrical construction, building management systems, electrical maintenance, or workplace health and safety such as *NFPA 70E - Handbook for Electrical Safety in the Workplace*. First aid type classes must be approved and will be limited to four hours of credit towards the individual's total continuing education requirement.

(B) Code update classes must be based on the latest adopted version of the NEC and must specify the NEC articles to be addressed in the class presentation.

(C) RCW/WAC update classes must be based on the latest adopted versions of chapter 19.28 RCW and/or chapter 296-46B WAC.

(D) All basic classroom electrical training classes and pumping industry basic classroom training classes must be classroom instruction only and based upon basic electrical theory, use of the NEC, and/or use of the electrical laws and rules. Correspondence and internet classes are not allowed. All basic classroom electrical training classes must include an appropriate written examination to ensure the participant understands the basic concepts of the class. To successfully complete the class, the participant must score at least seventy percent on the examination.

(E) In addition, for pumping industry classes, curriculum must include fifty percent electrical and fifty percent plumbing instruction.

(ii) Class length:

(A) The minimum allowed length of a class is two hours; however, the minimum length for a basic classroom electrical trainee classroom training or pumping industry basic classroom trainee classroom training is eight hours that can be delivered in multiple classroom sessions of not less than two hours each.

(B) The maximum allowed credit for a class is twenty-four hours.

(C) Class length must be based on two-hour increments (e.g., 2, 4, 6, 8, etc.).

(D) Class length must be based on the following:

- Classroom instruction will be based on the total hours the individual is in the classroom. A class may be divided into multiple sections so long as each section is not less than two hours in length and all sections are taken within a one month period.

- Distance learning (i.e., correspondence and internet classes) will be based on clock hours necessary to complete the class if it was presented in a classroom setting. See the application process in subsection (3)(d)(ii) of this section for distance learning classes for additional information.

(iii) Certificates of completion:

(A) The sponsor must award a completion certificate to each individual successfully completing the approved class. To successfully complete a correspondence or internet class, a participant must score at least 70% on the examination required for the class.

(B) The completion certificate must include the:

- Name of participant;
- Participant's Washington certificate number;
- Name of sponsor;
- Name of class;
- Date of class;
- Name of instructor;
- Location of the class:
 - If a classroom-type class, the city and state in which the class was given;
 - If a correspondence class, state the class is a correspondence class;
 - If an internet class, state the class is an internet class;
- Class approval number;

- Number of continuing units; and
- Type of continuing education units.

(iv) Instructors:

(A) For classroom instruction except first-aid training, all instructors must be approved per this section; and

(B) For correspondence and internet instruction, the applicant must show that the sponsor regularly employs at least one staff member who meets the requirements for instructors in this section.

(5) INSTRUCTOR APPROVAL PROCESS:

(a) Instructor approval will be valid for three years except:

(i) If the instructor's credentials are invalidated (e.g., suspension or revocation by the issuing entity) for any reason, approval will be automatically revoked.

(ii) When the instructor approval expires or is revoked, a new application must be submitted to regain approved instructor status.

(b) Minimum requirements:

(i) The application must show that the instructor meets one of the following:

(A) Has a valid Washington administrator, master electrician, or electrician's certificate and has appropriate knowledge of and experience working as an electrical/electronic trainer; or

(B) Is an instructor in a two-year program in the electrical construction trade licensed by the Washington work force training and education coordinating board. The instructor's normal duties must include providing electrical/electronic education; or

(C) Is a high school vocational teacher, community college, college, qualified instructor with a state of Washington approved electrical apprenticeship program, or university instructor. The instructor's normal duties must include providing electrical/electronic education; or

(D) Works for and is approved by a manufacturer of electrical products to teach electrical continuing education.

(ii) Any other information the applicant wants to be considered during the review.

(6) FORMS:

(a) The contractor will:

Develop an appropriate form(s) for the applicant's use when submitting for instructor or class approval;

(b) Applicants must use the contractor's form when submitting an application for review.

(7) PUBLICATIONS:

The contractor will provide the department with appropriate material for use by the department on the electrical program web site and may post the application process, review, and approval requirements on the contractor's web site.

(8) CLASS ATTENDANCE:

(a) The contractor is not responsible for monitoring any individual's attendance or class completion.

(b) The department is not responsible for providing verification of an individual's continuing education or basic electrical classroom training history with the class sponsor;

(c) Electrical approved classes offered in Washington:

(i) The sponsor must provide the department with an accurate course attendance/completion roster for each class given. Class attendance will only be verified based on the attendance/completion roster provided by the sponsor. Com-

pletion certificates are not an acceptable method of verifying attendance at a class approved in Washington under this chapter.

(A) Within seven days of a student completing the class, the course sponsor must provide the attendance/completion roster in an internet format provided by the department.

(B) The attendance/completion roster must show each individual's name, Washington certificate number, class number, location of class, date of completion, and instructor's name.

(ii) The sponsor must provide the individual a certificate of completion within fifteen days after successful class completion for the individual's personal records. See subsection (4) of this section.

(iii) Individuals will not be granted credit for a class unless the sponsor's attendance/completion roster shows the individual successfully completed the class.

(d) For classes approved under chapter 18.106 RCW for the pumping industry, a class number will be created for electrical continuing education. Sponsors for these classes must verify attendance for the electrical credit using the format described in subsection (c) of this section.

(9) Contractor requirements:

(a) The contractor cannot be a sponsor or instructor.

(b) The contractor cannot be an employee of the department.

(c) The contractor must:

(i) Be an independent entity with no organizational, managerial, financial, design, or promotional affiliation with any sponsor or instructor covered under the contractor's review and approval/denial process;

(ii) Employ at least one staff member having a valid 01-General Administrator or 01-General Master Electrician Certificate. This staff member:

(A) Is responsible for reviewing and determining an application's approval or denial; and

(B) Must sign the written notification provided to applicants for all approvals and denials:

(iii) Receive, review, and process all applications as required in this section;

(iv) Allow the department access to the contractor's facilities during normal working hours to audit the contractor's ability to conform to the contract requirements;

(v) Treat all applications as proprietary information;

(vi) Respond to and attempt to resolve complaints contesting the review or approval/denial process performed by the applicant;

(vii) Notify the department within ten working days of any change in business status or ability to conform to this section;

(viii) Maintain one copy, original or electronic, of all applications and associated materials for a period of three years from the date of receipt.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-970, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-970, filed 11/25/08, effective 12/31/08; 08-08-084, § 296-46B-970, filed 4/1/08, effective 5/2/08; 06-24-041, § 296-46B-970, filed 11/30/06, effective 12/31/06; 05-10-024, § 296-46B-970, filed 4/26/05, effective 6/30/05. Statutory Authority: Chapter 19.28 RCW. 04-21-086, § 296-46B-970, filed 10/20/04, effective 11/22/04.

Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-970, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-970, filed 4/22/03, effective 5/23/03.]

WAC 296-46B-980 Enforcement—Installations, licensing, and certification requirements. (1) The department inspects the electrical worksites of individuals, employers, and employees with respect to the methods and installation requirements of chapter 19.28 RCW and this chapter. The department's electrical inspectors and electrical auditors make electrical work inspections. The department's electrical inspectors, electrical auditors, and compliance officers make electrical licensing/certification inspections.

(2) The department ensures that individuals, employers, and employees comply with the electrical licensing and certification requirements of chapter 19.28 RCW and this chapter. To do this, inspections are made by the department's electrical inspectors/auditors and compliance officers.

Compliance officers or electrical inspectors/auditors determine whether:

(a) Each person or entity advertising to do electrical work or doing electrical work on an electrical worksite has a proper license or certificate;

(b) The ratio, per RCW 19.28.161, of certified journeyman/specialty electricians to the certified trainees on the job site is correct; and

(c) Each certified trainee is directly supervised by an individual who possesses an appropriate certificate of competency for the type of electrical work being performed.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-980, filed 9/29/09, effective 10/31/09. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-980, filed 4/22/03, effective 5/23/03.]

WAC 296-46B-985 Penalties for false statements or material misrepresentations. (1) A person who makes a false statement or material misrepresentation on an application, statement of hours, or signed statement to the department may be referred to the county prosecutor for criminal prosecution under RCW 9A.72.020, 9A.72.030, and 9A.72.040. The department may also file a civil action under RCW 19.28.131 or 19.28.271 and may revoke or suspend a certificate under RCW 19.28.241 or 19.28.341.

(2) The department may file a civil action under RCW 19.28.131 or 19.28.271 and may revoke or suspend a certificate of competency under RCW 19.28.341 or 19.28.241 for inaccurate or false reporting of continuing education units on the administrator, master electrician, electrician, or training certificate renewal form.

(3) If the department determines that a course sponsor has issued an inaccurate or incomplete course application or attendance/completion roster, the department may suspend or revoke the course approval and deny future approval of a continuing education course(s) by the course sponsor.

(4) The department may file a civil action under RCW 19.28.271 against both the trainee and the contractor, apprentice training director, or other entity verifying the training hours and may subtract up to two thousand hours of employment from a trainee's total hours if the department determines a false statement or material misrepresentation has been made in an affidavit of experience.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-985, filed 9/29/09, effective 10/31/09; 06-24-041, § 296-46B-985, filed 11/30/06, effective 12/31/06. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-985, filed 4/22/03, effective 5/23/03.]

WAC 296-46B-990 Failure to comply with the electrical contractor licensing, administrator certification, or electrical certification laws. General.

(1) If the compliance officer or electrical inspector/auditor determines that an individual, employer, or employee has violated chapter 19.28 RCW or this chapter, the department will issue a citation that describes the violation.

Suspension or revocation - of an electrical contractor's license, administrator's certificate, master electrician's certificate of competency, electrician's certificate of competency, or training certificate.

(2) The department may revoke or suspend, for such time as it determines appropriate, an electrical contractor's license, administrator's certificate, master electrician's certificate of competency, electrician's certificate of competency, or training certificate if:

(a) The license, certificate, or permit was obtained through error or fraud;

(b) The license, certificate, or permit holder is judged to be incompetent to work in the electrical construction trade as a master electrician, journeyman electrician, specialty electrician, electrical technician, or electrical trainee;

(c) For serious noncompliance as described below. See RCW 19.28.241 and 19.28.341 for other grounds and procedures.

(d) The license or certificate holder incompletely or inaccurately reported continuing education units on an application for renewal; or

(e) The certificate holder falsely, incompletely, or inaccurately reported previous work experience.

The department will deny an application for any license/certificate during the period of revocation or suspension of the same or another license/certificate under chapter 19.28 RCW.

(3) For the purposes of this section, serious noncompliance includes, but is not limited to, any of the following:

(a) Failure to correct a serious violation. A serious violation is a violation of chapter 19.28 RCW or chapter 296-46B WAC that creates a hazard of fire or a danger to life safety. A serious violation is also a violation that presents imminent danger to the public. Imminent danger to the public is present when installations of wire and equipment that convey or utilize electric current have been installed in such a condition that a fire-hazard or a life-safety hazard is present. Imminent danger to the public is also present when unqualified, uncertified, or fraudulently certified electricians or administrators; or unlicensed or fraudulently licensed contractors are continuously or repeatedly performing or supervising the performance of electrical work covered under chapter 19.28 RCW. For the purposes of this section, a certified electrician is considered qualified, provided the electrician is working within his or her certification;

(b) The license or certificate was obtained through error or fraud;

(c) Submitting a fraudulent document to the department;

(d) Continuous noncompliance with the provisions of chapter 19.28 RCW or this chapter. For the purposes of this section, continuous noncompliance will be defined as three or more citations demonstrating a disregard of the electrical law, rules, or regulations within a period of three years, or where it can be otherwise demonstrated that the contractor, master electrician, electrician, or administrator has continuously failed to comply with the applicable electrical standards;

(e) Failure to make any books or records, or certified copies thereof, available to the department for an audit to verify the hours of experience submitted by an electrical trainee;

(f) Making a false statement or material misrepresentation on an application, statement of hours, or signed statement required by the department;

(g) The certificate holder falsely or inaccurately reported continuing education units on an application for renewal;

(h) Installing a shortened rod/pipe grounding electrode, improper splicing of conductors in conduits/raceways or concealed within walls, or installing a fake equipment grounding conductor.

For any act of serious noncompliance, the person, firm, partnership, corporation, or other entity may be referred to the county prosecutor for criminal prosecution under chapter 9A.72 RCW. The department may also file a civil action under chapter 19.28 RCW.

(4) Before a license or certificate is revoked or suspended, the certificate holder will be given written notice of the department's intention to suspend or revoke. Notification will be sent by registered mail to the certificate holder's last known address. The notification will list the allegations against the certificate holder, and provide the certificate holder with the procedures necessary to request a hearing before the electrical board as described in WAC 296-46B-995.

Confiscation - of an electrical contractor's license, administrator certificate, electrician certificate of competency, or training certificate.

(5) The department may confiscate a license or certificate that is counterfeit, revoked, expired, suspended, or altered. The individual may be referred to the county prosecutor for criminal prosecution under chapter 9A.72 RCW.

The department may also file a civil action under chapter 19.28 RCW.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-990, filed 9/29/09, effective 10/31/09. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-990, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-990, filed 4/22/03, effective 5/23/03.]

WAC 296-46B-995 Electrical board—Appeal rights and hearings. General.

(1) Chapter 19.28 RCW provides the authority for the duties and responsibilities of the electrical board. Except as provided in chapter 19.28 RCW and this chapter, all proceedings will be conducted according to chapter 34.05 RCW the Administrative Procedure Act and chapter 10-08 WAC, Model rules of procedure. See chapter 34.05 RCW the Administrative Procedure Act for specific definitions not described in this chapter.

(2) See RCW 19.28.311 for the composition of the electrical board.

(3) The board adopts the current edition of the "*Roberts' Rules of Order, Newly Revised*."

(4) The board will hold regular meetings on the last Thursday of January, April, July, and October of each year per RCW 19.28.311.

(5) The director or the chairperson of the board may call a special meeting at any time.

(6) Each board member must be notified in writing of the agenda, date, time, and place of each regular and special meeting. "Writing" includes by electronic mail, also known as "e-mail," if the member has provided an e-mail address for such notice.

(7) The board or department may elect to have an appeal heard by the office of administrative hearings either tape recorded or transcribed by a court reporter; and the board may so elect regarding hearings or board reviews heard by the board as a whole.

(8) A majority of the board constitutes a quorum for purposes of rendering any decision.

(a) If a majority does not attend a hearing or board review on an appeal, the board may either continue the hearing or board review to a date certain or may hear the testimony and arguments.

(b) If the board hears the testimony and arguments, the members of the board who are absent may make their decisions after hearing the tape recording or reading the transcript, of the hearing or board review.

(c) If the board selects the method in subsection (8)(b) of this section, at the time of the hearing, the board shall set a date certain for the absent members to complete review of the record and for the board as a whole to vote on the decision. The vote in subsection (8)(b) and (c) of this section may occur by U.S. mail, facsimile or by electronic mail and shall

be determined by the board at the hearing; the members' votes shall be public record.

(9) All filings and documents for any matter before the board must be submitted to the chief electrical inspector, as secretary to the board, 7273 Linderson Way, P.O. Box 44460, Olympia, WA 98504-4460. Twenty copies of filings and documents must be submitted by ordinary mail, certified or registered mail, or by personal delivery. Filings and documents must be received no later than forty-five days prior to the scheduled meeting. When filings or documents are received after the deadlines, the filings and documents will be presented to the board at the second regularly scheduled board meeting.

(10) All hearings before the board as a whole shall be held on regularly scheduled meeting dates, as listed in subsection (4) of this section, unless the board determines that an alternate date is necessary.

(11) All notices of appeal, with a certified check payable to the department in the sum of two hundred dollars if required, must be received in the office of the chief electrical inspector, as secretary to the board, at least forty-five days before the regularly scheduled board meeting at which the hearing would occur. A separate two hundred dollar fee is required for each entity's appeal of a specific violation type (e.g., for a single entity, the designated administrator, multiple alleged violations of RCW 19.28.061 (5)(a) - designated administrator not available, RCW 19.28.061 (5)(d) - designated administrator fails to ensure proper permit is purchased, and RCW 19.28.061 (5)(e) - designated administrator fails to ensure corrections are made would require a six hundred dollar appeal fee). The total appeal fee for each entity seeking an appeal hearing is one thousand dollars maximum for all violation types. For original appeals to the board, the appellant must submit twenty copies of any written argument, briefs testimony or documents for the board's consideration at least forty-five days prior to the scheduled hearing. When appeals, written argument, briefs, testimony, or documents are received after the deadlines, the appeals, written argument, briefs, testimony, or documents will be presented to the board at the second regularly scheduled board meeting.

Appeals

(12) Appeals of penalties issued by the department.

(a) A party may appeal a penalty issued by the department, pursuant to chapter 19.28 RCW and this chapter, to the board. The appeal shall be assigned to the office of administrative hearings.

(b) The appeal must be filed within twenty days after the notice of the decision or penalty is given to the assessed party either by personal service or by certified mail, return receipt requested, sent to the last known address of the assessed party and shall be made by filing a written notice of appeal with the chief electrical inspector, as secretary to the board. The request for an appeal must be accompanied with a certified check payable to the department in the sum of two hundred dollars.

(13) Appeals of proposed decisions issued by the office of administrative hearings.

(a) A party may appeal a proposed decision issued by the office of administrative hearings pursuant to chapter 19.28 RCW to the board. The appeal must be filed within twenty

days after service of the decision and must be made by filing a written notice of appeal with the chief electrical inspector, as secretary to the board.

(b) The notice of appeal of a proposed decision must be received in the office of the chief electrical inspector, as secretary to the board, at least forty-five days before a regularly scheduled board meeting. If you want the board to consider written argument, briefs testimony or other documents, it must be submitted at least forty-five days prior to the scheduled hearing.

(14) Appeals of suspension, revocation, or nonrenewal.

(a) An appeal of the suspension or revocation of a license or certificate of competency under RCW 19.28.241 and 19.28.341 or of nonrenewal of a license or certificate of competency under this chapter will be heard by the board in accordance with chapter 34.05 RCW and not assigned to the office of administrative hearings. The board will conduct the hearing and may elect to have the assistance of an administrative law judge in the proceeding.

(b) The notice of appeal, with the certified check payable to the department in the sum of two hundred dollars for appeals of a revocation or suspension of a contractor's or administrator's license, must be filed within twenty days after the notice of suspension or revocation is served on the subject of said action, either by personal service or by certified mail, return receipt requested, sent to the last known address of the subject and shall be filed by written notice of appeal with the chief electrical inspector, as secretary to the board.

(15) Appeals of decisions on installation.

(a) A party may seek board review for disputes relating to the interpretation and application of electrical/telecommunications installation or maintenance standards under RCW 19.28.111, 19.28.480, and 19.28.531. The board will conduct the hearing and may elect to have the assistance of an administrative law judge in the proceeding.

(b) The notice of appeal, with the certified check payable to the department in the sum of two hundred dollars, must be received in the office of the chief electrical inspector, as secretary to the board, at least thirty days before a regularly scheduled board meeting. All parties must submit any written argument, briefs testimony or documents for the board's consideration at least twenty days prior to the scheduled hearing.

(16) Appeals of a continuing education class or instructor for denials or revocations.

A party may appeal a decision issued by the department, pursuant to WAC 296-46B-970 (3)(e)(vi), if the department acts as the contractor pursuant to WAC 296-46B-970 (2)(i) to the superior court per RCW 34.05.542(3).

(17) Appeals pertaining to engineer approval or electrical testing laboratory recognition and accreditation.

(a) A party may appeal a decision issued by the department pursuant to WAC 296-46B-997 or 296-46B-999. The appeal will be heard by the board in accordance with chapter 34.05 RCW and not assigned to the office of administrative hearings. The board will conduct the hearing and may elect to have the assistance of an administrative law judge in the proceeding.

(b) The notice of appeal, with the certified check payable to the department in the sum of two hundred dollars for appeals pertaining to engineer approval or recognition and accreditation of an electrical testing laboratory, must be filed

within twenty days after the notice of the department's decision is served on the subject of said action, either by personal service or by certified mail, return receipt requested, sent to the last known address of the subject and shall be filed by written notice of appeal with the chief electrical inspector, as secretary to the board.

(18) Judicial review of final decisions of the board.

A party may seek judicial review of a final order of the board within thirty days after service of the decision. Appeals of final decisions and orders must be done in accordance with chapter 34.05 RCW.

(19) If appeal(s) according to subsections (12), (13), (15), and (16) of this section are not filed or the appeal is not filed timely, the proposed decision or action becomes final with no further action on the part of the department or the board.

(20) Appeals - general requirements.

(a) Appeals according to subsections (12), (15), or (16) of this section must specify the contentions of the appellant, and must for subsection (13) of this section specify to which conclusions of law and findings of fact the party takes exception. The appeal will be based on the record of the hearing. The board shall not grant a hearing *due novo*.

(b) In appeals under subsections (13), (14), (15), and (16) of this section, the issues to be adjudicated must be made as precise as possible, in order that the board may proceed promptly to conduct the hearing on relevant and material matter only.

(c) In all appeals of chapter 19.28 RCW and this chapter heard before the office of administrative hearings or directly by the board, the department has the burden of proof by a preponderance of the evidence.

(d) In all appeals of a decision by the office of administrative hearings to the board, the party aggrieved by the decision of the office of administrative hearings has the burden of proof by a preponderance of the evidence.

Appearance and practice before board.

(21) No party may appear as a representative in proceedings other than the following:

(a) Attorneys at law qualified to practice before the supreme court of the state of Washington;

(b) Attorneys at law qualified to practice before the highest court of record of another state, if the attorneys at law of the state of Washington are permitted to appear as representatives before administrative agencies of the other state, and if not otherwise prohibited by Washington law; or

(c) An owner, officer, partner, or full-time employee of a firm, association, organization, partnership, corporation, or other entity who appears for the firm, association, organization, partnership, corporation or other entity.

(22) All persons appearing in proceedings as a representative must conform to the standards of ethical conduct required of attorneys before the courts of Washington. If a person does not conform to these standards, the board may decline to permit the person to appear as a representative in any proceeding before the board.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-995,

filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-995, filed 11/25/08, effective 12/31/08; 08-08-084, § 296-46B-995, filed 4/1/08, effective 4/1/08; 06-24-041, § 296-46B-995, filed 11/30/06, effective 12/31/06; 06-05-028, § 296-46B-995, filed 2/7/06, effective 5/1/06. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2003 c 399, 2003 c 211, 2003 c 78, and 2003 c 242. 04-12-049, § 296-46B-995, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.271, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551, 2002 c 249, chapters 34.05 and 19.28 RCW. 03-09-111, § 296-46B-995, filed 4/22/03, effective 5/23/03.]

WAC 296-46B-997 Engineer approval. (1) This section describes the methods required to obtain recognition and accreditation of professional engineers registered under chapter 18.43 RCW to approve industrial utilization equipment. This section provides assurance to the general consuming public that electrical products have been tested for safety and identified for their intended use.

(2) Industrial utilization equipment is considered to be safe when it is certified by an engineer accredited by the department.

(a) The department may declare industrial utilization equipment unsafe if:

(i) The equipment is not being manufactured or produced in accordance with all standards of design and construction and all terms and conditions set out in the certification report for the equipment referred to in this chapter;

(ii) The equipment has been shown by field experience to be unduly hazardous to persons or property;

(iii) An examination of the equipment or of the certification report for the equipment shows that the equipment does not comply with all applicable standards; or

(iv) An examination of the certification report or the equipment shows that the equipment cannot be installed in accordance with this chapter.

(b) When the department declares industrial utilization equipment unsafe, the department will notify the product owner and the certifying engineer in writing.

Accreditation - general.

(3) The department's chief electrical inspector's office reviews requests for accreditation. Applicants must submit supporting data to document and verify the requirements of this section have been met.

(4) The accreditation of an engineer will be valid for the period of three years.

(5) On-site inspection of an engineer's facilities.

(a) On-site inspection of the facility(ies) may be required during the initial application process or the renewal process. Representative(s) of the department will evaluate for compliance with accreditation criteria.

(b) The applicant must pay all costs associated with the on-site inspection.

(6) For purposes of chapter 19.28 RCW, all engineers who certify industrial utilization equipment offered for sale in the state of Washington must be accredited by the department.

(7) Fees are payable as required in WAC 296-46B-911.

(8) The engineer must apply for renewal of accreditation at least thirty days prior to the accreditation expiration date. The department will renew accreditation for the period of three years or notify the renewing engineer of the department's reason(s) of refusal following receipt of the completed form and renewal fee.

(9) The department accepts or denies engineer accreditation for engineers seeking to evaluate industrial utilization equipment within the state. Accreditation is determined when an engineer provides evidence to the department that all the requirements of this chapter are met. Accreditation is determined by the department and prior to making a determination, the department may require information and documentation to be provided by the engineer.

(a) Accreditation is subject to review when deemed necessary by the department. The engineer must pay all costs associated with on-site review.

(b) Every accredited engineer must continue to satisfy all the conditions specified in this chapter during the period of the accreditation. An engineer must furnish the department an annual report detailing the extent of its activities for the year. The report must include, but not be limited to:

(i) The number of industrial utilization equipment items approved;

(ii) Organizational structure of the engineer's company;

(iii) Statement of ownership of the engineer's company; and

(iv) Reports of litigation, which in any way were the result of or may affect any accreditation or testing of products covered by this chapter.

(c) The department will notify the applicant of the accreditation results. A letter of accreditation from the department is proof of the accreditation of the engineer.

(10) The engineer will be approved to certify industrial utilization equipment.

Suspension or revocation.

(11) The department may suspend, revoke, or refuse to renew the department's accreditation of any engineer found to be in noncompliance with requirements of this chapter, the laws of the state of Washington, or submitting false information.

(12) The department will serve written notice of intent prior to suspension, revocation, or refusal to renew the accreditation of an engineer.

(13) An engineer, whose accreditation has been suspended, may not reapply for accreditation during the period of such suspension. An engineer, whose accreditation has been revoked, may reapply for accreditation no sooner than two years after the date of revocation of accreditation.

Business structure, practices, and personnel.

(14) The engineer must be an independent, third-party organization with no organizational, managerial, financial, design, or promotional affiliation with owners, manufacturers, suppliers, installers, or vendors of products covered under the engineer's certification or evaluation programs.

The engineer must have an adequate diversity of clients or activity so that the loss or award of a specific contract regarding certification or evaluation would not be a deciding factor in the financial well-being of the engineer.

(15) The engineer must adequately meet the following business practices:

(a) Perform the examinations, tests, evaluations, and inspections required under the certifications programs in accordance with the designated standards and procedures;

(b) Assure that reported values accurately reflect measured and observed data;

(c) Limit work to that for which competence and capacity is available;

(d) Treat test data, records, and reports as proprietary information;

(e) Respond to and attempt to resolve complaints contesting certifications and evaluation results;

(f) Maintain an independent relationship between its clients, affiliates, and other organizations so the engineer's capacity to give certifications and evaluations objectively and without bias is not adversely affected; and

(g) Notify the department within thirty calendar days should it become unable to conform to any of the requirements of this chapter.

(16) Engineers accredited under this chapter must notify the department within thirty calendar days of any of the following:

(a) Change in company name and/or address;

(b) Changes in major test equipment which affect the ability to perform work for which accredited; or

(c) Change in independent status.

(17) The engineer must develop and maintain a certification or evaluation program plan that includes, but is not limited to:

(a) The procedures and authority to ensure the product complies with the standard(s) established by the program;

(b) A quality control system;

(c) Verification and maintenance of facilities and/or equipment; or

(d) Sample selection as applicable for product certifications, and for component testing as necessary for evaluations.

The plan must demonstrate that the engineer has adequate facilities, and equipment to perform all certifications and testing for which it is accredited by the state of Washington. These elements must be contained in the engineer's operations control manual.

(18) The engineer must develop and maintain a quality control system adequate to assure the accuracy and technical integrity of its work as follows:

(a) The engineer's quality control system must include a quality control or engineer's operations control manual;

(b) The quality control or engineer's operations control manual must be adequate to guide a testing technician or inspector in conducting the inspection, evaluation, and/or test in accordance with the test methods and procedures required for the engineer's certification and/or evaluation program(s); and

(c) The engineer must have a current copy of the quality control or engineer operations control manual available for the engineer's use.

(19) The engineer must have training, technical knowledge, and experience adequate to perform the tests, examinations, and evaluations for the certification and/or evaluation activities for which recognition is sought.

(20) The engineer must:

(a) Provide adequate safeguards protecting the engineer's status from the influence or control of manufacturers, vendors, owners, or installers of electrical products certified or tested by the engineer; and

(b) Develop and maintain an adequate training program assuring that the engineer will be able to perform tasks properly and uniformly.

Recordkeeping and reporting - general.

(21) The engineer must develop and maintain records and reports of those testing, inspection, certification, and evaluation activities associated with each piece of industrial utilization equipment. The engineer must retain these records for a minimum of three years.

(22) The engineer must make available to the department, upon request, all records required by the department to verify compliance with this chapter.

(23) Before beginning the work, the engineer must notify the department of the intent to evaluate using forms provided by the department. See WAC 296-46B-906 for fee information. The engineer's evaluation report must include:

(a) Name and address of the engineer;

(b) Name of client;

(c) Address where the evaluated product is or will be installed;

(d) Designation of standards used to certify or test the product including edition and latest revision (e.g., UL 508, 16th Edition, Feb. 1993, Revision Oct. 9, 1997);

(e) Description of the overall product evaluated to include full nameplate data and equipment type;

(f) A statement as to whether or not the results comply with the requirements of the standard;

(g) Pertinent test evaluation data and identification of tests or inspections including anomalies;

(h) The engineer's stamp; and

(i) Any condition of acceptability or restrictions on use/relocation.

(24) Within ten calendar days after affixing the evaluation mark, the engineer must submit a copy of the evaluation report to:

(a) The department's chief electrical inspector submitted electronically in a format approved by the department;

(b) Local electrical inspection office submitted electronically in a format approved by the department; and

(c) Client submitted in any format acceptable to the client and engineer.

[Statutory Authority: RCW 19.28.006, 19.28.010, 19.28.031, 19.28.041, 19.28.061, 19.28.101, 19.28.131, 19.28.161, 19.28.171, 19.28.191, 19.28.201, 19.28.211, 19.28.241, 19.28.251, 19.28.281, 19.28.311, 19.28.321, 19.28.400, 19.28.420, 19.28.490, 19.28.551. 09-20-032, § 296-46B-997, filed 9/29/09, effective 10/31/09; 08-24-048, § 296-46B-997, filed 11/25/08, effective 12/31/08; 06-05-028, § 296-46B-997, filed 2/7/06, effective 5/1/06.]

Chapter 296-54 WAC

SAFETY STANDARDS—LOGGING OPERATIONS

WAC

296-54-511 Personal protective equipment (PPE).

WAC 296-54-511 Personal protective equipment (PPE). (1) Protective equipment, including personal protective equipment for eyes, face, head, hearing and extremities, protective clothing, respiratory devices and protective shields and barriers, must be 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.

(2) Personal protective equipment, including any personal protective equipment provided by an employee, must be maintained in a serviceable condition.

(3) Design. All personal protective equipment must be of safe design and construction for the work to be performed. All safety belts and attachments must meet the requirements of section 3 of ANSI A10.14-1975.

(4) Personal protective equipment, including any personal protective equipment provided by an employee, must be inspected before initial use during each workshift. Defects or damage must be repaired or the unserviceable personal protective equipment must be replaced before work is commenced.

(5) Personal protective equipment required by this standard shall be provided at no cost to the employee.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-54-511, filed 2/17/09, effective 4/1/09. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050, 99-17-117, § 296-54-511, filed 8/18/99, effective 12/1/99. Statutory Authority: RCW 49.17.040, [49.17].050 and [49.17].060, 96-22-013, § 296-54-511, filed 10/28/96, effective 1/1/97. Statutory Authority: Chapter 49.17 RCW, 94-20-057 (Order 94-16), § 296-54-511, filed 9/30/94, effective 11/20/94. Statutory Authority: RCW 49.17.040 and 49.17.050, 83-24-013 (Order 83-34), § 296-54-511, filed 11/30/83. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW, 80-11-057 (Order 80-15), § 296-54-511, filed 8/20/80. Statutory Authority: RCW 49.17.040, 49.17.150 and 49.17.240, 79-10-081 (Order 79-14), § 296-54-511, filed 9/21/79.]

Chapter 296-56 WAC

SAFETY STANDARDS—LONGSHORE, STEVEDORE AND WATERFRONT RELATED OPERATIONS

WAC

296-56-60001	Scope and applicability.
296-56-60017	Line handling.
296-56-60077	Powered industrial trucks.
296-56-60103	Terminals handling intermodal containers or roll-on roll-off operations.
296-56-60115	Other protective measures.
296-56-60116	Payment for protective equipment.
296-56-60221	Illumination.
296-56-60235	Welding, cutting and heating (hot work) (see also definition of "hazardous cargo, material, substance or atmosphere").

WAC 296-56-60001 Scope and applicability. (1) The rules included in this chapter apply throughout the state of Washington, to any and all waterfront operations under the jurisdiction of the department of labor and industries.

(2) These minimum requirements are promulgated in order to augment the general safety and health standards, and any other safety and health standards promulgated by the department of labor and industries which are applicable to all places of employment under the jurisdiction of the department of labor and industries. The rules of this chapter, and the

rules of chapters 296-24, 296-62 and 296-800 WAC are applicable to all longshore, stevedore and related waterfront operations: Provided, That such rules shall not be applicable to those operations under the exclusive safety jurisdiction of the federal government.

(3) The provisions of this chapter shall prevail in the event of a conflict with, or duplication of, provisions contained in chapters 296-24, 296-62 and 296-800 WAC. Specific standards which are applicable include, but are not limited to:

(a) Electrical—Chapter 296-24 WAC Part L, and WAC 296-800-280.

(b) Toxic and hazardous substances are regulated by chapters 296-62 and 296-841 WAC. Where references to this chapter are given they are for informational purposes only. Where specific requirements of this chapter conflict with the provisions of chapters 296-62 and 296-841 WAC, this chapter prevails. Chapter 296-62 WAC does not apply when a substance or cargo is contained within a manufacturer's original, sealed, intact means of packaging or containment complying with the department of transportation or International Maritime Organization requirements.

(c) Hearing loss prevention (noise)—Chapter 296-817 WAC.

(d) Standards for commercial diving operations—Chapter 296-37 WAC.

(e) Safety requirements for scaffolding—Chapter 296-874 WAC.

(f) Safe practices of abrasive blasting operations—Chapter 296-818 WAC.

(g) Access to employee exposure and medical records—Chapter 296-802 WAC.

(h) Respiratory protection—Chapter 296-842 WAC.

(i) Safety standards for grain handling facilities—Chapter 296-99 WAC.

(j) Chemical hazard communication program—WAC 296-800-170.

(k) Asbestos—Chapters 296-62 Part I-1 and 296-65 WAC.

(l) Permit - required confined spaces and confined space—Chapter 296-809 WAC.

(m) Servicing multipiece and single-piece rim wheels—Chapter 296-864 WAC.

(n) First-aid requirements—WAC 296-800-150.

(o) Employee emergency plans and fire prevention plans—Chapter 296-24 WAC Part G-1.

(4) The provisions of this chapter do not apply to the following:

(a) Fully automated bulk coal handling facilities contiguous to electrical power generating plants.

(b) Facilities subject to the regulations of the office of pipeline safety regulation of the materials transportation bureau, department of transportation, to the extent such regulations apply.

(5) WAC 296-62-074 shall apply to the exposure of every employee to cadmium in every employment and place of employment covered by chapter 296-56 WAC in lieu of any different standard on exposures to cadmium that would otherwise be applicable by virtue of those sections.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-144, § 296-56-60001, filed 7/21/09, effective 9/1/09; 05-03-093, § 296-

56-60001, filed 1/18/05, effective 3/1/05; 03-11-060, § 296-56-60001, filed 5/19/03, effective 8/1/03. Statutory Authority: RCW 49.17.010, [49.17]-040, and [49.17].050. 01-11-038, § 296-56-60001, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.040, 99-02-024, § 296-56-60001, filed 12/30/98, effective 3/30/99. Statutory Authority: Chapter 49.17 RCW. 95-04-007, § 296-56-60001, filed 1/18/95, effective 3/1/95; 93-07-044 (Order 93-01), § 296-56-60001, filed 3/13/93, effective 4/27/93. Statutory Authority: Chapter 49.17 RCW and RCW 49.17.040, [49.17].050 and [49.17].060. 92-22-067 (Order 92-06), § 296-56-60001, filed 10/30/92, effective 12/8/92. Statutory Authority: Chapter 49.17 RCW. 91-24-017 (Order 91-07), § 296-56-60001, filed 11/22/91, effective 12/24/91; 89-11-035 (Order 89-03), § 296-56-60001, filed 5/15/89, effective 6/30/89; 88-14-108 (Order 88-11), § 296-56-60001, filed 7/6/88. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60001, filed 1/17/86; 85-10-004 (Order 85-09), § 296-56-60001, filed 4/19/85; 85-01-022 (Order 84-24), § 296-56-60001, filed 12/11/84.]

WAC 296-56-60017 Line handling. (1) In order to provide safe access for handling lines while mooring and unmooring vessels, cargo or material shall not be stowed or vehicles placed where they obstruct the work surface.

(2) When stringpiece or apron width is insufficient for safe footing, grab lines or rails shall be installed on the sides of permanent structures. ("Stringpiece" means a narrow walkway between the water edge of a berth and a shed or other structure.)

(3) Areas around bitts or cleats where workers perform their duties as line handlers shall be lighted as required by this chapter. There shall be a nonslip surface around each bitt or cleat.

(4) Walkways on which mooring hawsers must be moved may have the handrail omitted on the line handling side provided a six inch by six inch toeboard is installed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-144, § 296-56-60017, filed 7/21/09, effective 9/1/09. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60017, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60017, filed 12/11/84.]

WAC 296-56-60077 Powered industrial trucks. (1) Applicability. This section applies to every type of powered industrial truck used for material or equipment handling within a marine terminal. Employers must comply with the provisions of chapter 296-863 WAC and this section. It does not apply to over-the-road vehicles.

(2) General.

(a) Modifications, such as adding counterweights, that might affect the vehicle's capacity or safety shall not be performed without either the manufacturer's prior written approval or the written approval of a professional engineer experienced with the equipment who has consulted with the manufacturer, if available. Capacity, operation and maintenance instruction plates, tags or decals shall be changed to conform to the equipment as modified.

(b) Unauthorized personnel shall not ride on powered industrial trucks. A safe place to ride shall be provided when riding is authorized.

(c) When a powered industrial truck is left unattended, load-engaging means shall be fully lowered, controls neutralized and brakes set. Unless the truck is in view and within twenty-five feet (7.62 m) of the operator, power shall be shut off. Wheels shall be blocked or curbed if the truck is on an incline.

(d) Powered industrial trucks shall not be operated inside highway vehicles or railcars having damage which could affect operational safety.

(e) Powered industrial trucks shall be marked with their rated capacities, which shall be visible to the operator.

(f) Only stable and safely arranged loads within the rated capacity of the truck shall be handled.

(g) Drivers shall ascend and descend grades slowly.

(h) Drivers shall slow down and sound the horn at cross-aisles and other locations where visibility is obstructed.

(i) If the load obstructs the forward view drivers shall travel with the load trailing.

(j) Steering knobs shall not be used unless the truck is equipped with power steering.

(k) When powered industrial trucks use cargo lifting devices that have a means of engagement hidden from the operator, a means shall be provided to enable the operator to determine that the cargo has been engaged.

(l) When cargo is being towed on pipe trucks or similar equipment, a safe means shall be provided to protect the driver from sliding loads.

(3) Maintenance.

(a) Only designated persons shall perform maintenance and repair.

(b) Batteries on all powered trucks shall be disconnected during repairs to the primary electrical system unless power is necessary for testing and repair. On trucks equipped with systems capable of storing residual energy, that energy shall be safely discharged before work on the primary electrical system begins.

(c) Replacement parts whose function might affect operational safety shall be equivalent in strength and performance capability to the original parts which they replace.

(d) Braking systems or other mechanisms used for braking shall be operable and in safe condition.

(e) Powered industrial trucks shall be maintained in safe working order. Safety devices shall not be removed or made inoperative except as otherwise provided in this section. Trucks with a fuel system leak or any other safety defect shall not be operated.

(f) Those repairs to the fuel and ignition systems of industrial trucks which involve fire hazards shall be conducted only in locations designated as safe for such repairs.

(4) Approved trucks.

(a) "Approved power-operated industrial truck" means one listed or approved for the intended use by a nationally recognized testing laboratory.

(b) Approved trucks acquired and used after February 15, 1972, shall bear a label or other identification indicating testing laboratory approval.

(c) When the atmosphere in an area is hazardous and the provisions of United States Coast Guard regulations at 33 CFR 126.15(e) do not apply, only power-operated industrial trucks approved for such locations shall be used.

(5) Duties of operator.

(a) A power-driven vehicle operator's special duties are:

(i) To operate the vehicle in a safe manner.

(ii) To test brakes, steering gear, lights, horns, or other warning devices, clutches, etc., before starting work.

(iii) To have the vehicle at all times under control so that it can be brought to an emergency stop in the clear space in front of the vehicle.

(iv) To back down any incline of two percent or more when traveling with a load on the fork lift jitney.

(b) Unobstructed view. When traveling, power-propelled vehicles shall at all times be operated in a manner giving the operator a reasonably unobstructed view in the direction of travel. Where this is impractical, the operator shall be directed in travel, by a person designated to do so.

(c) Employee riding safety. Operators and authorized passengers shall not be permitted to ride with legs or arms extending outside any vehicle nor shall they be permitted to ride while standing unless the vehicle is designed to be operated from a standing position.

(d) Moving vehicles. Vehicles shall be controlled manually while being pushed or towed except when a tow bar is used. Special precautions shall be taken when pushing vehicles where view is obstructed. Vehicles shall not be pushed with blades of a forklift.

(e) Moving highway trailers. In all cargo operations involving the use of highway trailers, trailers shall be moved in such a manner that the moving trailer is completely under control at all times. Special caution shall be exercised when such trailers are moving on inclines. Trailers shall be loaded in a manner which will prevent the cargo from shifting, and the load in the trailer shall be evenly distributed so as not to cause the trailer to tip to one side.

(f) Prohibited forms of riding. Riding on tongue or handles of trailers or forks of power-propelled vehicles is prohibited.

(g) Regular seats for riders. No one except the operator shall ride on power-driven vehicles unless regular seats are provided to accommodate passengers.

(h) Jumping on or off moving vehicles. Employees shall not jump on or off moving vehicles.

(i) Reporting defects. If a power-driven vehicle is at any time found to be in any way unsafe, the operator shall report same immediately to the person in charge and such vehicle shall not be used for production work until it has been made safe.

(6) Vehicle equipment and maintenance.

(a) Horns and lights. All power-propelled vehicles shall be provided with horns or other warning devices.

(b) Power-propelled vehicles used for night work, when required to travel away from an illuminated work area shall be equipped with a light or lights directed in the direction of travel in order to safely travel about the area.

(c) Guards on operator's platform. Every power truck operated from an end platform or standing position shall be equipped with a substantial guard securely attached to the platform or frame of the vehicle in such a manner as to protect the operator from falling objects and so designed that the operator can easily mount or dismount from the operating station.

(d) Seat cushions. All vehicles having a driver's seat shall be provided with resilient seat cushions fixed in place.

(e) Securing of counterbalances. Counterbalances of all power-driven vehicles shall be positively secured to prevent accidental dislodging, but may be a removable type which may be removed, if desired, prior to hoisting the vehicle.

(f) Exhaust pipes and mufflers. Exhaust pipes and mufflers of internal combustion engines, where workers are exposed to contact shall be isolated or insulated. Exhaust pipes shall be constructed to discharge not less than seventy-two inches above the floor on jitneys and eighty-four inches on forklifts or less than twenty inches from the floor.

(g) Ventilation where internal combustion vehicles are used. Internal combustion engines may be used only in areas where adequate ventilation is provided.

(h) Concentration levels of carbon monoxide gas created by powered industrial truck operations shall not exceed the levels specified in WAC 296-56-60055.

(i) When disputes arise concerning degree of concentration, methods of sampling to ascertain the conditions should be referred to a qualified industrial hygienist.

(j) Cargo truck couplings. Couplings installed on cargo trucks (four-wheelers) shall be of a type which will prevent accidental disengaging.

(k) Operating levers. Operating levers on power-driven vehicles shall be so placed as not to project toward the operator's body.

(l) Front axle assembly. The front axle assembly on all trailers shall be securely fastened to the truck bed.

(m) Air line hook-up. Tractors hauling heavy duty highway trailers shall have an air line brake hook-up.

(n) Floor mats. On power-driven vehicles where the operator stands on a platform, resilient foot mats shall be securely attached.

(o) Cleaning vehicles. All power-propelled vehicles shall be cleaned at frequent intervals to remove any accumulation of dust and grease that may present a hazard.

(7) Forklift trucks.

(a) Overhead guards.

(i) When operators are exposed to overhead falling hazards, forklift trucks shall be equipped with securely attached overhead guards. Guards shall be constructed to protect the operator from falling boxes, cartons, packages, or similar objects.

(ii) Overhead guards shall not obstruct the operator's view, and openings in the top of the guard shall not exceed six inches (15.24 cm) in one of the two directions, width or length. Larger openings are permitted if no opening allows the smallest unit of cargo being handled to fall through the guard.

(iii) Overhead guards shall be built so that failure of the vehicle's mast tilting mechanism will not displace the guard.

(iv) An overhead guard, otherwise required by this paragraph, may be removed only when it would prevent a truck from entering a work space and if the operator is not exposed to low overhead obstructions in the work space.

(v) Overhead guards shall be large enough to extend over the operator during all truck operations, including forward tilt.

(b) Supplies to ship's rail. Cargo or supplies shall not be hoisted to or from ship's rail with a forklift. This does not apply to ramp or side port loading.

(c) Position of forks. When standing, lift forklift forks shall be lowered to floor. When moving, lift forklift forks shall be kept as low as possible.

(d) Forklift use in gangplank moving. Not less than two forklifts shall be used to place or remove gangplanks unless

fork width prevents tipping and manufacturer's rated lifting capacity of the forklift is not exceeded.

(e) Forklift seat covers. Seats on forklifts shall be provided with a removable waterproof cover when they are exposed to the weather.

(f) Raised equipment to be blocked. Workers shall not work below the raised bed of a dump truck, raised buckets of front end loaders, raised blades of tractors or in similar positions without blocking the equipment in a manner that will prevent it from falling. When working under equipment suspended by use of jacks, safety stands or blocking shall be used in conjunction with the jack.

(g) Maximum speed. The maximum speed for forklifts on all docks shall not exceed eight miles per hour. The speed limit shall be prominently posted on such docks.

(h) Load backrest extensions. Where necessary to protect the operator, forklift trucks shall be fitted with a vertical load backrest extension to prevent the load from hitting the mast when the mast is positioned at maximum backward tilt. For this purpose, a "load backrest extension" means a device extending vertically from the fork carriage frame to prevent raised loads from falling backward.

(i) Forks. Forks, fork extensions and other attachments shall be secured so that they cannot be accidentally dislodged, and shall be used only in accordance with the manufacturer's recommendations.

(j) Counterweights. Counterweights shall be so affixed that they cannot be accidentally dislodged.

(k) Capacities and weights.

(i) Forklift truck rated capacities, with and without removable counterweights, shall not be exceeded. Rated capacities shall be marked on the vehicle and shall be visible to the operator. The vehicle weight, with and without counterweight, shall be similarly marked.

(ii) If loads are lifted by two or more trucks working in unison, the total weight of the load shall not exceed the combined rated lifting capacity of all trucks involved.

(l) Lifting of employees. Employees may be elevated by forklift trucks only when a platform is secured to the lifting carriage or forks. The platform shall meet the following requirements:

(i) The platform shall have a railing complying with WAC 296-56-60123(3).

(ii) The platform shall have toeboards complying with WAC 296-56-60123(4), if tools or other objects could fall on employees below.

(iii) When the truck has controls which are elevated with the lifting carriage, means shall be provided for employees on the platform to shut off power to the vehicle.

(iv) Employees on the platform shall be protected from exposure to moving truck parts.

(v) The platform floor shall be skid resistant.

(vi) A truck operator shall be at the truck's controls when employees are elevated unless the truck's controls are elevated with the lifting carriage.

(vii) While employees are elevated, the truck may be moved only to make minor placement adjustments.

(8) Bulk cargo-moving vehicles.

(a) Where a seated operator may come into contact with projecting overhead members, crawler-type bulk-cargo-mov-

ing vehicles that are rider operated shall be equipped with operator guards.

(b) Guards and their attachment points shall be so designed as to be able to withstand, without excessive deflection, a load applied horizontally at the operator's shoulder level equal to the drawbar pull of the machine.

(c) After July 26, 1999, bulk cargo-moving vehicles shall be equipped with rollover protection of such design and construction as to prevent the possibility of the operator being crushed because of a rollover or upset.

(9) Straddle trucks.

(a) Accessibility. Straddle trucks shall have a permanent means of access to the operator's station, including any handholds necessary for safe ascent and descent.

(b) Guarding.

(i) Main sprockets and chains to the wheels shall be guarded as follows:

(A) The upper sprocket shall be fully enclosed;

(B) The upper half of the lower sprocket shall be enclosed; and

(C) The drive chain shall be enclosed to a height of eight feet (2.44 m) except for that portion at the lower half of the lower sprocket.

(ii) Gears shall be fully enclosed and revolving parts which may be contacted by the operator shall be guarded.

(iii) When straddle trucks are used in the vicinity of employees, personnel-deflecting guards shall be provided around leading edges of front and rear wheels.

(c) Visibility. Operator visibility shall be provided in all directions of movement.

(10) Trailer-spotting tractors.

(a) Trailer-spotting tractors (fifth wheels) shall be fitted with any hand grabs and footing necessary for safe access to the fifth wheel.

(b) Rear cab windows shall be of safety glass or equivalent material.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-144, § 296-56-60077, filed 7/21/09, effective 9/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 00-21-103, § 296-56-60077, filed 10/18/00, effective 2/1/01; 00-01-176, § 296-56-60077, filed 12/21/99, effective 3/1/00. Statutory Authority: RCW 49.17.040, 99-02-024, § 296-56-60077, filed 12/30/98, effective 3/30/99. Statutory Authority: RCW 49.17.040 and 49.17.050, 86-03-064 (Order 86-02), § 296-56-60077, filed 1/17/86; 85-10-004 (Order 85-09), § 296-56-60077, filed 4/19/85; 85-01-022 (Order 84-24), § 296-56-60077, filed 12/11/84.]

WAC 296-56-60103 Terminals handling intermodal containers or roll-on roll-off operations. (1) Every intermodal container shall be legibly and permanently marked with:

(a) The weight of the container when empty, in pounds;

(b) The maximum cargo weight the container is designed to carry, in pounds; and

(c) The sum of the maximum weight of the container with cargo, in pounds (gross container capacity).

(2) No container shall be hoisted by any crane or derrick unless the following conditions have been met:

(a) The employer shall ascertain from the carrier whether a container to be hoisted is loaded or empty. Empty containers shall be identified before loading or discharge in such a manner as will inform every supervisor and foreman on the site and in charge of loading or discharging, and every crane

or other hoisting equipment operator and signalman, if any, that the container is empty. Methods of identification may include cargo plans, manifests or markings on the container.

(b) In the case of a loaded container:

(i) The actual gross weight shall be plainly marked so as to be visible to the crane operator, other hoisting equipment operator, signalman, and to every supervisor and foreman on the site and in charge of the operation; or

(ii) The cargo stowage plan or equivalent permanently recorded display serving the same purpose, containing the actual gross weight and the serial number or other positive identification of that specific container, shall be provided to the crane or other hoisting equipment operator and signalman, if any, and to every supervisor and foreman on the site and in charge of the operation.

(c) Every outbound loaded container which is received at a marine terminal ready to load aboard a vessel without further consolidation or loading shall be weighed to obtain the actual gross weight before being hoisted.

(d)(i) When container weighing scales are located at a marine terminal, any outbound container with a load consolidated at that terminal shall be weighed to obtain an actual weight before being hoisted.

(ii) If the terminal has no scales, the actual gross weight may be calculated on the basis of the container's contents and the container's empty weight. The weights used in the calculation shall be posted conspicuously on the container, with the name of the person making the calculation and the date.

(iii) Container weights shall be subject to random sample weight checks at the nearest weighing facility. In cases where such weight checks or experience otherwise indicate consistently inaccurate weights, the weight of containers so calculated at the source from which the inaccurate weights originated shall no longer be recognized as true gross weights. Such containers shall not be hoisted unless actual gross weights have been obtained by weighing.

(e) The following containers are exempted from the requirements of (c) and (d) of this subsection:

(i) Open type vehicle containers.

(ii) The container is marked on the outside in such a manner that an employee can readily discern that the container is carrying vehicles.

(iii) Containers built specifically for the carriage of compressed gases.

(iv) The container carries only completely assembled vehicles and no other cargo.

(v) The vehicles were loaded into the container at the marine terminal.

(f) The weight of loaded inbound containers from foreign ports shall be determined by weighing or by the method of calculation described in (d)(ii) of this subsection or by shipping documents.

(g) Any scale used within Washington state to weigh containers for the purpose of the requirements of this section shall meet the accuracy standards of the state or local public authority in which the scale is located.

(3) No container shall be hoisted if its actual gross weight exceeds the weight marked as required in subsection (1)(c) of this section, or if it exceeds the capacity of the crane or other hoisting device intended to be used.

(4)(a) Marked or designated areas shall be set aside within a container or roll-on roll-off terminal for passage of employees to and from active cargo transfer points, except where transportation to and from those points is provided by the employer.

(b) The employer shall direct employees to stay clear of the area beneath a suspended container. Employees shall stay clear of the area beneath a suspended container.

(5) Each employee working in the immediate area of container handling equipment or in the terminal's traffic lanes shall wear a high visibility vest (or equivalent protection).

Note to subsection (5): High visibility vests or equivalent protection means high visibility/retroreflective materials which are intended to provide conspicuity of the user by day through the use of high visibility (fluorescent) material and in the dark by vehicle headlights through the use of retroreflective material. The minimum area of material for a vest or equivalent protection is .5m(2)(760 in.(2)) for fluorescent (background) material and .13m(2)(197 in.(2)) for retroreflective material. Vests or equivalent protection, such as high visibility/retro-reflective coveralls, that are available for industrial use, may also be acceptable.

(6) Containers shall be handled using lifting fittings or other arrangements suitable and intended for the purposes as set forth in (a) and (c) of this subsection, unless when damage to an intermodal container makes special means of handling necessary.

(a) Loaded intermodal containers of twenty feet (6.1 m) or more in length shall be hoisted as follows:

(i) When hoisting by the top fittings, the lifting forces shall be applied vertically from at least four top fittings or by means which will safely lift the container without damage. The lifting fittings provided shall be used.

(A) The container being lifted is an ISO closed box container;

(B) The condition of the box is sound;

(C) The speed of hoisting and lowering is moderated when heavily laden containers are encountered;

(D) The lift angle is at eighty to ninety degrees;

(E) The distance between the lifting beam and the load is at least eight feet and 2.4 inches (2.5m); and

(F) The length of the spreader beam is at least 16.3 feet (5 m) for a twenty-foot container, and at least 36.4 feet (11.1 m) for a forty-foot container.

(ii) If hoisted from bottom fittings, the hoisting connections shall bear on the fittings only, making no other contact with the container. The angles of the four bridle legs shall not be less than thirty degrees to the horizontal in the case of forty foot (12.2 m) containers, thirty-seven degrees in the case of thirty foot (9.1 m) containers, or forty-five degrees in the case of twenty foot (6.1 m) containers.

(iii) Lifting containers by fork lift trucks or by grappling arms from above or from one side may be done only if the container is designed for this type of handling.

(b) Other means of hoisting may be used only if the containers and hoisting means are designed for such use.

(c)(i) When using intermodal container spreaders that employ lanyards for activation of load disengagement, all possible precautions shall be taken to prevent accidental release of the load.

(ii) Intermodal container spreader twistlock systems shall be designed and used so that a suspended load cannot accidentally be released.

(d) Flat bed trucks or container chassis used to move intermodal containers shall be equipped with pins, flanges, or other means to prevent the container from shifting.

(e) Flat bed, low boy trailers (mafis) and other similar equipment used to transport containers shall be marked with their cargo capacities and shall not be overloaded.

(f) Each tractor shall have all brake air lines connected when pulling trailers equipped with air brakes and shall have the brakes tested before commencing operations.

(7)(a) Intermodal containers shall be inspected for defects in structural members or fittings before handling.

(b) Any intermodal container found to be unsafe shall be identified as such, promptly removed from service and repaired before being returned to service.

(8) Containers shall not be hoisted unless all engaged chassis twist locks are released.

(9) Vertical tandem lifts. The following requirements apply to operations involving the lifting of two or more intermodal containers by the top container (vertical tandem lifts of VTLs).

(a) Each employee involved in VTL operations shall be trained and competent in the safety-related work practices, safety procedures, and other requirements in this section that pertain to their respective job assignments.

(b) No more than two intermodal containers may be lifted in a VTL.

(c) Before the lift begins, the employer shall ensure that the two containers lifted as part of a VTL are empty.

Note: The lift begins immediately following the end of the prelift required by subsection (9)(c) of this section. Thus, the weight may be determined during the prelift using a load indicating device meeting WAC 296-56-60085 (1)(a) on the crane being used to lift the VTL.

(d) The lift shall be performed using either a shore-based container gantry crane or another type of crane that:

(i) Has the precision control necessary to restrain unintended rotation of the containers about any axis;

(ii) Is capable of handling the load volume and wind sail potential of VTLs; and

(iii) Is specifically designed to handle containers.

(e) The employer shall ensure that the crane operator pauses the lift when the vertically coupled containers have just been lifted above the supporting surface to assure that each interbox connector is properly engaged.

(f) Containers below deck may not be handled as a VTL.

(g) VTL operations may not be conducted when the wind speed exceeds the lesser of:

(i) Fifty-five km/h (thirty-four mph or thirty knots); or

(ii) The crane manufacturer's recommendation for maximum wind speed.

(h) The employer shall ensure that each interbox connector used in a VTL operation:

(i) Automatically locks into corner castings on containers but only unlocks manually (manual twistlocks or latchlocks are not permitted);

(ii) Is designed to indicate whether it is locked or unlocked when fitted into a corner casting;

(iii) Locks and releases in an identical direction and manner as all other interbox connectors in the VTL;

(iv) Has been tested and certificated by a competent authority of this chapter (for interbox connectors that are a part of a vessel's gear) or WAC 296-56-60093 (for other interbox connectors):

(A) As having a load-bearing surface area of eight hundred mm\two\ when connected to a corner casting with an opening that is sixty-five mm wide; and

(B) As having a safe working load of ninety-eight kN (ten thousand kg) with a safety factor of five when the load is applied by means of two corner castings with openings that are sixty-five mm wide or equivalent devices;

(v) Has a certificate that is available for inspection and that attests that the interbox connector meets the strength criteria given in subsection (9)(h)(iv) of this section; and

(vi) Is clearly and durably marked with its safe working load for lifting and an identifying number or mark that will enable it to be associated with its test certificate.

(i) Reserved.

(j) The employer shall ensure that each container and interbox connector used in a VTL and each corner casting to which a connector will be coupled is inspected immediately before use in the VTL.

(i) Each employee performing the inspection shall be capable of detecting defects or weaknesses and be able to assess their importance in relation to the safety of VTL operations.

(ii) The inspection of each interbox connector shall include: A visual examination for obvious structural defects, such as cracks, a check of its physical operation to determine that the lock is fully functional with adequate spring tension on each head; and a check for excessive corrosion and deterioration.

(iii) The inspection of each container and each of its corner castings shall include: A visual examination for obvious structural defects, such as cracks, a check for excessive corrosion and deterioration; and a visual examination to ensure that the opening to which an interbox connector will be connected has not been enlarged, that the welds are in good condition, and that it is free from ice, mud, or other debris.

(iv) The employer shall establish a system to ensure that each defective or damaged interbox connector is removed from service.

(v) An interbox connector that has been found to be defective or damaged shall be removed from service and may not be used in VTL operations until repaired.

(vi) A container with a corner casting that exhibits any of the problems listed in subsection (9)(j)(iii) of this section may not be lifted in a VTL.

(k) No platform container may be lifted as part of a VTL unit.

(10) Transporting vertically coupled containers.

(a) Equipment other than cranes used to transport vertically connected containers shall be either specifically designed for this application or evaluated by a qualified engineer and determined to be capable of operating safely in this mode of operation.

(b) The employer shall develop, implement, and maintain a written plan for transporting vertically connected containers. The written plan shall establish procedures to ensure

safe operating and turning speeds and shall address all conditions in the terminal that could affect the safety of VTL-related operations, including communication and coordination among all employees involved in these operations.

(11) Safe work zone. The employer shall establish a safe work zone within which employees may not be present when vertically connected containers are in motion.

(a) The safe work zone shall be sufficient to protect employees in the event that a container drops or overturns.

(b) The written transport plan required by subsection (10)(b) of this section shall include the safe work zone and procedures to ensure that employees are not in this zone when a VTL is in motion.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-144, § 296-56-60103, filed 7/21/09, effective 9/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-21-103, § 296-56-60103, filed 10/18/00, effective 2/1/01. Statutory Authority: RCW 49.17.040, 99-02-024, § 296-56-60103, filed 12/30/98, effective 3/30/99. Statutory Authority: Chapter 49.17 RCW and RCW 49.17.040, [49.17].050 and [49.17].060. 92-22-067 (Order 92-06), § 296-56-60103, filed 10/30/92, effective 12/8/92. Statutory Authority: Chapter 49.17 RCW, 89-11-035 (Order 89-03), § 296-56-60103, filed 5/15/89, effective 6/30/89. Statutory Authority: RCW 49.17.040 and 49.17.050, 86-03-064 (Order 86-02), § 296-56-60103, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60103, filed 12/11/84.]

WAC 296-56-60115 Other protective measures. (1) Protective clothing.

(a) Employees performing work that requires special protective clothing shall be directed by the employer to wear the necessary special protective clothing.

(b) When necessary, protective clothing previously worn shall be cleaned and disinfected before reissuance.

(2) Personal flotation devices.

(a) The employer shall provide, and shall direct the wearing of personal flotation devices for those employees, such as line handlers, who are engaged in work in which they may be pulled into the water:

(i) When such employees are working in isolation: or

(ii) Where physical limitations of available working space creates a hazard of falling into the water; or

(iii) Where the work area is obstructed by cargo or other obstacles so as to prevent employees from obtaining safe footing for their work.

(b) Employees working on, over or along water, where the danger of drowning exists, shall be provided with and shall wear approved personal flotation devices.

(i) Employees are not considered exposed to the danger of drowning when:

(A) Working behind standard height and strength guard-rails;

(B) Working inside operating cabs or stations which eliminate the possibility of accidental falling into the water;

(C) Wearing approved safety belts with lifeline attached so as to preclude the possibility of falling into the water.

(ii) Prior to and after each use, personal flotation devices shall be inspected for defects which would reduce their designed effectiveness. Defective personal flotation devices shall not be used.

(iii) To meet the requirement of (b) of this subsection, a personal flotation device shall be approved by the United States Coast Guard as a Type I PFD, Type II PFD, Type III PFD, or Type V PFD, or equivalent, pursuant to 46 CFR 160

(Coast Guard Lifesaving Equipment Specifications) and 33 CFR 175.23 (Coast Guard Table of Devices Equivalent to Personal Flotation Devices).

(c) Life rings.

(i) Along docks, walkways or other fixed installations on or adjacent to open water more than five feet deep, approved life rings with line attached shall be provided. The life rings shall be spaced at intervals not to exceed two hundred feet and shall be kept in easily visible and readily accessible locations.

(ii) When employees are assigned work at other casual locations where exposure to drowning exists, at least one approved life ring with line attached shall be provided in the immediate vicinity of the work.

(iii) Work assigned over water where the vertical drop from an accidental fall exceeds fifty feet, is subject to specific procedures approved by the department.

(iv) Lines attached to life rings shall be at least ninety feet (27.43 m) in length, at least one-quarter inch in diameter and have a minimum breaking strength of five hundred pounds.

(v) Life rings must be United States Coast Guard approved thirty inch size (76.2 cm).

(vi) Life rings and attached lines must be maintained to retain at least seventy-five percent of their designed buoyancy and strength.

(3) Emergency facilities. When employees are exposed to hazardous substances which may require emergency bathing, eye washing or other facilities, the employer shall provide such facilities and maintain them in good working order.

(4) Employers shall instruct employees to report every injury, regardless of severity, to the employer.

(5) Stretchers.

(a) There shall be available for each vessel being worked one Stokes basket stretcher, or its equivalent, permanently equipped with bridles for attaching to the hoisting gear.

(b) Stretchers shall be kept close to vessels and shall be positioned to avoid damage to the stretcher.

(c) A blanket or other suitable covering shall be available.

(d) Stretchers shall have at least four sets of effective patient restraints in operable condition.

(e) Lifting bridles shall be of adequate strength, capable of lifting 1,000 pounds (454 kg) with a safety factor of five, and shall be maintained in operable condition. Lifting bridles shall be provided for making vertical patient lifts at container berths. Stretchers for vertical lifts shall have foot plates.

(f) Stretchers shall be maintained in operable condition. Struts and braces shall be inspected for damage. Wire mesh shall be secured and have no burrs. Damaged stretchers shall not be used until repaired.

(g) Stretchers in permanent locations shall be mounted to prevent damage and shall be protected from the elements if located out-of-doors. If concealed from view, closures shall be marked to indicate the location of the life saving equipment.

(6) Telephone or equivalent means of communication shall be readily available.

(7) Employees working on any bridge or structure leading to a detached vessel berthing installation shall wear United States Coast Guard approved personal flotation

devices except where protected by railings, nets, or safety belts and lifelines.

(8) Life ladders. On all docks there shall be substantial built-in-place ladders, spaced at intervals not to exceed four hundred feet, to reach the lowest water use. When portable ladders are to be used, ladders may be bolted to the bullrail or dock structure, or ladders can be secured to an embedded eye bolt in a concrete dock surface. The immediate area where such ladders or fastenings are located shall be painted with a bright color or of a color which contrasts with the surrounding area. There shall be a ladder at each end of the dock.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-15-144, § 296-56-60115, filed 7/21/09, effective 9/1/09; 04-11-066, § 296-56-60115, filed 5/18/04, effective 7/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-21-103, § 296-56-60115, filed 10/18/00, effective 2/1/01. Statutory Authority: RCW 49.17.040. 99-02-024, § 296-56-60115, filed 12/30/98, effective 3/30/99. Statutory Authority: Chapter 49.17 RCW and RCW 49.17.040, [49.17].050 and [49.17].060. 92-22-067 (Order 92-06), § 296-56-60115, filed 10/30/92, effective 12/8/92. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60115, filed 1/17/86; 85-10-004 (Order 85-09), § 296-56-60115, filed 4/19/85; 85-01-022 (Order 84-24), § 296-56-60115, filed 12/11/84.]

WAC 296-56-60116 Payment for protective equipment. (1) Except as provided by subsections (2) through (6) of this section, the protective equipment, including personal protective equipment (PPE), used to comply with this part, shall be provided by the employer at no cost to employees.

(2) The employer is not required to pay for nonspecialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and nonspecialty prescription safety eyewear, provided that the employer permits such items to be worn off the job site.

(3) When the employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, the employer is not required to reimburse the employee for the shoes or boots.

(4) The employer is not required to pay for:

(a) Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots; or

(b) Ordinary clothing, skin creams, or other items, used solely for protection from the weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

(5) The employer must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE.

(6) Where an employee provides adequate protective equipment he or she owns, the employer may allow the employee to use it and is not required to reimburse the employee for that equipment. The employer shall not require an employee to provide or pay for his or her own PPE, unless the PPE is excepted by subsections (2) through (6) of this section.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-05-071, § 296-56-60116, filed 2/17/09, effective 4/1/09.]

WAC 296-56-60221 Illumination. Lighting. All areas shall be lighted to meet the requirements of this code.

(1) Active work areas shall be lighted in such a manner that the general area being worked will be illuminated at a minimum intensity of approximately five foot candles mea-

sured thirty inches above the dock floor. Supplemental lighting shall be utilized where more than the minimum intensity is necessary for safe operation.

(a) The lighting intensity shall be measured at the task/working surface in the plane in which the task/working surface is present.

(b) Lights shall, so far as possible, be placed so that they will not shine in the eyes of employees.

(2) A minimum of three foot candles illumination measured in the manner described above shall be maintained at all points along the bull rail.

(3) The quality of light shall be such that it is reasonably free from glare, and has correct direction, diffusion, and distribution.

(4) Lighting shall not be obstructed by any placement of cargo, structures or other objects which might create a shadow in the work area. Portable lighting shall be provided in those areas that do not meet the minimum requirements of this subsection.

(5) Portable illumination.

(a) All walking and working areas shall be illuminated.

(b) Portable lights shall meet the following requirements:

(i) Portable lights shall be equipped with reflectors and guards to prevent flammable and other material from coming in contact with the bulb, except that guards are not required where the construction of the reflector is such that the bulb is recessed.

(ii) Portable lights shall be equipped with heavy duty electric cords. They may be suspended by such cords only when the means of attachment of the cord to the light is such as to prevent the light from being suspended by the electrical connections.

(iii) All connections and insulation shall be maintained.

(iv) Lighting wires and fixtures for portable lights shall be so arranged as to be free from contact with drafts, running gear, or other moving equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-144, § 296-56-60221, filed 7/21/09, effective 9/1/09. Statutory Authority: RCW 49.17.040 and 49.17.050, 86-03-064 (Order 86-02), § 296-56-60221, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60221, filed 12/11/84.]

WAC 296-56-60235 Welding, cutting and heating (hot work) (see also definition of "hazardous cargo, material, substance or atmosphere"). (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 296-809 WAC, 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 firefighting 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 (6.1 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 (10.16 cm of each 30.48 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 reuse. 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 296-809 WAC, ensure that:

(i) General mechanical or local exhaust ventilations shall be provided; or

(ii) Employees in the space shall wear respirators in accordance with chapter 296-842 WAC.

(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 296-842 WAC;

(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 296-842 WAC.

(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 296-842 WAC and those working on beryllium-containing base or filler metals shall be protected by supplied air respirators, in accordance with the requirements of chapter 296-842 WAC.

(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 296-842 WAC.

(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 coat-

ing'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 (10.16 cm) from the area of heat application or employees shall be protected by supplied air respirators in accordance with the requirements of chapter 296-842 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 (nonferrous) 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

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-144, § 296-56-60235, filed 7/21/09, effective 9/1/09; 05-03-093, § 296-56-60235, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17-010, [49.17].040, and [49.17].050. 00-21-103, § 296-56-60235, filed 10/18/00, effective 2/1/01. Statutory Authority: RCW 49.17.010, [49.17]-040 and [49.17].050. 99-10-071, § 296-56-60235, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 95-04-007, § 296-56-60235, filed 1/18/95, effective 3/1/95. Statutory Authority: Chapter 49.17 RCW and RCW 49.17.040, [49.17].050 and [49.17].060. 92-22-067 (Order 92-06), § 296-56-60235, filed 10/30/92, effective 12/8/92. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60235, filed 1/17/86; 85-10-004 (Order 85-09), § 296-56-60235, filed 4/19/85; 85-01-022 (Order 84-24), § 296-56-60235, filed 12/11/84.]

Chapter 296-59 WAC

SAFETY STANDARDS FOR SKI AREA FACILITIES AND OPERATIONS

WAC

296-59-050

Personal protective equipment, general requirements.

WAC 296-59-050 Personal protective equipment, 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 at no cost to the employee, used, and maintained in a sanitary and reliable condition wherever it is indicated 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, construction, testing, and use of personal protective equipment shall comply with the requirements of the safety and health core rules, WAC 296-800-160; the Occupational health standards—Safety standards for carcinogens, chapter 296-62 WAC; or the currently applicable ANSI standard.

(2) Eye and face protection. Eye and face protective equipment shall be provided and worn where there is exposure in the work process or environment to hazard of injury, which can be prevented by such equipment.

(3) Occupational head protection. Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets, i.e., a lift operator would not be required to use a hardhat while operating the lift. However, if that same person is assisting with maintenance operations and is working under a tower where overhead work is being done, that operator would now be required to wear an approved helmet.

(a) Helmets for the protection of employees against impact and/or penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z89.1-1986, Safety Requirements for Industrial Head Protection.

(b) Helmets for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971, Safety Requirements for Industrial Protective Helmets for Electrical Workers, Class B.

(c) Approved head protection shall be worn by operators of snowmobiles and other mobile oversnow equipment which is not equipped with a rigid metal operator's cab.

(4) Occupational foot protection.

(a) Substantial footwear appropriate for the work conditions encountered shall be worn by all employees.

(b) Where the job assignment includes exposure to slipping hazards, soles and heels of footwear shall be of such material and design as to reduce the hazard of slipping.

(5) Safety belts, lifelines, lanyards, and nets.

(a) Safety belts, lifelines, and lanyards which meet the requirements of ANSI A10.14 shall be provided and used whenever employees are working in locations which expose them to a fall of more than ten feet. The particular work location and application shall dictate which type of belt or harness and length of lanyard is used.

(b) Lifelines shall be secured to an anchorage or structural member capable of supporting a minimum dead weight of five thousand four hundred pounds.

(c) Lifelines used on rock scaling applications or in areas where the lifeline may be subjected to cutting or abrasion shall be a minimum of seven-eighths inch wire core manila rope or equivalent. For all other lifeline applications, three-fourths inch manila rope or equivalent with a minimum break strength of five thousand four hundred pounds may be used.

(d) Each safety belt lanyard shall be a minimum of one-half inch nylon, or equivalent, with a minimum of five thousand four hundred pounds breaking strength.

(e) Employees will not be required to wear a safety belt and lanyard while riding on a standard lift chair while seated in the normal riding position.

(f) Safety nets meeting the requirements of ANSI A10.11 shall be used when other acceptable forms of fall protection are not useable. When used, safety nets shall extend a minimum of eight feet beyond the edge offering exposure, shall be hung with sufficient clearance to prevent user's contact with surfaces or objects below, and shall not be more than twenty-five feet below the fall exposure edge.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-59-050, filed 2/17/09, effective 4/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 01-11-038, § 296-59-050, filed 5/9/01, effective 9/1/01. Statutory Authority: Chapter 49.17 RCW. 88-14-108 (Order 88-11), § 296-59-050, filed 7/6/88.]

Chapter 296-62 WAC

GENERAL OCCUPATIONAL HEALTH STANDARDS

WAC

296-62-07306	Requirements for areas containing carcinogens listed in WAC 296-62-07302.
296-62-07308	General regulated area requirements.
296-62-07329	Vinyl chloride.
296-62-07336	Acrylonitrile.
296-62-07342	1,2-Dibromo-3-chloropropane.
296-62-07413	Respirator protection.
296-62-07425	Communication of cadmium hazards to employees.
296-62-07460	Butadiene.
296-62-07470	Methylene chloride.
296-62-07521	Lead.
296-62-07615	Respiratory protection.
296-62-07715	Respiratory protection.
296-62-08015	Respiratory protection.
296-62-14533	Cotton dust.
296-62-20011	Respiratory protection.

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, fore-arms, 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) Each employee engaged in handling operations involving the following carcinogens must be provided with and required to wear and use a full-face, supplied-air respirator, of the continuous flow or pressure-demand type as required in chapter 296-842 WAC:

- Methyl Chloromethyl Ether;
- bis-Chloromethyl Ether;
- Ethylenimine;
- beta-Propiolactone;
- 4-Amino Diphenyl.

(v) Employees engaged in handling 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-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 296-842 WAC. 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:

(i) Be provided with and required to wear, clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with WAC 296-800-160, and respiratory protective equipment required by this chapter 296-842 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07306, filed 7/21/09, effective 9/1/09; 05-03-093, § 296-62-07306, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.-010, [49.17].040, and [49.17].050, 01-11-038, § 296-62-07306, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07306, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 96-09-030, § 296-62-07306, filed 4/10/96, effective 6/1/96. Statutory Authority: RCW 49.17.040 and 49.17.-050, 86-16-009 (Order 86-28), § 296-62-07306, filed 7/25/86; 85-10-004 (Order 85-09), § 296-62-07306, filed 4/19/85. Statutory Authority: RCW 49.17.040, 49.17.050 and 49.17.240, 81-16-015 (Order 81-20), § 296-62-07306, filed 7/27/81. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 42.30 and 43.22 RCW, 80-17-014 (Order 80-20), § 296-62-07306, filed 11/13/80.]

WAC 296-62-07308 General regulated area requirements. (1) Respirator program. The employer must imple-

ment 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), which covers each employee required by this chapter to use a respirator.

(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).

(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 296-800-230.

(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 296-800-230, of the safety and health core rules.

(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.

(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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07308, filed 7/21/09, effective 9/1/09; 03-18-090, § 296-62-07308, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17-010, [49.17].040, and [49.17].050. 01-11-038, § 296-62-07308, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07308, filed 5/4/99, effective 9/1/99. Statutory Authority: RCW 49.17.040 and 49.17.050. 83-24-013 (Order 83-34), § 296-62-07308, filed 11/30/83. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 42.30 and 43.22 RCW. 80-17-014 (Order 80-20), § 296-62-07308, filed 11/13/80.]

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 eight-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 five 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 fifty percent from 0.25 through 0.5 ppm, plus or minus thirty-five percent from over 0.5 ppm through 1.0 ppm, plus or minus twenty-five percent over 1.0 ppm, (methods meeting 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.

(a) General. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this section.

(b) Respirator program. The employer must develop, implement, and maintain a respiratory protection program as required in chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator. Exception: The requirements in WAC 296-842-13005 that address change out of vapor or gas respirator cartridges or canisters.

(c) Respirator selection. The employer must:

(i) Select and provide to employees appropriate respirators as specified in this section and WAC 296-842-13005 in the respirator rule.

(ii) Provide organic vapor cartridges that have a service life of at least one hour when employees use air-purifying respirators in vinyl chloride concentrations up to 10 parts per million (ppm).

(iii) Make sure the following respirators, when selected, are equipped with a canister with a service life of at least four hours when used in vinyl chloride concentrations up to 25 ppm:

(A) Helmet, hood, or full-facepiece PAPRs

OR

(B) Gas masks with a front- or back-mounted canister.

(d) Where air-purifying respirators are used:

(i) Air-purifying canisters or cartridges 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 must be provided 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

(iii) Respirators specified for higher concentrations may be used for 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 six months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for ten 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 EQUIP-
MENT 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 chapter 296-802 WAC. 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 individually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in chapter 296-802 WAC.

(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 fifteen 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 twenty-four 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 ten 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) 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 three to four 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 one 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.15-145, § 296-62-07329, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07329, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-07329, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-62-07329, filed 4/27/04, effective 8/1/04. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].-050, 99-10-071, § 296-62-07329, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-62-07329, filed 7/20/94, effective 9/20/94; 91-03-044 (Order 90-18), § 296-62-07329, filed 1/10/91, effective 2/12/91. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-16-009 (Order 86-28), § 296-62-07329, filed 7/25/86; 82-13-045 (Order 82-22), § 296-62-07329, filed 6/11/82. Statutory Authority: RCW 49.17.040, 49.17.050 and 49.17.240. 81-18-029 (Order 81-21), § 296-62-07329, filed 8/27/81; 81-16-015 (Order 81-20), § 296-62-07329, filed 7/27/81; Order 75-41, § 296-62-07329, filed 12/19/75.]

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 unexposed 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 acry-

lonitrile 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 twenty-four 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 ninety-five percent, to within plus or minus twenty-five percent for concentrations of AN at or above the permissible exposure limits, and plus or minus thirty-five 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. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering and work-practice controls;

(ii) Work operations, such as maintenance and repair activities or reactor cleaning, for which the employer establishes that engineering and work-practice controls are not feasible;

(iii) 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) In emergencies.

(b) Respirator program.

Employers must develop, implement and maintain a respiratory protection program in accordance with chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(c) Respirator selection. The employer must:

(i) Select and provide to employees appropriate respirators by following the requirements in this section and WAC 296-842-13005 in the respirator rule.

(ii) Provide to employees, for escape, any organic vapor, air-purifying respirator or any self-contained breathing apparatus (SCBA) that meets the selection requirements of WAC 296-842-13005 in the respirator rule.

(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 296-800-160 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.

(ii) 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 296-800-230 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 296-800-230.

(b) Showers.

(i) The employer shall provide shower facilities in accordance with WAC 296-800-230.

(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 nonspecific 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 forty 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 preplacement 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 train each employee exposed to AN above the action level, each employee whose exposures are maintained below the action level by engineering and work practice controls, and each employee subject to potential skin or eye contact with liquid AN in accordance with the requirements of this section. The employer shall institute a training program and ensure employee 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:

(A) The information contained in Appendices A, B and C;

(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.

(ii) 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.

(ii) 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.

(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 chapter 296-802 WAC. 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 chapter 296-802 WAC.

(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) 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07336, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07336, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-07336, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-62-07336, filed 4/27/04, effective 8/1/04; 03-18-090, § 296-62-07336, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-62-07336, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07336, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 88-11-021 (Order 88-04), § 296-62-07336, filed 5/11/88.]

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 one 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 five parts DBCP per billion parts of air (ppb) as averaged over any fifteen 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 ninety-five percent, to within plus or minus twenty-five 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) Respiratory protection.

(a) General. For employees who are required to use respirators under this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(i) Period necessary to install or implement feasible engineering and work-practice controls;

(ii) Maintenance and repair activities for which engineering and work-practice controls are not feasible;

(iii) 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;

(iv) Emergencies.

(b) The employer must establish, implement, and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(c) Respirator selection. The employer must:

(i) Select and provide to employees appropriate respirators according to this chapter and WAC 296-842-13005 in the respirator rule.

(ii) Provide employees with one of the following respirator options to use for entry into, or escape from, unknown DBCP concentrations:

(A) A combination respirator that includes a full-facepiece air-line respirator operated in a pressure-demand or other positive-pressure mode or continuous-flow mode and an auxiliary self-contained breathing apparatus (SCBA) operated in a pressure-demand or positive-pressure mode;

OR

(B) A full-facepiece SCBA operated in a pressure-demand or other positive-pressure mode.

(9) 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 296-800-160 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.

(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 296-800-230.

(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 296-800-230.

(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, limitations, 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 chapter 296-802 WAC.

(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.

(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 chapter 296-802 WAC.

(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) 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07342, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07342, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-07342, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-62-07342, filed 4/27/04, effective 8/1/04; 03-18-090, § 296-62-07342, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 01-11-038, § 296-62-07342, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07342, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 96-09-030, § 296-62-07342, filed 4/10/96, effective 6/1/96; 88-11-021 (Order 88-04), § 296-62-07342, filed 5/11/88.]

WAC 296-62-07413 Respirator protection. (1) General. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls when employee exposure levels exceed the PEL;

(b) Maintenance and repair activities, and 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 specified in WAC 296-62-07409;

(d) 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) Work operations for which an employee who is exposed to cadmium at or above the action level, and the employee requests a respirator;

(f) Work operations for which an employee is exposed above the PEL and engineering controls are not required by WAC 296-62-07411 (1)(b); and

(g) Emergencies.

(2) Respirator program.

(a) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(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. The employer must:

(a) Select and provide the appropriate respirator as specified in this section and WAC 296-842-13005, found in the respirator rule.

(i) Provide employees with full-facepiece respirators when they experience eye irritation.

(ii) Make sure high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 series filters are provided for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(b) Provide an employee with a powered, air-purifying respirator (PAPR) instead of a negative-pressure respirator when an employee who is entitled to a respirator chooses to use this type of respirator and such a respirator provides adequate protection to the employee.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07413, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07413, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-07413, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050, 99-10-071, § 296-62-07413, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 93-21-075 (Order 93-06), § 296-62-07413, filed 10/20/93, effective 12/1/93; 93-07-044 (Order 93-01), § 296-62-07413, filed 3/13/93, effective 4/27/93.]

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 Chemical Hazard Communication Standard, WAC 296-800-170, 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 train each employee who is potentially exposed to cadmium in accordance with the requirements of this chapter. The employer shall institute a training program, ensure 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;

(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 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;

(viii) The employee's rights of access to records under WAC 296-800-170 and chapter 296-802 WAC; 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07425, filed 7/21/09, effective 9/1/09; 07-03-163, § 296-62-07425, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17-010, [49.17].040, and [49.17].050. 01-11-038, § 296-62-07425, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07425, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 93-21-075 (Order 93-06), § 296-62-07425, filed 10/20/93, effective 12/1/93; 93-07-044 (Order 93-01), § 296-62-07425, filed 3/13/93, effective 4/27/93.]

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 following: 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-hour 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-hour 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 different 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. The initial monitoring required under this subitem shall be completed within sixty days of the introduction of BD into the workplace.

(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-hour 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-hour 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 multiemployer 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. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering and work-practice controls;

(ii) Nonroutine work operations that are performed infrequently and for which exposures are limited in duration;

(iii) Work operations for which feasible engineering controls and work-practice controls are not yet sufficient to reduce employee exposures to or below the PELs;

(iv) Emergencies.

(b) Respirator program.

(i) The employer must implement a respiratory protection program as required by chapter 296-842 WAC, except WAC 296-842-13005 and 296-842-14005, which covers each employee required by this section to use a respirator.

(ii) 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) 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 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.
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.

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 1,000 ppm (1,000 times PEL)	(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. (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. (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.
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.

(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 296-800-160.

(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 screen-

ing 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 chapter 296-842 WAC.

(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.

- (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 chemical hazard communication standard, WAC 296-800-170.
 - (b) Employee information and training.
 - (i) The employer shall train each employee who is potentially exposed to BD at or above the action level or the STEL in accordance with the requirements of the chemical hazard communication standard, WAC 296-800-170.
 - (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)(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 chapter 296-802 WAC.

(c) 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)(e) of this section;

(C) A copy of the information provided to the physician or other licensed health care professional as required by subsection (11)(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 chapter 296-802 WAC.

(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) and (b) of this subsection shall be granted in accordance with chapter 296-802 WAC.

(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 chapter 296-802 WAC.

(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.

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 (CH₂=CH-CH=CH₂).

(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, noncorrosive, 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, nonroutine, intermittent exposure. Respirators may also be used in situations involving nonroutine 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 reentering 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 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 and 296-800-280, 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.

(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-hour TWA or STEL monitoring required.
+*	—	—	No STEL monitoring required. Monitor 8-hr TWA annually.
+	—	—	No STEL monitoring required. Periodic monitoring 8-hour TWA, in accordance with (4)(c)(iii).**
+	+	+	Periodic monitoring 8-hour 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-hour 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-hour 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 reworn 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 296-800-220 and 296-800-230, 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) Nonsparking 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 (Nonmandatory)

(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 lym-

phohematopoietic 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 (Nonmandatory)

OSHA Method No.: 56.

Matrix: Air.

Target concentration: 1 ppm (2.21 mg/m³).

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/m³) (based on 3 L air volume).

Reliable quantitation limit: 155 ppb (343 ug/m³) (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; bivinyll; 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 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/m³ to ppm:

$$\text{ppm} = (\text{mg/m}^3)(24.46)/54.09$$

Where:

mg/m³ = 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.

(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: 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
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.)? yes no

11. Do you have any second or side jobs? yes no
If yes, what are your duties there?

12. Were you in the military? yes no

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: _____ Last First MI SSN ___/___/___

Job Title: _____
Company's Name: _____
Supervisor's Name: _____
Supervisor's Phone No.: () _____-_____

1. Please describe any NEW duties that you have at your job. _____

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

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

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07460, filed 7/21/09, effective 9/1/09; 07-03-163, § 296-62-07460, filed 1/24/07, effective 4/1/07; 05-03-093, § 296-62-07460, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-62-07460, filed 4/27/04, effective 8/1/04; 03-18-090, § 296-62-07460, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-62-07460, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07460, filed 5/4/99, effective 9/1/99. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 97-19-014, § 296-62-07460, filed 9/5/97, effective 11/5/97.]

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-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, CH₂Cl₂. 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 eight-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 eight-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:

(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) Eight-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 fifteen-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 ninety-five percent, and are:

(A) Within plus or minus twenty-five percent for airborne concentrations of MC above the eight-hour TWA PEL or the STEL; or

(B) Within plus or minus thirty-five percent for airborne concentrations of MC at or above the action level but at or below the eight-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 thirty 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

<u>Exposure scenario</u>	<u>Required monitoring activity</u>
Below the action level and at or below the STEL.	No eight-hour TWA or STEL monitoring required.
Below the action level and above the STEL.	No eight-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 eight-hour TWA exposures every six months.
At or above the action level, at or below the TWA, and above the STEL.	Monitor eight-hour TWA exposures every three months.
Above the TWA and at or below the STEL.	Monitor eight-hour TWA exposures every three months. 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 eight-hour TWAs PEL under subsection (3) of this section or the date by which they in fact achieve the eight-hour TWA PEL, whichever comes first: <ul style="list-style-type: none"> • Employers engaged in polyurethane foam manufacturing; • Foam fabrication; • Furniture refinishing; • General aviation aircraft stripping; • Product formulation; • Use of MC-based adhesives for boat building and repair; • 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.
Above the TWA and above the STEL.	Monitor both eight-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 two consecutive measurements taken at least seven days apart show exposures to be at or below the eight-hour TWA PEL. The employer may discontinue the periodic eight-hour TWA monitoring for employees where at least two consecutive measurements taken at least

seven 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 seven 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 fifteen 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 eight-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 eight-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 eight-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 eight-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 eight-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 multiemployer 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. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(i) Periods when an employee's exposure to MC exceeds or can reasonably be expected to exceed the eight-hour TWA PEL or the STEL (for example, when an employee is using MC in a regulated area);

(ii) 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 dem-

onstrates that engineering and work practice controls are infeasible;

(iv) Work operations for which feasible engineering and work practice controls are not sufficient to reduce exposures to or below the PELs;

(v) Emergencies.

(b) Respirator program.

(i) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator, except for the requirements in Table 5 of WAC 296-842-13005 that address gas or vapor cartridge change schedules and end-of-service-life indicators (ESLIs).

(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 employer must:

(i) Select and provide to employees appropriate respirators according to this section and WAC 296-842-13005, found in the respirator rule.

(ii) Make sure half-facepiece respirators are not selected or used for protection against MC. This is necessary to prevent eye irritation or damage from MC exposure.

(iii) Provide to employees, for emergency escape, one of the following respirator options:

(A) A self-contained breathing apparatus operated in the continuous-flow or pressure demand mode

OR

(B) A gas mask equipped with an organic vapor canister.

(d) 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 296-800-160, 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 thirty or more days per year, or above the eight-hour TWA PEL or the STEL on ten 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 twelve 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 forty-five years of age or older, within twelve months of the initial surveillance or any subsequent medical surveillance; and

(B) For employees younger than forty-five years of age, within thirty-six 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 thirty-six months for employees younger than forty-five 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 exposures, 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 deter-

mines 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 fifteen days of completion of the evaluation of medical and laboratory findings, but not more than thirty 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 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 eight-hour TWA PEL. If the physician or other licensed health care professional recommends removal for an employee exposed below the eight-hour TWA PEL, the physician or other licensed health care professional shall cite specific medical evidence, sufficient to rebut the presumption that exposure below the eight-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 sixty 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 aggra-

vate 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 six-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 fifteen 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 fifteen 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 chemical hazard communication standard, WAC 296-800-170: 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 chemical hazard communication standard at WAC 296-800-170:

(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 eight-hour TWA PEL or STEL;

(d) The employer shall train each affected employee as required under the chemical hazard communication standard at WAC 296-800-170, as appropriate.

(e) The employer shall retrain 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 multiemployer worksite shall notify the other employers with work operations at that site in accordance with the requirements of the chemical hazard communication standard, WAC 296-800-170, 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 twenty 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 twenty 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 chapter 296-802 WAC.

(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 years, in accordance with chapter 296-802 WAC.

(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 chapter 296-802 WAC.

(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 chapter 296-802 WAC.

(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 chapter 296-802 WAC.

(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) Engineering controls required under subsection (6)(a) of this section shall be implemented according to the following schedule:

(i) For employers with fewer than twenty employees, no later than April 10, 2000.

(ii) For employers with fewer than one hundred fifty employees engaged in foam fabrication; for employers with fewer than fifty employees engaged in furniture refinishing, general aviation aircraft stripping, and product formulation;

for employers with fewer than fifty employees using MC-based adhesives for boat building and repair, recreational vehicle manufacture, van conversion, and upholstery; for employers with fewer than fifty 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 twenty 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 eight-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 one hundred fifty employees engaged in foam fabrication; for employers with fewer than fifty employees engaged in furniture refinishing, general aviation aircraft stripping, and product formulation; for employers with fewer than fifty employees using MC-based adhesives for boat building and repair, recreational vehicle manufacture, van conversion, and upholstery; for employers with fewer than fifty 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 twenty 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 ninety 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-15-145, § 296-62-07470, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07470, filed 2/20/07, effective 4/1/07; 04-10-026, § 296-62-07470, filed 4/27/04, effective 8/1/04. Statutory Authority: RCW 49.17.010, [49.17]-040, and [49.17].050. 01-11-038, § 296-62-07470, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07470, filed 5/4/99, effective 9/1/99. Statutory Authority: RCW 49.17.040, [49.17].050 and [49.17].060. 97-18-062, § 296-62-07470, filed 9/2/97, effective 12/1/97.]

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 296-307 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:

$$\text{Maximum permissible limit (in } \mu\text{g}/\text{m}^3) = 400 \div \text{hours worked in the day.}$$

(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/m³.

(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/m³, 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/m³.

TABLE I

Industry	Compliance dates: ¹ (50 µg/m ³)
Lead chemicals, secondary copper smelting.	July 19, 1996
Nonferrous foundries	July 19, 1996. ²
Brass and bronze ingot manufacture.	6 years. ³

¹ 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/m³ for exposure to airborne concentrations of lead levels for the particular industry.

2 Large nonferrous foundries (20 or more employees) are required to achieve the PEL of 50 µg/m³ 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/m³ by such controls.

3 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/m³. 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/m³ 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;

(G) An administrative control schedule required by subdivision (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. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(i) Period necessary to install or implement engineering or work-practice controls;

(ii) Work operations for which engineering and work-practice controls are not sufficient to reduce exposures to or below the permissible exposure limit;

(iii) Periods when an employee requests a respirator.

(b) Respirator program.

(i) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(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. The employer must:

(i) Select and provide to employees appropriate respirators according to this section and WAC 296-842-13005, found in the respirator rule.

(ii) Provide employees with a powered air-purifying respirator (PAPR) instead of a negative-pressure respirator selected when an employee chooses to use a PAPR and it provides adequate protection to the employee.

(iii) Provide employees with full-facepiece respirators instead of half-facepiece respirators for protection against lead aerosols that cause eye or skin irritation at the use concentration.

(iv) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(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 296-800-160.

(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/m³ 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 cos-

metics 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 296-800-230.

(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 296-800-230.

(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 µg/100 g of whole blood. This frequency shall continue until two consecutive blood samples and analyses indicate a blood lead level below 40 µg/100 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 µg/100 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 µg/100 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 µg/100 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 represen-

tative 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 train each employee who is subject to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists, in accordance with the requirements of this section. The employer shall institute a training program for and assure the participation of all employees.

(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 use, limitations, 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 chapter 296-802 WAC. 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 chapter 296-802 WAC.

(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) 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 one hundred twenty 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 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 (μg) of lead (1 mg = 1000 μg) 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 reasonable 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 this standard (see subsection (7)(c) of this section). Any respirator chosen must be 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 several different types of respirator masks. 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 296-842 WAC.

(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 pro-

viding 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 absorp-

tion 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 thirty 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 one hundred eighty 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 Na₂EDTA), 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 of 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/m³ 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 ³)	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

(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 forty years, or for at least twenty 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 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 enti-

led 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 $\mu\text{g}/\text{m}^3$ (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 $\mu\text{g}/\text{m}^3$ 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 $\mu\text{g}/\text{m}^3$ 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 on 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 ³	100µg/m ³	50µg/m ³
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., Nonferrous Foundries, Lead 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 ^{1*}
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/m³ TWA for more than thirty 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/m³ 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 40 µg/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 40 µg/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 examination 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 ³ 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.
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 ³ 8 hr TWA	50 µg/m ³ 8 hr TWA	30 µg/m ³ 8 hr TWA	30 µg/m ³ 8 hr TWA	30 µg/m ³ 8 hr TWA

TABLE 10

	EFFECTIVE DATE				
	Sept. 6, 1980	Sept. 6, 1981	Sept. 6, 1982	Sept. 6, 1983	Sept. 6, 1984
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/m³ 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/m³. 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/m³ 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 med-

ical 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 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 µg/100g, and second, the blood lead levels of workers, male or female, who intend to parent in the near future should be maintained below 30 µg/100g 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 subdivided 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 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 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 20µg/100g whole blood. At a blood lead level of 40 µg/100g, 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 µg/100g.

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 µg/100g or greater, nearly one hundred percent of the population will have an increase FEP. There is also an exponential relationship between blood lead levels greater than 40 µg/100g 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 µg/100g 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 µg/100g. 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 µg/100g whole blood and therefore recommend a 40 µg/100g 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 µg/100g 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 fingers 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 $\mu\text{g}/100\text{g}$ and hypospermia and asthenospermia at 41 $\mu\text{g}/100\text{g}$. 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 twelve-fourteen 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 $\mu\text{g}/100\text{g}$ in children can cause significant neurobehavioral impairments, and there is evidence of hyperactivity at blood levels as low as 25 $\mu\text{g}/100\text{g}$. Given the overall body of litera-

ture concerning the adverse health effects of lead in children, WISHA feels that the blood lead level in children should be maintained below 30 $\mu\text{g}/100\text{g}$ with a population mean of 15 $\mu\text{g}/100\text{g}$. Blood lead levels in the fetus and newborn likewise should not exceed 30 $\mu\text{g}/100\text{g}$.

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 $\mu\text{g}/100\text{g}$ maximum permissible blood lead level in both males and females who wish to bear children.

(VI) 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 one twenty 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 respira-

tory 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. |
| Cardiopulmonary | - 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. |
| Musculoskeletal | - 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.

(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 twenty-four-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 ninety 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 twenty-four 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 one hundred twenty day lifespan. Therefore, the ZPP level in blood reflects the average ZPP production over the previous three to four 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 twenty-four 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 µg/l 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 µg/m³ 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. 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49-15-145, § 296-62-07521, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07521, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-07521, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-62-07521, filed 4/27/04, effective 8/1/04; 03-18-090, § 296-62-07521, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-62-07521, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-62-07521, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 96-09-030, § 296-62-07521, filed 4/10/96, effective 6/1/96; 95-04-078, § 296-62-07521, filed 1/30/95, effective 3/2/95; 91-24-017 (Order 91-07), § 296-62-07521, filed 11/22/91, effective 12/24/91; 90-17-051 (Order 90-10), § 296-62-07521, filed 8/13/90, effective 9/24/90; 90-03-029 (Order 89-20), § 296-62-07521, filed 1/11/90, effective 2/26/90; 88-14-108 (Order 88-11), § 296-62-07521, filed 7/6/88. Statutory Authority: RCW 49.17.040 and 49.17.050. 83-24-013 (Order 83-34), § 296-62-07521, filed 11/30/83; 82-13-045 (Order 82-22), § 296-62-07521, filed 6/11/82. Formerly WAC 296-62-07349.]

WAC 296-62-07615 Respiratory protection. (1) General. For employees who use respirators required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this subsection. Respirators must be used during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls;

(b) Work operations for which the employer establishes that engineering and work-practice controls are not feasible;

(c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce exposure to or below the PEL;

(d) Emergencies.

(2) Respirator program. The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(3) Respirator selection.

(a) The employer must select and provide to employees appropriate respirators as specified in this section and WAC 296-842-13005 in the respirator rule.

(b) 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.

(c) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(d) Provide to employees, for escape, one of the following respirator options:

(i) Any self-contained breathing apparatus with a full-facepiece or hood, operated in the positive-pressure or continuous-flow mode

OR

(ii) A full-facepiece air-purifying respirator.

(e) Provide a combination HEPA filter (or N-, R-, or P-100 filter) and organic vapor canister or cartridge with air-purifying respirators when MDA is in liquid form or used as part of a process requiring heat.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07615, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-07615, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-07615, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050, 99-10-071, § 296-62-07615, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 93-04-111 (Order 92-15), § 296-62-07615, filed 2/3/93, effective 3/15/93.]

WAC 296-62-07715 Respiratory protection. (1) General. For employees who use respirators required by WAC 296-62-077 through 296-62-07747, the employer must provide each employee an appropriate respirator that complies with the requirements of this section. Respirators must be used during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls;

(b) Work operations, such as maintenance and repair activities, for which engineering and work-practice controls are not feasible;

(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 limits;

(d) Emergencies;

(e) 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) The following construction activities:

(i) Class I asbestos work;

(ii) Class II work where the ACM is not removed in a substantially intact state;

(iii) Class II and Class III work which is not performed using wet methods, 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) Class II and Class III asbestos work for which a negative-exposure assessment has not been conducted;

(v) Class III work when TSI or surfacing ACM or PACM is being disturbed;

(vi) Class IV work performed within regulated areas where employees who are performing other work are required to wear respirators.

(2) Respirator program.

(a) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(b) Employers must provide an employee with a tight-fitting, powered, air-purifying respirator (PAPR) instead of a negative-pressure respirator selected when an employee chooses to use a PAPR and the respirator provides the required protection to the employee.

(c) 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 (PAPR) instead of a negative-pressure respirator.

(d) 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. The employer must:

(a) Select and provide to employees appropriate respirators as specified in this section, and in WAC 296-842-13005, in the respirator rule.

Make sure filtering facepiece respirators are not selected or used for protection against asbestos fibers.

(b) Provide employees with an air-purifying, half-facepiece respirator, other than a filtering-facepiece respirator, that is equipped with a HEPA filter or an N-, R-, or P-100 series filter whenever the employee performs:

(i) Class II and III asbestos work for which no negative-exposure assessment is available;

(ii) Class III asbestos work involving disturbances of TSI or surfacing ACM or PACM.

(c) Equip any powered air-purifying respirator (PAPR) or negative pressure air-purifying respirator with HEPA filters or N-, R-, or P-100 series filters.

(4) Special respiratory protection requirements.

(a) Unless specifically identified in this subsection, respirator selection for asbestos removal, demolition, and reno-

vation operations shall be in accordance with the selection specifications of this section and the general selection requirements in WAC 296-842-13005, found in the respirator rule. The employer must 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, when a negative-exposure assessment is not available, and the exposure assessment indicates the exposure level will be at or below 1 f/cc as an 8-hour time weighted average, employers must provide 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 either HEPA egress cartridges; or

(iii) An auxiliary positive-pressure, self-contained breathing apparatus.

(c) Whenever the employees are in a regulated area performing Class I asbestos work for which a negative exposure assessment is not available, and an exposure assessment indicates that the exposure level will be above 1 f/cc as an 8-hour TWA, employers must provide a full facepiece supplied-air respirator operated in the pressure-demand mode equipped with an auxiliary positive-pressure self-contained breathing apparatus.

EXCEPTION: In lieu of the supplied-air respirator required by subsection (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 as required by chapter 296-842 WAC, Respirators.

(5) Respirator fit testing.

(a) 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 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.

(b) Any supplied-air respirator facepiece equipped with a back-up HEPA filter egress cartridge shall be quantitatively fit tested (see WAC 296-62-07160 through 296-62-07162 and 296-62-07201 through 296-62-07248).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-07715, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-

62-07715, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050, 99-10-071, § 296-62-07715, filed 5/4/99, effective 9/1/99. Statutory Authority: RCW 49.17.040, [49.17].050 and [49.17].060, 97-19-014, § 296-62-07715, filed 9/5/97, effective 11/5/97; 97-01-079, § 296-62-07715, filed 12/17/96, effective 3/1/97. Statutory Authority: Chapter 49.17 RCW, 91-03-044 (Order 90-18), § 296-62-07715, filed 1/10/91, effective 2/12/91; 89-11-035 (Order 89-03), § 296-62-07715, filed 5/15/89, effective 6/30/89; 87-24-051 (Order 87-24), § 296-62-07715, filed 11/30/87. Statutory Authority: RCW 49.17.050(2) and 49.17.040, 87-10-008 (Order 87-06), § 296-62-07715, filed 4/27/87.]

WAC 296-62-08015 Respiratory protection. (1) General. Where respiratory protection is required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this chapter. Respiratory protection is required during:

(a) Periods necessary to install or implement feasible engineering and work practice controls;

(b) Work operations, such as maintenance and repair activities, for which engineering and work practice controls are not feasible;

(c) Work operations for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL;

(d) Work operations where employees are exposed above the PEL for fewer than thirty days per year, and the employer has elected not to implement engineering and work practice controls to achieve the PEL; or

(e) Emergencies.

(2) Respiratory protection program. Where respirator use is required by this section, the employer shall institute a respiratory protection program in accordance with chapter 296-842 WAC, Respirators, which covers each employee required to use a respirator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-08015, filed 7/21/09, effective 9/1/09; 06-16-106, § 296-62-08015, filed 8/1/06, effective 9/1/06.]

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 by-products 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 ± 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.

(ii) 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;

(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 fifteen 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. For employees who are required to use respirators by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this section. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering controls and work-practice controls;

(ii) Maintenance and repair activities for which engineering and work-practice controls are not feasible;

(iii) 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) Work operations specified under subsection (7)(a) of this section;

(v) Periods for which an employee requests a respirator.

(b) Respirator program.

(i) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(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. The employer must:

(i) Select and provide to employees the appropriate respirators by following requirements in this section and WAC 296-842-13005, found in the respirator rule.

(ii) Provide employees with a powered air-purifying respirator (PAPR) when the employee chooses to use a PAPR instead of a negative-pressure air-purifying respirator, and the PAPR will provide adequate protection.

(iii) Limit the use of filtering facepiece respirators for protection against cotton dust to concentrations less than or equal to five times (5x) the PEL.

(iv) Provide high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 series filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators when used in cotton dust concentrations greater than ten times (10x) the PEL.

(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.

(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_1), the FEV_1/FVC ratio, and the percentage that the measured values of FEV_1 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_1 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_1 of greater than eighty percent of the predicted value, but with an FEV_1 decrement of five percent or 200 ml. on a first working day;

(B) An FEV_1 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_1 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 FEV₁, FVC, and FEV₁/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 train each employee exposed to cotton dust in accordance with the requirements of this section 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, limitations, and other training requirements for respiratory protection as required by subsection (6) of this section and chapter 296-842 WAC (see WAC 296-842-11005, 296-842-16005 and 296-842-19005);

(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.

(ii) 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 chapter 296-802 WAC.

(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 chapter 296-802 WAC.

(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;

(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) 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" (color grade 52 or better and leaf grade code 5 or better according to the 1993 USDA classification system) shall be exempt from all provisions of the standard except requirements of subsection (8) of this section, medical surveillance; subsection (11)(b) through (d) of this section, recordkeeping-medical records, and Appendices B, C, and D of this section, if they have been washed on one of the following systems:

(i) On a continuous batt system or a rayon rinse system including the following conditions:

(A) With water;

(B) At a temperature of no less than 60°C;

(C) With a water-to-fiber ratio of no less than 40:1; and

(D) With the bacterial levels in the wash water controlled to limit bacterial contamination of the cotton.

(ii) On a batch kier washing system including the following conditions:

(A) With water;

(B) With cotton fiber mechanically opened and thoroughly prewetted before forming the cake;

(C) For low-temperature processing, at a temperature of no less than 60°C with a water-to-fiber ratio of no less than 40:1; or, for high-temperature processing, at a temperature of no less than 93°C with a water-to-fiber ratio of no less than 15:1;

(D) With a minimum of one wash cycle followed by two rinse cycles for each batch, using fresh water in each cycle; and

(E) With bacterial levels in the wash water controlled to limit bacterial contamination of the cotton.

(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.

(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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-14533, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-14533, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-14533, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-62-14533, filed 4/27/04, effective 8/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050, 01-19-065, § 296-62-14533, filed 9/18/01, effective 11/1/01; 99-10-071, § 296-62-14533, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 87-24-051 (Order 87-24), § 296-62-14533, filed 11/30/87. Statutory Authority: RCW 49.17.040 and 49.17.050, 86-16-009 (Order 86-28), § 296-62-14533, filed 7/25/86; 82-03-023 (Order 82-1), § 296-62-14533, filed 1/15/82. Statutory Authority: 49.17.040, 49.17.050, and 49.17.240, 81-16-015 (Order 81-20), § 296-62-14533, filed 7/27/81. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 42.30 and 43.22 RCW. 80-17-014 (Order 80-20), § 296-62-14533, filed 11/13/80.]

WAC 296-62-20011 Respiratory protection. (1) General.

For employees who use respirators required by this section, the employer must provide each employee with an appropriate respirator that complies with the requirements of this section. Compliance with the permissible exposure limit may not be achieved by the use of respirators except during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls;

(b) Work operations, such as maintenance and repair activity, for which engineering and work-practice controls are technologically not feasible;

(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;

(d) Emergencies.

(2) Respirator program. The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required to use a respirator.

(3) Respirator selection. The employer must select and provide to employees appropriate respirators as specified in this section and WAC 296-842-13005, found in the respirator rule.

Although filtering facepiece respirators may be used for protection from coke oven particulate emissions, these respirators are not appropriate for use against gas or vapor contaminants that present an exposure hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-62-20011, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-62-20011, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-62-20011, filed

1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050, 99-10-071, § 296-62-20011, filed 5/4/99, effective 9/1/99. Statutory Authority: RCW 49.17.040 and 49.17.050, 86-16-009 (Order 86-28), § 296-62-20011, filed 7/25/86. Statutory Authority: 49.17.040, 49.17.-050, and 49.17.240, 81-16-015 (Order 81-20), § 296-62-20011, filed 7/27/81; Order 77-14, § 296-62-20011, filed 7/25/77.]

Chapter 296-65 WAC

ASBESTOS REMOVAL AND ENCAPSULATION

WAC

296-65-025 Fees.

WAC 296-65-025 Fees. (1) A nonrefundable administrative fee of forty-five dollars will be assessed for each initial, replacement, or renewal asbestos worker certificate application. The fee (check or money order) must accompany the certificate application and be made payable to the department. An application form may be obtained from any approved training course instructor or directly from the department.

(2) A nonrefundable administrative fee of sixty-five dollars will be assessed for each initial, replacement, or renewal asbestos supervisor certificate application. The fee (check or money order) must accompany the certificate application and be made payable to the department. An application form may be obtained from any approved training course instructor or directly from the department.

(3) A nonrefundable administrative fee of one thousand fifty dollars will be assessed for each initial or renewal contractor certificate application. The fee (check or money order) must accompany the certificate application and be made payable to the department. An application form may be obtained from the department.

Note: In circumstances where it is necessary to coordinate an expiration date with the date of expiration of a contractor registration issued under chapter 18.27 RCW, certificates may be valid for less than one year. In such circumstances, the certificate fee prescribed in WAC 296-65-025 will be prorated accordingly for the initial application only.

(4) A nonrefundable administrative fee of one thousand two hundred fifty dollars will be assessed for each initial and renewal application for training course approval. A check or money order must accompany any application made under the provisions of WAC 296-65-015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and 49.26.130, 10-01-188, § 296-65-025, filed 12/22/09, effective 1/25/10. Statutory Authority: RCW 49.17.040, 49.17.050, 49.26.040, and 49.26.130, 99-17-026, § 296-65-025, filed 8/10/99, effective 11/10/99. Statutory Authority: Chapter 49.17 RCW. 89-21-018 (Order 89-10), § 296-65-025, filed 10/10/89, effective 11/24/89; 87-24-051 (Order 87-24), § 296-65-025, filed 11/30/87. Statutory Authority: SSB 4209, 1985 c 387, 85-21-080 (Order 85-30), § 296-65-025, filed 10/22/85.]

Chapter 296-78 WAC

SAFETY STANDARDS FOR SAWMILLS AND WOODWORKING OPERATIONS

WAC

296-78-515 Management's responsibility.

WAC 296-78-515 Management's responsibility. (1) It shall be the responsibility of management to establish, supervise, and enforce, in a manner which is effective in practice:

(a) A safe and healthful working environment.

(b) An accident prevention program as required by these standards.

(c) Training programs to improve the skill and competency of all employees in the field of occupational safety and health. Such training shall include the on-the-job instructions on the safe use of powered materials handling equipment, machine tool operations, use of toxic materials and operation of utility systems prior to assignments to jobs involving such exposures.

(2) The employer shall develop and maintain a chemical hazard communication program as required by WAC 296-800-170, which will provide information to all employees relative to hazardous chemicals or substances to which they are exposed, or may become exposed, in the course of their employment.

(3) Management shall not assign mechanics, millwrights, or other persons to work on equipment by themselves when there is a probability that the person could fall from elevated work locations or equipment or that a person could be pinned down by heavy parts or equipment so that they could not call for or obtain assistance if the need arises.

Note: This subsection does not apply to operators of motor vehicles, watchperson or certain other jobs which, by their nature, are singular employee assignments. However, a definite procedure for checking the welfare of all employees during their working hours shall be instituted and all employees so advised.

(4) After the emergency actions following accidents that cause serious injuries that have immediate symptoms, a preliminary investigation of the cause of the accident shall be conducted. The investigation shall be conducted by a person designated by the employer, the immediate supervisor of the injured employee, witnesses, employee representative if available and any other person with the special expertise required to evaluate the facts relating to the cause of the accident. The findings of the investigation shall be documented by the employer for reference at any following formal investigation.

(5) Reporting of fatality or hospitalization incidents.

(a) Within eight hours after the fatality or probable fatality of any employee from a work-related incident or the inpatient hospitalization of any employee as a result of a work-related incident, the employer of any employees so affected shall report the fatality/hospitalization by telephone or in person, to the nearest office of the department or by using the OSHA toll-free central telephone number, 1-800-321-6742.

(i) This requirement applies to each such fatality or hospitalization which occurs within thirty days of the incident.

(ii) Exception: If any employer does not learn of a reportable incident at the time it occurs and the incident would otherwise be reportable under this subsection, the employer shall make a report within eight hours of the time the incident is reported to any agent or employee of the employer.

(iii) Each report required by this subsection shall relate the following information: Establishment name, location of the incident, time of the incident, number of fatalities or hospitalized employees, contact person, phone number, and a brief description of the incident.

(b) Equipment involved in an incident resulting in an immediate or probable fatality or in the in-patient hospitalization of any employee, shall not be moved, until a representative of the department investigates the incident and releases such equipment, except where removal is essential to prevent further incident. Where necessary to remove the victim, such equipment may be moved only to the extent of making possible such removal.

(c) Upon arrival of a department investigator, employer shall assign to assist the investigator, the immediate supervisor and all employees who were witnesses to the incident, or whoever the investigator deems necessary to complete the investigation.

(6) A system for maintaining records of occupational injuries and illnesses as prescribed by chapter 296-27 WAC.

Note: Recordable cases include:

- (a) Every occupational death.
- (b) Every industrial illness.
- (c) Every occupational injury that involves one of the following:
 - (i) Unconsciousness.
 - (ii) Inability to perform all phases of regular job.
 - (iii) Inability to work full time on regular job.
 - (iv) Temporary assignment to another job.
 - (v) Medical treatment beyond first aid.

All employers with eleven or more employees shall record occupational injury and illness information on forms OSHA 101 - supplementary record occupational injuries and illnesses and OSHA 200 - log and summary. Forms other than OSHA 101 may be substituted for the supplementary record of occupational injuries and illnesses if they contain the same items.

(7) Personal protective equipment required by this standard shall be provided at no cost to employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-78-515, filed 2/17/09, effective 4/1/09; 08-05-012, § 296-78-515, filed 2/8/08, effective 4/1/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 01-11-038, § 296-78-515, filed 5/9/01, effective 9/1/01. Statutory Authority: Chapter 49.17 RCW, 94-20-057 (Order 94-16), § 296-78-515, filed 9/30/94, effective 11/20/94; 91-24-017 (Order 91-07), § 296-78-515, filed 11/22/91, effective 12/24/91; 89-11-035 (Order 89-03), § 296-78-515, filed 5/15/89, effective 6/30/89. Statutory Authority: RCW 49.17.040, 49.17.050 and 49.17.240, 81-18-029 (Order 81-21), § 296-78-515, filed 8/27/81.]

Chapter 296-104 WAC

BOARD OF BOILER RULES—SUBSTANTIVE

WAC

296-104-015	Administration—When and where are the board meetings held?
296-104-018	Administration—How are rules interpreted and revised?
296-104-019	Administration—How are Washington state specials and extensions of inspection frequencies for boilers and pressure vessels obtained?
296-104-020	Administration—What are the filing requirements for boilers and unfired pressure vessels before their installation/reinstallation?
296-104-100	Inspection—How often must boilers and unfired pressure vessels be inspected?
296-104-200	Construction—What are the standards for new construction?
296-104-205	Construction—What are the requirements for nonstandard new construction?
296-104-273	Installation—What inspections are required for reinstalled standard boilers or unfired pressure vessels?

**DISPOSITION OF SECTIONS FORMERLY
CODIFIED IN THIS CHAPTER**

296-104-310 Installation—How many exits are required in boiler rooms? [Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, 70.79.350, and chapter 70.79 RCW. 02-23-036, recodified as § 296-104-310, filed 11/13/02, effective 12/14/02. Statutory Authority: RCW 70.79.030 and 70.79.040. 97-20-109, § 296-104-305, filed 9/30/97, effective 10/31/97; Part V, § 2, filed 3/23/60.] Repealed by 09-12-033, filed 5/27/09, effective 6/30/09. Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350.

WAC 296-104-015 Administration—When and where are the board meetings held? The board of boiler rules shall hold its regular meetings in February, May, September and November of each year. The time, place, and date of each regular meeting shall be set by the department, approved by the board chair and published annually. Special meetings may be called by the chair.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-015, filed 5/27/09, effective 6/30/09. Statutory Authority: RCW 70.79.030 and 70.79.040. 99-22-026, § 296-104-015, filed 10/26/99, effective 11/26/99; 95-19-058, § 296-104-015, filed 9/15/95, effective 10/16/95. Statutory Authority: RCW 70.79.040. 91-11-107, § 296-104-015, filed 5/22/91, effective 6/22/91. Statutory Authority: RCW 70.79.050. 90-07-082, § 296-104-015, filed 3/21/90, effective 4/21/90. Statutory Authority: RCW 70.79.040 and 70.79.050. 86-01-088 (Order 85-26), § 296-104-015, filed 12/19/85; Order 72-11, § 296-104-015, filed 7/7/72.]

WAC 296-104-018 Administration—How are rules interpreted and revised? Stakeholder requests for clarifications and interpretations of these rules shall be made to the chief inspector in writing upon the form furnished by the chief inspector located on the boiler program web site. Interpretations will be brought to the board in the same manner if the inquirer is aggrieved by the interpretation of the chief inspector (RCW 70.79.360). For board consideration the form must be submitted to the department of labor and industries forty-five days prior to the board of boiler rules meeting date. Forms may also be requested by contacting the department.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-018, filed 5/27/09, effective 6/30/09; 07-11-137, § 296-104-018, filed 5/22/07, effective 6/30/07; 05-22-092, § 296-104-018, filed 11/1/05, effective 1/1/06. Statutory Authority: RCW 70.79.030 and 70.79.040. 99-22-026, § 296-104-018, filed 10/26/99, effective 11/26/99. Statutory Authority: RCW 70.79.040. 92-11-070, § 296-104-018, filed 5/20/92, effective 6/20/92.]

WAC 296-104-019 Administration—How are Washington state specials and extensions of inspection frequencies for boilers and pressure vessels obtained? Stakeholders may request a Washington state special or an extension of inspection frequencies for boilers and pressure vessels by submitting a written request to the board of boiler rules. The request shall be in writing upon the appropriate form furnished by the chief inspector located on the boiler program web site. These requests shall be submitted to the department of labor and industries forty-five days prior to the board of boiler rules meeting date.

(1) Washington state specials may be granted for boilers and pressure vessels that meet the requirements of RCW

70.79.060, WAC 296-104-205, 296-104-210, and 296-104-220.

(2) Extension of inspection frequencies may be granted for boilers and pressure vessels that meet the requirements of RCW 70.79.240 and 70.79.260.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-019, filed 5/27/09, effective 6/30/09.]

WAC 296-104-020 Administration—What are the filing requirements for boilers and unfired pressure vessels before their installation/reinstallation? A "boiler and pressure vessel installation/reinstallation permit," as defined in WAC 296-104-010 shall be submitted by the owner or designee on a form approved by the chief inspector.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-020, filed 5/27/09, effective 6/30/09. Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, 70.79.350, and chapter 70.79 RCW. 02-23-036, § 296-104-020, filed 11/13/02, effective 12/14/02; 01-24-061, § 296-104-020, filed 11/30/01, effective 12/31/01. Statutory Authority: RCW 70.79.030 and 70.79.040. 99-22-026, § 296-104-020, filed 10/26/99, effective 11/26/99; 95-19-058, § 296-104-020, filed 9/15/95, effective 10/16/95; Order 74-37, § 296-104-020, filed 11/8/74; Part II, § 1, filed 3/23/60.]

WAC 296-104-100 Inspection—How often must boilers and unfired pressure vessels be inspected? In accordance with RCW 70.79.080, 70.79.090, and 70.79.240 the following inspection requirements shall apply:

(1) **Power boilers** shall be inspected:

(a) Externally while under pressure - Annually.

(b) Internally and externally while not under pressure - Annually, except as noted in the following paragraph.

A power boiler in a national board accredited owner-user inspection program may have the internal inspection intervals extended by the owner-user inspection organization to five years maximum under the following conditions:

(i) The boiler water treatment and specific chemical limits are prescribed and monitored by an individual or company that specializes in the water treatment field;

(ii) Nondestructive examination (NDE) is performed along with the internal inspections;

(iii) The boiler is monitored within a manned operating facility;

(iv) Inspection, maintenance, and water treatment records are maintained;

(v) There is sufficient inspection history for the boiler or a boiler in similar service to justify the increase in the inspection interval; and

(vi) This provision shall not apply to a black liquor recovery boiler or any boiler with an unsuitable corrosion rate, remaining life, and/or repair history.

(2) **Organic vapor boilers** shall be inspected:

(a) Externally while under pressure - Annually.

(b) Internally and externally while not under pressure - Biennially.

(3) **Low pressure heating boilers** shall be inspected:

(a) Externally while in operation and under pressure - Biennially.

(b) Where construction permits, internally while not under pressure. Also, as a minimum, an internal of their low

water fuel cutoff(s) must be completed, where construction permits - Biennially.

(4) **Hot water heaters** shall be inspected:

(a) Externally - Biennially.

(b) Internally - None required.

(5) **Unfired pressure vessels** shall be inspected:

(a) Externally - Biennially.

(b) Internally:

(i) When subject to corrosion and construction permits - Biennially. Vessels in an owner-user inspection program may follow intervals established by the NBIC or API-510 ninth edition with addenda.

(ii) Pulp or paper dryer rolls may be inspected on a five-year basis in accordance with TAPPI TIP 0402-16 2001 edition, provided the owner has established a written inspection program accepted by the inspector that meets the minimum requirements of TAPPI TIP 0402-16 2001 edition.

(iii) Vessels not subject to corrosion do not require an internal.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-100, filed 5/27/09, effective 6/30/09; 08-12-015, § 296-104-100, filed 5/27/08, effective 6/30/08. Statutory Authority: Chapter 70.79 RCW. 04-21-069, § 296-104-100, filed 10/19/04, effective 1/1/05. Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, 70.79.350, and chapter 70.79 RCW. 04-01-194, § 296-104-100, filed 12/24/03, effective 1/24/04; 01-24-061, § 296-104-100, filed 11/30/01, effective 12/31/01. Statutory Authority: RCW 70.79.030 and 70.79.040. 99-22-026, § 296-104-100, filed 10/26/99, effective 11/26/99; 98-22-024, § 296-104-100, filed 10/28/98, effective 11/28/98; 95-19-058, § 296-104-100, filed 9/15/95, effective 10/16/95. Statutory Authority: RCW 70.79.040. 94-21-002, § 296-104-100, filed 10/5/94, effective 11/5/94; Part III, § 1, filed 3/23/60.]

WAC 296-104-200 Construction—What are the standards for new construction? The standards for new construction are:

(1) ASME Boiler and Pressure Vessel Code, 2007 edition, with addenda Sections I, III, IV, VIII, Division 1, 2, 3, X, XII;

(2) ASME PVHO-1 2007 Safety Standard for Pressure Vessels for Human Occupancy; and

(3) Standards of construction approved by the chief inspector and meeting the National Board Criteria for Registration of Boilers, Pressure Vessels and Other Pressure Retaining Items.

These codes and standards may be used on or after the date of issue and become mandatory twelve months after adoption by the board as specified in RCW 70.79.050(2). ASME Code Cases may be approved for use when accepted by the chief inspector. The board recognizes that the ASME Code states that new editions of the code become mandatory on issue and that subsequent addenda become mandatory six months after the date of issue. For nuclear systems, components and parts the time period for addenda becoming mandatory is defined in the Code of Federal Regulations.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-200, filed 5/27/09, effective 6/30/09; 08-24-072, § 296-104-200, filed 12/1/08, effective 1/1/09; 08-12-015, § 296-104-200, filed 5/27/08, effective 6/30/08; 06-24-042, § 296-104-200, filed 11/30/06, effective 1/1/07; 05-22-092, § 296-104-200, filed 11/1/05, effective 1/1/06. Statutory Authority: Chapter 70.79 RCW. 04-21-069, § 296-104-200, filed 10/19/04, effective 1/1/05. Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, 70.79.350, and chapter 70.79 RCW. 02-23-036, § 296-104-200, filed 11/13/02, effective

12/14/02; 01-24-061, § 296-104-200, filed 11/30/01, effective 12/31/01. Statutory Authority: RCW 70.79.030, 70.79.040 and chapter 70.79 RCW. 00-21-024, § 296-104-200, filed 10/10/00, effective 11/13/00. Statutory Authority: RCW 70.79.030 and 70.79.040. 98-22-024, § 296-104-200, filed 10/28/98, effective 11/28/98; 97-20-109, § 296-104-200, filed 9/30/97, effective 10/31/97; 96-21-081, § 296-104-200, filed 10/16/96, effective 11/16/96. Statutory Authority: RCW 70.79.040. 93-12-014, § 296-104-200, filed 5/21/93, effective 6/21/93; 92-11-070, § 296-104-200, filed 5/20/92, effective 6/20/92; 91-11-107, § 296-104-200, filed 5/22/91, effective 6/22/91; 90-04-009, § 296-104-200, filed 1/26/90, effective 2/26/90. Statutory Authority: RCW 70.79.040 and 70.79.050. 86-01-088 (Order 85-26), § 296-104-200, filed 12/19/85. Statutory Authority: RCW 70.79.030 and 70.79.330. 84-11-016 (Order 84-09), § 296-104-200, filed 5/10/84; 82-24-025 (Order 82-36), § 296-104-200, filed 11/23/82, effective 1/1/83. Statutory Authority: RCW 70.79.030. 82-05-003 (Order 82-2), § 296-104-200, filed 2/4/82; 81-12-012 (Order 81-10), § 296-104-200, filed 5/28/81; 81-01-114 (Order 80-28), § 296-104-200, filed 12/24/80; 80-05-065 (Order 80-7), § 296-104-200, filed 4/23/80; 79-05-054 (Order 79-7), § 296-104-200, filed 4/30/79; 78-10-096 (Order 78-19), § 296-104-200, filed 10/3/78; Order 77-23, § 296-104-200, filed 11/8/77; Order 77-9, § 296-104-200, filed 5/26/77; Order 75-35, § 296-104-200, filed 10/29/75; Order 74-37, § 296-104-200, filed 11/8/74; Order 73-1, § 296-104-200, filed 3/22/73; Order 72-17, § 296-104-200, filed 9/28/72; Order 72-11, § 296-104-200, filed 7/7/72; Part IV, § 1, filed 3/23/60.]

WAC 296-104-205 Construction—What are the requirements for nonstandard new construction? Those boilers and unfired pressure vessels that are exempted by the codes adopted in WAC 296-104-200 due to volume, temperature or pressure requirements, and are not to be constructed to those codes, must be certified to a nationally recognized testing agency or constructed to WAC 296-104-230. See WAC 296-104-316 for safety pressure relief devices.

Other boilers and unfired pressure vessels that are not to be constructed to the codes adopted in WAC 296-104-200 may be treated as special designs at the discretion of the board. Nonstandard construction shall not be permitted to avoid standard construction.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-205, filed 5/27/09, effective 6/30/09. Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, 70.79.350, and chapter 70.79 RCW. 01-24-061, § 296-104-205, filed 11/30/01, effective 12/31/01. Statutory Authority: RCW 70.79.030, 70.79.040 and chapter 70.79 RCW. 00-21-024, § 296-104-205, filed 10/10/00, effective 11/13/00. Statutory Authority: RCW 70.79.030 and 70.79.040. 96-21-081, § 296-104-205, filed 10/16/96, effective 11/16/96; Part IV, § 2, filed 3/23/60.]

WAC 296-104-273 Installation—What inspections are required for reinstalled standard boilers or unfired pressure vessels? When a stationary standard boiler or unfired pressure vessel is moved and reinstalled it must be inspected and documented on the inspection report by an inspector. The following will be required:

(1) An installation permit must be submitted in accordance with WAC 296-104-020.

(2) The fittings and appurtenances must comply with the latest codes adopted in WAC 296-104-200. For automatically fired boilers, fuel controls and other limit devices as listed in WAC 296-104-303 shall be provided.

(3) For any boiler or unfired pressure vessel not currently registered with the department, the following are required unless waived by the inspector:

(a) A hydrostatic or pressure test as prescribed in the original code of construction.

(b) An internal inspection.

(c) An operational test.

- (d) Any repairs deemed necessary.
- (e) A complete history of inspection, operation and repairs/alterations.
- (f) Additional examination or nondestructive testing.
- (g) A written evaluation by a professional engineer knowledgeable with boilers and pressure vessels, an ASME certificate holder, or a National Board R certificate holder.

[Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, and 70.79.350. 09-12-033, § 296-104-273, filed 5/27/09, effective 6/30/09. Statutory Authority: RCW 70.79.030, 70.79.040, 70.79.150, 70.79.290, 70.79.330, 70.79.350, and chapter 70.79 RCW. 02-23-036, recodified as § 296-104-273, filed 11/13/02, effective 12/14/02; 01-24-061, § 296-104-256, filed 11/30/01, effective 12/31/01. Statutory Authority: RCW 70.79.030 and 70.79.040. 96-21-081, § 296-104-256, filed 10/16/96, effective 11/16/96.]

**Chapter 296-127 WAC
PREVAILING WAGE**

WAC
296-127-01322 Electronic technicians.

WAC 296-127-01322 Electronic technicians. (1) For the purpose of the Washington state public works law, chapter 39.12 RCW, electronic technicians install, operate, inspect, maintain, repair, and service:

- (a) Radio, television and recording systems and devices;
 - (b) Systems for paging, intercommunication, public address, wired music, clocks, security and surveillance systems and mobile radio systems; and
 - (c) Fire alarm and burglar systems.
- (2) When installed for the specific purpose of carrying low voltage wiring, the work identified in subsection (1) of this section includes:
- (a) Installing unlimited lengths of nonmetallic conduit;
 - (b) Installing incidental metallic conduits of no longer than ten feet nor larger than one inch;
 - (c) Pulling wiring through conduit, except as provided in subsection (3) of this section; and
 - (d) All the cleanup required in connection with electronic technician's work.

(3) The work identified in subsection (1) of this section does not include pulling wiring through conduit that exceeds ten feet in length for the purpose of installing fire alarm systems.

[Statutory Authority: Chapter 39.12 RCW and RCW 43.22.270. 09-19-118, § 296-127-01322, filed 9/22/09, effective 11/1/09. Statutory Authority: Chapter 39.12 RCW, RCW 43.22.270 and 43.22.051. 00-15-077, § 296-127-01322, filed 7/19/00, effective 7/19/00.]

**Chapter 296-155 WAC
SAFETY STANDARDS FOR CONSTRUCTION
WORK**

WAC	
296-155-17317	Respiratory protection.
296-155-174	Cadmium.
296-155-17613	Respiratory protection.
296-155-17625	Employee information and training.
296-155-200	General requirements for personal protective equipment (PPE).
296-155-205	Head protection.
296-155-717	Training.

WAC 296-155-17317 Respiratory protection. (1) General. For employees who use respirators required by this section, the employer must provide each employee with an appropriate respirator that complies with the requirements of this section. Respirators must be used during:

- (a) Periods necessary to install or implement feasible engineering and work-practice controls.
- (b) Work operations, such as maintenance and repair activities and spray application processes, for which engineering and work-practice controls are not feasible.
- (c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the PELs.

(d) Emergencies.

(2) Respirator program. The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(3) Respirator selection.

(a) The employer must select and provide to employees appropriate respirators as specified in this section and WAC 296-842-13005 in the respirator rule.

(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.

(c) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(d) Provide to employees, for escape, one of the following respirator options:

(i) Any self-contained breathing apparatus with a full facepiece or hood, operated in the positive-pressure or continuous-flow mode

OR

(ii) A full facepiece air-purifying respirator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-15-145, § 296-155-17317, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-155-17317, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-155-17317, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050. 99-10-071, § 296-155-17317, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW. 93-04-111 (Order 92-15), § 296-155-17317, filed 2/3/93, effective 3/15/93.]

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 equipment 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 breathing-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

(B) The employee is not exposed above the PEL on thirty or more days per year (twelve 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. For employees who use respirators required by this section, the employer must provide each employee with an appropriate respirator that complies with the requirements of this section. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering and work-practice controls when employee exposures exceed the PEL.

(ii) Maintenance and repair activities, and brief or intermittent operations, 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 specified in subsection (5) of this section.

(iv) 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) Emergencies.

(vi) Work operations for which an employee, who is exposed to cadmium at or above the action level, requests a respirator.

(vii) 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 program.

(i) The employer must develop, implement, and maintain a respiratory protection program as required by chapter 296-842 WAC, except WAC 296-842-14005, which covers each employee required by this chapter to use a respirator.

(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. The employer must:

(i) Select and provide the appropriate respirator as specified in this section and WAC 296-842-13005 in the respirator rule.

- Provide employees with full facepiece respirators when they experience eye irritation.

- Make sure high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 series filters are provided for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(ii) The employer shall provide a powered, air-purifying respirator (PAPR) instead of a negative-pressure respirator 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 situations 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 cad-

mium 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 cad-

mium 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 thirty or more days per year (twelve consecutive months); and

(II) Is not currently exposed by the employer in those tasks on thirty 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 twelve 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 (B₂-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 (B₂-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 thirty days after initial assignment to a job with exposure to cadmium or no later than ninety 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 (B₂-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 twelve 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, B₂-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, B₂-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 B₂-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 thirty 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 ninety 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, B₂-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 B₂-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 ninety 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 B₂-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, B₂-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 B₂-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 ninety 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 B₂-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, B₂-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 forty 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, B₂-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 B₂-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.

(B) If the initial biological monitoring results for CdU, CdB, or B₂-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 B₂-M levels no longer exceed 300 µg/g Cr, the employer shall provide biological monitoring for CdU, CdB, and B₂-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, B₂-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 twelve 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 ninety days after this section goes into effect, whichever date is later, to any employee without a medical examination within the preceding twelve 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 B₂-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 B₂-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 B₂-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 cadmium 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 eighteen 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 eighteen 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 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 thirty days after a request by an employee, the employer shall provide the employee with the informa-

tion 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) Multiemployer workplace. In a multiemployer 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 296-800-170 of the chemical hazard communication program 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 eight-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 years, in accordance with chapter 296-802 WAC.

(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 years, in accordance with chapter 296-802 WAC.

(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 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 chapter 296-802 WAC.

(ii) Within fifteen 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 chapter 296-802 WAC.

(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) Appendices.

(a) Compliance with the fit testing requirements in WAC 296-842-15005 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-155-174, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-155-174, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-155-174, filed 1/18/05, effective 3/1/05; 04-10-026, § 296-155-174, filed 4/27/04, effective 8/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-155-174, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-155-174, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 94-15-096 (Order 94-07), § 296-155-174, filed 7/20/94, effective 9/20/94; 93-21-075 (Order 93-06), § 296-155-174, filed 10/20/93, effective 12/1/93; 93-07-044 (Order 93-01), § 296-155-174, filed 3/13/93, effective 4/27/93.]

WAC 296-155-17613 Respiratory protection. (1)

General. For employees who use respirators required by WAC 296-155-176, the employer must provide each employee with an appropriate respirator that complies with the requirements of this section. Respirators must be used during:

(a) Periods when an employee's exposure to lead exceeds the PEL.

(b) Work operations for which engineering controls and work-practices are not sufficient to reduce employee exposures to or below the PEL.

(c) Periods when an employee requests a respirator.

(d) 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 program.

(a) The employer must develop, implement, and maintain a respiratory protection program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

(b) 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. The employer must:

(a) Select and provide for employees appropriate respirators according to this section and WAC 296-842-13005 in the respirator rule.

(b) Provide employees with a powered air-purifying respirator (PAPR) when an employee chooses to use a PAPR and it provides adequate protection to the employee.

(c) Provide employees with full facepiece respirators instead of half facepiece respirators for protection against lead aerosols that may cause eye or skin irritation at the use concentration.

(d) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-155-17613, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-155-17613, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-155-17613, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040 and [49.17].050, 99-10-071, § 296-155-17613, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 93-22-054 (Order 93-07), § 296-155-17613, 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, chapter 296-800 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) The employer shall train each employee who is subject to exposure to lead at or above the action level on any day or who is subject to exposure to lead compounds which may cause skin or eye irritation (e.g., lead arsenate, lead azide), in accordance with the requirements of this chapter. The employer shall institute a training program in accordance with subsection (2) of this section and ensure 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 training requirements for respiratory protection as required by WAC 296-842-110, 296-842-19005, and 296-842-16005;

(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 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 and chapter 296-800 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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-155-17625, filed 7/21/09, effective 9/1/09; 05-20-055, § 296-155-17625, filed 10/3/05, effective 12/1/05; 05-03-093, § 296-155-17625, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 01-11-038, § 296-155-17625, filed 5/9/01, effective 9/1/01; 99-10-071, § 296-155-17625, filed 5/4/99, effective 9/1/99. Statutory Authority: Chapter 49.17 RCW, 93-22-054 (Order 93-07), § 296-155-17625, filed 10/29/93, effective 12/10/93.]

WAC 296-155-200 General requirements for personal protective equipment (PPE). (1) Supplying personal protective equipment

(a) Personal protective equipment (PPE) must be used wherever physical contact, absorption, or inhalation of a hazard could cause any injury or impairment to the function of any part of the body.

These hazards include:

- Hazardous processes;
- Environmental hazards;
- Chemical hazards;
- Radiological hazards;

OR

- Mechanical irritants.

Note: PPE includes:

- Protective equipment for eyes, face, head, hearing, and extremities;
 - Protective clothing;
 - Respiratory devices;
- AND**
- Protective shields and barriers.

(b) PPE must be maintained in a sanitary and reliable condition.

Reference: For requirements on maintaining specific personal protective equipment (PPE), see the following rules.

- Chapter 296-842 WAC, Respirators;

AND

- Chapter 296-817 WAC, Hearing loss prevention.

(c) If employees provide their own protective equipment, then the employer is responsible to make sure the PPE is:

- Adequate;
- Properly maintained;

AND

- Sanitary.

(d) All personal protective equipment must be of safe design and construction for the work to be performed.

(2) Minimum clothing requirements.

(a) Employers must ensure that employees wear at least:

- A short-sleeved shirt;
- Long pants;

AND

• Shoes that meet the requirements of WAC 296-155-212, Foot protection.

Definition:

A *short-sleeved shirt* covers the top of the shoulder and has material extending down the arm. If a short-sleeved shirt has a seam at the end of the shoulder, the material must extend down the arm from the seam.

Long pants have legs that extend past the knee when the wearer stands and leaves no exposed skin on the lower leg.

(b) Where there is a danger of contact with moving parts of machinery, or the work process is such that a hazard exists:

• The clothing of employees must fit closely about the body.

• Dangling neck wear, bracelets, wristwatches, rings, or similar articles must not be worn by employees.

Note: For additional related requirements see WAC 296-155-205, Head protection.

(3) The employer must require employees to wear appropriate PPE in all operations where:

- There is an exposure to hazardous conditions;

OR

• WAC 296-155-200, General requirements for personal protective equipment (PPE), indicates a need for using such equipment to reduce the hazards to the employees.

(4) Employees must comply with job safety practices and procedures and PPE requirements that are relevant to the job site.

(5) High visibility garments.

(a) During daylight hours, when employees' duties are performed in close proximity to moving vehicles, employers must make sure that employees wear a high-visibility safety vest, shirt, or jacket that is fluorescent yellow-green, fluorescent orange-red, or fluorescent red in color. This garment must always be worn as an outer garment.

Definition:

For the purpose of this rule, *hours of darkness* means from one-half hour before sunset to one-half hour after sunrise.

(b) During hours of darkness, when employees' duties are performed in close proximity to moving vehicles, the employer must make sure that employees wear, at a minimum, a high-visibility safety vest, shirt, or jacket:

• Designed according to ANSI/ISEA 107-1999 Class 2 specifications;

- Worn as an outer garment;

AND

• Worn to provide three hundred sixty degrees of visibility around the employee.

Note: A high-visibility garment meets Class 2 specifications if the garment:

- Has an ANSI "Class 2" label;

OR

- Has at least seven hundred seventy-five square inches of background material and two hundred one square inches of retroreflective material that encircles the torso and is placed to provide three hundred sixty degrees of visibility around the employee.

Note: Fading and soiling may degrade the high-visibility characteristics of the garments.

- ANSI/ISEA 107-1999 is available by:

– Purchasing copies of ANSI/ISEA 107-1999 by writing:

– American National Standards Institute

11 West 42nd Street

New York, NY 10036

OR

– Contacting the ANSI web site at <http://web.ansi.org/>.

OR

- Reading a copy of ANSI/ISEA 107-1999 at any Washington state library.

(6) Payment for PPE. Except as provided in (a) through (e) of this subsection, the protective equipment, including PPE, used to comply with this chapter shall be provided by the employer at no cost to employees.

(a) The employer is not required to pay for nonspecialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and nonspecialty prescription safety eyewear, provided that the employer permits such items to be worn off the job site.

(b) When the employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, the employer is not required to reimburse the employee for the shoes or boots.

(c) The employer is not required to pay for:

• Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots;

• Ordinary clothing, skin creams, or other items used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

(d) The employer must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE.

(e) Where an employee provides adequate protective equipment he or she owns to meet the requirements of this chapter, the employer may allow the employee to use it and is not required to reimburse the employee for that equipment. The employer shall not require an employee to provide or pay for his or her own PPE, unless the PPE is excepted in (a) through (d) of this subsection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-155-200, filed 2/17/09, effective 4/1/09; 04-24-089, § 296-

155-200, filed 12/1/04, effective 1/1/05. Statutory Authority: RCW 49.17-010, [49.17].040, and [49.17].050. 01-11-038, § 296-155-200, filed 5/9/01, effective 9/1/01. Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-155-200, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-074 (Order 86-14), § 296-155-200, filed 1/21/86; Order 76-29, § 296-155-200, filed 9/30/76; Order 74-26, § 296-155-200, filed 5/7/74, effective 6/6/74.]

WAC 296-155-205 Head protection. (1) All employees on any construction site shall be provided an individual hard hat which meets all requirements of (a) and (b) of this subsection.

(a) Hard hats for the protection of employees against impact and/or penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.

(b) Hard hats for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.

(2) All employees must have their individual hard hats on site and readily available at all times.

(3) All employees shall wear a hard hat on any construction site whenever there is a potential exposure to danger of flying or falling objects to persons working or occupying the area.

Note: The hard hat may be removed whenever there is no potential exposure to a hazard.

(4)(a) Employees working on asphalt paving crews exposed to extreme temperatures from hot mix and not exposed to falling objects do not have to wear protective hard hats.

(b) Flaggers working with asphalt paving operations must comply with the requirements of WAC 296-155-305.

(5) Caps with metal buttons or metal visors shall not be worn around electrical hazards.

(6) Employees working near moving machinery or in locations which present a hair-catching or fire hazard shall wear caps, nets or other head and face protection that will completely contain the hair.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-05-071, § 296-155-205, filed 2/17/09, effective 4/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, 2000 c 239, and chapter 34.05 RCW. 01-04-015, § 296-155-205, filed 1/26/01, effective 2/28/01. Statutory Authority: Chapter 49.17 RCW. 91-11-070 (Order 91-01), § 296-155-205, filed 5/20/91, effective 6/20/91; 89-11-035 (Order 89-03), § 296-155-205, filed 5/15/89, effective 6/30/89. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-074 (Order 86-14), § 296-155-205, filed 1/21/86; Order 74-26, § 296-155-205, filed 5/7/74, effective 6/6/74.]

WAC 296-155-717 Training. (1) **Training personnel.** Training required by this section must be provided by a qualified person(s).

(2) **Fall hazard training.** The employer shall train each employee exposed to a fall hazard in accordance with the requirements of this chapter. The employer shall institute a training program as required by chapter 296-155 WAC, Part C-1, and ensure employee participation in the program.

(3) **Special training programs.** In addition to the training required in subsection (2) of this section, the employer must provide special training to employees engaged in the following activities:

(a) Multiple lift rigging procedure. The employer must ensure that each employee who performs multiple lift rigging has been provided training in the following areas:

(i) The nature of the hazards associated with multiple lifts; and

(ii) The proper procedures and equipment to perform multiple lifts required by WAC 296-155-704(5).

(b) Connector procedures. The employer must ensure that each connector has been provided training in the following areas:

(i) The nature of the hazards associated with connecting (see Appendix D for nonmandatory training guidelines); and

(ii) The establishment, access, proper connecting techniques, double connections, and work practices, required by WAC 296-155-708(3) and Part C-1, chapter 296-155 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-15-145, § 296-155-717, filed 7/21/09, effective 9/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-13-115, § 296-155-717, filed 6/19/02, effective 9/1/02.]

Chapter 296-200A WAC

CONTRACTOR CERTIFICATE OF REGISTRATION RENEWALS—SECURITY—INSURANCE

WAC

296-200A-015	What terms do I need to know to understand this chapter?
296-200A-016	What are the definitions of the specialty contractor classifications for the purpose of contractor registration only?
296-200A-025	How does a contractor register, renew, reregister or reinstate its registration?
296-200A-040	What can cause the suspension of a contractor's registration?
296-200A-041	When will the department deny an application for registration, renewal or reinstatement?
296-200A-400	What monetary penalties will be assessed for an infraction issued for violations of RCW 18.27.040, 18.27.100, 18.27.110, 18.27.114 or 18.27.200?

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-200A-401	When will the department deny an application for registration, renewal or reinstatement? [Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-401, filed 8/4/08, effective 9/4/08.] Repealed by 09-10-079, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2008 c 120.
296-200A-402	When will the department suspend an active contractor registration? [Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-402, filed 8/4/08, effective 9/4/08.] Repealed by 09-10-079, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2008 c 120.

WAC 296-200A-015 What terms do I need to know to understand this chapter? For the purposes of this chapter, the following terms and definitions are important:

"Administrative law judge" is any person appointed by the chief administrative law judge (as defined in RCW 34.12.020(2)) to preside at a notice of infraction appeal hearing convened under chapter 18.27 RCW and this chapter.

"Appeal bond" is a certified check or money order in the amount prescribed under RCW 18.27.250 made payable to the Washington state department of labor and industries.

"Appeal hearing" is any proceeding in which an administrative law judge is empowered to determine legal

rights, duties or privileges of specific parties on behalf of the director.

"Applicant" is any person, firm, corporation or other entity applying to become a registered contractor according to chapter 18.27 RCW and this chapter. Applicant includes all principal officer(s), members, partners of a partnership, firm, corporation, or other entity named on the application.

"Citation" means the same as "infraction."

"Compliance inspector" refers to the departmental staff responsible for investigating potential violations of chapter 18.27 RCW and this chapter.

"Consultant" means any person, individual, firm, agent or other entity who directs, controls or monitors construction activities for a property owner. A general contractor registration is required. A licensed professional acting in the capacity of their license is exempt from registration.

"Contractor compliance chief" refers to the person designated by the director to address all policy and technical issues related to chapter 18.27 RCW and this chapter.

"Department" refers to the department of labor and industries.

"Developer" means any person, firm, corporation or other entity that undertakes:

- The subdivision or development of land for residential purposes; or
- The construction or reconstruction of one or more residential units.

A general contractor registration is required.

"Director" refers to the director of the department of labor and industries or the director's designee acting in the place of the director.

"Final judgment" means any money that is owed to a claimant as a result of court action against or settlement with a contractor and/or contractor's bond or assigned savings account with the department or any money that is owed the department as a result of a contractor's unsuccessful appeal of an infraction. Final judgment also includes any penalties assessed against the contractor and owed the department as a result of an infraction or notice of correction that has not been appealed, final tax warrants or any delinquent fees or penalties due.

"Final tax warrant" is a document used by the department to establish the debt of a tax payer.

"Infraction" means a violation of chapter 18.27 RCW and this chapter as cited by the chief contractor compliance inspector or the department's construction compliance inspectors.

"Mobile/manufactured home dealer" is a vehicle dealer that deals in mobile homes, park trailers, or travel trailers, or more than one type of these vehicles and licensed as required under chapter 46.70 RCW.

"On-premise sign" means a sign at a permanent place of business or a sign placed at a job location while the registered contractor is working at the site. A sign left at a work site after a contractor has left is not an "on-premise" sign and must contain the registered contractor's registration number.

"Property management company" means any person, firm or other entity that in the pursuit of a property management business advertises, bids/offers, or performs construction, maintenance or repair services with their own employ-

ees on property not owned by the property management company. A general contractor registration is required.

"Renewal" or **"renewed"** means the renewal of a contractor's registration before it expires.

"Reinstatement" or **"reinstated"** means the reinstatement of a contractor's registration after the registration has expired, or has been suspended, or been revoked.

"Reregistration" or **"reregister"** means an update to a contractor's registration because of business structure change.

"Secured contractor" is a contractor who has complied with RCW 18.27.040 by assigning to the department a savings account held in a Washington state bank, or by filing with the department a surety bond.

"Security" is a savings account held in a Washington state bank and assigned to the department in lieu of a surety bond.

"Unregistered contractor" means a person, firm, corporation or other entity working as a contractor without being registered in compliance with chapter 18.27 RCW and this chapter.

"Unsatisfied final judgment" means a judgment that has not been satisfied either through payment, court approved settlement, discharge in bankruptcy, or assignment under RCW 19.72.070.

[Statutory Authority: Chapter 18.27 RCW and 2008 c 120. 09-10-079, § 296-200A-015, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-015, filed 8/4/08, effective 9/4/08. Statutory Authority: RCW 18.27.040, 18.27.070, 18.27.075, 18.27.125, 2001 c 159, and chapter 18.27 RCW. 03-20-097, § 296-200A-015, filed 9/30/03, effective 11/17/03. Statutory Authority: Chapter 18.27 RCW. 97-24-071, § 296-200A-015, filed 12/2/97, effective 1/5/98.]

WAC 296-200A-016 What are the definitions of the specialty contractor classifications for the purpose of contractor registration only? (1) "Appliances, equipment"—

A contractor in this specialty installs or replaces appliances where minimal gas and water connection are required, such as a refrigerator with an icemaker, gas clothes dryer, gas cook top, gas oven or other similar appliances and only from the existing shut off at wall or floor to the appliance or an appliance that becomes a fixed part of a structure (use of flex for the connection is limited to six feet or less). *The installation or replacement of dishwashers, hot water tanks, and garbage disposals requires a plumber certification per chapter 18.106 RCW and/or an electrical license per chapter 19.28 RCW.*

(2) **"Asbestos and lead"**—A contractor in this specialty cleans, handles, repairs, removes, encapsulates, encloses, hauls and disposes of paper or hard block insulation on hot water piping, heating ducts, or as molded pipe fitting insulation and joint compounds on furnaces or floor tiles, sheet flooring, ceiling tiles and acoustical (stucco) finishes or as wall and attic insulation materials, or for shingles or siding material and cement pipes for interior or exterior asbestos or lead products. *All asbestos contractors shall adhere to state (DOSH) and/or federal (OSHA) standards regulating all forms of this hazardous material. Asbestos certification per chapter 296-65 WAC is required. Lead abatement certification for workers may be required per chapter 70.103 RCW.*

(3) **"Awnings, canopies, patio covers and exterior screens"**—A contractor in this specialty installs and repairs window awnings, door hoods, exterior screens, freestanding

or attached canopies, and patio covers constructed of metal, fabric, fiberglass, and plastic.

(4) **"Boiler, steam fitting, process piping"**—A contractor in this specialty installs, services and repairs power boiler installations and hot water heating systems, including fire-tube and water-tube steel power boilers and hot water heating low pressure boilers, steam fitting and piping, fittings, valves, gauges, pumps, radiators, convectors, hydraulics, fuel oil tanks and fuel oil lines. Also includes chimney connections, flues, refractories, burners, thermal insulation, and accessories, fuel and nonpotable water lines from source of supply to boilers; process and specialty piping and related equipment, pneumatic and electrical control, sheet insulation and all other equipment, including solar heating equipment associated with these systems. *Work in this specialty may also require plumber certification per chapter 18.106 RCW and/or an electrical license per chapter 19.28 RCW.*

(5) **"Cabinets, millwork and finish carpentry"**—A contractor in this specialty installs cabinets, countertop frames, cases, sashes, doors (including hardware), trims, non-bearing partitions, closets and other items of finish carpentry by cutting, surfacing, joining, gluing, and framing wood and wood products. Also places, erects, fabricates and finishes such cabinets and millwork in structures, including the cutting, framing, installation and finishing of wood and wood products, such as prefabricated cabinets and millwork.

(6) **"Central vacuum systems"**—A contractor in this specialty installs, modifies, or repairs central vacuum systems, pneumatic tube dispatching systems or any other type of pipeline which operates systems of reduced pressure for industrial and residential cleaning. *(This specialty does not include any medical or hazardous waste systems.)*

(7) **"Closets"**—A contractor in this specialty installs, repairs and maintains the lateral or horizontal shelving systems, racks, rails, or drawers involved in a closet or storage system.

(8) **"Commercial/industrial refrigeration"**—A contractor in this specialty installs, alters, and repairs refrigeration equipment and systems used for processing, storage, and display of food products and other perishable commodities for the control of air temperatures below fifty degrees Fahrenheit. This allows construction, fabrication, erection, installation, service, maintenance and repairs of devices, machinery and units, including refrigerators, refrigerated rooms, air-conditioning units and insulated spaces. Also includes installation of any related insulation, ducts, blowers, registers, controls over humidity and thermostatic controls for the control of air, liquid, and/or gas temperatures below fifty degrees Fahrenheit or ten degrees Celsius. *Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(9) **"Concrete"**—A contractor in this specialty completes all work in connection with the processing and placing of concrete composed of materials common to the concrete industry, including finishing, coloring, curing, repairing, testing, drilling, sawing, grinding, chipping, and grouting. Placing film barriers, sealing, and waterproofing are included. The construction, centering, and assembling of forms, molds, slip forms, and pans. *Reregistration is not required for companies who provide concrete pumping services or delivery of materials only.*

(10) **"Construction clean-up"**—A contractor in this specialty cleans up and/or removes from buildings, grounds or structures any debris resulting from any construction project including but not limited to: Concrete, plaster, dry-wall, any paint or adhesive products from windows, floors, ceramic tile and bathroom fixtures. *(Registration is not required for janitorial services, i.e., at final cleaning.)*

(11) **"Demolitions and salvage"**—A contractor in this specialty is involved in the wrecking of existing structures intended for disposal or salvage, by use of tools, equipment or explosives, and the raising, cribbing and underpinning of buildings and other structures so the alterations, repairs and temporary structures may be constructed under the retained and undisturbed portion of the building or other structures. Includes the erection of temporary ramps, barricades, and pedestrian walkways when required for demolition/wrecking and/or salvage projects. *(This specialty does not include the alterations, additions, repairs or rehabilitation of the permanently retained portions of such structures.)*

(12) **"Doors, gates and activating devices"**—A contractor in this specialty installs, modifies or repairs all types of residential, commercial or industrial doors including sliding door assemblies. This includes but is not limited to: Wood and screen doors, metal-clad doors, glass sliding/stationary doors and frames, automatic revolving doors, hospital cubical doors and related installations. *Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(13) **"Drain cleaning and snaking"**—A contractor in this specialty can perform camera examination, cleaning or snaking of building drainage and vent pipes and/or sewer pipe. Nothing in this specialty is intended to waive any plumbing certification requirements of chapter 18.106 RCW or any local enforcement agency code provisions or allow for the removal, installation or replacement of any damaged plumbing parts or fixtures.

(14) **"Drilling, blasting and soil sampling"**—A contractor in this specialty does core and post hole drilling, horizontal drilling (no piping) and drilling for placement of charges and performing blasting work and performs soil sampling. *(Does not include water well drilling.) Work with explosives requires licensing per chapter 70.74 RCW.*

(15) **"Drywall"**—A contractor in this specialty lays out and installs gypsum wall board and gypsum wall board assemblies including nonstructural metal framing members, and performs the taping, primer and texturing operations including the application of compounds that adhere to wall board to produce a continuous smooth or textured surface. Includes interior lath and plaster repair.

(16) **"Electrical"**—Please see chapter 19.28 RCW.

(17) **"Elevator"**—A contractor in this specialty installs, repairs, alters, relocates, demolishes and maintains elevators and other conveyances, including all associated equipment and equipment associated with the safe and efficient installation and operation of electrical, hydraulic and manual operated elevators. *Work in this specialty may also require elevator licensing per chapter 70.78 RCW and/or an electrical license per chapter 19.28 RCW.*

(18) **"Excavation, grading and land clearing"**—A contractor in this specialty digs, moves and alters materials forming the surface of the earth by digging, horizontal bor-

ing, trenching, grading, or compacting the material for a cut, fill, grade, or trench, with hand and power tools, machines and explosives. Included is the placement of shoring, the oiling of base materials, and incidental blasting and drilling. *(This specialty excludes excavating for water, gas, and oil wells.) Use of explosives requires licensing per chapter 70.74 RCW.*

(19) "**Fencing**"—A contractor in this specialty constructs, erects, alters, or repairs all types of fences, corrals, runs, railings, cribs, game court enclosures (excludes roof), guard rails and barriers, backstops, posts, flagpoles, and gates. This includes installing, cutting, shaping, fabricating and repair of metal and wood fencing, cattle guards and supplemental materials. *(This specialty excludes masonry walls.) Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(20) "**Fireproofing and coating**"—A contractor in this specialty applies by industry accepted practices independently qualified fireproofing and coating materials that are fire resistant.

(21) "**Fire protection**"—A contractor in this specialty lays out, fabricates, repairs and installs all types of fire protection systems, including all the equipment associated with these systems using water, steam, gas or chemicals. Systems may include the following areas of work and related equipment: Restaurant hood protection systems; fire pumps and drivers; pressure and storage tanks; all piping and valves; sprinkler heads and nozzles; and application of materials for the prevention of corrosion or freezing. *Work in this specialty may also require an electrical license per chapter 19.28 RCW and/or fire-protection licensing.*

(22) "**Floor covering and counter tops**"—A contractor in this specialty installs, repairs or replaces floor covering materials and related accessories including preparation of the surface to be covered. Included are: Linoleum, carpets, carpet backings and pads, and materials manufactured of asphalt, wood, vinyl, laminates, rubber and material common to the industry installed for sanitary and decorative purposes for nonstructural bearing interior and exterior use. Excludes work outlined in subsection (56) of this section. *Work in this specialty may also require plumber certification per chapter 18.106 RCW and/or an electrical license per chapter 19.28 RCW.*

(23) "**Framing and rough carpentry**"—A contractor in this specialty performs any form work, framing or rough carpentry necessary to construct framed structures; installs or repairs individual components of framing systems and performs any rough carpentry or associated work, including but not limited to the construction or installation of: Subflooring, siding (flat work only), decks, exterior staircases, new exterior doors and railings, fascia, roof decking, truss members and rafters, and sheathing using carpenter hand tools and power tools.

(24) "**Glass and glazing**"—A contractor in this specialty selects, cuts, assembles, and/or installs, replaces and repairs all makes and kinds of glass, glass work, mirrored glass, and glass substitute materials for glazing; executes the installation and glazing of frames, panels, sashes, skylights and glass doors; and/or installs these items in any structure. Also includes the installation of steel and aluminum glass holding members, glass products, and related hardware, as

well as standard methods of weatherproofing, caulking, glazing, sealants, and adhesives.

(25) "**Gutters and downspouts**"—A contractor in this specialty installs, repairs, and maintains gutters and exterior downspouts of metal, wood, and plastic and channel devices common to the industry, for the use of water run-off of the exterior of a building.

(26) "**Handyman**"—A contractor in this specialty must be an individual who does all work personally without employees or other specialty contractors. A handyman may perform more than one unrelated specialty trade or craft provided they do all work themselves. All work shall be limited to minor and casual work of existing residential maintenance and repair with a total dollar value of time and materials under two thousand dollars. Work requiring a building permit may not be done by this specialty. If the registered contractor is a corporation or limited liability company (LLC), one person must be identified as a handyman. *Work in this specialty may also require plumber certification per chapter 18.106 RCW and/or an electrical license per chapter 19.28 RCW.*

(27) "**House moving**"—A contractor in this specialty raises, lowers, cribs, underpins, and moves structures, including their foundations. *(This specialty does not include the alterations, additions, repairs or rehabilitation of such structures.)*

(28) "**Heating, ventilation, air-conditioning and refrigeration (HVAC/R)**"—A contractor in this specialty fabricates, installs, services, and maintains equipment for the purpose of heating and cooling of indoor air. Systems may include the following areas of work and related equipment using industry accepted materials: Duct work; air filtering devices; water treatment devices; pneumatic controls; control piping; thermal and acoustical insulation; vibration isolation materials and devices; liquid fuel (propane) piping and tanks; gas piping from service connection to equipment it serves; and stainless steel kitchen systems. Includes the testing and balancing of the air handling systems. Also includes systems that utilize solar energy. *Work in this specialty may also require electrical licensing per chapter 19.28 RCW and/or plumber certification per chapter 18.106 RCW.*

(29) "**Industrial equipment/machines**"—A contractor in this specialty installs all industrial machinery such as generators, compressors and processors which are bolted or otherwise attached so as to be permanently affixed to a structure. *Work in this specialty may also require an electrical license per chapter 19.28 RCW and/or plumber certification per chapter 18.106 RCW.*

(30) "**Institutional equipment, stationary furniture, lab tables, lockers**"—A contractor in this specialty installs, alters and repairs equipment and furniture that become a fixed part of the structure, such as stationary desks, lockers, chalkboards, shelving, storage, seats in an auditorium (including stationary bleachers) and equipment used in a stage or gymnasium. Work includes the installation, alteration and repair of institutional kitchen equipment and laboratory equipment, such as stationary counters and tables, shelving partitions, and such other equipment as is generally accepted for use as commercial building accessory.

(31) "**Insulation and acoustical**"—A contractor in this specialty installs, alters, and repairs insulation materials used for the nonmechanical control of heat, sound, and moisture

for use in the construction of structures and equipment. Work includes installation methods and devices such as supports, fastening systems, adhesives, mastics, plastics, weather-stripping and material used for the preparation of insulation work and common to the industry. Also includes application and installation of materials to protect or finish insulated surfaces.

(32) "**Irrigation sprinkler systems**"—A contractor in this specialty installs, repairs, and maintains sprinkler systems to distribute water for the purpose of irrigation, dust and soil erosion control using equipment, materials, and fittings common to the industry. Connections to potable water lines, installation of backflow prevention devices for nonpotable water, installation of hose bibs and installation of service lines from source of supply are permitted only when they are an integral part of the sprinkler system and outside a building. *The use of pumps to draw or boost the pressure from any source of water that are used on a residential sprinkler system or for irrigation on a farm require plumber certification per chapter 18.106 RCW and/or an electrical license per chapter 19.28 RCW. (If both the electrical and plumbing trades are pursued this specialty is not allowed.)*

(33) "**Landscaping**"—A contractor in this specialty constructs, maintains, repairs, installs and develops landscape systems and facilities for public and private gardens and other areas which are designed to aesthetically, architecturally, horticulturally, or functionally improve the ground within or surrounding a structure or tract or plot of land. Also prepares and grades plots; treats, conditions, prepares, and installs topsoil; performs hydroseed spraying; and plants all decorative vegetation. Landscaping includes installation of nonload bearing slabs, walkways and areas using concrete, brick, stone, or gravel; decorative wooden decks; garden walls, fences and screens up to six feet in height; and all other materials and equipment common to the industry. This specialty includes installation of residential lawn sprinklers (without pumps), ponds and water-features. *(Excluded from this specialty are cast in place or tilt up concrete, load bearing walls for structures, perimeter fencing along property lines or boundaries.) Work in this specialty may also require an electrical license per chapter 19.28 RCW and/or plumber certification per chapter 18.106 RCW. Registration is not required for companies who only deliver material and are not installing or placing the product.*

(34) "**Lathing and plastering**"—A contractor in this specialty coats surfaces with a mixture of sand, gypsum plaster, quick-lime or hydrated lime and water, or sand and cement and water, or a combination of such other materials that create a permanent surface coating, including coatings for the purpose of soundproofing and fireproofing. These coatings are applied with a plasterer's trowel or sprayed over any surface which offers a mechanical means for the support of such coating, and will adhere by suction. This contractor also installs lath (including metal studs) or any other material prepared or manufactured to provide a base or bond for such coating.

(35) "**Locks, security alarms and warning systems**"—A contractor in this specialty sets up, installs, maintains and repairs all doors and door assemblies, gates, locks and locking devices, panic and fire rated exit devices, manual and automatic operated gate and door closures and releases, jail and prison locking devices and permanently installed or

built-in safes and vaults as well as early warning systems. *Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(36) "**Masonry**"—A contractor in this specialty installs concrete units and baked clay products; concrete, glass and clay block; natural and manufactured stone; terra cotta; and firebrick or other material for refractory work. Includes the fabrication and installation of masonry component units for structural load bearing and nonload bearing walls for structures and fences installed with or without mortar; ceramic veneer (not tile) and thin brick that resembles full brick for facing; paving; and clear waterproofing, cleaning and caulking incidental to masonry construction. This specialty also includes chimney cleaning and repair.

(37) "**Manufactured/mobile home set up**"—A contractor in this specialty installs, alters, repairs or prepares for moving any type of manufactured mobile home for the purpose of sitting the home which includes connections of the plumbing, gas, electrical and foundation system. *Installation of electrical wires and equipment that convey electrical power to the home or to an outlet in the home, and the ground cross-over, requires an electrical license per chapter 19.28 RCW. A certified installer per chapter 46.63B RCW must be employed. (Equipment does not include plug-in household appliances.)*

(38) "**Metal fabrication/sheet metal**"—A contractor in this specialty fabricates, installs and repairs architectural and general products made of sheet metal including but not limited to exhaust hoods, counters, etc. This includes layout, cutting, fabrication, and installation of sheet metal products, assembly and installation of premanufactured sheet metal or other industry accepted products, and bracing and reinforcing materials. *(Does not include structural metal fabrication.)*

(39) "**Overhead/garage doors**"—A contractor in this specialty installs wood, wood panel, steel panel or steel roll-up doors and the rails and support systems common to the industries. The installation of power or hand operated opening/closing motors and devices is included. *Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(40) "**Painting and wall covering**"—A contractor in this specialty applies materials common to the painting and decorating industry for protective or decorative purposes. Includes the installation of surface coverings including paints, papers, textures, fabrics, pigments, oils, turpentine, japons, dryers, thinners, varnishes, shellacs, stains, fillers, waxes, adhesives, water, and any other vehicles, mediums, and materials which by evaporation may be mixed and applied to the surface of structures. Surface preparation, caulking, pressure washing, sandblasting, and cleaning preparatory to painting/wall covering are included. *Registration is not required for commissioned artwork and commissioned mural painting.*

(41) "**Paving/stripping/seal coating**"—A contractor in this specialty installs, excavates, grades, compacts, and repairs the application of asphalt/cement to streets, driveways, parking lots, boat ramps, and landing strips and taxiways for an airport. Also includes the filling of cracks and voids in existing surfaces, the application of sealants and the installation of precast bumpers, nonelectrical traffic signs/markers and striping on the surface.

(42) **"Plumbing"**—A contractor in this specialty installs, alters, repairs and renovates all potable water, building supply, and distribution pipes; all plumbing fixtures and traps; all drainage and vent pipes; and all building drains and building sewers, including their respective joints and connections, devices, receptors, and appurtenances within the property lines of the premises and shall include potable water piping, potable water treating or using equipment, medical gas and medical vacuum systems, liquid and fuel gas piping, and water heaters, hydronic heating systems and vents for same. Includes solar heating equipment attached to potable water systems. *Plumber certification is required for work within a building per chapter 18.106 RCW.*

(43) **"Pressure washing"**—A contractor in this specialty uses the force of pressurized water to clean and prepare surfaces for any protective, decorative and/or functional treatment on a commercial and/or residential structure. This specialty may also provide dust control.

(44) **"Roofing"**—A contractor in this specialty installs and repairs materials common to the industry that form a water tight, weather resistant surface for roofs and decks, including all accessories, plywood, coping, flashing, valleys, gravel stops, and roof insulation panels above the roof decks. The work is completed using the following materials: Asphaltum, pitch, tar, felt, glass fabric, urethane foam, metal roofing systems, flax, shakes, shingles, roof tile, slate or any other roofing, waterproofing, weatherproofing or membrane material(s) or a combination thereof. Also includes roofing related architectural sheet metal. *(This specialty does not allow for structural repair of trusses, beams or joists.)*

(45) **"Sandblasting"**—A contractor in this specialty uses the force of compressed air in conjunction with abrasive materials and prepares surfaces for any protective, decorative and/or functional treatment on a commercial or residential structure.

(46) **"Sanitation systems and/or side sewers"**—A contractor in this specialty fabricates and installs septic tanks, storm drains, and other sewage disposal and drain systems outside the building structures. This classification includes the laying of cast-iron, steel, concrete, vitreous and nonvitreous pipe and any other hardware associated with these systems, including any related excavating, grading, trenching, surfacing and backfilling.

(47) **"Scaffolding and safety railings"**—A contractor in this specialty erects metal or wood scaffolding including temporary sidewalk sheltered construction work barricades, safety railings, stages and bleachers.

(48) **"Service station equipment and maintenance"**—A contractor in this specialty installs auto hoisting equipment, hydraulic systems, grease racks, compressors, air hoses, fuel dispensing, cathodic and other service station equipment. *Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(49) **"Siding"**—A contractor in this specialty installs all types of exterior siding including but not limited to wood, wood products, vinyl, aluminum and metal siding to new or existing buildings.

(50) **"Signs"**—A contractor in this specialty fabricates and installs all types of signs, including but not limited to: Post or pole supported signs, signs attached to structures, painted wall signs and modifications to existing signs. *Work*

in this specialty may also require an electrical license per chapter 19.28 RCW.

(51) **"Steel erectors"**—A contractor in this specialty fabricates and erects structural steel shapes and plates of any profile, perimeter or cross-section, which are or may be used as structural members for buildings and structures, including the rebar, riveting, welding, rigging and metal roofing and decking systems.

(52) **"Structural pest control"**—A contractor in this specialty constructs, repairs, and installs the ventilation screens, bird exclusion devices, and caulking of cracks and holes for exclusion of and repelling pests. Includes the replacement of bird blocking screens.

(53) **"Suspended ceilings and acoustical tile"**—A contractor in this specialty installs, modifies or repairs all types of suspended ceilings, including but not limited to lay-in-grid and other types of systems involving solid, perforated or translucent ceiling panels.

(54) **"Swimming pools, spas and hot tubs"**—A contractor in this specialty constructs, alters, and repairs permanent swimming pools and spas or hot tubs, including associated equipment. May also do repairs to damaged acrylic, fiberglass, porcelain and other like materials in standard bathtubs or showers. *Work in this specialty may also require an electrical license per chapter 19.28 RCW and/or plumber certification per chapter 18.106 RCW.*

(55) **"Tanks and tank removal"**—A contractor in this specialty installs and/or removes fuel storage, grain and other types of tanks which have been or are to be used for dispensing gasoline, diesel fuel, waste oil, kerosene, propane or other chemicals. This work involves the installation and/or removal of all incidental tank related piping. *Work in this specialty may also require an electrical license per chapter 19.28 RCW.*

(56) **"Tile, ceramic, mosaic and natural and manufactured stone"**—A contractor in this specialty prepares surfaces as necessary and installs glazed wall, ceramic, mosaic, quarry, faience, glass mosaic and stone tiles, thin tile that resembles full brick, natural or simulated stone slabs for bathtubs, showers and horizontal surfaces inside of buildings, or any tile units set in the traditional or innovative tile methods, excluding hollow or structural partition tile. *Work in this specialty may also require plumber certification per chapter 18.106 RCW and/or an electrical license per chapter 19.28 RCW.*

(57) **"Tree removal"**—A contractor in this specialty falls and/or removes trees, stumps and/or branches on residential or commercial property or near a residential or commercial structure, outbuilding or fence.

(58) **"Utilities and telecommunications"**—A contractor in this specialty provides excavation, cabling, horizontal boring, grading, and backfilling necessary for construction of a utility or telecommunication system prior to the line of demarcation. Also performs fabrication and/or installs pipes and piping for the conveyance or transmission of steam, gases, chemicals, and other substances.

(59) **"Window coverings"**—A contractor in this specialty installs window treatment rods and other handling devices and covering products, including but not limited to the following: Material and fabric that make up louvers, shutters, and blinds; residential and commercial draperies;

permanent screens; expanded metal window and door guards; and plastic film and/or other treatments applied for temperature control.

(60) **"Water conditioning equipment"**—A contractor in this specialty installs water conditioning equipment or water treatment equipment with the use of only such pipe and fittings as are necessary to connect the water conditioning or water treatment equipment in a water supply system and only within six feet of the water service supply. Drainlines must run to existing floor drain, standpipe or outside the structure. *Work in this specialty may also require plumber certification per chapter 18.106 RCW.*

(61) **"Welding and ornamental metal"**—A contractor in this specialty installs, alters, removes, or repairs all architectural, structural and decorative steel, aluminum or other materials in welding techniques by the use of processes common to the industry.

(62) **"Well drilling"**—A contractor in this specialty installs and repairs water wells and pumps by boring, drilling, excavating, casing, cementing and cleaning to provide a supply of uncontaminated water. May also install water conditioning equipment and perform soil sampling. *(Excludes the installation of jet and submersible pumps; electrical pump controls and wiring from pump equipment to first readily accessible disconnect; and water line to storage or pressure tank.) Work in this specialty may also require plumber certification per chapter 18.106 RCW or an electrical license per chapter 19.28 RCW. (If both the electrical and plumbing trades are pursued this specialty is not allowed.)*

(63) **"Wood/pellet and gas stove"**—A contractor in this specialty installs wood, pellet, or gas stoves, zero clearance and fire place inserts. These systems may include the following areas of work and related equipment: Air-filtering devices; gas piping from service connection to equipment; chimney, flashing and flues; and outside combustion air ducts. *The installing of piping, ducting and equipment for transmitting the heated air or water produced by the devices may also require an electrical license per chapter 19.28 RCW and/or plumber certification per chapter 18.106 RCW.*

[Statutory Authority: Chapter 18.27 RCW and 2008 c 120. 09-10-079, § 296-200A-016, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-016, filed 8/4/08, effective 9/4/08.]

WAC 296-200A-025 How does a contractor register, renew, reregister or reinstate its registration? (1) A contractor may register/renew/reregister/reinstate if it:

(a) Complete an application for contractor registration, have it notarized, and submit it to the department as required by RCW 18.27.030;

(b) Satisfies one of the following:

(i) Obtains a continuous surety bond in the total amount specified in WAC 296-200A-030 and submits the original bond with bond number to the department (see RCW 18.27-040); or

(ii) Assigns, to the department, a security deposit in the form of a savings account held in a Washington state bank on a department issued form (F625-000-008) in the amounts specified in WAC 296-200A-030;

(c) Obtains public liability and property damage insurance and submits the original insurance certificate with policy number to the department (see RCW 18.27.050); and

(d) Pays the issuance/renewal/reregistration/reinstatement fee shown in WAC 296-200A-900.

(2) A contractor may renew its registration if it submits, to the department, a completed contractor registration renewal notice and the material required in subsection (1)(b) and (c) of this section and pays the renewal fee shown in WAC 296-200A-900. No more than forty-five days before the contractor's registration expires, the department must send a renewal notice to the contractor's last recorded address with the contractor registration program. It is the responsibility of the contractor to notify the department within ten days and **in writing** of a change in address.

(3) The contractor must submit all required documents to the department in a manner approved by the department as set forth in this subsection:

(a) Include, on each document, the name exactly as it appears on the contractor registration application or renewal notice;

(b) Include, if renewing a registration, the contractor's registration number on each of the documents;

(c) Include a copy of the certificate or document (when required) by the secretary of state for the contractor to do business in the state of Washington; and

(d) Have and maintain an active and valid unified business identifier (certificate of registration) with the department of revenue.

(4) The department will not register, renew, or reinstate the registration of a contractor if:

(a) Any of the required documents are missing, false, or are incomplete;

(b) The documents do not have the legal name of the contractor as documented on official governmental issued photo identification;

(c) In the case of a renewal, the documents do not include the registration number or UBI number; or

(d) The applicant or person pursuant to RCW 18.27.030 has an unsatisfied final judgment based on work which is subject to chapter 18.27 RCW and this chapter.

(5) The contractor may request, in a letter filed with the application or renewal materials, that the registration period end on a particular day. However, the registration period cannot exceed two years.

[Statutory Authority: Chapter 18.27 RCW and 2008 c 120. 09-10-079, § 296-200A-025, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-025, filed 8/4/08, effective 9/4/08. Statutory Authority: RCW 18.27.040, 18.27.070, 18.27.075, 18.27.125, 2001 c 159, and chapter 18.27 RCW. 03-20-097, § 296-200A-025, filed 9/30/03, effective 11/17/03. Statutory Authority: Chapter 18.27 RCW. 97-24-071, § 296-200A-025, filed 12/2/97, effective 1/5/98.]

WAC 296-200A-040 What can cause the suspension of a contractor's registration? (1) A contractor's registration will be suspended if the following impairments, cancellations, noncompliance, or errors occur:

(a) A surety bond or other security has an unsatisfied final judgment against it or becomes otherwise impaired.

(b) A surety bond is canceled.

(c) An insurance policy is expired, canceled, revoked or the insurer is withdrawn from the insurance policy.

(d) The contractor has an unsatisfied final judgment against it under chapter 18.27 RCW and this chapter.

(e) The department has notice that the contractor is a sole proprietor or an owner, principal, or officer of a registered contractor that has an unsatisfied final judgment against it for work within the scope of chapter 18.27 RCW and this chapter.

(f) The program has been notified that the contractor has outstanding debt owed to the department for work performed under this chapter, such as industrial insurance premiums owed for workers' hours or penalties for violation of chapter 18.27 RCW and this chapter.

(g) The department is notified that the contractor has been certified by the department of social and health services as a person who is not in compliance with a support order as provided in RCW 74.20A.320.

(h) The department finds that the contractor has provided false or misleading information or has otherwise been registered in error.

(i) The contractor fails to comply with a penalty payment plan agreement.

(j) The contractor has been certified by a lending agency and reported to the department for nonpayment or default on a federally or state-guaranteed educational loan or service conditional scholarship.

(k) The contractor does not maintain an active and valid unified business identifier number with the department of revenue.

(l) The contractor does not provide the department with updated information or forms as necessary to validate their information.

(2) The contractor's registration will be automatically suspended on the effective date of the impairment or cancellation. The department must mail a notice of the suspension to the contractor's last recorded address with the contractor registration program by certified mail **and** first class mail within two days after suspension.

(3) A contractor must not advertise, offer to do work, submit a bid, or perform any work as a contractor while its registration is suspended. To continue to operate as a contractor while its registration is suspended is a violation of chapter 18.27 RCW and subject to infractions.

(4) The department shall not deny an application or suspend a registration because of an unsatisfied final judgment if the applicant's or registrant's unsatisfied final judgment was determined by the director to be the result of the fraud or negligence of another party.

[Statutory Authority: Chapter 18.27 RCW and 2008 c 120. 09-10-079, § 296-200A-040, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-040, filed 8/4/08, effective 9/4/08. Statutory Authority: RCW 18.27.040, 18.27.070, 18.27.075, 18.27.125, 2001 c 159, and chapter 18.27 RCW. 03-20-097, § 296-200A-040, filed 9/30/03, effective 11/17/03. Statutory Authority: Chapter 18.27 RCW. 97-24-071, § 296-200A-040, filed 12/2/97, effective 1/5/98.]

WAC 296-200A-041 When will the department deny an application for registration, renewal or reinstatement?
The department shall deny an application for registration, renewal or reinstatement if:

(1) The applicant does not submit the required documents on the forms required by the department.

(2) If the documents are false or incomplete.

(3) The documents do not have the legal name of the contractor as documented on official governmental issued photo identification.

(4) The applicant does not have a valid unified business identifier number, if required by the department of revenue.

(5) The applicant has been previously performing work subject to this chapter as a sole proprietor, partnership, corporation, or other entity and the department has notice that the applicant has an unsatisfied final judgment against him or her in an action based on this chapter or the applicant owes the department money for penalties assessed or fees due under this chapter as a result of a final judgment.

(6) The applicant was an owner, principal, or officer of a partnership, corporation, or other entity that either has an unsatisfied final judgment against it in an action that was incurred for work performed subject to this chapter or owes the department money for penalties assessed or fees due under this chapter as a result of a final judgment.

(7) The applicant has not complied with a department of social and health services - support enforcement division support enforcement order.

[Statutory Authority: Chapter 18.27 RCW and 2008 c 120. 09-10-079, § 296-200A-041, filed 5/5/09, effective 6/5/09.]

WAC 296-200A-400 What monetary penalties will be assessed for an infraction issued for violations of RCW 18.27.040, 18.27.100, 18.27.110, 18.27.114 or 18.27.200?

(1) Each day that a violation occurs will be a separate offense.

(2) Once a violation of chapter 18.27 RCW or this chapter becomes a final judgment, any additional violation within three years becomes a "second" or "additional" offense subject to an increased penalty as set forth in the tables that follow.

(3) Second or additional offenses subject to increased penalties also include individuals or entities.

(4) A person, firm, corporation, or other entity who violates a provision of chapter 18.27 RCW and this chapter is liable for a civil penalty based upon the following schedule.

(a) Monetary penalties that may be assessed for a violation of RCW 18.27.040(10) are:

Monetary Penalties	Dollar Amount
First Final Violation	\$250.00*
Second Final Violation	\$500.00
Third Final Violation	\$750.00
Each Additional Final Violation	\$1,000.00

(b)(i) Monetary penalties that may be assessed for a violation of RCW 18.27.100 (1), (2), (3), and (4) are:

Monetary Penalties	Dollar Amount
First Final Violation	\$250.00*
Second Final Violation	\$750.00
Third Final Violation	\$2,250.00

Monetary Penalties	Dollar Amount
Fourth Final Violation	\$5,000.00
Each Additional Final Violation	\$10,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.100 (1), (2), (3), and (4) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the table above.

(ii) Monetary penalties that may be assessed for a violation of RCW 18.27.100 (5) and (7) are:

Monetary Penalties	Dollar Amount
First Final Violation	\$2,000.00*
Second Final Violation	\$4,000.00
Third Final Violation	\$6,000.00
Each Additional Final Violation	\$10,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.100 (5) and (7) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the table above.

(iii) Monetary penalties that may be assessed for a violation of RCW 18.27.100(6) are:

Monetary Penalties	Dollar Amount
First Final Violation	\$1,000.00*
Second Final Violation	\$3,000.00
Third Final Violation	\$6,000.00
Each Additional Final Violation	\$10,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.100(6) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the table above.

(c) Monetary penalties that may be assessed for a violation of RCW 18.27.110 are:

Monetary Penalties	Dollar Amount
First Final Violation	\$250.00*
Second Final Violation	\$750.00
Third Final Violation	\$2,250.00
Fourth Final Violation	\$7,500.00
Each Additional Final Violation	\$10,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.110 becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the table above.

(d) Monetary penalties that may be assessed for a violation of RCW 18.27.114 are:

Monetary Penalties	Dollar Amount
First Final Violation	\$500.00*
Second Final Violation	\$1,000.00
Third Final Violation	\$2,000.00
Fourth Final Violation	\$4,000.00
Each Additional Final Violation	\$5,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.114 becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the table above.

(e) Monetary penalties that may be assessed for a violation of RCW 18.27.200 are:

(i)

RCW 18.27.200 (1)(a)	
Monetary Penalties	Dollar Amount
First Final Violation	\$500.00*

RCW 18.27.200 (1)(a)	
Monetary Penalties	Dollar Amount
Second Final Violation	\$3,000.00
Each Additional Final Violation	\$5,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.340(1) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the table above.

(ii)

RCW 18.27.200 (1)(b) through (e)	
Monetary Penalties	Dollar Amount
First Final Violation	\$1,000.00*
Second Final Violation	\$3,000.00
Each Additional Final Violation	\$5,000.00

* Minimum penalty per violation. Once a violation of RCW 18.27.340(3) becomes a final judgment, any additional violation is subject to an increased penalty as set forth in the above table. However, if the unregistered contractor becomes registered within ten days of receiving the notice of infraction and the notice is the contractor's first offense, the director may reduce the penalty. In no case can the director reduce the penalty below five hundred dollars.

(5) For violations of RCW 18.27.200, the director may waive a penalty collection from a contractor in exchange for a payment of restitution to a damaged consumer in an amount at least equal to the assessed penalty. Prior to the infraction becoming final, the contractor must provide to the department a notarized release from the damaged consumer stating that he or she paid the damaged consumer in an amount at least equal to the assessed penalty.

[Statutory Authority: Chapter 18.27 RCW and 2008 c 120. 09-10-079, § 296-200A-400, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapter 18.27 RCW and 2007 c 436. 08-16-091, § 296-200A-400, filed 8/4/08, effective 9/4/08. Statutory Authority: RCW 18.27.040, 18.27.070, 18.27.075, 18.27.125, 2001 c 159, and chapter 18.27 RCW. 03-20-097, § 296-200A-400, filed 9/30/03, effective 11/17/03. Statutory Authority: Chapter 18.27 RCW. 97-24-071, § 296-200A-400, filed 12/2/97, effective 1/5/98.]

Chapter 296-307 WAC

SAFETY STANDARDS FOR AGRICULTURE

WAC

296-307-030	What are the required elements of an accident prevention program?
296-307-09512	What potable water sources must an employer provide?
296-307-097	Outdoor heat exposure.
296-307-09710	Scope and purpose.
296-307-09720	Definitions.
296-307-09730	Employer and employee responsibility.
296-307-09740	Drinking water.
296-307-09750	Responding to signs and symptoms of heat-related illness.
296-307-09760	Information and training.
296-307-107	Federal worker protection standards—Washington state department of agriculture.
296-307-11015	Violations of this part—Worker protection standards—40 CFR, § 170.9.
296-307-12020	Entry restrictions—Standards for workers—40 CFR, § 170.112.
296-307-13045	Personal protective equipment—Standards for pesticide handlers—40 CFR, § 170.240.

WAC 296-307-030 What are the required elements of an accident prevention program? (1) You must instruct all employees in safe working practices at the beginning of employment. Your instruction must be tailored to the types of hazards to which employees are exposed.

(2) You must develop a written accident prevention program tailored to the needs of your agricultural operation and to the types of hazards involved.

(3) Your accident prevention program must contain at least the following elements:

- (a) How, when, and where to report injuries and illnesses, and the location of first-aid facilities.
- (b) How to report unsafe conditions and practices.
- (c) The use and care of personal protective equipment.
- (d) What to do in emergencies. See WAC 296-307-35015 for emergency action plan requirements.
- (e) Identification of hazardous chemicals or materials and the instruction for their safe use.
- (f) An on-the-job review of the practices necessary to perform job assignments in a safe and healthful manner.

(4) At least once a month, you must conduct a walk-around safety inspection of active job sites, the materials and equipment involved, and operating procedures. A representative chosen by employees must be invited and allowed to accompany you.

Note: Additional requirements in Part G-1, WAC 296-307-097, Outdoor heat exposure, may apply. Employers may address their outdoor heat exposure safety program either in their written accident prevention program (APP) or as a stand-alone written document. See Part G-1.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 09-07-098, § 296-307-030, filed 3/18/09, effective 5/1/09. Statutory Authority: RCW 49.17.040. 98-24-096, § 296-307-030, filed 12/1/98, effective 3/1/99. 97-09-013, recodified as § 296-307-030, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-22-048, § 296-306A-030, filed 10/31/96, effective 12/1/96.]

WAC 296-307-09512 What potable water sources must an employer provide? You must provide potable water for employees engaged in hand-labor operations in the field, without cost to the employee. Potable water must meet the following requirements:

- (1) Potable water is in locations that are accessible to all employees.
- (2) Potable water containers are refilled daily or more often as necessary.
- (3) Potable water dispensers are designed, constructed, and serviced so that sanitary conditions are maintained. They are closeable and equipped with a tap.
- (4) Open containers such as barrels, pails, or tanks for drinking water from which water must be dipped or poured, whether or not they are fitted with a cover, are prohibited.
- (5) Any container used to distribute drinking water is clearly marked in English and with the appropriate international symbol describing its contents.
- (6) Any container used to distribute drinking water is only used for that purpose.
- (7) Potable water is suitably cool and provided in sufficient amounts, taking into account the air temperature, humidity, and the nature of the work performed, to meet employees' needs.

Note: Suitably cool water should be sixty degrees Fahrenheit or less. During hot weather, employees may require up to three gallons of water per day. Additional requirements may be found in the outdoor heat exposure standard in Part G-1, WAC 296-307-09740 Drinking water, which applies between May 1st and September 30th of each year.

(8) The use of common drinking cups or dippers is prohibited. Water is dispensed in single-use drinking cups, personal containers, or by water fountains.

"Single-use drinking cups" means containers of any type or size, disposable or not, and including personal containers if the choice to use a personal container is made by the employee, not the employer.

(9) Employees must be prohibited from drinking from irrigation ditches, creeks or rivers. Potable water must meet the quality standards for drinking purposes of the state or local authority, or must meet quality standards of the United States Environmental Protection Agency's National Interim—Primary Drinking Water Regulations, published in 40 CFR Part 141 and 40 CFR 147.2400.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 09-07-098, § 296-307-09512, filed 3/18/09, effective 5/1/09. 97-09-013, recodified as § 296-307-09512, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-22-048, § 296-306A-09512, filed 10/31/96, effective 12/1/96.]

WAC 296-307-097 Outdoor heat exposure.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 09-07-098, § 296-307-097, filed 3/18/09, effective 5/1/09.]

WAC 296-307-09710 Scope and purpose. (1) WAC 296-307-097 through 296-307-09760 applies to all employers with employees performing work in an outdoor environment.

(2) The requirements of WAC 296-307-097 through 296-307-09760 apply to outdoor work environments from May 1 through September 30, annually, only when employees are exposed to outdoor heat at or above an applicable temperature listed in Table 1.

Table 1

To determine which temperature applies to each work-site, select the temperature associated with the general type of clothing or personal protective equipment (PPE) each employee is required to wear.

Outdoor Temperature Action Levels

All other clothing	89°
Double-layer woven clothes including coveralls, jackets and sweatshirts	77°
Nonbreathing clothes including vapor barrier clothing or PPE such as chemical resistant suits	52°

Note: There is no requirement to maintain temperature records. The temperatures in Table 1 were developed based on Washington state data and are not applicable to other states.

(3) WAC 296-307-097 through 296-307-09760 does not apply to incidental exposure which exists when an employee is not required to perform a work activity outdoors for more than fifteen minutes in any sixty-minute period. This exception may be applied every hour during the work shift.

(4) WAC 296-307-097 through 296-307-09760 supplement all industry-specific standards with related requirements. Where the requirements under these sections provide more specific or greater protection than the industry-specific standards, the employer shall comply with the requirements under these sections. Additional related requirements are found in chapter 296-305 WAC, Safety standards for fire

fighters and chapter 296-307 WAC, Safety standards for agriculture.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 09-07-098, § 296-307-09710, filed 3/18/09, effective 5/1/09.]

WAC 296-307-09720 Definitions. (1) **Acclimatization** means the body's temporary adaptation to work in heat that occurs as a person is exposed to it over time.

(2) **Double-layer woven clothing** means clothing worn in two layers allowing air to reach the skin. For example, coveralls worn on top of regular work clothes.

(3) **Drinking water** means potable water that is suitable to drink. Drinking water packaged as a consumer product and electrolyte-replenishing beverages (i.e., sports drinks) that do not contain caffeine are acceptable.

(4) **Engineering controls** means the use of devices to reduce exposure and aid cooling (i.e., air conditioning).

(5) **Environmental factors for heat-related illness** means working conditions that increase susceptibility for heat-related illness such as air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload (i.e., heavy, medium, or low) and duration, and personal protective equipment worn by employees. Measurement of environmental factors is not required by WAC 296-307-097.

(6) **Heat-related illness** means a medical condition resulting from the body's inability to cope with a particular heat load, and includes, but is not limited to, heat cramps, heat rash, heat exhaustion, fainting, and heat stroke.

(7) **Outdoor environment** means an environment where work activities are conducted outside. Work environments such as inside vehicle cabs, sheds, and tents or other structures may be considered an outdoor environment if the environmental factors affecting temperature are not managed by engineering controls. Construction activity is considered to be work in an indoor environment when performed inside a structure after the outside walls and roof are erected.

(8) **Vapor barrier clothing** means clothing that significantly inhibits or completely prevents sweat produced by the body from evaporating into the outside air. Such clothing includes encapsulating suits, various forms of chemical resistant suits used for PPE, and other forms of nonbreathing clothing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 09-07-098, § 296-307-09720, filed 3/18/09, effective 5/1/09.]

WAC 296-307-09730 Employer and employee responsibility. (1) Employers of employees exposed at or above temperatures listed in WAC 296-307-09710(2) Table 1 must:

(a) Address their outdoor heat exposure safety program in their written accident prevention program (APP); and

(b) Encourage employees to frequently consume water or other acceptable beverages to ensure hydration.

(2) Employees are responsible for monitoring their own personal factors for heat-related illness including consumption of water or other acceptable beverages to ensure hydration.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 09-07-098, § 296-307-09730, filed 3/18/09, effective 5/1/09.]

WAC 296-307-09740 Drinking water. (1) Keeping workers hydrated in a hot outdoor environment requires that more water be provided than at other times of the year. Federal OSHA and research indicate that employers should be prepared to supply at least one quart of drinking water per employee per hour. When employee exposure is at or above an applicable temperature listed in WAC 296-307-09710(2) Table 1:

(a) Employers must ensure that a sufficient quantity of drinking water is readily accessible to employees at all times; and

(b) Employers must ensure that all employees have the opportunity to drink at least one quart of drinking water per hour.

(2) Employers are not required to supply the entire quantity of drinking water needed to be supplied for all employees on a full shift at the beginning of the shift. Employers may begin the shift with smaller quantities of drinking water if effective procedures are established for replenishment during the shift.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 09-07-098, § 296-307-09740, filed 3/18/09, effective 5/1/09.]

WAC 296-307-09750 Responding to signs and symptoms of heat-related illness. (1) Employees showing signs or demonstrating symptoms of heat-related illness must be relieved from duty and provided with a sufficient means to reduce body temperature.

(2) Employees showing signs or demonstrating symptoms of heat-related illness must be monitored to determine whether medical attention is necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 09-07-098, § 296-307-09750, filed 3/18/09, effective 5/1/09.]

WAC 296-307-09760 Information and training. All training must be provided to employees and supervisors, in a language the employee or supervisor understands, prior to outdoor work which exceeds a temperature listed in WAC 296-307-09710(2) Table 1, and at least annually thereafter.

(1) Employee training. Training on the following topics must be provided to all employees who may be exposed to outdoor heat at or above the temperatures listed in WAC 296-307-09710(2) Table 1:

(a) The environmental factors that contribute to the risk of heat-related illness;

(b) General awareness of personal factors that may increase susceptibility to heat-related illness including, but not limited to, an individual's age, degree of acclimatization, medical conditions, drinking water consumption, alcohol use, caffeine use, nicotine use, and use of medications that affect the body's responses to heat. This information is for the employee's personal use;

(c) The importance of removing heat-retaining personal protective equipment such as nonbreathable chemical resistant clothing during all breaks;

(d) The importance of frequent consumption of small quantities of drinking water or other acceptable beverages;

(e) The importance of acclimatization;

(f) The different types of heat-related illness, the common signs and symptoms of heat-related illness; and

(g) The importance of immediately reporting signs or symptoms of heat-related illness in either themselves or in co-workers to the person in charge and the procedures the employee must follow including appropriate emergency response procedures.

(2) Supervisor training. Prior to supervising employees working in outdoor environments with heat exposure at or above the temperature levels listed in WAC 296-307-09710(2) Table 1, supervisors must have training on the following topics:

(a) The information required to be provided to employees listed in subsection (1) of this section;

(b) The procedures the supervisor must follow to implement the applicable provisions of WAC 296-307-097 through 296-307-09760;

(c) The procedures the supervisor must follow if an employee exhibits signs or symptoms consistent with possible heat-related illness, including appropriate emergency response procedures; and

(d) Procedures for moving or transporting an employee(s) to a place where the employee(s) can be reached by an emergency medical service provider, if necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 09-07-098, § 296-307-09760, filed 3/18/09, effective 5/1/09.]

WAC 296-307-107 Federal worker protection standards—Washington state department of agriculture. This chapter contains the federal Environmental Protection Agency worker protection standards as listed in 40 CFR, Part 170. Revisions to the federal language have been incorporated into this chapter in order to be consistent with other requirements of Washington state law. These rules are adopted in conjunction with rules adopted by the Washington state department of labor and industries in chapter 296-307 WAC, Part I.

[Statutory Authority: RCW 49.17.050. 09-17-119, § 296-307-107, filed 8/18/09, effective 10/1/09. Statutory Authority: RCW 49.17.040. 98-24-096, § 296-307-107, filed 12/1/98, effective 3/1/99. 97-09-013, recodified as § 296-307-107, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-20-082, § 296-306A-107, filed 9/30/96, effective 11/1/96.]

WAC 296-307-11015 Violations of this part—Worker protection standards—40 CFR, § 170.9. (1) RCW 15.58.150 (2)(c) provides that it is unlawful for any person ". . . to use or cause to be used any pesticide contrary to label directions . . ." When 40 CFR, Part 170 is referenced on a label, users must comply with all of its requirements except those that are inconsistent with product specific instructions on the labeling. For purposes of this chapter, the term "use" is interpreted to include:

(a) Preapplication activities, including, but not limited to:

- (i) Arranging for the application of the pesticide;
- (ii) Mixing and loading the pesticide; and
- (iii) Making necessary preparations for the application of the pesticide, including responsibilities related to worker notification, training of handlers, decontamination, use and care of personal protective equipment, emergency information, and heat stress management.

[2010 WAC Supp—page 206]

Note: Additional requirements in WAC 296-307-097, Outdoor heat exposure, may apply between May 1st and September 30th of each year. See Part G-1.

(b) Application of the pesticide.

(c) Post-application activities necessary to reduce the risks of illness and injury resulting from handlers' and workers' occupational exposures to pesticide residues during the restricted-entry interval plus thirty days. These activities include, but are not limited to, responsibilities related to worker training, notification, and decontamination.

(d) Other pesticide-related activities, including, but not limited to, providing emergency assistance, transporting or storing pesticides that have been opened, and disposing of excess pesticides, spray mix, equipment wash waters, pesticide containers, and other pesticide-containing materials.

(2) A person who has a duty under this chapter, as referenced on the pesticide product label, and who fails to perform that duty, violates RCW 15.58.330 and 17.21.315, and is subject to civil penalties under RCW 15.58.335, 15.58.260 and 17.21.315.

(3) FIFRA section 14 (b)(4) provides that a person is liable for a penalty under FIFRA if another person employed by or acting for that person violates any provision of FIFRA. The term "acting for" includes both employment and contractual relationships.

(4) The requirements of this chapter, including the decontamination requirements, shall not, for the purposes of section 653 (b)(1) of Title 29 of the U.S. Code, be deemed to be the exercise of statutory authority to prescribe or enforce standards or regulations affecting the general sanitary hazards addressed by Field Sanitation, WAC 296-307-095, or other agricultural, nonpesticide hazards.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 09-07-098, § 296-307-11015, filed 3/18/09, effective 5/1/09; 05-01-166, § 296-307-11015, filed 12/21/04, effective 4/2/05. 97-09-013, recodified as § 296-307-11015, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-20-082, § 296-306A-11015, filed 9/30/96, effective 11/1/96.]

WAC 296-307-12020 Entry restrictions—Standards for workers—40 CFR, § 170.112. (1) General restrictions.

(a) After the application of any pesticide on an agricultural establishment, the agricultural employer shall not allow or direct any worker to enter or to remain in the treated area before the restricted-entry interval specified on the pesticide labeling has expired, except as provided in this section.

(b) Entry-restricted areas in greenhouses are specified in column D in Table 2 under WAC 296-307-12015 (3)(d).

(c) When two or more pesticides are applied at the same time, the restricted-entry interval shall be the longest of the applicable intervals.

(d) The agricultural employer shall assure that any worker who enters a treated area under a restricted-entry interval as permitted by subsections (3), (4), and (5) of this section uses the personal protective equipment specified in the product labeling for early entry workers and follows any other requirements on the pesticide labeling regarding early entry.

(2) Exception for activities with no contact. A worker may enter a treated area during a restricted-entry interval if the agricultural employer assures that both of the following are met:

(a) The worker will have no contact with anything that has been treated with the pesticide to which the restricted-entry interval applies, including, but not limited to, soil, water, air, or surfaces of plants; and

(b) No such entry is allowed until any inhalation exposure level listed in the labeling has been reached or any ventilation criteria established by WAC 296-307-12015 (3)(c) or in the labeling have been met.

(3) Exception for short-term activities. A worker may enter a treated area during a restricted-entry interval for short-term activities if the agricultural employer assures that the following requirements are met:

(a) No hand labor activity is performed.

(b) The time in treated areas under a restricted-entry interval for any worker does not exceed one hour in any twenty-four-hour period.

(c) No such entry is allowed for the first four hours following the end of the application, and no such entry is allowed thereafter until any inhalation exposure level listed in the labeling has been reached or any ventilation criteria established by WAC 296-307-12015 (3)(c) or in the labeling have been met.

(d) The personal protective equipment specified on the product labeling for early entry is provided to the worker. Such personal protective equipment shall conform to the following standards:

(i) Personal protective equipment (PPE) means devices and apparel that are worn to protect the body from contact with pesticides or pesticide residues, including, but not limited to, coveralls, chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respiratory protection devices, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.

(ii) Long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, socks, and other items of work clothing are not considered personal protective equipment for the purposes of this section and are not subject to the requirements of this section, although pesticide labeling may require that such work clothing be worn during some activities.

(iii) When "chemical-resistant" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of the pesticide being used through the material during use.

(iv) When "waterproof" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of water or aqueous solutions through the material during use.

(v) When a "chemical-resistant suit" is specified by the product labeling, it shall be a loose-fitting, one-piece or two-piece, chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.

(vi) When "coveralls" are specified by the product labeling, they shall be a loose-fitting, one-piece or two-piece garment, such as a cotton or cotton and polyester coverall, that covers, at a minimum, the entire body except head, hands, and feet. The pesticide product labeling may specify that the coveralls be worn over a layer of clothing. If a chemical-resistant suit is substituted for coveralls, it need not be worn over a layer of clothing.

(vii)(A) Gloves shall be of the type specified on the pesticide product labeling. Gloves made of leather, cotton, or

other absorbent materials must not be worn for early-entry activities, unless gloves made of these materials are listed as acceptable for such use on the product labeling. If chemical-resistant gloves with sufficient durability and suppleness are not obtainable, leather gloves may be worn on top of chemical-resistant gloves. However, once leather gloves have been worn for this use, they shall not be worn thereafter for any other purpose, they shall only be worn over chemical-resistant gloves.

(B) Separable glove liners may be worn beneath chemical-resistant gloves, unless the pesticide product labeling specifically prohibits their use. Separable glove liners are defined as separate glove-like hand coverings made of lightweight material, with or without fingers. Work gloves made from lightweight cotton or poly-type material are considered to be glove liners if worn beneath chemical-resistant gloves. Separable glove liners may not extend outside the chemical-resistant gloves under which they are worn. Chemical-resistant gloves with nonseparable absorbent lining materials are prohibited.

(C) If used, separable glove liners must be discarded immediately after a total of no more than ten hours of use or within twenty-four hours of when first put on, whichever comes first. The liners must be replaced immediately if directly contacted by pesticide. Used glove liners shall not be reused. Contaminated liners must be disposed of in accordance with any federal, state, or local regulations.

(viii) When "chemical-resistant footwear" is specified by the product labeling, it shall be one of the following types of footwear: Chemical-resistant shoes, chemical-resistant boots, or chemical-resistant shoe coverings worn over shoes or boots. If chemical-resistant footwear with sufficient durability and a tread appropriate for wear in rough terrain is not obtainable for workers, then leather boots may be worn in such terrain.

(ix) When "protective eyewear" is specified by the product labeling, it shall be one of the following types of eyewear: Goggles; face shield; safety glasses with front, brow, and temple protection; or a full-face respirator.

(x) When "chemical-resistant headgear" is specified by the product labeling, it shall be either a chemical-resistant hood or a chemical-resistant hat with a wide brim.

(e) The agricultural employer shall assure that the worker, before entering the treated area, either has read the product labeling or has been informed, in a manner that the worker can understand, of all labeling requirements related to human hazards or precautions, first aid, symptoms of poisoning, personal protective equipment specified for early entry, and any other labeling requirements related to safe use.

(f) The agricultural employer shall assure that:

(i) Workers wear the personal protective equipment correctly for its intended purpose and use personal protective equipment according to manufacturer's instructions.

(ii) Before each day of use, all personal protective equipment is inspected for leaks, holes, tears, or worn places, and any damaged equipment is repaired or discarded.

(iii) Personal protective equipment that cannot be cleaned properly is disposed of in accordance with any applicable federal, state, and local regulations.

(iv) All personal protective equipment is cleaned according to manufacturer's instructions or pesticide product label-

ing instructions before each day of reuse. In the absence of any such instructions, it shall be washed thoroughly in detergent and hot water.

(v) Before being stored, all clean personal protective equipment is dried thoroughly or is put in a well-ventilated place to dry.

(vi) Personal protective equipment contaminated with pesticides is kept separately and washed separately from any other clothing or laundry.

(vii) Any person who cleans or launders personal protective equipment is informed that such equipment may be contaminated with pesticides, of the potentially harmful effects of exposure to pesticides, and of the correct way(s) to handle and clean personal protective equipment and to protect themselves when handling equipment contaminated with pesticides.

(viii) All clean personal protective equipment is stored separately from personal clothing and apart from pesticide-contaminated areas.

(ix) Each worker is instructed how to put on, use, and remove the personal protective equipment and is informed about the importance of washing thoroughly after removing personal protective equipment.

(x) Each worker is instructed in the prevention, recognition, and first-aid treatment of heat-related illness.

Note: Additional requirements in WAC 296-307-097, Outdoor heat exposure, may apply between May 1st and September 30th of each year. See Part G-1.

(xi) Workers have a clean place(s) away from pesticide-storage and pesticide-use areas for storing personal clothing not in use; putting on personal protective equipment at the start of any exposure period; and removing personal protective equipment at the end of any exposure period.

(g) When personal protective equipment is required by the labeling of any pesticide for early entry, the agricultural employer shall assure that no worker is allowed or directed to perform the early entry activity without implementing, when appropriate, measures to prevent heat-related illness.

Note: Additional requirements in WAC 296-307-097, Outdoor heat exposure, may apply between May 1st and September 30th of each year. See Part G-1.

(h) During any early entry activity, the agricultural employer shall provide a decontamination site in accordance with WAC 296-307-12050.

(i) The agricultural employer shall not allow or direct any worker to wear home or to take home personal protective equipment contaminated with pesticides.

(4) Declaration of an agricultural emergency.

(a) The director of the Washington state department of agriculture may declare the existence of circumstances causing an agricultural emergency on a particular establishment or establishments.

(b) The director may declare an agricultural emergency based on the reasonably expected certainty of circumstances occurring based on weather or other forecasts that would create conditions that would normally be anticipated to cause an agricultural emergency.

(c) The agricultural employer may determine if the establishment under his/her control is subject to the agricultural emergency declared by the director.

(d) Emergency repair of equipment that is in use and sited within a pesticide treated area under a restricted-entry interval, such as frost protection devices, shall be considered to be an agricultural emergency.

(e) Activities that require immediate response such as fire suppression, relocation of greenhouse plants due to power failure, and similar conditions, shall be considered to be agricultural emergencies.

(5) Agricultural activities permitted under an agricultural emergency.

(a) A worker may enter a pesticide treated area under a restricted-entry interval in an agricultural emergency to perform tasks, including hand labor tasks, necessary to mitigate the effects of the agricultural emergency if the agricultural employer assures that all the following requirements are met:

(i) No entry is permitted for the first four hours after the pesticide application or the minimum reentry interval allowed by EPA for that product, whichever is less;

(ii) The personal protective equipment specified on the product labeling for early entry is provided to the worker;

(iii) The agricultural employer shall assure that the worker, before entering the treated area, either has read the product labeling or has been informed, in a manner the worker can understand, of all labeling requirements related to human hazards or precautions, first aid, symptoms of poisoning, personal protective equipment specified for early entry, and any other labeling requirements related to safe use;

(iv) The agricultural employer shall assure that the worker wears the proper PPE and that the PPE is in operable condition and that the worker has been trained in its proper use;

(v) The agricultural employer shall assure that measures have been taken, when appropriate, to prevent heat-related illness;

Note: Additional requirements in WAC 296-307-097, Outdoor heat exposure, may apply between May 1st and September 30th of each year. See Part G-1.

(vi) A decontamination site has been provided in accordance with EPA regulations;

(vii) The agricultural employer shall not allow or direct any worker to wear home or take home personal protective equipment contaminated with pesticides.

(b) If the agricultural emergency is due to equipment failure, then the agricultural employer shall assure that all the requirements in subsection (1) of this section are met plus the following additional requirement. The only permitted activity until the restricted-entry interval has elapsed is equipment repair that would mitigate the effect of the equipment failure.

(6) Recordkeeping required for agricultural emergencies.

(a) If the employer declares that his/her establishment is affected by an agricultural emergency and that activities regulated by the worker protection standard have been performed, the employer shall keep the following records for seven years from the date of the agricultural emergency:

(i) Date of the agricultural emergency;

(ii) Time of the agricultural emergency, start and end;

(iii) Reason for the agricultural emergency, such as frost, fire, equipment failure, etc.;

(iv) Crop/site;

(v) Pesticide(s) - name, EPA number, REI;

(vi) Name, date, time of entry and exit of early entry person(s);

(vii) Estimated potential of economic loss which would have occurred had no early entry been allowed.

(b) Records shall be completed within twenty-four hours of the early entry exposure and be available to the department and/or department of health and/or medical facility or treating physician if requested by the above or the employee.

(7) Exception to entry restrictions requiring EPA approval. EPA may in accordance with 40 CFR, Part 170.112 (e) grant an exception from the requirements of this section. A request for an exception must be submitted to the Director, Office of Pesticide Programs (H-7501C), Environmental Protection Agency, 401 "M" Street SW, Washington, DC 20460 and must be accompanied by two copies of the information specified in 40 CFR, Part 170.112(e).

[Statutory Authority: RCW 49.17.050, 09-17-119, § 296-307-12020, filed 8/18/09, effective 10/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060, 09-07-098, § 296-307-12020, filed 3/18/09, effective 5/1/09. Statutory Authority: RCW 49.17.040, 98-24-096, § 296-307-12020, filed 12/1/98, effective 3/1/99. 97-09-013, recodified as § 296-307-12020, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060, 96-20-082, § 296-306A-12020, filed 9/30/96, effective 11/1/96.]

WAC 296-307-13045 Personal protective equipment—Standards for pesticide handlers—40 CFR, § 170.240. (1) Requirement. Any person who performs tasks as a pesticide handler shall use the clothing and personal protective equipment specified on the labeling for use of the product.

(2) Definition.

(a) Personal protective equipment (PPE) means devices and apparel that are worn to protect the body from contact with pesticides or pesticide residues, including, but not limited to, coveralls, chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respiratory protection devices, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.

(b) Long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, socks, and other items of work clothing are not considered personal protective equipment for the purposes of this section and are not subject to the requirements of this section, although pesticide labeling may require that such work clothing be worn during some activities.

(3) Provision. When personal protective equipment is specified by the labeling of any pesticide for any handling activity, the handler employer shall provide the appropriate personal protective equipment in clean and operating condition to the handler.

(a) When "chemical-resistant" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of the pesticide being used through the material during use.

(b) When "waterproof" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of water or aqueous solutions through the material during use.

(c) When a "chemical-resistant suit" is specified by the product labeling, it shall be a loose-fitting, one-piece or two-piece chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.

(d) When "coveralls" are specified by the product labeling, they shall be a loose-fitting, one-piece or two-piece garment, such as a cotton or cotton and polyester coverall, that covers, at a minimum, the entire body except head, hands, and feet. The pesticide product labeling may specify that the coveralls be worn over another layer of clothing.

(e)(i) Gloves shall be of the type specified on the pesticide product labeling. Gloves made of leather, cotton, or other absorbent material shall not be worn while mixing, loading, applying, or otherwise handling pesticides, unless gloves made of these materials are listed as acceptable for such use on the product labeling.

(ii) Separable glove liners may be worn beneath chemical-resistant gloves, unless the pesticide product labeling specifically prohibits their use. Separable glove liners are defined as separate glove-like hand coverings, made of lightweight material, with or without fingers. Work gloves made from lightweight cotton or poly-type material are considered to be glove liners if worn beneath chemical-resistant gloves. Separable glove liners may not extend outside the chemical-resistant gloves under which they are worn. Chemical-resistant gloves with nonseparable absorbent lining materials are prohibited.

(iii) If used, separable glove liners must be discarded immediately after a total of no more than ten hours of use or within twenty-four hours of when first put on, whichever comes first. The liners must be replaced immediately if directly contacted by pesticide. Used glove liners shall not be reused. Contaminated liners must be disposed of in accordance with any federal, state, or local regulations.

(f) When "chemical-resistant footwear" is specified by the product labeling, one of the following types of footwear must be worn:

(i) Chemical-resistant shoes.

(ii) Chemical-resistant boots.

(iii) Chemical-resistant shoe coverings worn over shoes or boots.

(g) When "protective eyewear" is specified by the product labeling, one of the following types of eyewear must be worn:

(i) Goggles.

(ii) Face shield.

(iii) Safety glasses with front, brow, and temple protection.

(iv) Full-face respirator.

(h) When a "chemical-resistant apron" is specified by the product labeling, an apron that covers the front of the body from mid-chest to the knees shall be worn.

(i) When a respirator is specified by the product labeling, it shall be appropriate for the pesticide product used and for the activity to be performed. The handler employer shall assure that the respirator fits correctly by using the procedures consistent with chapter 296-307 WAC, Part Y-5. If the label does not specify the type of respirator to be used, it shall meet the requirements of chapter 296-307 WAC, Part Y-5. The respiratory protection requirements of chapter 296-307 WAC, Part Y-5, shall apply.

(j) When "chemical-resistant headgear" is specified by the product labeling, it shall be either a chemical-resistant hood or a chemical-resistant hat with a wide brim.

(4) Exceptions to personal protective equipment specified on product labeling.

(a) Body protection.

(i) A chemical-resistant suit may be substituted for "coveralls," and any requirement for an additional layer of clothing beneath is waived.

(ii) A chemical-resistant suit may be substituted for "coveralls" and a chemical-resistant apron.

(b) Boots. If chemical-resistant footwear with sufficient durability and a tread appropriate for wear in rough terrain is not obtainable, then leather boots may be worn in such terrain.

(c) Gloves. If chemical-resistant gloves with sufficient durability and suppleness are not obtainable, then during handling activities with roses or other plants with sharp thorns, leather gloves may be worn over chemical-resistant glove liners. However, once leather gloves are worn for this use, thereafter they shall be worn only with chemical-resistant liners and they shall not be worn for any other use.

(d) Closed systems. If handling tasks are performed using properly functioning systems that enclose the pesticide to prevent it from contacting handlers or other persons, and if such systems are used and are maintained in accordance with that manufacturer's written operating instructions, exceptions to labeling-specified personal protective equipment for the handling activity are permitted as provided in (d)(i) and (ii) of this subsection.

(i) Persons using a closed system to mix or load pesticides with a signal word of DANGER or WARNING may substitute a long-sleeved shirt, long pants, shoes, socks, chemical-resistant apron, and any protective gloves specified on the labeling for handlers for the labeling-specified personal protective equipment.

(ii) Persons using a closed system to mix or load pesticides other than those in (d)(i) of this subsection or to perform other handling tasks may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment.

(iii) Persons using a closed system that operates under pressure shall wear protective eyewear.

(iv) Persons using a closed system shall have all labeling-specified personal protective equipment immediately available for use in an emergency.

(e) Enclosed cabs. If handling tasks are performed from inside a cab that has a nonporous barrier which totally surrounds the occupants of the cab and prevents contact with pesticides outside of the cab, exceptions to personal protective equipment specified on the product labeling for that handling activity are permitted as provided in (e)(i) through (iv) of this subsection.

(i) Persons occupying an enclosed cab may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment. If a respiratory protection device is specified on the pesticide product labeling for the handling activity, it must be worn.

(ii) Persons occupying an enclosed cab that has a properly functioning ventilation system which is used and maintained in accordance with the manufacturer's written operating instructions and which is declared in writing by the manufacturer and by the Washington state department of labor and industries to provide respiratory protection equivalent to

or greater than a dust/mist filtering respirator may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment. If a respiratory protection device other than a dust/mist-filtering respirator is specified on the pesticide product labeling, it must be worn.

(iii) Persons occupying an enclosed cab that has a properly functioning ventilation system which is used and maintained in accordance with the manufacturer's written operating instructions and which is declared in writing by the manufacturer and by the Washington state department of labor and industries to provide respiratory protection equivalent to or greater than the vapor-removing or gas-removing respirator specified on pesticide product labeling may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment. If an air-supplying respirator or a self-contained breathing apparatus (SCBA) is specified on the pesticide product labeling, it must be worn.

(iv) Persons occupying an enclosed cab shall have all labeling-specified personal protective equipment immediately available and stored in a chemical-resistant container, such as a plastic bag. They shall wear such personal protective equipment if it is necessary to exit the cab and contact pesticide-treated surfaces in the treated area. Once personal protective equipment is worn in the treated area, it must be removed before reentering the cab.

(f) Aerial applications.

(i) Use of gloves. The wearing of chemical-resistant gloves when entering or leaving an aircraft used to apply pesticides is optional, unless such gloves are required on the pesticide product labeling. If gloves are brought into the cockpit of an aircraft that has been used to apply pesticides, the gloves shall be kept in an enclosed container to prevent contamination of the inside of the cockpit.

(ii) Open cockpit. Persons occupying an open cockpit shall use the personal protective equipment specified in the product labeling for use during application, except that chemical-resistant footwear need not be worn. A helmet may be substituted for chemical-resistant headgear. A visor may be substituted for protective eyewear.

(iii) Enclosed cockpit. Persons occupying an enclosed cockpit may substitute a long-sleeved shirt, long pants, shoes, and socks for labeling-specified personal protective equipment.

(g) Crop advisors. Crop advisors entering treated areas while a restricted-entry interval is in effect may wear the personal protective equipment specified on the pesticide labeling for early entry activities instead of the personal protective equipment specified on the pesticide labeling for handling activities, provided:

(i) Application has been completed for at least four hours.

(ii) Any inhalation exposure level listed in the labeling has been reached or any ventilation criteria established by WAC 296-307-12015 (3)(c) or in the labeling have been met.

(5) Use of personal protective equipment.

(a) The handler employer shall assure that personal protective equipment is used correctly for its intended purpose and is used according to the manufacturer's instructions.

(b) The handler employer shall assure that, before each day of use, all personal protective equipment is inspected for

leaks, holes, tears, or worn places, and any damaged equipment is repaired or discarded.

(6) Cleaning and maintenance.

(a) The handler employer shall assure that all personal protective equipment is cleaned according to the manufacturer's instructions or pesticide product labeling instructions before each day of reuse. In the absence of any such instructions, it shall be washed thoroughly in detergent and hot water.

(b) If any personal protective equipment cannot be cleaned properly, the handler employer shall dispose of the personal protective equipment in accordance with any applicable federal, state, and local regulations. Coveralls or other absorbent materials that have been drenched or heavily contaminated with an undiluted pesticide that has the signal word DANGER or WARNING on the label shall be not be reused.

(c) The handler employer shall assure that contaminated personal protective equipment is kept separately and washed separately from any other clothing or laundry.

(d) The handler employer shall assure that all clean personal protective equipment shall be either dried thoroughly before being stored or shall be put in a well ventilated place to dry.

(e) The handler employer shall assure that all personal protective equipment is stored separately from personal clothing and apart from pesticide-contaminated areas.

(f) The handler employer shall assure that when dust/mist filtering respirators are used, the filters shall be replaced:

(i) When breathing resistance becomes excessive.

(ii) When the filter element has physical damage or tears.

(iii) According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.

(iv) In the absence of any other instructions or indications of service life, at the end of each day's work period.

(g) The handler employer shall assure that when gas-removing or vapor-removing respirators are used, the gas-removing or vapor-removing canisters or cartridges shall be replaced:

(i) At the first indication of odor, taste, or irritation.

(ii) According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.

(iii) In the absence of any other instructions or indications of service life, at the end of each day's work period.

(h) The handler employer shall inform any person who cleans or launders personal protective equipment:

(i) That such equipment may be contaminated with pesticides.

(ii) Of the potentially harmful effects of exposure to pesticides.

(iii) Of the correct way(s) to clean personal protective equipment and to protect themselves when handling such equipment.

(i) The handler employer shall assure that handlers have a clean place(s) away from pesticide storage and pesticide use areas where they may:

(i) Store personal clothing not in use.

(ii) Put on personal protective equipment at the start of any exposure period.

(iii) Remove personal protective equipment at the end of any exposure period.

(j) The handler employer shall not allow or direct any handler to wear home or to take home personal protective equipment contaminated with pesticides.

(7) Heat-related illness. When the use of personal protective equipment is specified by the labeling of any pesticide for the handling activity, the handler employer shall assure that no handler is allowed or directed to perform the handling activity unless appropriate measures are taken, if necessary, to prevent heat-related illness.

Note: Additional requirements in WAC 296-307-097, Outdoor heat exposure, may apply between May 1st and September 30th of each year. See Part G-1.

[Statutory Authority: RCW 49.17.050, 09-17-119, § 296-307-13045, filed 8/18/09, effective 10/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060, 09-07-098, § 296-307-13045, filed 3/18/09, effective 5/1/09; 05-01-166, § 296-307-13045, filed 12/21/04, effective 4/2/05. Statutory Authority: RCW 49.17.040, 98-24-096, § 296-307-13045, filed 12/1/98, effective 3/1/99. 97-09-013, recodified as § 296-307-13045, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060, 96-20-082, § 296-306A-13045, filed 9/30/96, effective 11/1/96.]

Chapter 296-400A WAC

PLUMBER CERTIFICATION RULES

(Formerly chapter 296-400 WAC)

WAC

296-400A-005	What definitions do I need to know to understand these rules?
296-400A-010	Plumbing certificate types and scope of work.
296-400A-020	How do I obtain a certificate of competency?
296-400A-028	What are the requirements for continuing education and classroom training?
296-400A-031	How do I qualify for a temporary permit?
296-400A-033	What is the duration of a temporary permit?
296-400A-045	What fees will I have to pay?
296-400A-120	What do I need to know about plumber trainee certificates (excluding backflow assembly maintenance and repair specialty certification)?
296-400A-122	What do I need to know about trainee experience and certification, and the backflow assembly maintenance and repair specialty examination requirements?
296-400A-130	What if I make a false statement or a material misrepresentation on an application, an employment report or a trainee certificate?
296-400A-155	Audit of trainee hours.
296-400A-300	What procedures does the department follow when issuing a notice of infraction?

WAC 296-400A-005 What definitions do I need to know to understand these rules? Unless a different meaning is clearly required by the context, the following terms and definitions are important:

"Advisory board" is the state advisory board of plumbers.

"Audit" means an assessment, evaluation, examination or investigation of, contractor's accounts, books and records for the purpose of verifying the contractor's compliance with RCW 18.106.320.

"Backflow assembly" or **"backflow prevention assembly"** or **"backflow preventer"** is a device as described in the *Uniform Plumbing Code* used to prevent the undesired reversal of flow of water or other substances through a cross-connection into the public water system or consumer's potable water system.

"Backflow assembly tester" is an individual certified by the department of health to perform tests to backflow assemblies.

"Continuing education" is approved plumbing and electrical courses for journeymen, domestic pump specialty plumbers, and residential specialty plumbers, to meet the requirements to maintain their plumbing certification and for trainees or individuals to become certified plumbers in Washington.

"Continuing education course provider" is an entity approved by the department, in consultation with the state advisory board of plumbers, to provide continuing education training for journeymen, domestic pump specialty plumbers, residential specialty plumbers, and trainees. All training course providers must comply with the requirements in WAC 296-400A-028.

"Continuity affidavit" is a form developed by the department that is used to verify whether medical gas pipe installation work (brazing process) has been performed biannually. This form is provided to the department annually by the person holding the medical gas piping installer endorsement and requires the signature of the employer of the medical gas piping installer or another qualified verifier as determined by the department. Continuity is a visual examination by the employer of the brazing that was performed.

"Contractor" means any person, corporate or otherwise, who engages in, or offers or advertises to engage in, any work covered by the provisions of chapter 18.106 RCW by way of trade or business, or any person, corporate or otherwise, who employs anyone, or offers or advertises to employ anyone, to engage in any work covered by the provisions of chapter 18.106 RCW and is registered as a contractor under chapter 18.27 RCW.

"Dispatcher" means the contractor's employee who authorized the work assignment of the person employed in violation of chapter 18.106 RCW.

"Department" is the department of labor and industries.

"Director" is the director of the department of labor and industries.

"Journeyman plumber" is anyone who has learned the commercial plumbing trade and has been issued a journeyman certificate of competency by the department. A journeyman plumber may work on plumbing projects including residential, commercial and industrial worksite locations.

"Medical gas piping installer" is anyone who has been issued a medical gas piping installer endorsement of competency by the department.

"Medical gas piping systems" are piping systems that convey or involve oxygen, nitrous oxide, high pressure nitrogen, medical compressed air, or medical vacuum systems.

"Plumbing" is that craft involved in installing, altering, repairing and renovating potable water systems, liquid waste systems and medical gas piping systems in the footprint of a building. Potable water systems, liquid waste systems, and medical gas piping systems are defined by the current *Uniform Plumbing Code* (UPC) and amendments adopted by the state building code council. All piping, fixtures, pumps and plumbing appurtenances that are used for a reclaimed water system are included in the definition of liquid waste systems. The installation of water softening or water treatment equipment into a water system is not considered plumbing.

"Records" include, but are not limited to, all bids, invoices, billing receipts, time cards and payroll records that show the work was performed, advertised, or bid.

"Specialty plumber" is anyone who has been issued a specialty plumbers certificate of competency by the department limited to:

(a) Installation, maintenance and repair of plumbing for single-family dwellings, duplexes and apartment buildings which do not exceed three stories;

(b) Maintenance and repair of backflow assemblies located within a residential or commercial building or structure. For the purposes of this subsection, "maintenance and repair" includes cleaning and replacing internal parts of an assembly, but does not include installing or replacing backflow assemblies.

(c) "Domestic pump specialty" means the installation, maintenance, and repair of a domestic water pumping system consisting of the pressurization, treatment, and filtration components of a domestic water system consisting of: One or more pumps; pressure, storage, and other tanks; filtration and treatment equipment; if appropriate, a pitless adapter; along with valves, transducers, and other plumbing components that:

(i) Are used to acquire, treat, store, or move water suitable for either drinking or other domestic purposes, including irrigation, to:

(A) A single-family dwelling, duplex, or other similar place of residence;

(B) A public water system, as defined in RCW 70.119.020 and as limited under RCW 70.119.040; or

(C) A farm owned and operated by a person whose primary residence is located within thirty miles of any part of the farm;

(ii) Are located within the interior space, including but not limited to an attic, basement, crawl space, or garage, of a residential structure, which space is separated from the living area of the residence by a lockable entrance and fixed walls, ceiling, or floor;

(iii) If located within the interior space of a residential structure, are connected to a plumbing distribution system supplied and installed into the interior space by either:

(A) A person who, pursuant to RCW 18.106.070 or 18.106.090, possesses a valid temporary permit or certificate of competency as a journeyman plumber, specialty plumber, or trainee, as defined in this chapter; or

(B) A person exempt from the requirement to obtain a certified plumber to do such plumbing work under RCW 18.106.150.

For the purposes of the domestic pump specialty, residential structure includes any improvement to real property where that property is primarily used as a residence.

"Supervision" for the purpose of these rules means within sight or sound. Supervision requirements are met when the supervising plumber is on the premises and within sight or sound of the individual who is being trained.

"Training course provider" is an entity approved by the department, in consultation with the state advisory board of plumbers, to provide medical gas piping installer training. All training course providers must comply with the requirements in WAC 296-400A-026.

"Trainee plumber" is anyone who has been issued a trainee certificate and is learning or being trained in the plumbing trade with direct supervision of either a journeyman plumber or specialty plumber working in their specialty.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-005, filed 5/5/09, effective 6/5/09; 06-24-040, § 296-400A-005, filed 11/30/06, effective 12/31/06. Statutory Authority: RCW 19.103.040, 18.106.140, and chapter 18.106 RCW. 05-11-061, § 296-400A-005, filed 5/17/05, effective 6/30/05. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-005, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-005, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-005, filed 6/17/98, effective 7/20/98. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-005, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-010 Plumbing certificate types and scope of work. (1) Journeyman plumber (PL01): A journeyman plumber may work on all phases of plumbing projects including residential, commercial and industrial worksite locations. A plumber trainee must have a training certificate in order to perform plumbing work under the supervision of a certified journeyman plumber.

(2) Residential specialty plumber (PL02): Installation, maintenance and repair of all phases of plumbing for single-family dwellings, duplexes and apartment buildings which do not exceed three stories. A plumber trainee must have a training certificate in order to perform plumbing work as a residential specialty plumber under the supervision of a certified residential or journeyman plumber.

(3) Backflow specialty plumber (PL30): Maintenance and repair of backflow assemblies located within a residential or commercial building or structure. For the purposes of this subsection, "maintenance and repair" includes cleaning and replacing internal parts of an assembly, but does not include installing or replacing backflow assemblies. A plumber trainee must have a PT31 certificate in order to do work as a backflow specialty plumber under the supervision of a certified backflow specialty plumber, certified residential specialty plumber or certified journeyman plumber. PT31 trainee requires one hundred percent supervision.

(4) Pump and irrigation specialty plumber (PL03): Installation, maintenance and repair of equipment that is used to acquire, treat, store, or move water suitable for either drinking or other domestic purposes, including irrigation or to a domestic water pumping system consisting of the pressurization, treatment, and filtration components of a domestic water system consisting of: One or more pumps; pressure, storage, and other tanks; filtration and treatment equipment. For the purposes of this subsection, if located within the interior space of a residential structure as stated in RCW 18.106.010 (10)(c), only the equipment and piping defined by RCW 18.106.010 (10)(c) are included in this specialty and other parts of the system must be worked on by the appropriate certification.

(5) Limited volume domestic pump specialty plumber (PL03A): Installation, maintenance and repair of equipment that is used to acquire, treat, store, or move water suitable for either drinking or other domestic purposes on pumping systems not exceeding one hundred gallons per minute. A domestic water pumping system consisting of the pressuriza-

tion, treatment, and filtration components of a domestic water system consisting of: One or more pumps; pressure, storage, and other tanks; filtration and treatment equipment. For the purposes of this subsection, if located within the interior space of a residential structure as stated in RCW 18.106.010 (10)(c), only the equipment and piping to stated equipment in this locked room can be worked on by this certification; other parts of the system must be worked on by the appropriate certification.

(6) Plumber trainee (PT00 and PT31): Is an individual learning the trade or craft of plumbing. Trainees are required to have and maintain a valid plumber's training certificate. Trainees will be accredited for those hours worked within the scope of their supervising plumber. Any plumber trainee may perform plumbing work within the scope of their supervising journeyman or specialty plumber. A trainee shall keep a record of the hours worked as a trainee as required by WAC 296-400A-120(3).

(7) Certified journeyman electricians, certified residential specialty electricians, or electrical trainees (EL01 and EL02): According to RCW 18.106.150 (2)(b), a current plumbing certificate of competency or apprentice permit is not required for: Certified journeyman electricians, certified residential specialty electricians, or electrical trainees working for an electrical contractor and performing exempt work under RCW 18.27.090(18). A plumber trainee must have a ET00 certificate in order to work with a journeyman electrician, residential specialty electrician, or electrical trainee.

The plumbing work must be directly and immediately appropriate to the like-in-kind replacement of a household fixture or its component(s) that requires limited power and waste/water connections.

An example would be replacing the heating element (a component) of an electric hot water heater. An electrician performing a like-in-kind replacement of an electric hot water tank could only disconnect and then reconnect the water supply lines to the tank and drain line from the temperature and pressure relief valve. Gas hot water tanks are not part of the electrician's exemption.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-010, filed 5/5/09, effective 6/5/09; 06-24-040, § 296-400A-010, filed 11/30/06, effective 12/31/06.]

WAC 296-400A-020 How do I obtain a certificate of competency? You can obtain a certificate of competency by completing the following requirements for:

(1) Journeyman and specialty plumber certificate (excluding backflow assembly maintenance and repair specialty certification):

(a) Submitting a competency examination application to the department;

(b) Paying the examination fee shown in WAC 296-400A-045(1);

(c) Submitting the required evidence of competency and experience to the department as required under WAC 296-400A-120 and 296-400A-121;

(d) Providing documentation to the department with continuing education requirements;

(e) Passing the competency examination;

(f) In lieu of (a), (b) and (c) of this subsection and with the approval of the advisory board, the department may

accept the successful passage of an examination administered by a nationally recognized testing entity;

(g) For domestic pump specialty plumbers, in lieu of (a), (b) and (c) of this subsection and with the approval of the advisory board, the department may accept a certification issued by professional trade association; and

(h) Paying the certification issuance fee within ninety days of notification of passing the written examination. Failure to pay within ninety days will require reexamination.

(2) Backflow assembly maintenance and repair specialty certificate:

(a) Submitting a competency examination application to the department;

(b) Paying the application and certificate fee shown in WAC 296-400A-045(1);

(c) Passing the competency examination; and

(d) Paying the certification issuance fee within ninety days of notification of passing the written examination. Failure to pay within ninety days will require reexamination.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-020, filed 5/5/09, effective 6/5/09; 06-24-040, § 296-400A-020, filed 11/30/06, effective 12/31/06. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-020, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-020, filed 6/28/02, effective 7/1/02. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-020, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-028 What are the requirements for continuing education and classroom training?

What are the general and continuing education course requirements for journeyman, residential specialty plumbers, domestic pump specialty plumbers, and plumber trainees?

(1) Journeyman, residential specialty plumber, domestic pump specialty plumber, and plumber trainee.

(a) To be eligible for renewal of a journeyman plumber or residential specialty plumber certificate, the individual must have completed at least sixteen hours of approved continuing education for each two years of the prior certification period. Individuals will be required in the prior two-year period to have completed at least eight hours of plumbing code and at least four hours of electrical code from the currently adopted Washington state plumbing and electrical codes. The remaining four hours may be plumbing or electrical trade related classes.

(b) Domestic pump specialty plumbers shall renew their domestic pump specialty certificate once every three years, on or before the individual's birthday. Individuals will be required to complete twenty-four hours of approved continuing education. The continuing education may comprise both electrical and plumbing education with a minimum of twelve of the required twenty-four hours of continuing education in plumbing for each three-year renewal cycle.

(c) Plumber trainees must complete at least eight hours per year of classroom training from an approved continuing education course for each year of the prior certification period. Trainees will be required during a two-year period to complete at least eight hours of plumbing code and at least four hours of electrical code from the currently adopted

Washington state plumbing and electrical codes. The remaining four hours may be plumbing or electrical trade related classes.

(d) Any portion of a year of a prior plumber certification period is equal to one year for the purposes of the required continuing education.

(2) An individual will not be given credit for the same approved continuing education course taken more than once in the two years prior to the renewal date. No credit will be granted for any course not approved by the department.

(3) Continuing education requirements do not apply to backflow specialty plumbers under chapter 18.106 RCW and this chapter.

Approval process - continuing education course.

(4) The advisory board of plumbers or plumbing board subcommittee will review each continuing education course. The advisory board of plumbers or plumbing board subcommittee will recommend approval or disapproval to the department. The department will either approve or disapprove the course.

(5) To be considered for approval, a continuing education course must consist of not less than two hours of instruction and must be open to monitoring by a representative of the department and/or the plumbing board at no charge. If the department determines that the continuing education course does not meet or exceed the minimum requirements for approval, the department may revoke the course approval or reduce the number of credited hours.

(6) Approved courses must be based on:

(a) Currently adopted edition of the *Uniform Plumbing Code* and currently adopted *National Electrical Code*;

(b) Chapters 18.106 or 19.28 RCW or chapters 296-400A or 296-46B WAC; or

(c) Materials and methods as they pertain to the industrial practices of plumbing or electrical construction, building management systems, plumbing or electrical maintenance, or workplace health and safety.

(7) Code-update courses must be based on the entire currently adopted *Uniform Plumbing Code* or currently adopted *National Electrical Code*.

(a) Correspondence and on-line courses in the plumbing code require thirty-five questions per hour of credit.

(b) Industry related electrical courses require twenty-five questions per hour of credit.

(c) Classroom training requires one hour of instruction for each hour of credit.

(d) Course outline must support the number of hours requested.

Application - for continuing education course approval.

(8) All applications for course approval must be on forms provided by the department. The plumbing board and the department will only consider the written information submitted with the application when considering approval of the continuing education training course.

(9) The department will provide continuing education application forms to sponsors upon request. The course sponsor must submit an original completed application for course approval and three copies (unless submitted electronically using department prescribed technology) to the department.

The department must receive the complete course application from the sponsor in writing at least forty-five days before the first class requested for approval is offered.

(10) A complete application for course approval must include:

- (a) The appropriate course application fee;
- (b) Course title, number of classroom instruction hours, and whether the training is open to the public;
- (c) Sponsor's name, address, contact's name and phone number;
- (d) Course outline (general description of the training, including specific *Uniform Plumbing Code* or currently adopted *National Electrical Code* articles referenced);
- (e) Lists of resources (texts, references, visual aids);
- (f) Names and qualifications of instructors. Course instructors must show prior instructor qualification and experience similar to that required by the work force training and education coordinating board under chapter 28C.10 RCW;
- (g) Any additional documentation to be considered; and
- (h) A sample copy of the completion certificate issued to the course participants.

(11) The course sponsor seeking approval of a continuing education course will be notified of the subcommittee's decision within five days of the completed review of the application.

(12) If the application is not approved, the rejection notice will include an explanation of the reason(s) for rejection. If the course sponsor disagrees with the subcommittee's decision, the course sponsor may request a reconsideration hearing by the full plumbing board. A request to appeal course rejection must be received by the department forty-five days before a regularly scheduled board meeting. The course sponsor must submit, to the department, any additional information to be considered during the hearing, in writing, at least thirty days before the board hearing. The course sponsor must provide at least twenty copies of any written information to be submitted to the board.

Offering - continuing education course.

(13) The course sponsor may offer an approved course for up to three years without additional approval. However, if the course is classified as code-update or code-related and a new edition of the *Uniform Plumbing Code* or *National Electrical Code* is adopted within the course approval period, the course approval will be considered automatically revoked and the course sponsor must submit a new application for review by the department and approval by the plumbing board subcommittee.

(14) A continuing education course attended or completed by an individual before final approval by the plumbing board subcommittee cannot be used to meet the plumbing certificate renewal requirements.

Documentation - Washington approved training course attendance/completion.

(15) The department is not responsible for providing verification of an individual's continuing education history with the course sponsor.

(16) The course sponsor must provide the department with an accurate and typed course attendance/completion roster for each course given.

(a) The attendance/completion roster must be provided within thirty days of course completion.

(b) In addition, the course sponsor must provide the attendance/completion roster in an electronic format provided by the department.

(c) The attendance/completion roster must show each participant's name, Washington certificate number, course number, location of course, date of completion, and instructor's name. The typed roster must contain the signature of the course sponsor's authorized representative.

(17) If the course sponsor fails to submit the required attendance/completion rosters within thirty days of the course completion, the department may revoke or suspend the course approval.

(18) Course sponsors must award a certificate to each participant completing the course from which the participant will be able to obtain:

- (a) Name of course sponsor;
- (b) Name of course;
- (c) Date of course;
- (d) Course approval number;
- (e) The number of continuing education units; and
- (f) The type of continuing education units.

(19) The department will only use a copy of the sponsor's attendance/completion roster as final evidence that the participant completed the training course.

(20) The department will keep submitted rosters of the continuing education courses on file only for audit purposes. The department is not responsible for the original of any completion certificate issued.

Documentation - out-of-state training course attendance/completion.

(21) To apply continuing education units earned out-of-state from course sponsors who do not have state of Washington approved courses, one of the following conditions must be met:

(a) The individual must request that the course sponsor submit a complete continuing education course application and requirements as described in this section for in-state courses.

Application for course approval will not be considered more than three years after the date of the course.

(b) The department must have entered into a reciprocal agreement with the state providing course approval.

The participant must provide a copy of an accurate and completed award or certificate from the course sponsor identifying the course location, date of completion, participant's name, and Washington certificate number. The department will only accept a copy of the sponsor's certificate or form as evidence that the participant attended and completed the course.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-028, filed 5/5/09, effective 6/5/09; 06-24-040, § 296-400A-028, filed 11/30/06, effective 12/31/06. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-028, filed 5/28/04, effective 6/30/04.]

WAC 296-400A-031 How do I qualify for a temporary permit? To qualify for a temporary permit, you must:

(1) Have an active state-issued journeyman plumber, domestic pump specialty plumber, or a residential specialty plumber certificate;

(2) Give the department sufficient qualifying evidence for a journeyman plumber, domestic pump specialty plumber, or a residential specialty plumber certificate of competency;

(3) Never have taken the journeyman plumber, domestic pump specialty plumber, or a residential specialty plumber competency examination in Washington state; and

(4) Not be a trainee or an apprentice plumber.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-031, filed 5/5/09, effective 6/5/09; 06-24-040, § 296-400A-031, filed 11/30/06, effective 12/31/06. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-031, filed

5/28/04, effective 6/30/04. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-031, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-031, filed 6/17/98, effective 7/20/98. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-031, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-033 What is the duration of a temporary permit? A temporary permit is valid for one hundred twenty days and is nonrenewable.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-033, filed 5/5/09, effective 6/5/09. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-033, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-045 What fees will I have to pay? The following are the department's plumbers fees:

(1) Fees related to journeyman and specialty plumber certification:

<u>Type of Fee</u>	<u>Period Covered by Fee</u>	<u>Dollar Amount of Fee</u>
Examination application	Per examination	\$133.00
Domestic pump specialty application fee*****	Per application	\$133.00
Reciprocity application*	Per application	\$133.00
Trainee certificate**	One year or when hours are updated	\$39.70
Temporary permit (not applicable for backflow assembly maintenance and repair specialty)	90 days	\$66.10
Journeyman or residential specialty certificate***	Two years (fee may be prorated based on months)	\$106.50
Domestic pump specialty plumber certificate***	Three years (fee may be prorated based on months)	\$159.80
Backflow assembly maintenance and repair specialty certificate	Two years (fee may be prorated based on months)	\$73.50
Medical gas endorsement application	Per application	\$49.00
Medical gas endorsement***	One year	\$36.60
Medical gas endorsement examination fee****		See note below.
Medical gas endorsement training course fee*****		See note below.
Domestic pump specialty examination fee****		See note below.
Reinstatement fee for residential and journeyman certificates		\$213.50
Reinstatement fee for backflow assembly maintenance and repair specialty certificates		\$122.90
Reinstatement fee for domestic pump		\$319.70
Replacement fee for all certificates		\$18.00
Refund processing fee		\$28.70
Unsupervised trainee endorsement		\$28.70
Inactive status fee		\$28.70
Honorary plumbing certification		\$106.50
Certified letter fee		\$28.70
Continuing education new course fee*****		\$173.00
Continuing education renewal course fee*****		\$86.40
Continuing education classes provided by the department		\$12 per continuing education training hour \$8 per continuing education training hour for correspondence and internet courses

- * Reciprocity application is only allowed for applicants that are applying work experience toward certification that was obtained in state(s) with which the department has a reciprocity agreement. The reciprocity application is valid for one year.
- ** The trainee certificate shall expire one year from the date of issuance and must be renewed on or before the date of expiration. Updating a training certificate is optional and not required.
- *** This fee applies to either the original issuance or a renewal of a certificate. If you have passed the plumbers certificate of competency examination or the medical gas piping installer endorsement examination and paid the certificate fee, you will be issued a plumber certificate of competency or a medical gas endorsement that will expire on your birth date. The annual renewal of a Medical Gas Piping Installer Endorsement shall include a continuity affidavit verifying that brazing work has been performed biannually.
- **** This fee is paid directly to a nationally recognized testing agency under contract with the department. It covers the cost of preparing and administering the written competency examination and the materials necessary to conduct the practical competency examination required for the medical gas piping system installers endorsement. **This fee is not paid to the department.**
- ***** This fee is paid directly to a training course provider approved by the department, in consultation with the state advisory board of plumbers. It covers the cost of providing training courses required for the medical gas piping system installer endorsement. **This fee is not paid to the department.**
- ***** This fee is for a three-year period or code cycle.
- ***** The domestic pump specialty application is valid for one year.

(2) If your birth year is:

- (a) In an even-numbered year, your certificate will expire on your birth date in the next even-numbered year.
- (b) In an odd-numbered year, your certificate will expire on your birth date in the next odd-numbered year.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-045, filed 5/5/09, effective 6/5/09. Statutory Authority: Chapters 18.106, 43.22 RCW, 2008 c 285 and c 329. 08-12-042, § 296-400A-045, filed 5/30/08, effective 6/30/08. Statutory Authority: Chapters 18.27, 18.106, 43.22, and 70.87 RCW. 07-11-128, § 296-400A-045, filed 5/22/07, effective 6/30/07. Statutory Authority: RCW 18.106.040, 18.106.140, 06-24-040, § 296-400A-045, filed 11/30/06, effective 12/31/06. Statutory Authority: Chapters 18.106, 43.22, and 70.87 RCW. 06-10-066, § 296-400A-045, filed 5/2/06, effective 6/30/06. Statutory Authority: RCW 19.103.040, 18.106.140, and chapter 18.106 RCW. 05-11-061, § 296-400A-045, filed 5/17/05, effective 6/30/05. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-045, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 43.22.350, 43.22.434, 43.22.480, 43.22.500, 70.87.030, 18.106.070, 18.106.125, 2001 c 7, and chapters 18.106, 43.22, and 70.87 RCW. 03-12-045, § 296-400A-045, filed 5/30/03, effective 6/30/03. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-045, filed 6/28/02, effective 7/1/02. Statutory Authority: RCW 18.106.125, 99-07-101, § 296-400A-045, filed 3/23/99, effective 4/23/99. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-045, filed 6/17/98, effective 7/20/98. Statutory Authority: Chapters 18.106, 18.27 and 43.22 RCW. 98-12-041, § 296-400A-045, filed 5/29/98, effective 6/30/98. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-045, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-120 What do I need to know about plumber trainee certificates (excluding backflow assembly maintenance and repair specialty certification)? (1) Journeyman and specialty plumber trainee certification:

- (a) Original trainee certificates. The department will issue an original trainee certificate when the trainee applicant submits a complete trainee certificate application including:
 - (i) Date of birth, mailing address, Social Security number; and
 - (ii) All appropriate fees as listed in WAC 296-400A-045.
 - (iii) If an individual has previously held a plumbing trainee certificate, then that individual is not eligible for a subsequent original trainee certificate.

All applicants for a plumbing trainee certificate must be at least sixteen years of age and must follow requirements as defined in WAC 296-125-030.

(b) Renewal. The department issues separate trainee certificates once a year.

(c) The plumbing trainee may not apply for renewal more than ninety days prior to the expiration date. Plumber trainee certificates are valid for one year.

(d) All applicants for trainee certificate of renewal must:

- (i) Submit a complete renewal application;
- (ii) Pay all appropriate fees; and

(ii) Provide accurate evidence on the renewal form that the individual has completed the continuing education requirements described in chapter 296-400A WAC.

(e) If an individual files inaccurate or false evidence of continuing education information when renewing a plumbing trainee certificate, the individual's certificate may be suspended or revoked.

(f) An individual who has not completed the required hours of continuing education cannot renew a trainee certificate.

(g) Individuals will not be able to apply to test for journeyman plumber, domestic pump specialty plumber, or residential specialty plumber certificates until the continuing education requirements have been met.

(h) If continuing education hours have not been met, trainee certificates will become expired and any experience obtained by the trainee in expired status will not be credited toward plumbing certificate application.

(i) An individual may renew an expired certificate of competency by submitting a complete renewal application including obtaining and submitting the continuing education required for renewal. However, the certificate will remain in an expired status for the duration of the expired period.

(j) An individual may not renew a revoked trainee certificate.

(k) Apprentices registered in an approved program according to chapter 49.04 RCW who are obtaining classroom training consistent with the continuing education requirements under chapter 18.106 RCW and this chapter, as approved by the department, are deemed to have met the continuing education requirements necessary to renew a trainee certificate.

(l) If you are a trainee applying for a journeyman certificate, you must complete a minimum of two of the required four years in commercial plumbing experience.

(m) A certified residential specialty plumber or domestic pump specialty plumber working on a commercial job site may work as a journeyman trainee only if they have a current trainee certificate on their person while performing commercial plumbing work.

(n) On a job site, the ratio of certified plumbers to non-certified plumbers must be:

(i) One residential specialty plumber or journeyman working on a residential plumbing job site may supervise no more than two trainees.

(ii) One journeyman plumber working on a commercial job site may supervise no more than one trainee or one residential specialty plumber who holds a current trainee certificate.

(iii) One appropriate domestic pump specialty plumber or one journeyman plumber working on a domestic pump system may supervise no more than two trainees.

(o) A plumber trainee who has a current trainee certificate with the state of Washington and has successfully completed or is enrolled in an approved medical gas piping installer training course may work on medical gas piping systems. Work may only occur when there is direct supervision by an active Washington state certified journeyman plumber with an active medical gas piping installer endorsement issued by the department. Supervision must be one hundred percent of the working day on a one-to-one ratio.

(p) Plumber trainee shall renew the certificate annually but not more than ninety days before the expiration date.

(q) The trainee will not be issued a renewed or reinstated training certificate if the individual owes the department money as a result of an outstanding final judgment.

(r) Trainee hours will not be credited if the trainee owes outstanding penalties for violations of this chapter.

(2) At the time of renewal, the holder shall provide the department with an accurate list of the holder's employers in the plumbing construction industry for the previous annual period. The individual must submit a completed, signed, and notarized affidavit(s) of experience. The affidavit of experience must accurately attest to:

(a) The plumbing installation work performed for each employer the individual worked for in the plumbing trade during the previous period;

(b) The correct plumbing category the individual worked in; and

(c) The actual number of hours worked in each category, worked under the proper supervision of a Washington certified journeyman plumber, certified domestic pump specialty plumber, or residential specialty plumber.

(3) The trainee should ask each employer and/or apprenticeship-training director for an accurately completed, signed, and notarized affidavit of experience for the previous certification period. The employer(s) or apprenticeship training director(s) must provide the previous period's affidavit of experience to the individual within twenty days of the request.

(4) If hours for previous period are not submitted within the thirty days after renewing a plumbing training certificate, the individual may not receive credit for these previous period hours.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-120, filed 5/5/09, effective 6/5/09; 06-24-040, § 296-400A-120, filed 11/30/06, effective 12/31/06. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-120, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-120, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-120, filed 6/17/98, effective 7/20/98. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-120, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-122 What do I need to know about trainee experience and certification, and the backflow assembly maintenance and repair specialty examination requirements? (1) Journeyman and specialty plumber trainee certification:

(a) Original training certificates. The department will issue an original training certificate when the trainee applicant submits a complete training certificate application including:

(i) Date of birth, mailing address, Social Security number; and

(ii) All appropriate fees as listed in WAC 296-400A-045.

(iii) If an individual has previously held a plumbing training certificate, then that individual is not eligible for a subsequent original training certificate.

All applicants for a plumbing training certificate must be at least sixteen years of age and must follow requirements as defined in WAC 296-125-030.

(2) A trainee certificate must be obtained by an individual performing backflow assembly maintenance and repair work who is not a certified plumber. The individual must work under the direct supervision of a certified backflow assembly maintenance and repair specialty, journeyman plumber, or residential specialty plumber for a minimum of one hundred percent of each working day while the backflow assembly maintenance and repair work is being performed.

(3) Each applicant for a backflow assembly maintenance and repair specialty certificate must furnish written evidence that he or she has a valid backflow assembly tester certification administered and enforced by the department of health.

(4) **Any applicant** who fails an examination will be required to wait at least until the next scheduled examination date and location. Examinations are held the first Thursday of every month, unless that date falls on a holiday. In the event of a holiday, the examination will be held on the second Thursday of the month. Applications shall be submitted and received by the plumbing certification program office two weeks before the next scheduled examination date.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-122, filed 5/5/09, effective 6/5/09. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-122, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-122, filed 6/28/02, effective 7/1/02.]

WAC 296-400A-130 What if I make a false statement or a material misrepresentation on an application, an employment report or a trainee certificate? (1) A person making a false statement or material misrepresentation on an application, statement of hours, or signed statement to the department may be referred to the county prosecutor for criminal prosecution. The department may also file a civil action under chapter 18.106 RCW and may revoke or suspend a certificate under chapter 18.106 RCW.

(2) The department may file a civil action under chapter 18.106 RCW and may revoke or suspend a certificate of competency under chapter 18.106 RCW for inaccurate or false reporting of continuing education hours.

(3) If the department determines that a course sponsor has issued an inaccurate or incomplete course application or attendance/completion roster, the department may suspend or revoke the course approval and deny future approval of a continuing education course(s) by the course sponsor.

(4) The department may file a civil action under chapter 18.106 RCW against both the trainee and the contractor, apprentice training director, or other entity verifying the

training hours and may subtract the falsified hours of employment from a trainee's total hours if the department determines a false statement or material misrepresentation has been made in an affidavit of experience.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-130, filed 5/5/09, effective 6/5/09. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-130, filed 5/28/04, effective 6/30/04. Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-130, filed 6/28/02, effective 7/1/02. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-130, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-155 Audit of trainee hours. (1) The department, under RCW 18.106.320, may audit the employment records of the plumbing contractor or employer who verified the plumbing trainee hours.

(2) Every contractor must keep a record of trainee employment so the department may obtain the necessary information to verify plumbing trainee work experience.

(a) The contractor must keep the records of jobs performed for a least five years.

(b) Upon request, these records must be made available to the department for inspection within seven business days.

(3) The contractor must maintain time cards or similar records to verify:

(a) The number of hours the trainee worked as a supervised trainee by category.

(b) The type of plumbing work the trainee performed (e.g., commercial or residential).

(4) Any information obtained from the trainee's contractor or employer during the audit under the provisions of RCW 18.106.320 is confidential and is not open to public inspection under chapter 42.17 RCW.

(5) The department's audit may include, but will not be limited to, the following:

(a) An audit to determine whether the trainee and supervising plumber were employed by the same contractor or employer during the period for which the hours were submitted, the actual number of hours the trainee worked, and the category of plumbing work performed; and

(b) An audit covering a specific time period and examination of a contractor's or employer's books and records which may include their reporting of the trainee's payroll hours required for industrial insurance, employment security or prevailing wage purposes.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-155, filed 5/5/09, effective 6/5/09. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-155, filed 5/28/04, effective 6/30/04.]

WAC 296-400A-300 What procedures does the department follow when issuing a notice of infraction? (1)

If an authorized representative of the department determines that an individual has violated plumber certification requirements, including medical gas piping installer endorsement requirements, the department must issue a notice of infraction describing the reasons for the infraction.

(2) For plumber certification violations, the department may issue a notice of infraction to:

(a) An individual who is plumbing without a current plumber certificate; and

(b) The employer of the individual who is plumbing without a current plumber certificate; and

(c) The employer's authorizing agent or foreman that made the work assignment to the individual who is plumbing without a current plumber certificate.

(3) For medical gas piping installer endorsement violations, the department may issue a notice of infraction to:

(a) An individual who is installing medical gas piping systems without a current plumber certificate and a current medical gas piping installer endorsement; and

(b) The employer of the individual who is installing medical gas piping systems without a current plumber certificate and a current medical gas piping installer endorsement; and

(c) The employer's authorizing agent or foreman that made the work assignment to the individual who is installing medical gas piping systems without a current plumber certificate and a current medical gas piping installer endorsement.

(4) The department may issue an infraction to a contractor advertising or performing work under this chapter or chapter 18.27 RCW who is not properly registered under chapter 18.27 RCW.

(5) An individual may appeal a notice of infraction by complying with the appropriate provisions of RCW 18.106-220.

(6) If good cause is shown, an administrative law judge may waive, reduce or suspend any monetary penalties resulting from the infraction.

(7) Any monetary penalties collected under this chapter, must be deposited in the plumbing certificate fund.

[Statutory Authority: RCW 18.106.040 and 18.106.140. 09-10-080, § 296-400A-300, filed 5/5/09, effective 6/5/09. Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-300, filed 5/28/04, effective 6/30/04. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-300, filed 6/17/98, effective 7/20/98. Statutory Authority: RCW 18.106.050, [18.106.]070, [18.106.]110, [18.106.]125, [18.106.]140 and [18.106.]270. 97-11-052, § 296-400A-300, filed 5/20/97, effective 6/30/97.]

Chapter 296-800 WAC

SAFETY AND HEALTH CORE RULES

WAC

296-800-16002	Compliance duties owed to each employee.
296-800-16020	Provide PPE to your employees.
296-800-170	Employer chemical hazard communication—Introduction.

WAC 296-800-16002 Compliance duties owed to each employee.

(1) Personal protective equipment. Standards in this part requiring the employer to provide personal protective equipment (PPE), including respirators and other types of PPE, because of hazards to employees impose a separate compliance duty with respect to each employee covered by the requirement. The employer must provide PPE to each employee required to use the PPE, and each failure to provide PPE to an employee may be considered a separate violation.

(2) Training. Standards in this part requiring training on hazards and related matters, such as standards requiring that employees receive training or that the employer train employees, provide training to employees, or institute or implement a training program, impose a separate compliance duty with respect to each employee covered by the require-

ment. The employer must train each affected employee in the manner required by the standard, and each failure to train an employee may be considered a separate violation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-15-145, § 296-800-16002, filed 7/21/09, effective 9/1/09.]

WAC 296-800-16020 Provide PPE to your employees. You must provide PPE at no cost to employees if the PPE is:

- The type that would not reasonably or normally be worn away from the workplace, such as single use or disposable PPE.
- Required to comply with a safety and health standard to protect employees wherever hazards exist from:
 - Processes
 - Environmental hazards
 - Physical, chemical, or radiological hazards or
 - Mechanical irritants that could cause injury or impairment to the function of any body part through absorption, inhalation, or physical contact.

Table-X: Employer Responsibility for Providing PPE		
*This table provides examples only and is not all-inclusive.		
Part of Body	PPE employers are required to provide at no cost to employees.	Items in which employer payment is not required.
Head	Bump caps. Hard hat. Nonconductive head protection.	—
Eye and Face	Face shields. Goggles. Laser safety goggles. Nonprescription eye protection. Prescription eyewear inserts/lenses for full-face respirators. Welding and diving helmets.	Nonspecialty prescription safety eyewear.
Ear	Hearing protection.	—
Hand/ Arm	Aluminized gloves. Barrier creams (unless used solely for weather-related protection). Chemical resistant gloves/aprons/clothing. Mesh cut proof gloves. Mesh or leather aprons. Nonspecialty gloves if required to protect from dermatitis, severe cuts, or abrasions. Rubber insulating gloves. Rubber sleeves.	Hand protection used only for keeping clean or for cold weather with no safety or health consideration.

Part of Body	PPE employers are required to provide at no cost to employees.	Items in which employer payment is not required.
Foot	Metatarsal foot protection. Rubber boots with steel toes. Shoe covers - toe caps and metatarsal guards. Special boots for long-shoremen working logs.	Nonspecialty safety-toe protective footwear such as steel-toe shoes or boots. Sturdy work shoes. Lineman's boots. Logging boots required under chapter 296-54 WAC.
Other	Atmosphere-supplying respirators (escape only). Climbing ensembles used by linemen such as belts and climbing hooks. Level A - fully encapsulated chemical protective suits. Level B - chemical protective clothing. Personal fall arrest systems. Personal fall restraint systems. Firefighting PPE (helmet, gloves, boots, proximity suits, full gear). Ladder safety device belts. Personal floatation devices (life jackets). Class II or III high visibility garments that meet ANSI 107-2004 specifications. Respiratory protection. SCBA (self-contained breathing apparatus). Welding PPE. Window cleaner's safety straps. Items such as aprons, lab coats, goggles, disposable gloves, shoe covers, etc., used in medical/laboratory settings to protect from exposure to infectious agents.	Long sleeve shirts. Long pants. Ordinary cold weather gear (coats, parkas, cold weather gloves, winter boots). Ordinary rain gear. Dust mask/respirators used under the voluntary use provisions in chapter 296-842 WAC. Back belts. Sun-glasses. Sunscreen.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-05-071, § 296-800-16020, filed 2/17/09, effective 4/1/09. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-16020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-16020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-170 Employer chemical hazard communication—Introduction.

IMPORTANT:

Thousands of chemicals can be found in today's workplaces. These chemicals may have the capacity to cause health problems, from minor skin irritations to serious injuries or diseases like cancer. You should review the type of chemicals you use and consider using less hazardous chemicals (such as less toxic and nonflammable chemicals).

The Employer Chemical Hazard Communication rule was developed to make sure employers and employees are informed about chemical hazards in the workplace.

This rule applies to:

- Employers engaged in businesses where chemicals are used, distributed, or produced for use or distribution.
- Contractors or subcontractors that work for employers engaged in businesses where chemicals are used, distributed, or produced for use or distribution.

Exemptions: Certain products, chemicals, or items are exempt from this rule. Below is a summarized list of these exemptions. See WAC 296-800-17055 at the end of this rule to get complete information about these exemptions:

- Any hazardous waste as defined by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6901 et seq.), when subject to regulations issued under that act by the Environmental Protection Agency.
 - Any hazardous substance as defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601 et seq.) when the hazardous substance is the focus of remedial or removal action being conducted under CERCLA in accordance with the Environmental Protection Agency regulations.
 - Tobacco or tobacco products
 - Wood or wood products that are not chemically treated and will not be processed, for example, by sawing and sanding
 - Food or alcoholic beverages
 - Some drugs, such as retail or prescription medications
 - Retail cosmetics
 - Ionizing and nonionizing radiation
 - Biological hazards
 - Any consumer product or hazardous substance when workplace exposure is the same as that of a consumer
 - ◆ Retail products used in offices in the same manner and frequency used by consumers can be termed "consumer products," and include things such as: Correction fluid, glass cleaner, and dishwashing liquid.
- Example: If you use a household cleaner in your workplace in the same manner and frequency that a consumer would use it when cleaning their house, your exposure should be the same as the consumer's, you are exempt. A janitor using a household cleaner, such as bleach, throughout the day, is not considered to be a consumer, and is not exempt.
- Manufactured items that remain intact are exempt from this rule.
 - Manufactured items that are fluids or in the form of particles are not exempt from this rule.

The following are examples:

Item	Covered by this rule	Not covered by this rule
Brick	Sawed or cut in half	Used whole or intact
Pipe	Cut by a torch	Bent with a tube bender
Nylon Rope	Burning the ends	Tying a knot

Reference: • If you produce, import, distribute and/or repackage chemicals, or choose not to rely on labels or material safety data sheets provided by the manufacturer or

importer, you must comply with chemical hazard communication for manufacturers, importers and distributors, WAC 296-62-054.

- You may withhold trade secret information under certain circumstances. See trade secrets, WAC 296-62-053, to find out what information may be withheld as a trade secret and what information must be released.

Your responsibility:

To inform and train your employees about the hazards of chemicals they may be exposed to during normal working conditions, or in foreseeable emergencies by:

- Making a list of the hazardous chemicals present in your workplace
- Preparing a written Chemical Hazard Communication Program for your workplace
- Informing your employees about this rule and your program
- Providing training to your employees about working in the presence of hazardous chemicals
- Getting and keeping the material safety data sheets (MSDSs) for the hazardous chemicals
- Making sure that labels on containers of hazardous chemicals are in place and easy to read.

You must:

Develop, implement, maintain, and make available a written Chemical Hazard Communication Program.

WAC 296-800-17005.

Include multiemployer workplaces in your program if necessary.

WAC 296-800-17007.

Identify and list all the hazardous chemicals present in your workplace.

WAC 296-800-17010.

Obtain and maintain material safety data sheets (MSDS) for each hazardous chemical used.

WAC 296-800-17015.

Make sure that material safety data sheets (MSDS) are readily accessible to your employees and NIOSH.

WAC 296-800-17020.

Label containers holding hazardous chemicals.

WAC 296-800-17025.

Inform and train your employees about hazardous chemicals in your workplace.

WAC 296-800-17030.

Follow these rules for laboratories using hazardous chemicals.

WAC 296-800-17035.

Follow these rules for handling chemicals in factory sealed containers.

WAC 296-800-17040.

The department must:

Translate certain chemical hazard communication documents upon request.

WAC 296-800-17045.

Attempt to obtain a material safety data sheet (MSDS) upon request.

WAC 296-800-17050.

Exemption:

Items or chemicals exempt from the rule, and exemptions from labeling.

WAC 296-800-17055.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-10-078, § 296-800-170, filed 5/5/09, effective 6/15/09; 03-18-090, § 296-800-170, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.-010, [49.17].040, and [49.17].050, 02-16-047, § 296-800-170, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-170, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-170, filed 5/9/01, effective 9/1/01.]

**Chapter 296-803 WAC
LOCKOUT/TAGOUT
(CONTROL OF HAZARDOUS ENERGY)**

WAC

296-803-30005	Make sure new or modified machines and equipment can accept lockout devices.
296-803-40005	Provide appropriate means to control energy.
296-803-50010	Meet these requirements when applying lockout or tagout devices.
296-803-60015	Retrain employees when necessary.
296-803-800	Definitions.

WAC 296-803-30005 Make sure new or modified machines and equipment can accept lockout devices.

You must:

- Make sure energy-isolating devices designed to accept a lockout device are provided on machines and equipment that:

- Are newly installed.

OR

- Have undergone major replacement, repair, renovation, or modification after July 2, 1990.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060, 09-16-108, § 296-803-30005, filed 8/4/09, effective 11/1/09; 04-15-105, § 296-803-30005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-40005 Provide appropriate means to control energy.

You must:

- Provide the means necessary to isolate, secure, or block machines and equipment from energy sources.

Note: Examples of means to control energy include:

- Locks.
- Tags.
- Chains.
- Wedges.
- Key blocks.
- Adapter pins.
- Self-locking fasteners.
- Blank flanges.
- Cribbing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060, 09-16-108, § 296-803-40005, filed 8/4/09, effective 11/1/09; 04-15-105, § 296-803-40005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50010 Meet these requirements when applying lockout or tagout devices.

You must:

- Make sure, before a machine or equipment is turned off, that the authorized employee knows **all** of the following:

- Type and magnitude of the energy.
- Hazards of the energy to be controlled.
- Method or means to control the energy.

- Turn off or shut down the machine or equipment using established procedures. An orderly shut down is necessary to avoid any additional or increased hazard to employees as a result of the equipment stoppage.

- Completely isolate the machine or equipment from its energy sources using the appropriate energy-isolating devices after the machine or equipment has been turned off.

- Make sure you or the authorized employee notify affected employees that the machine or equipment is being locked or tagged out before the devices are applied.

- Make sure a lockout or tagout device is applied:

- For each energy-isolating device.

- Only by the authorized employee doing the service or maintenance.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060, 09-16-108, § 296-803-50010, filed 8/4/09, effective 11/1/09; 04-15-105, § 296-803-50010, filed 7/20/04, effective 11/1/04.]

WAC 296-803-60015 Retrain employees when necessary.

You must:

- Retrain authorized and affected employees to introduce new or revised control methods and procedures when there's a change in **any** of the following:

- Job assignments.

- Machines, equipment, or processes that present a new hazard.

- Energy control procedures.

- Retrain employees to reestablish proficiency when:

- A periodic review shows the employee deviates from, or has inadequate knowledge of, the energy control procedures;

OR

- The employer has reason to believe retraining is necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060, 09-16-108, § 296-803-60015, filed 8/4/09, effective 11/1/09; 04-15-105, § 296-803-60015, filed 7/20/04, effective 11/1/04.]

WAC 296-803-800 Definitions.

Affected employee. An employee who's required to operate, use, or be in the area where a machine or equipment could be locked or tagged out for service or maintenance.

Authorized employee. An employee who locks or tags out a machine or equipment to do service or maintenance.

Can be locked out. An energy-isolating device that can be locked in the "off" or "safe" position.

Employer. Based on chapter 49.17 RCW, an employer is any person, firm, corporation, partnership, business trust, legal representative, or other business entity which engages in any business, industry, profession, or activity in this state and employs one or more employees or who contracts with one or more persons, the essence of which is the personal labor of such person or persons and includes the state, counties, cities, and all municipal corporations, public corporations, political subdivisions of the state, and charitable organizations: Provided, That any persons, partnership, or business entity not having employees, and who is covered by the Industrial Insurance Act must be considered both an employer and an employee.

Energized. Connected to an energy source or containing residual or stored energy.

Energy-isolating device. A mechanical device that physically prevents transmitting or releasing energy. This includes, but is not limited to:

- Manually operated electrical circuit breakers.
- Disconnect switches.
- Manually operated switches that disconnect the conductors of a circuit from all ungrounded supply conductors if no pole of the switch can be operated independently.
- Line valves.
- Blocks.
- Similar devices used to block or isolate energy.

Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source. Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy, including gravity.

Hot tap. A procedure which involves welding on pressurized pipelines, vessels, or tanks to install connections or accessories. It's commonly used to replace or add sections of pipeline used in air, gas, water, steam, and petrochemical distribution systems without interrupting service.

Lockout. Placing a lockout device on an energy-isolating device using an established procedure to make sure the machine or equipment cannot be operated until the lockout device is removed.

Lockout device. A device that uses a positive means, such as a key or combination lock, to hold an energy-isolating device in the "safe" or "off" position. This includes blank flanges and bolted slip blinds.

Normal production operations. Using a machine or equipment for its intended production function.

Primary authorized employee. An authorized employee who has overall responsibility for meeting the requirements of the lockout/tagout procedures.

Service and maintenance. Activities such as constructing, installing, setting-up, adjusting, inspecting, modifying, maintaining, and servicing machines or equipment. It also includes lubricating, cleaning, unjamming, and making tool changes.

Setting-up. Work done to prepare a machine or equipment for normal production operations.

Tagout. Placing a tagout device on an energy-isolating device using an established procedure to indicate that the energy-isolating device and the machine or equipment being controlled may not be operated until the tagout device is removed.

Tagout device. A prominent warning device, such as a tag and a means of attachment. It can be securely fastened to an energy-isolating device to indicate that the energy-isolating device and the machine or equipment being controlled may not be operated until the tagout device is removed.

You. See definition of employer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 09-16-108, § 296-803-800, filed 8/4/09, effective 11/1/09; 04-15-105, § 296-803-800, filed 7/20/04, effective 11/1/04.]

Chapter 296-809 WAC CONFINED SPACES

WAC

296-809-50014 Make sure you have adequate rescue and emergency services available.

WAC 296-809-50014 Make sure you have adequate rescue and emergency services available.

You must:

(1) Make sure you have adequate rescue and emergency services available during your permit-required confined space entry operations.

- Evaluate and select rescue teams or services who can:

– Respond to a rescue call in a timely manner. Timeliness is based on the identified hazards. Rescuers must have the capability to reach potential victims within an appropriate time frame based on the identified permit space hazards.

– Proficiently rescue employees from a permit-required confined space in your workplace. Rescuers must have the appropriate equipment for the type of rescue.

- Make sure that at least one member of the rescue team or service holds a current certification in first aid and cardiopulmonary resuscitation (CPR).

- Inform each rescue team or service about the hazards they may confront when called to perform rescue.

- Provide the rescue team or service with access to all permit spaces from which rescue may be necessary.

– This will allow them to develop appropriate rescue plans and to practice rescue operations.

Note: What will be considered timely will vary according to the specific hazards involved in each entry. For example, chapter 296-842 WAC, Respirators, requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) for work areas considered to contain an IDLH atmosphere.

(2) Employees assigned to provide permit-required confined space rescue and emergency services must be provided, at no cost to the employee, with:

- Personal protective equipment (PPE) needed for safe entry.

- Other equipment required to conduct rescues safely.

- Training so they are:

– Proficient in the use of the PPE and other equipment.

– Proficient as an entrant of permit-required confined spaces.

– Able to safely perform assigned rescue and emergency duties.

– Knowledgeable in basic first aid and cardiopulmonary resuscitation (CPR).

- Practice sessions for permit-required confined space rescues **at least** once every twelve months where dummies, manikins, or actual persons are removed from either:

– The actual permit spaces; or

– Representative permit spaces that simulate the opening size, configuration, and accessibility, of permit spaces where rescue will be performed.

(3) Establish procedures for:

- Contacting rescue and emergency services.

- Rescuing entrants from permit-required confined spaces.

- Providing necessary emergency services to rescued entrants.

- Preventing unauthorized persons from attempting a rescue.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-809-50014, filed 2/17/09, effective 4/1/09; 04-03-081, § 296-809-50014, filed 1/20/04, effective 5/1/04.]

**Chapter 296-811 WAC
FIRE BRIGADES**

WAC
296-811-40015 Self-contained breathing apparatus' (SCBAs).

WAC 296-811-40015 Self-contained breathing apparatus' (SCBAs).

- Provide SCBAs, other than escape self-contained breathing apparatus' (ESCBAs), and make sure they are used by each fire brigade member who does interior structural fire-fighting.
- Make sure SCBAs do the following:
 - Meet the requirements found in chapter 296-842 WAC, Respirators.
 - Are positive-pressure or pressure-demand type.
 - Use only compressed-air cylinders that:
 - Meet department of transportation (DOT) and the National Institute for Occupational Safety and Health (NIOSH) requirements.
 - Have a service life of at least thirty minutes, as required by 42 CFR, Part 84.
 - Have an automatic alarm that can be heard when seventy-five to eighty percent of its service life has been used up.

Note: • An SCBA can have a quick-disconnect valve or "buddy breathing" accessory **only if** the valve or accessory **does not** do any of the following:

- Damage the SCBA.
- Restrict the SCBA's air flow.
- Interfere with the SCBA's normal operation.
- The "buddy breathing" accessory or quick-disconnect valve need not be certified by NIOSH.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-811-40015, filed 7/21/09, effective 9/1/09; 06-01-073, § 296-811-40015, filed 12/20/05, effective 3/1/06.]

**Chapter 296-817 WAC
HEARING LOSS PREVENTION (NOISE)**

WAC
296-817-20020 Make sure exposed employees receive training about noise and hearing protection.

WAC 296-817-20020 Make sure exposed employees receive training about noise and hearing protection.

- You must:**
- Train each employee whose noise exposure equals or exceeds 85 dBA TWA₈
 - Provide training when an employee is first assigned to a position involving noise exposure that equals or exceeds 85 dBA TWA₈ **and** at least annually after that
 - Update information provided in the training program to be consistent with changes in controls, hearing protectors and work processes
 - Make sure your noise and hearing protection training includes:
 - The effects of noise on hearing (including both occupational and nonoccupational exposures)
 - Noise controls used in your workplace
 - The purpose of hearing protectors: The advantages, disadvantages, and attenuation of various types
 - Instructions about selecting, fitting, using, and caring for hearing protection

- The purpose and procedures for program evaluation including audiometric testing and hearing protection auditing when you choose to rely upon auditing (see WAC 296-817-500)

- The employees' right to access records kept by the employer.

- Maintain a written program describing initial and refresher training.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-817-20020, filed 7/21/09, effective 9/1/09; 03-11-060, § 296-817-20020, filed 5/19/03, effective 8/1/03.]

**Chapter 296-818 WAC
ABRASIVE BLASTING**

WAC
296-818-20010 Personal protective equipment (PPE).

WAC 296-818-20010 Personal protective equipment (PPE).

You must:

- Provide, at no cost to the employee, and make sure personal protective equipment is worn.
- Follow the requirements in Table-1, Personal Protective Equipment (PPE).

Table-1: Personal Protective Equipment (PPE)

PROVIDE	WHEN
Abrasive Blasting Respirators	Operators work in any of the following situations: <ul style="list-style-type: none"> – Inside blast cleaning rooms – Where silica sand is used in manual blasting operations – Where concentrations of toxic dust exceed the permissible exposure limits found in a separate chapter: <ul style="list-style-type: none"> ■ Respiratory hazards, WAC 296-841-20020, Table-3 "Exposure Limits for Air Contaminants" <p>Exemption:</p> <ul style="list-style-type: none"> • An abrasive respirator does not need to be worn if the operator is physically separated from the nozzle and blast by an exhaust ventilated enclosure. <p>Definition:</p> <p>Abrasive-blasting respirator A supplied air or a continuous flow respirator constructed to cover and protect the operator's head, neck and shoulders from rebounding abrasive.</p>
Eye and Face protection to both of the following:	Respirators worn during blasting operations do not provide eye and face protection
– Blasting operators	
– Personnel working near blasting operations	

Table-1: Personal Protective Equipment (PPE)

PROVIDE	WHEN
Gloves and Aprons made of heavy canvas or leather; OR Equivalent protection	Operators are exposed to the impact of rebounding abrasives

- Notes:**
- Use only respirators certified by NIOSH in 42 C.F.R. Part 84 for protecting employees from dusts, and other hazards produced during abrasive blasting operations, like:
 - Using a garnet sand to blast a concrete surface, resulting in crystalline silica dust
 - A filtering face piece may be used only for short, intermittent, or occasional dust exposures for any of the following tasks:
 - To protect the operator during abrasive blasting operations performed outside the enclosure or outdoors where nonsilica abrasives are used on materials with low toxicity
 - Clean-up
 - Dumping dust collectors
 - Unloading shipments of sand at receiving areas when the following controls are not feasible:
 - Enclosures
 - Exhaust ventilation
- OR**
- Other means

- Reference:**
- For additional requirements to help you fully protect employees, go to the following separate chapters:
 - The Safety and health core rules, chapter 296-800 WAC:
 - Personal protective equipment (PPE), WAC 296-800-160
 - Respiratory hazards, chapter 296-841 WAC
 - Respirators, chapter 296-842 WAC:
 - Respirator program, WAC 296-842-120
 - Specifications for air quality, WAC 296-842-200

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-818-20010, filed 2/17/09, effective 4/1/09; 06-12-074, § 296-818-20010, filed 6/6/06, effective 9/1/06.]

**Chapter 296-824 WAC
EMERGENCY RESPONSE**

WAC
296-824-60005 Personal protective equipment.

WAC 296-824-60005 Personal protective equipment.
Use appropriate personal protective equipment (PPE).

- Note:**
- Only properly trained employees should select PPE. Hazardous materials technicians and hazardous materials specialists can select PPE within the competencies specified in Table 4.
 - Selection requirements in other PPE rules also apply, including:
 - WAC 296-800-160, Personal protective equipment.
 - Chapter 296-842 WAC, Respirators.
 - WAC 296-24-58505, Fire brigades.
 - Chapter 296-305 WAC, Safety standards for firefighting.

You must:

- Provide appropriate PPE at no cost to the employees and make sure it is used if hazards could be present.
 - Select PPE (such as respirators, gloves, protective suits and other PPE) based on:
 - ◆ An evaluation of the performance characteristics (such as breakthrough time and hazardous substance-specificity of the material or item) relevant to the requirements and limitations of the site.
 - ◆ Task-specific conditions and durations.
 - ◆ The hazards and potential hazards of the site (see Table 9, Selecting PPE for Specific Hazards).
 - Select totally encapsulating chemical protective (TECP) suits, as specified in Table 9, that:
 - ◆ Maintain positive air pressure.
 - ◆ Prevent inward test gas leakage of more than 0.5 percent.

Note: Follow the manufacturer's recommended procedure for testing a TECP suit's ability to maintain positive air pressure and prevent inward gas leakage. Other established test protocols for these suits, for example NFPA 1991 and ASTM F1052-97, may also be used.

**Table 9
Selecting PPE for Specific Hazards**

If:	Then:
• Inhalation hazards could be present.	• Positive-pressure (pressure-demand) self-contained breathing apparatus (SCBA) OR • A decreased level of respiratory protection only when the incident commander determines, from air monitoring results, that employees will be adequately protected.
Chemical exposure levels will create a substantial possibility of: <ul style="list-style-type: none"> • Immediate death. • Immediate serious illness or injury. • Reduced ability to escape. 	Either positive-pressure (pressure-demand): <ul style="list-style-type: none"> • SCBA • Air-line respirators equipped with an escape air supply.
Skin absorption of a hazardous substance may result in a substantial possibility of: <ul style="list-style-type: none"> • Immediate death. • Immediate serious illness or injury. • Reduced ability to escape. 	Protection equivalent to Level A including a totally encapsulating chemical protective (TECP) suit.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-824-60005, filed 2/17/09, effective 4/1/09; 05-03-093, § 296-824-60005, filed 1/18/05, effective 3/1/05; 02-20-034, § 296-824-60005, filed 9/24/02, effective 10/1/02.]

**Chapter 296-826 WAC
ANHYDROUS AMMONIA**

WAC
296-826-20005 Personal protective equipment (PPE).

WAC 296-826-20005 Personal protective equipment (PPE).

You must:

- Provide the following PPE, at no cost to employees, at all stationary storage installations:
 - Two respirators in readily accessible locations as required by WAC 296-842, Respirators
 - One pair of protective gloves, boots, pants, a protective slicker, and a jacket made of:
 - Rubber;
 - OR**
 - Other material that can not be penetrated by ammonia.
 - Tight fitting vented goggles and one full face shield.
 - An easily accessible shower or fifty gallons of clean water in an open top container.
- Equip tank motor vehicles with all of the following equipment for emergency purposes:
 - At least five gallons of water to flush liquid ammonia from skin or eyes.
 - Respiratory equipment suitable for anhydrous ammonia as required by chapter 296-842 WAC, Respirators
 - A pair of protective gloves made of neoprene rubber or other material that cannot be penetrated by ammonia.
 - Tight fitting goggles and a full face shield

Note: Additional safety equipment is recommended when more than one employee is present.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-826-20005, filed 2/17/09, effective 4/1/09; 06-10-067, § 296-826-20005, filed 5/2/06, effective 9/1/06.]

**Chapter 296-842 WAC
RESPIRATORS**

WAC
296-842-100 Scope and application.
296-842-10200 Definitions.
296-842-10505 Designate a program administrator.
296-842-11005 Make sure voluntary use of respirators is safe.
296-842-12005 Develop and maintain a written program.
296-842-12010 Keep respirator program records.

296-842-13005 Select and provide appropriate respirators.
296-842-14005 Provide medical evaluations.
296-842-15005 Conduct fit testing.
296-842-16005 Provide effective training.
296-842-17005 Maintain respirators in a clean and reliable condition.
296-842-18005 Prevent sealing problems with tight-fitting respirators.
296-842-19005 Provide standby assistance in immediately dangerous to life or health (IDLH) conditions.
296-842-22005 Use this medical questionnaire for medical evaluations.
296-842-22010 Follow these fit-testing procedures for tight-fitting respirators.
296-842-22020 Follow procedures established for seal checking respirators.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-842-110 Voluntary respirator use requirements. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-110, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-110, filed 10/1/03, effective 1/1/04.] Repealed by 09-19-119, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z.
296-842-300 Definitions. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-300, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-300, filed 10/1/03, effective 1/1/04.] Repealed by 09-19-119, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z.

WAC 296-842-100 Scope and application. (1) Respirators are required whenever respiratory hazards (including oxygen-deficient conditions) are present. For example, use respirators at any of the following times:

- (a) While exposure controls are being evaluated or put in place;
 - (b) When it is not feasible to use exposure controls to remove or reduce the airborne hazard to below the PEL.
- (2) This chapter applies whenever respirators are used at work.

IMPORTANT:

Before using respirators, employers are required to evaluate respiratory hazards and implement control methods as outlined in chapter 296-841 WAC, Airborne contaminants.

The term "respiratory hazards" will be used throughout this chapter to refer to oxygen-deficient conditions and harmful airborne hazards.

You may use Table 1 for general guidance on which chapter sections apply.

**Table 1
Chapter sections that apply to your workplace**

If employees...	Then the sections marked with an "X" apply...							
	10505	11005	12005	13005	14005	15005 - 21005	22005	22010
Request and are permitted to voluntarily use filtering-facepiece respirators, and are not exposed to a respiratory hazard		X						

If employees...	Then the sections marked with an "X" apply...							
	10505	11005	12005	13005	14005	15005 - 21005	22005	22010
Request and are permitted to voluntarily use respirators that are NOT filtering-facepiece respirators, and are not exposed to a respiratory hazard	X	X			X		X	
Are required to use any respirator by DOSH or the employer	X		X	X	X	X	X	X
Would use an escape respirator in an emergency	X		X	X	X	X	X	X

Reference: See WAC 296-800-160, Personal protective equipment (PPE) to find requirements for other types of PPE such as eye, hand, and head protection.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-100, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-100, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-100, filed 10/1/03, effective 1/1/04.]

WAC 296-842-10200 Definitions. (1) **Air-purifying respirator (APR)** means a respirator equipped with an air-purifying element such as a filter, cartridge, or canister, OR having a filtering facepiece, for example, a dust mask. The element or filtering facepiece is designed to remove specific contaminants, such as particles, vapors, or gases, from air that passes through it.

(2) **Air-line respirator** means an atmosphere-supplying respirator for which breathing air is drawn from a source separate from and not worn by the user, such as:

- A cylinder or a tank;
- A compressor;
- An uncontaminated environment.

(3) **Air supplied respirator (see air-line respirator).**

(4) **Assigned protection factor (APF)** indicates the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when you implement a continuing, effective respiratory protection program as specified by this chapter. For example, an effective program makes sure the respirator is:

- Functioning properly;
- Fitted to the user;
- Worn by trained individuals; and
- Used with the limitations specified on the NIOSH-approval label.

(5) **Atmosphere-supplying respirator** means a respirator that supplies the user with breathing air from sources, such as:

- A cylinder or a tank;
- A compressor;
- An uncontaminated environment.

(6) **Breathing air** means air supplied to an atmosphere-supplying respirator. This air meets the specifications found in WAC 296-842-20005.

(7) **Canister or cartridge (air-purifying)** is part of an air-purifying respirator that consists of a container holding materials such as fiber, treated charcoal, or a combination of

the two, that removes contaminants from the air passing through the cartridge or canister.

(8) **Cartridge respirator (see also air-purifying respirator)** means an air-purifying respirator equipped with one or more cartridges. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

(9) **Demand respirator** means an atmosphere-supplying respirator that sends breathing air to the facepiece only when suction (negative pressure) is created inside the facepiece by inhalation. Demand respirators are "**negative pressure**" respirators.

(10) **DOSH** means the division of occupational safety and health, located in the department of labor and industries.

(11) **Dust mask** is a name used to refer to filtering-facepiece respirators. Dust masks may or may not be NIOSH certified. See filtering facepiece.

(12) **Emergency respirator** means a respirator suitable for rescue, escape, or other activities during emergency situations.

(13) **Emergency situation** means any occurrence that could **or** does result in a significant uncontrolled 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.

(14) **End-of-service-life indicator (ESLI)** is a system that warns the air-purifying respirator user that cartridges or canisters must be changed. An example of an ESLI is a dot on the respirator cartridge that changes color.

(15) **Escape-only respirator** is a respirator that can only be used to exit during emergencies. Look for this use limitation on the respirator's NIOSH approval label.

(16) **Exposed, or exposure** means the contact an employee has with a toxic substance, harmful physical agent, or oxygen deficient condition. Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

(17) **Filter** means fibrous material that removes dust, spray, mist, fume, fog, smoke particles, OR other aerosols from the air.

(18) **Filtering-facepiece respirator** means a tight-fitting, half-facepiece, negative-pressure, particulate air-purifying respirator with the facepiece mainly composed of filter material. These respirators do not use cartridges or canisters and may have sealing surfaces composed of rubber, silicone or other plastic-like materials. They are sometimes referred to as "dust masks."

(19) **Fit factor** is a number providing an estimate of fit for a particular respiratory inlet covering to a specific individual during quantitative fit testing.

(20) **Fit test** (see also qualitative fit test and quantitative fit test) is an activity where the facepiece seal of a respirator is challenged, using a DOSH accepted procedure, to determine if the respirator provides an adequate seal.

(21) **Full-facepiece respirator** means a tight-fitting respirator that covers the wearer's nose, mouth, and eyes.

(22) **Gas mask** means an air-purifying respirator equipped with one or more canisters. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

(23) **Half-facepiece respirator** is a tight-fitting respirator that only covers the wearer's nose and mouth.

(24) **Helmet** means the rigid part of a respirator that covers the wearer's head AND also provides head protection against impact or penetration.

(25) **High-efficiency particulate air filter (HEPA)** is a powered air-purifying respirator (PAPR) filter that removes at least 99.97% of monodisperse dioctyl phthalate (DOP) particles with a mean particle diameter of 0.3 micrometer from contaminated air.

Note: Filters designated, under 42 CFR Part 84, as an "N100," "R100," or "P100" provide the same filter efficiency (99.97%) as HEPA filters.

(26) **Hood** is the part of a respirator that completely covers the wearer's head and neck AND may also cover some or all of the shoulders and torso.

(27) **Immediately dangerous to life or health (IDLH)** means an atmospheric condition that would:

- Cause an immediate threat to life; or
- Cause permanent or delayed adverse health effects; or
- Interfere with an employee's ability to escape.

(28) **Licensed health care professional (LHCP)** means an individual whose legally permitted scope of medical practice allows him or her to provide some or all of the health care services required for respirator users' medical evaluations.

(29) **Loose-fitting facepiece** is a respiratory inlet covering that is designed to form a partial seal with the face.

(30) **Negative-pressure respirator** means any tight-fitting respirator in which the air pressure inside the facepiece is less than the air pressure outside the respirator during inhalation.

(31) **NIOSH** is the National Institute for Occupational Safety and Health. NIOSH is the federal agency that certifies respirators for occupational use.

(32) **Oxygen deficient** is an atmosphere with an oxygen content below 19.5% by volume.

(33) **Permissible exposure limits (PELs)** are employee exposures to toxic substances or harmful agents that must not

be exceeded. PELs are specified in applicable DOSH chapters.

(34) **Positive-pressure respirator** means a respirator in which the air pressure inside the respiratory inlet covering is greater than the air pressure outside the respirator.

(35) **Powered air-purifying respirator (PAPR)** means an air-purifying respirator equipped with a blower that draws ambient air through cartridges or canisters. These respirators, as a group, are not classified as positive pressure respirators and must not be used as such.

(36) **Pressure-demand respirator** means a positive-pressure atmosphere-supplying respirator that sends breathing air to the respiratory inlet covering when the positive pressure is reduced inside the facepiece by inhalation or leakage.

(37) **Qualitative fit test (QLFT)** is a test that determines the adequacy of respirator fit for an individual. The test relies on the employee's ability to detect a test substance. Test results are either "pass" or "fail."

(38) **Quantitative fit test (QNFT)** is a test that determines the adequacy of respirator fit for an individual. The test relies on specialized equipment that performs numeric measurements of leakage into the respiratory inlet covering. Test results are used to calculate a "fit factor."

(39) **Required use** is respirator use that:

- Is necessary to protect employees from respiratory hazards; or
- The employer decides to require for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits.

(40) **Respirator** is a type of personal protective equipment designed to protect the wearer from airborne contaminants, oxygen deficiency, or both.

(41) **Respiratory hazard** means airborne hazards and oxygen deficiency that are addressed in chapter 296-841 WAC, Airborne contaminants.

(42) **Respiratory inlet covering** is the part of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source or both. The respiratory inlet covering may be a facepiece, helmet, hood, suit, or mouthpiece respirator with nose clamp.

(43) **Seal check** means actions conducted by the respirator user each time the respirator is put on, to determine if the respirator is properly seated on the face.

(44) **Self-contained breathing apparatus (SCBA)** is an atmosphere-supplying respirator designed for the breathing air source, to be carried by the user.

(45) **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 sorbent cartridge is effective for removing a harmful substance from the air.

(46) **Sorbent** means rigid, porous material, such as charcoal, used to remove vapor or gas from the air.

(47) **Supplied-air respirator (see air-line respirator).**

(48) **Tight-fitting facepiece** is a respiratory inlet covering forming a complete seal with the face OR neck. Mouthpiece respirators are not tight-fitting facepieces.

(49) **Voluntary use** means respirator use that is requested by the employee and permitted by the employer when no respiratory hazard exists.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-10200, filed 9/22/09, effective 12/1/09.]

WAC 296-842-10505 Designate a program administrator.

Exemption: You do not need to designate a program administrator if employees use only filtering-facepiece respirators and do so only as voluntary use.

Designate a program administrator who has overall responsibility for your program and has sufficient training or experience to oversee program development, coordinate implementation, and conduct required evaluations of program effectiveness outlined in WAC 296-842-12005.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-10505, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-10505, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-10505, filed 10/1/03, effective 1/1/04.]

WAC 296-842-11005 Make sure voluntary use of respirators is safe.

IMPORTANT:

- Respirator use is **not** voluntary, and the required use sections of this chapter apply, if:
 - An employer chooses to require respirator use.
 - A respiratory hazard, such as exposure to a substance over the permissible exposure limit (PEL) or hazardous exposure to an airborne biological hazard, is present. To evaluate respiratory hazards in your workplace, see chapter 296-841 WAC, Airborne contaminants.
 - Some requirements in this section do not apply if only filtering-facepiece respirators are used voluntarily.
 - Some filtering-facepiece respirators are equipped with a sorbent layer for absorbing "nuisance" organic vapors. These can be used for voluntary use, but are not NIOSH cer-

tified for protection against hazardous concentrations of organic vapor.

(1) Make sure voluntary respirator use does **NOT**:

(a) Interfere with an employee's ability to work safely, such as restricting necessary vision or radio communication;

OR

(b) Create health hazards.

Note: Examples of health hazards include:

- Skin irritation, dermatitis, or other health effects caused by using a dirty respirator.
- Illness created by sharing contaminated respirators.
- Health effects caused by use of an unsafe air supply, such as carbon monoxide poisoning.

(2) Provide all voluntary respirator users with the advisory information in Table 2 at no cost to them.

(3) Develop and maintain a written program that includes the following:

(a) Medical evaluation provisions as specified in WAC 296-842-14005.

(b) Procedures to properly clean and disinfect respirators, according to WAC 296-842-22015, if they are reused.

(c) How to properly store respirators, according to WAC 296-842-17010, so that using them does not create hazards.

(d) Procedures to make sure there is a safe air supply, according to WAC 296-842-20010, when using air-line respirators and SCBAs.

(e) Effective training to ensure respirator use does **NOT** create a hazard.

Exemption: If employees use only filtering-facepiece respirators and do so only voluntarily, you do not need to develop and maintain a written program.

(4) Use Table 2 to provide information to employees who voluntarily use any type of respirator.

Table 2

Advisory Information for Employees Who Voluntarily Use Respirators

- Respirators protect against airborne hazards when properly selected and used. Respirator usage that is required by DOSH or your employer is not voluntary use. With required use, your employer will need to provide further training and meet additional requirements in this chapter. DOSH recommends voluntary use of respirators when exposure to substances is below DOSH permissible exposure limits (PELs) because respirators can provide you an additional level of comfort and protection.
- If you choose to voluntarily use a respirator (whether it is provided by you or your employer) be aware that **respirators can create hazards for you**, the user. You can avoid these hazards if you know how to use your respirator properly **AND** how to keep it clean. Take these steps:
 - Read and follow all instructions provided by the manufacturer about use, maintenance (cleaning and care), and warnings regarding the respirator's limitations.
 - Choose respirators that have been certified for use to protect against the substance of concern. The National Institute for Occupational Safety and Health (NIOSH) certifies respirators. If a respirator is not certified by NIOSH, you have no guarantee that it meets minimum design and performance standards for workplace use.
 - A NIOSH approval label will appear on or in the respirator packaging. It will tell you what protection the respirator provides.
 - Keep track of your respirator so you do not mistakenly use someone else's.
 - **DO NOT** wear your respirator into:
 - Required use situations when you are only allowed voluntary use.
 - Atmospheres containing hazards that your respirator is not designed to protect against.
 - For example, a respirator designed to filter dust particles will not protect you against solvent vapor, smoke or oxygen deficiency.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-11005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-11005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-11005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-12005 Develop and maintain a written program.

Exemption: This section does NOT apply to respirator use that is voluntary. See WAC 296-842-11005 for voluntary use program requirements.

(1) Develop a complete worksite-specific written respiratory protection program that includes the applicable elements listed in Table 3. The program shall cover each employee required by this section to use a respirator.

Note: Pay for respirators, medical evaluations, fit testing, training, maintenance, travel costs, and wages.

(2) Keep your program current and effective by evaluating it and making corrections. Do ALL of the following:

(a) Make sure procedures and program specifications are followed and appropriate.

(b) Make sure selected respirators continue to be effective in protecting employees. For example, if changes in

work area conditions, level of employee exposure, or employee physical stress have occurred, you need to reevaluate your respirator selection.

(c) Have supervisors periodically monitor employee respirator use to make sure employees are using them properly.

(d) Regularly ask employees required to use respirators about their views concerning program effectiveness and whether they have problems with:

- Respirator fit during use
- Any effects of respirator use on work performance
- Respirators being appropriate for the hazards encountered
- Proper use under current worksite conditions
- Proper maintenance.

(e) When developing your written program include applicable elements listed in Table 3.

Table 3

Required Elements for Required-Use Respirator Programs	
<ul style="list-style-type: none"> • Selection: <ul style="list-style-type: none"> - Procedures for respirator selection - A list specifying the appropriate respirator for each respiratory hazard in your workplace - Procedures for issuing the proper type of respirator, if appropriate 	
<ul style="list-style-type: none"> • Medical evaluation provisions 	
<ul style="list-style-type: none"> • Fit-test provisions and procedures, if tight-fitting respirators are selected 	
<ul style="list-style-type: none"> • Training provisions that address: <ul style="list-style-type: none"> - Respiratory hazards encountered during: <ul style="list-style-type: none"> ■ Routine activities ■ Infrequent activities, for example, bimonthly cleaning of equipment ■ Reasonably foreseeable emergencies, for example, rescue, spill response, or escape situations - Proper use of respirators, for example, how to put on or remove respirators, and use limitations. <p>Note: You do NOT need to repeat training on respiratory hazards if employees have been trained on this in compliance with other rules such as WAC 296-800-170, employer chemical hazard communication in the DOSH safety and health core rules.</p>	
<ul style="list-style-type: none"> • Respirator use procedures for: <ul style="list-style-type: none"> - Routine activities - Infrequent activities - Reasonably foreseeable emergencies 	
<ul style="list-style-type: none"> • Maintenance: <ul style="list-style-type: none"> - Procedures and schedules for respirator maintenance covering: <ul style="list-style-type: none"> ■ Cleaning and disinfecting ■ Storage ■ Inspection and repair ■ When to discard respirators - A cartridge or canister change schedule IF air-purifying respirators are selected for use against gas or vapor contaminants AND an end-of-service-life-indicator (ESLI) is not available. In addition, provide: <ul style="list-style-type: none"> ■ The data and other information you relied on to calculate change schedule values (for example, highest contaminant concentration estimates, duration of employee respirator use, expected maximum humidity levels, user breathing rates, and safety factors) 	
<ul style="list-style-type: none"> • Procedures to ensure a safe air quantity and quality IF atmosphere-supplying respirators (air-line or SCBA) are selected 	
<ul style="list-style-type: none"> • Procedures for evaluating program effectiveness on a regular basis 	

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-842-12005, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-842-12005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-12005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-12010 Keep respirator program records. (1) A written copy of the current respirator program must be kept by the employer.

(2) Keep each employee's current fit test record, if fit testing is conducted, until the next fit test is administered. Fit test records must include:

- (a) Employee name;
- (b) Test date;
- (c) Type of fit-test performed;
- (d) Description (type, manufacturer, model, style, and size) of the respirator tested;
- (e) Results of fit tests, for example, for quantitative fit tests include the overall fit factor AND a print out, or other recording of the test.

(3) Keep training records that include employees' names and the dates trained.

(4) Keep written recommendations from the LHCP.

Reference: See chapter 296-802 WAC, Employee medical and exposure records, for additional requirements that apply to medical records.

(5) Employers must allow affected employees and their representatives to examine and copy records required by this section.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-12010, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-12010, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-12010, filed 10/1/03, effective 1/1/04.]

WAC 296-842-13005 Select and provide appropriate respirators.

Exemption: This section does NOT apply to respirator use that is voluntary. See WAC 296-842-11005 for voluntary use program requirements.

IMPORTANT:

See chapter 296-841 WAC, Airborne contaminants, for:

- Hazard evaluation requirements. Evaluation results are necessary for respirator selection.
- References to substance-specific rules that may also apply to you and have additional respirator selection requirements. These references are found in the permissible exposure limit (PEL) table.

A respirator shall be provided to each employee when such equipment is necessary to protect the health of the employee. Select and provide, at no cost to employees, appropriate respirators for routine use, infrequent use, and reasonably foreseeable emergencies (such as escape, emergency, and spill response situations) by completing the following process:

Respirator Selection Process

Step 1: If your only respirator use is for escape, skip to **Step 8** to select appropriate respirators.

Step 2: If the respiratory hazard is a biological aerosol, such as TB (tuberculosis), anthrax, psittacosis (parrot fever), or hanta virus, select a respirator appropriate for **nonemergency** activities recognized to present a health risk to workers AND skip to **Step 8**.

• If respirator use will occur during **emergencies**, skip to **Step 8** and document the analysis used to select the appropriate respirator.

• Use Centers for Disease Control (CDC) selection guidance for exposures to specific biological agents when this guidance exists. Visit <http://www.cdc.gov>.

Step 3: If the respiratory hazard is a pesticide, follow the respirator specification on the pesticide label AND skip to **Step 9**.

Step 4: Determine the expected exposure concentration for each respiratory hazard of concern. Use the results from the evaluation required by chapter 296-841 WAC, Airborne contaminants.

Step 5: Determine if the respiratory hazard is classified as IDLH; if it is NOT IDLH skip to **Step 7**.

• The respiratory hazard IS classified as IDLH if:
– The atmosphere is oxygen deficient or oxygen enriched;

OR

– You CANNOT measure or estimate your expected exposure concentration;

OR

– Your measured or estimated expected exposure concentration is greater or equal to the IDLH value in the NIOSH *Pocket Guide to Chemical Hazards*.

Note: DOSH uses the IDLH values in the 1990 edition of the NIOSH *Pocket Guide to Hazardous Chemicals* to determine the existence of IDLH conditions. You may use more recent editions of this guide. Visit www.cdc.gov/niosh for more information.

Step 6: Select an appropriate respirator from one of the following respirators for IDLH conditions and skip to **Step 8**:

• Full-facepiece, pressure demand, self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes;

OR

• Full-facepiece, pressure demand air-line respirator equipped with an auxiliary self-contained air supply.

Exception: If the respiratory hazard is oxygen deficiency AND you can show oxygen concentrations can be controlled within the ranges listed in Table 4 under ALL foreseeable conditions, you are allowed to select ANY type of SCBA or air-line respirator:

**Table 4
Concentration Ranges for Oxygen Deficiency**

Altitude (as ft. above sea level)	Oxygen Concentration Range (as percent oxygen)
Below 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 - 7,000	18.5 - 19.5
7,001 - 8,000	19.3 - 19.5
Above 8,000 feet the exception does not apply. Oxygen-enriched breathing air must be supplied above 14,000 feet.	

Step 7: Select respirator types with assigned protection factors (APFs) from Table 5 that are appropriate to protect employees from the expected exposure concentration.

Note: • Appendix B, using assigned protection factors (APFs) for respirator selection, found in this chapter, uses the hazard-ratio approach established by ANSI Z88.2-1992 to determine which respirator types can provide a sufficient level of protection.

• If no permissible exposure limit (PEL) is established for an airborne contaminant, use relevant available information and informed professional judgment to determine an acceptable exposure limit value to use for calculating hazard ratios. For example, you may use exposure limit values established by the American Conference of Governmental Industrial Hygienists (ACGIH).

Step 8: Consider hazards that could require selection of specific respirator types. For example, select full-facepiece respirators to prevent eye irritation or abrasive blasting helmets to provide particle rebound protection.

Note: Rules for specific substances have additional selection specifications that apply to escape and other types of respirators. Make sure you follow those additional requirements before finalizing your selection.

Step 9: Evaluate user and workplace factors that might compromise respirator performance, reliability or safety.

Examples:

• High humidity or temperature extremes in the workplace.

• Necessary voice communication.

• High traffic areas and moving machinery.

• If respirator use is for escape only, follow this step and then skip to **Step 11**.

• If the respiratory hazard is a pesticide, follow the requirements on the pesticide label and skip to **Step 11**.

• Time or distance for escape.

Step 10: Follow Table 6 requirements to select an air-purifying respirator.

• If Table 6 requirements cannot be met, you must select an appropriate air-line respirator or an SCBA.

Step 11: Make sure respirators you select are certified by the National Institute for Occupational Safety and Health (NIOSH).

• Respirators provided exclusively for escape from IDLH atmospheres must be NIOSH-certified for escape from the atmosphere in which they will be used.

• To maintain certification, make sure the respirator is used according to cautions and limitations specified on the NIOSH approval label. This includes manufacturer restrictions on cartridges and canisters.

Note: While selecting respirators, you will need to select a sufficient number of types, models or sizes to provide for fit testing. You can also consider other respirator use issues, such as accommodating facial hair with a loose fitting respirator.

Use Table 5 to identify the assigned protection factor for different types of respirators.

• These assigned protection factors are only effective when the employer implements a continuing, effective respirator program as required by this chapter, including training, fit testing, maintenance, and use requirements.

• You may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required use is independent of concentration.

Table 5

Assigned Protection Factors (APF) for Respirator Types

If the respirator is a(n) . . .	Then the APF is . . .
Air-purifying respirator with a: • Quarter-mask	5

If the respirator is a(n) . . .	Then the APF is . . .
• Half-facepiece. This category includes filtering facepiece and elastomeric facepiece models	10
• Full-facepiece	50
Powered air-purifying respirator (PAPR) with a:	
• Loose-fitting facepiece	25
• Half-facepiece	50
• Full-facepiece	1000
• Hood or helmet	25/1000 (see note)

Note: PAPRs with helmets/hoods may receive an APF of 1000 only when you have evidence that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater. Such evidence must be provided by the respirator manufacturer. This level of performance can best be demonstrated by performing a workplace protection factor (WPF) or simulated workplace protection factor (SWPF) study or equivalent testing.

Air-line respirator with a:	
• Half-facepiece and designed to operate in demand mode	10
• Loose-fitting facepiece and designed to operate in continuous flow mode	25
• Half-facepiece and designed to operate in continuous-flow mode	50
• Half-facepiece and designed to operate in pressure-demand or other positive-pressure mode	50
• Full-facepiece and designed to operate in demand mode	50
• Full-facepiece and designed to operate in continuous-flow mode	1000
• Full-facepiece and designed to operate in pressure-demand or other positive-pressure mode	1000
• Helmet or hood and designed to operate in continuous-flow mode	25/1000 (see note)

Note: Air-line respirators with helmets/hoods designed to operate in continuous-flow mode may receive an APF of 1000 when you have evidence that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater. Such evidence must be provided by the respirator manufacturer. This level of performance can best be demonstrated by performing a workplace protection factor (WPF) or simulated workplace protection factor (SWPF) study or equivalent testing.

Self-contained breathing apparatus (SCBA) with a tight fitting:	
• Half-facepiece and designed to operate in demand mode	10
• Full-facepiece and designed to operate in demand mode	50

If the respirator is a(n) . . .	Then the APF is . . .
<ul style="list-style-type: none"> • Full-facepiece and designed to operate in pressure-demand or other positive pressure mode (e.g., open/closed circuit) . . . • Helmet or hood and designed to operate in demand mode. . . • Helmet or hood and designed to operate in pressure-demand or other positive-pressure mode (e.g., open/closed circuit) 	10,000
<ul style="list-style-type: none"> • Full-facepiece and designed to operate in pressure-demand or other positive pressure mode (e.g., open/closed circuit) . . . • Helmet or hood and designed to operate in demand mode. . . • Helmet or hood and designed to operate in pressure-demand or other positive-pressure mode (e.g., open/closed circuit) 	50
Combination respirators: <ul style="list-style-type: none"> • When using a combination respirator, such as an air-line respirator with an air-purifying filter, you must make sure the APF is appropriate to the mode of operation in which the respirator is used 	10,000
Escape respirators: <ul style="list-style-type: none"> • APFs in this table do not apply to respirators used solely for escape. To select escape respirators, go to Step 8 of this section 	

Use Table 6 to select air-purifying respirators for particle, vapor, or gas contaminants.

Table 6
Requirements for Selecting Any Air-purifying Respirator

If the contaminant is a . . .	Then . . .
<ul style="list-style-type: none"> • Gas OR vapor 	<ul style="list-style-type: none"> • Provide a respirator with canisters or cartridges equipped with a NIOSH-certified, end-of-service-life indicator (ESLI) OR • If a canister or cartridge with an ESLI is NOT available, develop a cartridge change schedule to make sure the canisters or cartridges are replaced before they are no longer effective OR • Select an atmosphere-supplying respirator
<ul style="list-style-type: none"> • Particle, such as a dust, spray, mist, fog, fume, or aerosol 	<ul style="list-style-type: none"> • Select respirators with filters certified to be at least 95% efficient by NIOSH <ul style="list-style-type: none"> – For example, N95s, R99s, P100s, or High Efficiency Particulate Air (HEPA) filters

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-13005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-13005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-13005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-14005 Provide medical evaluations.

Exemption: This section does **not** apply to employees who **only** use:
 • Filtering-facepiece respirators voluntarily. See WAC 296-842-11005 for voluntary use requirements; or
 • Escape-only respirators that are mouthpiece, loose-fitting, or hooded respirators.

IMPORTANT:

- If an employee has been provided with a medical evaluation addressing respirator use, as required by another chapter, that evaluation will meet the requirements of this section.
- Using a respirator can create physical risks for an employee each time it is worn. The extent of these risks depends on these factors:
 - Type of respirator;
 - Environmental conditions at the worksite;
 - Physical demands of the work;
 - Use of the protective clothing;
 - Employee's health status.

Follow the medical evaluation process, Steps 1 through 7 in this section, to provide medical evaluations for employees at no cost to them.

Medical Evaluation Process

Step 1: Identify employees who need medical evaluations AND determine the frequency of evaluations from Table 7. Include employees who:

- Are required to use respirators;
- OR**
- Voluntarily use respirators that are **not** filtering-facepiece respirators.

Note: You may use a previous employer's medical evaluation for an employee if you can:
 • Show the employee's previous work and use conditions were substantially similar to yours;
AND
 • Obtain a copy of the licensed health care professional's (LHCP's) written recommendation approving the employee's use of the respirator chosen by you.

Step 2: Identify a licensed health care professional (LHCP) to perform your medical evaluations.

Note: If you select a different LHCP, you do not need to have new medical evaluations done.

Step 3: Make sure your LHCP has the following information **before** the evaluation is completed:

- Information describing the respirators employees may use, including the weight and type.
- How the respirators will be used, including:
 - How often the respirator will be used, for example, daily, or once a month;
 - The duration of respirator use, for example, a minimum of one hour, or up to twelve hours;
 - The employee's expected physical work effort;
 - Additional personal protective clothing and equipment to be worn;
 - Temperature and humidity extremes expected during use;
- A copy of your written respiratory protection program **and** this chapter.

Note: • You may choose to send the questionnaire to the LHCP ahead of time, giving time to review it and add any necessary questions.

- The LHCP determines what questions to add to the questionnaire, if any; however, questions in Parts 1-3 may not be deleted or substantially altered.

Step 4: Administer the medical questionnaire in WAC 296-842-22005 to employees, OR provide them a medical exam that obtains the same information.

Note: You may use on-line questionnaires if the questions are the same and requirements of this section are met.

• Administer the examination or questionnaire at no cost to employees:

- During the employee's normal working hours;

OR

- At a time and place convenient to the employee.

• Maintain employee confidentiality during examination or questionnaire administration:

- Do **not** view employee's answers on the questionnaire;
- Do **not** act in a manner that may be considered a breach of confidentiality.

Note: Providing confidentiality is important for securing successful medical evaluations. It helps make sure the LHCP gets complete and dependable answers on the questionnaire.

• Make sure employees understand the content of the questionnaire.

• Provide the employee with an opportunity to discuss the questionnaire or exam results with the LHCP.

Step 5: Provide follow-up evaluation for employees when:

- The LHCP needs more information to make a final recommendation;

OR

• An employee gives any positive response to questions 1-8 in Part 2 OR to questions 1-6 in Part 3 of the DOSH medical evaluation questionnaire in WAC 296-842-22005.

Note: Follow-up may include:

- Employee consultation with the LHCP such as a telephone conversation to evaluate positive questionnaire responses;
- Medical exams;
- Medical tests or other diagnostic procedures.

Step 6: Obtain a written recommendation from the LHCP that contains only the following medical information:

- Whether or not the employee is medically able to use the respirator;
- Any limitations of respirator use for the employee;
- What future medical evaluations, if any, are needed;
- A statement that the employee has been provided a copy of the written recommendation.

Step 7: Provide a powered, air-purifying respirator (PAPR) when the LHCP determines the employee should not wear a negative-pressure air-purifying respirator **AND** is able to wear a PAPR.

Reference: See WAC 296-842-13005 for requirements regarding selection of air-purifying respirators.

Note:

- You may discontinue medical evaluations for an employee when the employee no longer uses a respirator.
- If you have staff conducting your medical evaluations, they may keep completed questionnaires and findings as confidential medical records, if they are maintained separately from other records.

Use Table 7 to determine medical evaluation frequency.

**Table 7
Evaluation Frequency**

Type of Evaluation:	When required:
Initial medical evaluations	• Before respirators are fit-tested or used in the workplace.
Subsequent medical evaluations	• If any of these occur: <ul style="list-style-type: none"> – Your licensed health care professional (LHCP) recommends them; for example, periodic evaluations at specified intervals. – A respirator program administrator or supervisor informs you that an employee needs reevaluation. – Medical signs or symptoms (such as breathing difficulties) are: <ul style="list-style-type: none"> ■ Observed during fit testing or program evaluation <p>OR</p> <ul style="list-style-type: none"> ■ Reported by the employee – Changes in worksite conditions such as physical work effort, personal protective clothing, or temperature that could substantially increase the employee's physiological stress.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-14005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-14005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-14005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-15005 Conduct fit testing.

Exemption: This section does **not** apply to any respirators that are:

- Voluntarily used. See WAC 296-842-11005 for voluntary use requirements.
- Mouthpiece respirators and other escape-only respirators.
- Loose-fitting respirators.

IMPORTANT:

• Fit testing is an activity where the seal of a respirator is tested to determine if it's adequate.

- A different respirator facepiece is chosen such as a dif-

• This section covers general requirements for fit testing. Specific fit testing procedures are covered in WAC 296-842-22010.

(1) Provide, at no cost to the employee, fit tests for ALL tight fitting respirators on the following schedule:

- (a) Before employees are assigned duties that may require the use of respirators;
- (b) At least every twelve months after initial testing;
- (c) Whenever any of the following occurs:
 - Different type, model, style, or size;

■ You become aware of a physical change in an employee that could affect respirator fit. For example, you may observe, or be told about, facial scarring, dental changes, cosmetic surgery, or obvious weight changes;

■ An employee notifies you, or your LHCP, that the respirator fit is unacceptable. During the retest, you must give an employee reasonable opportunity to select a different respirator facepiece (size, model, etc.).

Note: You may accept a fit test completed by a previous employer **IF:**

- You obtain written documentation of the fit test;

AND

- The results of the fit test are not more than twelve months old;

AND

- The employee will use the same respirator (the same type, model, style, and size);

AND

- The fit test was conducted in a way that meets the requirements of WAC 296-842-15005 and 296-842-22010.

(2) Select and use an appropriate fit-testing procedure from WAC 296-842-22010 of this chapter.

(3) Use quantitative fit-test methods when a negative pressure respirator will be used in concentrations requiring a protection factor greater than 10. This includes:

- Full facepiece air-purifying respirators;
- SCBAs operated in demand (negative pressure) mode;
- Air-line respirators operated in demand mode.

(4) Make sure tight-fitting PAPRs, SCBAs, or air-line respirators are fit tested in negative-pressure mode. This must be done by either:

(a) Temporarily converting the respirator user's actual facepiece into a negative pressure respirator using the appropriate filters;

OR

(b) Using an identical negative pressure air-purifying respirator facepiece as a surrogate for the SCBA, air-line or PAPR. The surrogate facepiece must have the same sealing surfaces as the SCBA, air-line, or PAPR.

Remove any modifications made to the respirator facepiece for fit testing and return the facepiece to the NIOSH approved configuration before the facepiece is used in the workplace.

(5) Make sure the person conducting fit testing is able to do ALL of the following:

- (a) Prepare test solutions if required;
- (b) Make sure equipment works properly;
- (c) Perform tests properly;
- (d) Recognize invalid tests;
- (e) Calculate fit factors properly if required.

Note:

- No specific training program or certification is required for those who conduct fit tests.
- You should consider evaluating these individuals to determine their proficiency in the fit-testing method to be used.
- You can use an evaluation form such as the form included in the American National Standard for Respirator Fit Testing Methods, ANSI/AIHA Z88.10-2001 to determine if the individual meets these requirements. Visit www.ansi.org or www.aiha.org.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-15005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-15005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-15005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-16005 Provide effective training.

Exemption: This section does not apply to respirators that are voluntarily used. See WAC 296-842-11005 for voluntary use requirements.

(1) Train employees, based on their duties, if they do any of the following:

- (a) Use respirators
- (b) Supervise respirator users
- (c) Issue, repair, or adjust respirators

(2) Present effective training in a way that employees understand.

Note:

- Training may be provided using audiovisuals, slide presentations, formal classroom instruction, informal discussions during safety meetings, training programs conducted by outside sources, or a combination of these methods.
- You may want to have instructors available when using video or automated training methods to:
 - Encourage and provide responses to questions for the benefit of employees
 - Evaluate employees' understanding of the material
 - Provide other instructional interaction to employees.

(3) Make sure a qualified instructor provides training

(4) Provide training, at no cost to the employee, at these times:

- (a) Initially, before worksite respirator use begins
- (b) Periodically, within twelve months of the previous training
- (c) Additionally, when the following occur:

■ The employee has not retained knowledge or skills

OR

■ Changes in the worksite, or type of respirator make previous training incomplete or obsolete.

Note:

- You may accept an employee's previous training, such as training provided by another employer, to satisfy the initial training requirement if:
 - You can demonstrate the employee received training within the past twelve months

AND

- The employee can demonstrate the knowledge and skills to use required respirators effectively.
- If you accept an employee's previous training to satisfy the initial training requirement, you are still responsible for providing periodic, and additional training when needed. Periodic training would need to be provided within twelve months of the employee's previous training.

(5) Make sure employees can demonstrate the following knowledge and skills as required by their duties:

(a) Why the respirator is necessary. Include, for example, information identifying respiratory hazards such as hazardous chemicals, the extent of the employee's exposure, and potential health effects and symptoms

(b) The respirator's capabilities and limitations. Include, for example, how the respirator provides protection and why air-purifying respirators cannot be used in oxygen-deficient conditions

(c) How improper fit, use, or maintenance can compromise the respirator's effectiveness and reliability

(d) How to properly inspect, put on, seal check, use, and remove the respirator

(e) How to clean, disinfect, repair, and store the respirator, or how to get this done by someone else

(f) How to use the respirator effectively in emergency situations; including what to do when a respirator fails and where emergency respirators are stored

(g) Medical signs and symptoms that may limit or prevent the effective use of respirators such as shortness of breath or dizziness

(h) The employer's general obligations under this chapter. For example, developing a written program, selecting appropriate respirators, and providing medical evaluations.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-16005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-16005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-16005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-17005 Maintain respirators in a clean and reliable condition.

IMPORTANT:

• This section applies to employees who voluntarily use respirators only when maintenance is necessary to prevent the respirator from creating a hazard. See WAC 296-842-11005 for voluntary use requirements.

(1) Make sure respirators are kept, at no cost to the employee, clean, sanitary and in good working order.

(2) Clean and disinfect respirators as often as specified in Table 8 of this section.

- Note:**
- Use required cleaning and disinfecting procedures in WAC 296-842-22015, or the manufacturer's procedures that:
 - Result in a clean and sanitary respirator;
 - Do not damage the respirator;
 - Do not harm the user.
 - Automated cleaning and disinfecting are permitted.
 - Cleaning and disinfecting may be done by a central facility as long as you make sure respirators provided are clean, sanitary, and function properly.

(3) Make sure respirators are assembled properly after cleaning or disinfecting.

**Table 8
Required Frequencies for Cleaning and Disinfecting Respirators**

If the respirator will be . . .	Then clean and disinfect the respirator . . .
<ul style="list-style-type: none"> • Used exclusively by one employee 	<ul style="list-style-type: none"> • As often as needed to: <ul style="list-style-type: none"> – Keep it clean and functional AND – To prevent health hazards such as skin irritation
<ul style="list-style-type: none"> • Shared for nonemergency use OR • Used for fit-testing or training 	<ul style="list-style-type: none"> • Before it is worn by another employee
<ul style="list-style-type: none"> • Shared for emergency use 	<ul style="list-style-type: none"> • After each use so the respirator is immediately ready for use at all times

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-17005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-17005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-17005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-18005 Prevent sealing problems with tight-fitting respirators.

Exemption: This section does not apply to respirator use that is voluntary. See WAC 296-842-11005 for voluntary use program requirements.

(1) Make sure employees use the procedure in WAC 296-842-22020 to perform a user seal check each time they put on their tight-fitting respirator.

(2) Make sure you do NOT permit respirator use if employees have a characteristic that interferes with the respirator facepiece seal or valve function. For example, stubble, moustaches, sideburns, bangs, hairlines, or scars between the face and the sealing surface of the respirator will affect the seal.

(3) Make sure corrective glasses or personal protective equipment (PPE) do NOT interfere with the facepiece seal. Examples of PPE include safety glasses, goggles, face-shields, clothing, and hard hats.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-18005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-18005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-18005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-19005 Provide standby assistance in immediately dangerous to life or health (IDLH) conditions.

IMPORTANT:

DOSH currently uses the IDLH values in the 1990 NIOSH *Pocket Guide to Chemical Hazards* to determine the existence of IDLH conditions. You may use more recent editions of this guide. Visit www.cdc.gov/niosh for more information.

(1) Provide at least two standby employees outside the IDLH area.

- Note:** You need only one standby employee if the IDLH condition is well characterized, will remain stable AND you can show one employee can adequately do ALL of the following:
- Monitor employees in the IDLH area;
 - Implement communication; and
 - Initiate rescue duties.

(2) Train and equip standby employees to provide effective emergency rescue. Equip them with:

(a) A pressure-demand SCBA or a pressure-demand airline respirator with an auxiliary SCBA, for each standby employee;

(b) Appropriate retrieval equipment, when it would help with the effective rescue of the entrant, or an equivalent means of rescue.

(3) Make sure standby employees maintain visual, voice, or signal line communication with employees in the IDLH area.

(4) Make sure that in the event of an emergency:

(a) Standby employees notify you or your designee before they enter the IDLH area to provide emergency rescue;

(b) You provide necessary assistance when notified.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-19005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-19005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-19005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-22005 Use this medical questionnaire for medical evaluations. Use the medical questionnaire in Table 10 when conducting medical evaluations.

- Note:**
- You may use a physical exam instead of this questionnaire if the exam covers the same information as the questionnaire.
 - You may use on-line questionnaires if the questions are the same and the requirements in WAC 296-842-14005 of this chapter are met.
 - You may choose to send the questionnaire to the LHCP ahead of time, giving time to review it and add any necessary questions.
 - The LHCP determines what questions to add to the questionnaire, if any; however, questions in Parts 1-3 may not be deleted or substantially altered.

Table 10

DOSH Medical Evaluation Questionnaire
Employer instructions:
<ul style="list-style-type: none"> • You may use on-line questionnaires if the requirements in WAC 296-842-14005 are met. • You must tell your employee how to deliver or send the completed questionnaire to the health care provider you have selected. • You must NOT review employees' questionnaires.

DOSH Medical Evaluation Questionnaire
Health care provider's instructions:
<ul style="list-style-type: none"> • Review the information in this questionnaire and any additional information provided to you by the employer. • You may add questions to this questionnaire at your discretion; HOWEVER, questions in Parts 1-3 may not be deleted or substantially altered. • Follow-up evaluation is required for any positive response to questions 1-8 in Part 2, or questions 1-6 in Part 3. This might include: Phone consultations to evaluate positive responses, medical tests, and diagnostic procedures. • When your evaluation is complete, send a copy of your written recommendation to the employer AND employee.
Employee information and instructions:
<ul style="list-style-type: none"> • Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. • Your employer or supervisor must not look at or review your answers at any time.

Part 1 - Employee Background Information
ALL employees must complete this part
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 Area Code): _____
 9. The best time to call you at this number: _____
 10. Has your employer told you how to contact the health care professional who will review this questionnaire? Yes / No
 11. Check the type of respirator(s) you will be using:
 - a. ___ N, R, or P filtering-facepiece respirator (for example, a dust mask, OR an N95 filtering-facepiece respirator).
 - b. Check all that apply.
 - Half mask Full facepiece mask Helmet hood Escape
 - Nonpowered cartridge or canister Powered air-purifying cartridge respirator (PAPR)
 - Supplied-air or Air-line
 - Self contained breathing apparatus (SCBA): Demand or Pressure demand
 - Other: _____
 12. Have you previously worn a respirator? Yes / No
- If "yes," describe what type(s): _____

Part 2 - General Health Information
ALL employees must complete this part
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 have been told about:	Yes	/	No
4. Do you <i>currently</i> 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 <i>ever had</i> any of the following cardiovascular or heart problems?	Yes	/	No
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 have been told about:	Yes	/	No
6. Have you <i>ever had</i> 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 2 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 <i>currently</i> take medication for any of the following problems?	Yes	/	No
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 have used a respirator, have you <i>ever had</i> any of the following problems? (If you have 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?	Yes	/	No
Part 3 - Additional Questions for Users of Full-Facepiece Respirators or SCBAs			
Please circle "Yes" or "No"			
1. Have you <i>ever lost</i> vision in either eye (temporarily or permanently)?	Yes	/	No
2. Do you <i>currently</i> have any of these vision problems?			
a. Need to wear contact lenses:	Yes	/	No

b. Need to wear glasses:	Yes	/	No
c. Color blindness:	Yes	/	No
d. Any other eye or vision problem:	Yes	/	No
3. Have you <i>ever had</i> an injury to your ears, including a broken ear drum?	Yes	/	No
4. Do you <i>currently</i> have any of these hearing problems?			
a. Difficulty hearing:	Yes	/	No
b. Need to wear a hearing aid:	Yes	/	No
c. Any other hearing or ear problem:	Yes	/	No
5. Have you <i>ever had</i> a back injury?	Yes	/	No
6. Do you <i>currently</i> 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 4 - Discretionary Questions			
Complete questions in this part ONLY if your employer's health care provider says they are necessary			
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 are working under these conditions:	Yes	/	No
2. Have you ever been exposed (at work or home) to hazardous solvents, hazardous airborne chemicals (such as 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)?			
a. Escape-only (no rescue):	Yes	/	No
b. Emergency rescue only:	Yes	/	No
c. Less than 5 hours <i>per week</i> :	Yes	/	No
d. Less than 2 hours <i>per day</i> :	Yes	/	No
e. 2 to 4 hours per day:	Yes	/	No

f. Over 4 hours per day:

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 are 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 will be doing while using your respirator(s): _____

17. Describe any special or hazardous conditions you might encounter when you are 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 will be exposed to when you are 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 will be exposed to while using your respirator: _____

19. Describe any special responsibilities you will have while using your respirator(s) that may affect the safety and well being of others (for example, rescue, security). _____

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-22005, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-22005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-22005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-22010 Follow these fit-testing procedures for tight-fitting respirators.

IMPORTANT:

- This section contains procedural requirements that apply during actual fit testing.
- See WAC 296-842-15005 of this chapter for fit-testing requirements that apply to your overall program.

Exemptions: This section does NOT apply to employees who:
 • Voluntarily use respirators;
OR
 • Are required to use mouthpiece respirators.

(1) Follow the procedure in Table 11 to choose a respirator for fit testing:

(a) Prior to conducting fit tests;

AND

(b) Any time your employee must select a different respirator such as when a previously selected respirator fails a test.

(2) Select and follow at least one of the following fit test procedures:

(a) Qualitative fit-test procedures:

- ◆ Isoamyl acetate vapor (IAA, banana oil) in Table 12;
- ◆ Saccharine aerosol in Table 13;
- ◆ Bitrex™ aerosol in Table 14;
- ◆ Irritant smoke in Table 15.

(b) Quantitative fit-test procedures:

- ◆ Ambient aerosol condensation nuclei counter such as the Portacount™, in Table 16;
- ◆ Controlled negative pressure (CNP) such as the Fit-Tester 3000™, in Table 17;

◆ Generated aerosol in Table 18.

(3) Make sure employees perform the appropriate fit-test exercises listed in Table 19.

(4) Clean and maintain equipment according to the manufacturer's instructions.

(5) Make sure during fit testing employees wear any safety equipment that could:

(a) Interfere with respirator fit;

AND

(b) Be worn in the workplace. For example, chemical splash goggles.

(6) Check, prior to fit testing, for conditions that may interfere with the respirator seal or valve functions. If you find such conditions, do **NOT** conduct fit testing for that individual.

Note: Examples of conditions that may interfere with the respirator seal or valve functions include:

- Moustache, stubble, sideburns, bangs, hairline, and other types of facial hair in areas where the respirator facepiece seals or that interfere with valve function.
- Temple bars of corrective eyewear or headgear that extend through the face seal area.

(7) Follow the appropriate fit test exercises in Table 19 as indicated.

Table 11

Procedure for Choosing a Respirator for Fit Testing
<p>1. Inform the employee:</p> <ul style="list-style-type: none"> • To choose the most comfortable respirator that provides an adequate fit • That each respirator sample represents a different size and, if more than one model is supplied, a different shape • That if fitted and used properly, the respirator chosen will provide adequate protection <p>2. Provide a mirror and show the employee how to:</p> <ul style="list-style-type: none"> • Put on the respirator • Position the respirator on the face • Set strap tension. <p>Note: This instruction does NOT take the place of the employee's formal training since it is only a review.</p> <p>3. Review with the employee how to check for a comfortable fit around the nose, cheeks and other areas on the face.</p> <ul style="list-style-type: none"> • Tell the employee the respirator should be comfortable while talking or wearing eye protection. <p>4. Have the employee hold each facepiece against the face, taking enough time to compare the fit of each. The employee can then either:</p> <ul style="list-style-type: none"> • Reject any facepiece that clearly does not feel comfortable or fit adequately <p>OR</p> <ul style="list-style-type: none"> • Choose which facepiece is most acceptable and which are less acceptable, if any. <p>Note:</p> <ul style="list-style-type: none"> • Supply as many respirator models and sizes as needed to make sure the employee finds a respirator that is acceptable and fits correctly • To save time later, during this step note the more acceptable facepieces in case the one chosen fails the fit test or proves unacceptable later.

Procedure for Choosing a Respirator for Fit Testing

5. **Have the employee wear** the most acceptable respirator for **AT LEAST** 5 minutes to evaluate comfort and fit. Do **ALL** of the following during this time:

- Ask the employee to observe and comment about the comfort and fit:

- Around the nose, cheeks, and other areas on the face

- When talking or wearing eye protection

- Have the employee put on the respirator and adjust the straps until they show proficiency

- Evaluate the respirator's general fit by checking:

- Proper chin placement

- Properly tightened straps (do **NOT** over tighten)

- Acceptable fit across the nose bridge

- Respirator size; it must span the distance from nose to chin

- To see if the respirator stays in position

- Have the employee complete a successful seal check as specified in WAC 296-842-22020 of this chapter

- Prior to the seal check they must settle the respirator on their face by taking a few slow deep breaths **WHILE SLOWLY**:

- Moving their head from side-to-side

AND

- Up and down.

6. **If the employee finds the respirator unacceptable**, allow the employee to select another one and return to Step 5. Otherwise, proceed to Step 7.

7. **Before starting the fit test**, you must:

- Describe the fit test including screening procedures, employee responsibilities, and test exercises

AND

- Make sure the employee wears the respirator **AT LEAST** five minutes.

Table 12

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
<p>Important:</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • The success of this test depends on preserving the employee's odor sensitivity to isoamyl acetate (IAA) vapor <ul style="list-style-type: none"> – Vapor accumulations in ambient air can decrease odor sensitivity. To prevent this: <ul style="list-style-type: none"> ■ Prepare ALL solutions in a location separate from screening and test areas ■ Conduct screening and tests in separate well-ventilated rooms. For example, use an exhaust fan or laboratory hood to prevent IAA vapor from accumulating in the room air – Always use odor-free water, for example, distilled or spring water that is 25°C (77°F). • Isoamyl acetate is also known as isopentyl acetate.
Screening Preparations
<p>Important: Odor threshold screening determines if the employee can detect weak concentrations of IAA vapor.</p> <p>1. Choose an appropriate location to conduct screening.</p>

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
<ul style="list-style-type: none"> • Conduct screening and tests in separate well-ventilated rooms. <p>2. Prepare a stock solution AT LEAST weekly as follows:</p> <ul style="list-style-type: none"> • Add one milliliter (ml) of pure IAA to 800 ml of odor-free water in a one-liter glass jar with a metal lid using a measuring dropper or pipette • Seal the jar with the lid and shake it for 30 seconds • Clean the dropper or pipette. <p>3. Prepare the odor test solution daily as follows:</p> <ul style="list-style-type: none"> • Add 0.4 ml from the stock solution to 500 ml of water in a one liter glass jar with a metal lid using a clean pipette or dropper • Seal the jar with the lid and shake it for 30 seconds • Let this solution stand for 2-3 minutes so the IAA concentration above the liquid reaches equilibrium • Label this jar so you know the contents but the employee cannot know its contents, for example, "1." <p>Note: To maintain the integrity of the test, use labels that peel off easily AND periodically switch the labels.</p> <p>4. Prepare a "test blank" solution as follows:</p> <ul style="list-style-type: none"> • Add 500 ml of odor-free water to a one liter glass jar with a metal lid • Seal the jar • Label the jar so you know the contents but the employee cannot know its contents. <p>5. Type or neatly print the following instructions on a card and place it on the table in front of the two test jars: <i>"The purpose of this test is to find out if you can smell banana oil at a low concentration. While both jars contain water, one ALSO contains a small amount of banana oil. Make sure the lid is secure then pick up a jar and shake it for two seconds. Open the jar and sniff at the opening. Repeat this for the second jar. Tell the individual conducting the fit test which jar contains banana oil."</i></p>
Test Preparations
<p>6. Choose an appropriate location to conduct fit testing.</p> <ul style="list-style-type: none"> • Conduct screening and tests in separate well-ventilated rooms. <p>7. Assemble the fit test enclosure in the room.</p> <ul style="list-style-type: none"> • Invert a clear 55-gallon drum liner over a circular 2-foot diameter frame made of plywood or other light-weight rigid material OR construct a similar enclosure using plastic sheeting • Hang the frame with the plastic covering so the top of the enclosure is about six inches above the employee's head • Attach a small hook inside top center of the enclosure • Tape a copy of the test exercises (see Table 19) to the inside of the test enclosure where the employee can read it. <p>8. Have organic vapor cartridges or equivalent on hand for each employee's chosen respirator.</p> <p>9. Have ready a 6 x 5-inch piece of paper towel or other porous absorbent single-ply material AND 0.75 ml of pure IAA. Do NOT apply IAA yet.</p>

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
<p>Note: As an alternative to using the paper towel, you may use an IAA test swab OR ampoule if it has been demonstrated to generate an equivalent test concentration.</p>
Screening
<p>10. Have the employee, while NOT wearing a respirator, follow the instructions on the card provided.</p> <ul style="list-style-type: none"> • If the employee correctly identifies the jar containing IAA, proceed to conduct testing (Step 11) • If the employee is NOT able to correctly identify the jar containing IAA, you must STOP and use a different fit test protocol.
Test
<p>11. BEFORE entering the fit test room, have the employee attach cartridges, put on, properly adjust, and seal check the respirator. Have the employee enter the test enclosure.</p> <p>12. Wet the paper towel with 0.75 ml of pure IAA AND fold it in half.</p> <p>13. Pass the paper towel to the employee inside the enclosure AND instruct the employee to hang it on the hook at the top of the enclosure.</p> <p>14. Wait two minutes for the IAA vapor to fill the enclosure.</p> <ul style="list-style-type: none"> • While waiting, explain the fit test, including the purpose of the test exercises, the importance of cooperation, and that you must be informed if a banana-like odor is detected during the test • You may also demonstrate the test exercises. <p>15. Have the employee perform the appropriate fit-test exercises in Table 19.</p> <ul style="list-style-type: none"> • If the employee does NOT detect IAA while performing test exercises, the fit test has been PASSED. Proceed as follows: <ul style="list-style-type: none"> – BEFORE leaving the enclosure, have the employee break the respirator seal and inhale. If they detect IAA, the test is valid – When exiting the employee must remove the paper towel and give it to the individual conducting the fit test. This prevents IAA vapor from building up in the enclosure during subsequent tests – The individual conducting the fit test must keep used paper towels in a self-sealing plastic bag to prevent area contamination • If the employee detects IAA during any test exercise, the fit test has FAILED. STOP and have the employee do the following: <ul style="list-style-type: none"> – Quickly return to the selection room to remove the respirator. This avoids decreasing the employee's odor sensitivity – Select another respirator – Repeat screening and testing <ul style="list-style-type: none"> ■ At this stage, if the employee fails the screening part of this procedure, the employee can repeat it AFTER waiting at least five minutes for odor sensitivity to return.

Table 13

Saccharin Aerosol Test Procedure
Screening Preparations
<p>Important:</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • Taste threshold screening determines whether the employee being tested can detect the taste of saccharin <ul style="list-style-type: none"> – The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the fit test. Sweet foods or drink consumed before the test may make the employee unable to detect saccharin during screening – Nebulizers must be thoroughly rinsed in water and shaken dry: <ul style="list-style-type: none"> ■ Each morning and afternoon <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ■ At least every four hours. <ul style="list-style-type: none"> • You may use commercially prepared solutions if they meet the requirements in this procedure. <p>1. Obtain a test enclosure (hood) that meets the following specifications:</p> <ul style="list-style-type: none"> • Twelve inches in diameter by fourteen inches tall • A clear front portion • Enough space inside to allow free movement of the head when a respirator is worn • A 3/4 inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth. <p>Note:</p> <ul style="list-style-type: none"> • An enclosure similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, meets these specifications • This enclosure can also be used for testing. <p>2. Obtain and assemble two clean DeVilbiss Model 40 Inhalation Medication Nebulizers OR equivalent.</p> <p>3. Prepare the screening solution as follows:</p> <ul style="list-style-type: none"> • Dissolve 830.0 milligrams of sodium saccharin USP in 100 ml of warm distilled water <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • IF you have already prepared the fit-test solution, you can make the screening solution by adding 1 ml of this solution to 100 ml of distilled water. <p>4. Add about 1 ml of the screening solution to one of the nebulizers.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one to be used for fit testing.
Test Preparations
<p>5. Prepare the fit-test solution as follows:</p> <ul style="list-style-type: none"> • Add 83.0 grams of sodium saccharin to 100 ml of warm water. <p>6. Add about 1 ml of the test solution to the second nebulizer.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one used for screening <p>7. Have particulate filters ready for the employee's chosen respirator or have filtering-facepiece respirators ready.</p>
Screening
<p>8. Have the employee, while NOT wearing a respirator, put on the test enclosure.</p> <p>9. Instruct the employee to:</p>

Saccharin Aerosol Test Procedure
Screening Preparations
<ul style="list-style-type: none"> • Breath through a slightly open mouth with tongue extended during screening AND testing • Immediately report when a sweet taste is detected. <p>10. Insert the nebulizer into the front hole of the test enclosure AND administer saccharin as follows:</p> <ul style="list-style-type: none"> • Direct the nozzle away from the employee's nose and mouth • Complete 10 squeezes in rapid succession • Each time firmly squeeze the bulb so it collapses completely, then release and allow it to fully expand. <p>11. Ask the employee if a sweet taste is detected.</p> <ul style="list-style-type: none"> • IF YES, screening is completed. Proceed to conduct testing, Step 14, AFTER you: <ul style="list-style-type: none"> – Ask the employee to remember the taste for reference during the fit test – Note the employee's taste threshold as "10" regardless of the number of squeezes actually completed • IF NO, screening must continue. Proceed to Step 12. <p>12. Repeat with 10 more squeezes. Then follow Step 11 again; EXCEPT this time note the employee's taste threshold as "20" IF a sweet taste is reported.</p> <ul style="list-style-type: none"> • If a sweet taste is still NOT detected, repeat with 10 more squeezes and follow Step 11 one last time; EXCEPT this time note "30" for the taste threshold IF a sweet taste is reported. <p>13. If NO sweet taste is reported after 30 squeezes, you must STOP and choose a different fit-test protocol for the employee.</p>
Test
<p>Important!</p> <ul style="list-style-type: none"> • Periodically check nebulizers to make sure they do not clog during use. A test is NOT valid if the nebulizer is clogged at the end of the test. <p>14. Have the employee attach particulate filters, put on, properly adjust, and seal check the respirator. Have the employee put on the test enclosure (hood).</p> <p>15. Instruct the employee to immediately report if a sweet taste is detected.</p> <p>16. Insert the nebulizer into the front hole of the test enclosure AND administer the same number of squeezes, either 10, 20, or 30, as noted during screening.</p> <p>17. Have the employee perform the appropriate fit-test exercises as described in Table 19. During this step:</p> <ul style="list-style-type: none"> • Replenish the aerosol in the hood EVERY 30 seconds using 1/2 the number of squeezes used in Step 16, either 5, 10, or 15 • The employee must report if a sweet taste is detected: <ul style="list-style-type: none"> – If NO saccharin is tasted, the test has been PASSED <ul style="list-style-type: none"> ■ If saccharin is tasted the test has FAILED, have the employee select another respirator AND ■ Repeat screening and testing.

Table 14

Bitrex™ Aerosol Test Procedure
<p>Important!</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • Bitrex™ (denatonium benzoate) is routinely used as a taste aversion agent in household liquids that children should not drink and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers • The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the fit test.
Screening Preparations
<p>Important!</p> <ul style="list-style-type: none"> • Taste threshold screening determines whether the employee being tested can detect the taste of Bitrex™ • Nebulizers must be thoroughly rinsed in water and shaken dry: <ul style="list-style-type: none"> – Each morning and afternoon OR – At least every four hours. • You may use commercially prepared solutions if they meet the requirements in this procedure. <p>1. Obtain a test enclosure that meets the following specifications:</p> <ul style="list-style-type: none"> • Twelve inches in diameter by fourteen inches tall • A clear front portion • Enough space inside the front to allow free movement of the head when a respirator is worn • 3/4 inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth. <p>Note:</p> <ul style="list-style-type: none"> • An enclosure similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, meets these specifications • This enclosure can also be used for testing. <p>2. Obtain and assemble two clean DeVilbiss Model 40 Inhalation Medication Nebulizers OR equivalent:</p> <p>3. Prepare the screening solution as follows:</p> <ul style="list-style-type: none"> • Make up a 5% salt solution by dissolving 5.0 grams of salt (sodium chloride) into 100 ml of distilled water • Dissolve 13.5 milligrams of Bitrex™ in the salt solution. <p>4. Add about 1 ml of the screening solution to one of the nebulizers.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one to be used for fit testing.
Test Preparations
<p>5. Prepare the fit test solution.</p> <ul style="list-style-type: none"> • Dissolve 10.0 grams of salt (sodium chloride) into 200 ml of distilled water • Add 337.5 milligrams of Bitrex™ to the warmed salt solution. <p>6. Add about 1 ml of the test solution to the second nebulizer.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one used for screening.

Bitrex™ Aerosol Test Procedure
<p>7. Have particulate filters ready for the employee's chosen respirator or have filtering-facepiece respirators ready.</p>
Screening
<p>Important:</p> <p>The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the screening and test</p> <p>8. Have the employee, while NOT wearing a respirator, put on the test enclosure.</p> <p>9. Instruct the employee to:</p> <ul style="list-style-type: none"> • Breathe through a slightly opened mouth with tongue extended during screening AND testing • Immediately report when a bitter taste is detected. <p>10. Insert the nebulizer into the front hole of the test enclosure AND administer Bitrex™ as follows:</p> <ul style="list-style-type: none"> • Direct the nozzle away from the employee's nose and mouth • Complete 10 squeezes in rapid succession • Each time firmly squeeze the bulb so it collapses completely, then release and allow it to fully expand. <p>11. Ask the employee whether a bitter taste is detected.</p> <ul style="list-style-type: none"> • If YES, screening is completed. Proceed to conduct testing, Step 14, AFTER you: <ul style="list-style-type: none"> – Ask the employee to remember the taste for reference during the fit test – Note the employee's taste threshold as "10," regardless of the number of squeezes actually completed • If NO, screening must continue. Proceed to Step 12. <p>12. Repeat with 10 more squeezes. Then follow Step 11 again; EXCEPT this time note the employee's taste threshold as "20" IF a bitter taste is reported.</p> <ul style="list-style-type: none"> • If a bitter taste is still NOT detected repeat with 10 more squeezes and follow Step 11 one last time; EXCEPT this time note "30" for the taste threshold IF a bitter taste is reported. <p>13. If NO bitter taste is reported after 30 squeezes, you must STOP and choose a different fit-test protocol for the employee.</p>
Test
<p>14. Have the employee attach particulate filters, put on, properly adjust, and seal check the respirator. Have the employee put on the test enclosure.</p> <p>15. Instruct the employee to:</p> <ul style="list-style-type: none"> • Breathe through a slightly opened mouth with tongue extended during screening AND testing • Immediately report when a bitter taste is detected. <p>16. Insert the nebulizer into the front hole of the test enclosure AND administer the same number of squeezes, either 10, 20, or 30, as noted during screening.</p> <p>17. Have the employee perform the appropriate fit-test exercises as described in Table 19. During this step:</p> <ul style="list-style-type: none"> • Replenish the aerosol in the hood EVERY 30 seconds using 1/2 the number of squeezes used in Step 16, either 5, 10, or 15 • The employee must report if a bitter taste is detected: <ul style="list-style-type: none"> – If NO Bitrex™ is tasted, the test has been PASSED – If Bitrex™ is tasted the test has FAILED. Have the employee: <ul style="list-style-type: none"> ■ Select another respirator

Bitrex™ Aerosol Test Procedure
AND ■ Repeat all screening and testing steps.

Table 15

Irritant Smoke (Stannic Chloride) Test Procedure
<p>Important:</p> <ul style="list-style-type: none"> • DO NOT USE A TEST ENCLOSURE OR HOOD FOR THIS FIT TEST! • This is a qualitative fit-test (QLFT) procedure • During this test an employee is exposed to irritating smoke containing hydrochloric acid produced by a stannic chloride ventilation smoke tube to detect leakage. The smoke will irritate eyes, lungs, and nasal passages • Employee sensitivity varies, and certain employees may respond more intensely than others exposed to irritant smoke. The individual conducting the fit test must take precautions to minimize the employees' exposure to irritant smoke • Conduct fit testing in an area with adequate ventilation to prevent exposure of the individual conducting the fit test and build-up of irritant smoke in the ambient air.
Screening AND Test Preparations
<p>Important: Sensitivity screening is necessary to determine whether the employee can detect a weak concentration of irritant smoke AND whether any gross facepiece leakage is detected.</p> <ol style="list-style-type: none"> 1. Obtain only stannic chloride (ventilation) smoke tubes, AND an aspirator squeeze bulb OR use a low-flow air pump set to deliver 200 milliliters of air flow per minute. 2. Equip the employee's chosen respirator with P100 series filters if a negative pressure air-purifying respirator will be tested. If a powered air-purifying respirator (PAPR) will be tested equip the respirator with high-efficiency particulate air (HEPA) filters.
Screening
<p>Important! When performing sensitivity screening checks use only the MINIMUM amount of smoke necessary to elicit a response from the employee.</p> <ol style="list-style-type: none"> 3. Advise the employee that the smoke can be irritating to eyes, lungs, and nasal passages AND instruct the employee to keep eyes closed while exposed. 4. Break both ends of the ventilation smoke tube AND fit a short piece of plastic tubing, for example, two-to-six inches of tygon tubing, over one end to prevent exposure to the sharp end of the tube. Connect the other end to an aspirator bulb or a low-flow air pump set to deliver a flow of 200 ml per minute. 5. While the employee is NOT wearing a respirator, have the employee smell a weak concentration of irritant smoke to become familiar with its irritating properties. <ul style="list-style-type: none"> • Carefully direct a small amount of irritant smoke toward the employee.

Irritant Smoke (Stannic Chloride) Test Procedure
Test
<p>Test 6. Have the employee attach respirator filters, put on, adjust, and seal check the respirator without assistance. The employee must be proficient at these tasks.</p> <ol style="list-style-type: none"> 7. Remind the employee to keep eyes closed during testing. 8. Direct a stream of irritant smoke toward the respirator's face seal area as follows: <ul style="list-style-type: none"> • Begin at least 12 inches from the facepiece AND move the smoke around the whole perimeter of the mask • Gradually make two more passes around the perimeter of the facepiece, moving to within 6 inches of the respirator • STOP at any time the employee detects smoke in the facepiece. If this occurs a different respirator will need to be chosen and tested, beginning with sensitivity screening. 9. Have the employee perform appropriate fit-test exercises in Table 19 IF the employee has NOT had an involuntary response such as evidence of coughing, flinching, or other response, OR detected smoke in the facepiece. <ul style="list-style-type: none"> • Continue to direct smoke from a distance of 6 inches around the facepiece perimeter <ul style="list-style-type: none"> – If smoke is detected at any time the test has FAILED. A different respirator must be chosen and tested, starting with sensitivity screening – If NO smoke is detected proceed to Step 10. 10. Have the employee remove the respirator AND perform another sensitivity screening check as follows: <ul style="list-style-type: none"> • Continue to use the smoke tube used for fit testing • Carefully direct a SMALL amount of irritant smoke toward the employee <ul style="list-style-type: none"> – The test has been PASSED IF the employee responds to the smoke – The fit test is VOIDED IF the employee does NOT respond to the smoke.

Table 16

Ambient Aerosol Condensation Nuclei Counter (Portacount™) Test Procedure
<p>Important:</p> <ul style="list-style-type: none"> • This is a quantitative (QNFT) fit-test procedure • This method uses a particle counting instrument that measures and compares the particle concentration both inside and outside the respirator facepiece while the employee performs a series of test exercises • Particles in the ambient air are used as the test aerosol.
Test Preparations
<ol style="list-style-type: none"> 1. Obtain a test instrument such as a Portacount™. 2. Have probed respirators available for each respirator model and size the employer uses, OR have a sampling adapter available if the employee's actual or chosen respirator will be tested.

Ambient Aerosol Condensation Nuclei Counter (Portacount™) Test Procedure

Note:

- A probed respirator has a special fitting installed on the facepiece designed to connect with the end of the test instrument's plastic sampling tube so that air samples can be taken inside the facepiece. Probed respirators can be obtained from the respirator manufacturer, or distributor, **AND** can only be used for fit-testing purposes
- Contact TSI Inc., **OR** the respirator's manufacturer to obtain probed respirators or facepiece sampling adapters.

3. Follow the test instrument manufacturer's instructions for test preparation, including particle, zero, and system checks. Make sure the instrument's pass **OR** fail criterion is programmed to the following **MINIMUM** performance levels:

- For half-facepiece respirators, an overall minimum fit factor of 100 as a passing level
- For full-facepiece respirators, an overall minimum fit factor of 500 as a passing level

4. Have high-efficiency particulate air (HEPA) filters, **OR** other respirator filters available that are capable of preventing significant penetration by particles generated by the test instrument such as, P100 or N95 series filters.

- If you will use a sampling adapter instead of probed respirators be sure to have the correct type for the respirators chosen.

Test

5. Properly attach the sampling line to the facepiece probe or sampling adapter.

6. Have the employee attach respirator filters, put on, properly adjust, and wear the respirator five minutes **BEFORE** the fit test. During this time you and the employee must evaluate the respirator's general fit by checking:

- Proper chin placement
- Properly tightened straps (do **NOT** over tighten)
- Acceptable fit across the nose bridge
- Respirator size. It must span the distance from nose to chin
- To see if the respirator stays in position.

Note:

Wearing the respirator for five minutes permits the employee to make certain the respirator is comfortable **AND** allows for purging of ambient particles trapped inside the facepiece.

7. Have the employee perform a seal check. Make sure the sampling line is crimped to avoid leakage during the seal check. If **NO** leakage is detected, proceed to Step 8. If leakage is detected:

- Determine the cause

AND

- If leakage is due to a poorly fitting facepiece, have the employee:

– Choose another respirator size or model

AND

– Start again at Step 6.

8. Start the fit test cycle.

- Follow the manufacturer's instructions for operating the test instrument

Ambient Aerosol Condensation Nuclei Counter (Portacount™) Test Procedure

- Have the employee perform the appropriate fit-test exercises in Table 19

– The test instrument will automatically stop and calculate the overall fit factor. Use this result to determine whether or not the test is passed

■ The test has been **PASSED** if the overall fit factor is at least 100 for a half facepiece, **OR** 500 for a full facepiece

■ The test has **FAILED** if the overall fit factor is below 100 for a half facepiece or 500 for a full facepiece.

Note:

If the test has failed, have the employee select another respirator model or size following Table 11 **AND** repeat this procedure.

Table 17

Controlled Negative Pressure (CNP) Test Procedure

Important!

- This is a quantitative fit-test (QNFT) procedure
- This method determines respirator fit by measuring how much the facepiece leaks when it is subject to a slight negative pressure **AFTER** various premeasurement activities
- Instruments used must have a nonadjustable test pressure of 15.0 mm water pressure
- Measurements occur while employees remain still **AND** hold their breath for 10 seconds
- No test aerosols are used. Respirator cartridges are not needed for this test. Sampling manifolds that replace the filter cartridges are available from the instrument manufacturer, and allow fit testing of an employee's own respirator.

Test Preparations

1. Make sure the individual conducting the fit test is thoroughly trained to perform this test.
2. Obtain a CNP test instrument such as a FitTester 3000™. Make sure:

- Defaults are set at:
 - -15mm (-0.58 inches) of water test pressure
- AND**
- A modeled inspiratory flow rate of 53.8 liters per minute

- It has an effective audio warning device or visual screen tracing that signals when employees fail to hold their breath.

Note:

- You are not required to obtain test recording and printing equipment such as computers **OR** printers. Hand recording results is acceptable
 - To see default settings, check the instrument's "REDON protocol."
3. Obtain facepiece adapters appropriate for each test respirator.

Controlled Negative Pressure (CNP) Test Procedure
<p>Note:</p> <ul style="list-style-type: none"> • Adapters are either a one-piece (for SCBA facepieces), OR two-piece (for dual cartridge facepieces) device providing a manifold and breathing valve system. For positive pressure respirators, you will need to obtain an additional fitting, available from the respirator manufacturer, to convert the facepiece to negative pressure • To obtain adapters, contact the CNP instrument's distributor, Occupational Health Dynamics, OR the respirator manufacturer.
Test
<p>Important!</p> <ul style="list-style-type: none"> • The respirator must not be adjusted once the fit-test exercises begin. Any adjustment voids the test and the test must be repeated. <ol style="list-style-type: none"> 4. Explain the test procedure to the employee. 5. Train the employee on how to hold a breath for at least 10 seconds. 6. Prepare the respirator for the fit test as follows: <ul style="list-style-type: none"> • Remove or prop open the inhalation valves. If a breathing tube is present, disconnect it • Replace cartridges, if present, with the manifold and breathing valve adapter <ul style="list-style-type: none"> – For positive pressure facepieces, mount the manufacturer's additional fitting followed by the manifold-breathing valve adapter • Connect the respirator to the CNP device according to the CNP instrument manufacturer's directions. 7. Have the employee put on, adjust, and seal check the respirator without assistance. 8. Turn on the instrument AND have the employee stand and perform the fit-test exercises in Table 19. Once exercises begin, any adjustments will void the test and you must begin again. 9. Once test exercises are completed, ask the employee about facepiece comfort. If the employee states the respirator is unacceptable, repeat the fit test using another size or model. 10. Determine the overall fit factor for each employee by calculating the harmonic mean of the fit-testing exercises as follows: $\text{Overall fit factor} = \frac{n}{1/\text{ffE1} + 1/\text{ffE2} + 1/\text{ffE3} + \dots + 1/\text{ffEn}}$ <p>Where:</p> <ul style="list-style-type: none"> n = The number of exercises; ffE1 = The fit factor for the first exercise; ffE2 = The fit factor for the second exercise; ffE3 = The fit factor for the third exercise; and ffEn = The fit factor for the nth exercise. <ul style="list-style-type: none"> • The test is PASSED IF the overall fit factor obtained is at least 100 for a half facepiece, or at least 500 for a full facepiece • The test has FAILED IF the fit factor is less than 100 for a half facepiece; 500 for a full facepiece <ul style="list-style-type: none"> – If the test has FAILED you must have the employee select another respirator model or size following the steps in Table 11 AND repeat this procedure, starting at Step 6.

Table 18

Generated Aerosol Test Procedure	
<p>Important:</p> <ul style="list-style-type: none"> • This is a quantitative (QNFT) fit-test procedure • In this method, a test aerosol is used to challenge the facepiece seal while aerosol concentrations inside and outside the facepiece are measured during test exercises • Special equipment is needed to generate, disperse, detect, and measure test aerosols. 	
Test Preparations	
<p>1. Test aerosol.</p> <ul style="list-style-type: none"> • Use a particulate, for example, corn oil, polyethylene glycol 400, di-2-ethyl hexyl sebacate, or sodium chloride. <p>2. Instrumentation.</p> <ul style="list-style-type: none"> • Do ALL the following: <ul style="list-style-type: none"> – Obtain and use aerosol generation, dilution, and measurement systems appropriate for particulates – Use an aerosol-generating instrument that will maintain test concentrations within a 10% variation – Select a sampling instrument that allows for a computer record or strip chart record to be created <ul style="list-style-type: none"> ■ The record must show the rise and fall of test agent concentration during each inhalation and exhalation at fit factors of at least 2000. – Note: Integrators, or computers that integrate the amount of test agent penetration leakage into the respirator for each exercise, may be used if a record of the readings is made. – Minimize the time interval between the activity and the recording of the activity so you can clearly connect what you see to what is being recorded. For example, use a small diameter and length of sampling line. <p>3. Test enclosure.</p> <ul style="list-style-type: none"> • Do ALL the following: <ul style="list-style-type: none"> – Make sure the enclosure is equipped and constructed to effectively: <ul style="list-style-type: none"> ■ Maintain a uniform concentration of the test agent inside the enclosure. For example, the enclosure must be large enough to allow ALL employees freedom of movement during testing WITHOUT disturbing the test concentration or measurement instrument ■ Keep the test agent from contaminating the air outside the enclosure. For example, use a HEPA filter to purify exhausted air ■ Allow the individual conducting the fit test to view the employee during the test – Make sure the tubing used to collect samples from the enclosure AND respirator is the same material, diameter, AND length. This makes the effect of aerosol loss caused by deposition in each sample line equal – If sodium chloride is used, relative humidity inside the enclosure must be kept below 50%. <p>4. Prepare test respirators.</p> <ul style="list-style-type: none"> • Do ALL the following: <ul style="list-style-type: none"> – Inspect test respirators regularly for missing parts AND damage – Keep test respirators in proper working order – Make sure in-mask sampling probes are: <ul style="list-style-type: none"> ■ Designed and installed so the air sample will be drawn from the employee's breathing zone; midway between the nose and mouth AND ■ The probe extends inside the facepiece at least 1/4 inch – Make sure sampling ports such as probes, or adapters on respirators are constructed and installed so they do NOT: <ul style="list-style-type: none"> ■ Block air flow into the sampling line ■ Leak ■ Interfere with the respirator's fit or performance • Have high efficiency particulate air (HEPA) filters OR P100 series filter available <ul style="list-style-type: none"> – Replace filters when increased breathing resistance is detected OR when the test agent has altered the filter material's integrity. 	
Test	
<p>Important!</p> <ul style="list-style-type: none"> • Throughout the test, maintain the employee's exposure to any test agent below the established exposure limit. Exposures allowed must be based on exposure time and exposure limit duration • If a single peak penetration exceeds 5% for half facepieces OR 1% for full facepieces: <ul style="list-style-type: none"> – STOP the test AND – Have the employee select another respirator for testing. <p>5. Have the employee attach filters, put on, adjust, and seal check the respirator.</p> <ul style="list-style-type: none"> • Be sure to crimp the sampling line to avoid pressure leaks during the seal check <p>AND</p>	

Generated Aerosol Test Procedure

- Have the employee adjust the respirator straps, without assistance, so the fit is comfortable. Do NOT over tighten.
6. **OPTIONAL Step.** To save time conduct a screening test to quickly identify poorly fitting respirators.
- Note:**
You may use a qualitative screening test **OR** an ambient aerosol condensation nuclei counter instrument in the count mode.
7. Make sure test aerosol concentration is reasonably stable.
- If a canopy or shower curtain enclosure is used, determine stability of the test aerosol concentration **AFTER** the employee enters the enclosure.
8. Have the employee enter the test enclosure and connect the respirator to the sample lines.
9. Immediately after entering the enclosure measure test aerosol concentration inside the respirator.
- Make sure the peak penetration does **NOT** exceed 5% for half facepieces, **OR** 1% for full facepieces.
10. Have employee perform the appropriate fit-test exercises in Table 19.
- Do **NOT** adjust the respirator once exercises begin.
11. Calculate the overall fit factor as specified in Steps 12-13. The fit test is:
- **PASSED IF** the minimum fit factor of 100 for half facepieces **OR** 500 for full facepieces is obtained
- OR**
- If a passing fit factor is **NOT** obtained, the test has **FAILED** and you must have the employee select and test another respirator.

Calculations

Important!

- Do **NOT** count the grimace exercise measurements during these calculations
 - Take into account the limitations of instrument detection when determining fit factors.
12. Calculate individual fit factors for **EACH** exercise by applying the following:
Exercise fit factor (ffE) = Average test enclosure concentration
- Test aerosol concentration inside the respirator
- To determine the average test enclosure concentration use one of the following methods:
 - Arithmetic average of the concentration before and after each **test** (an average of two values per entire test)
 - Arithmetic average of concentration before and after each **exercise** (an average of two values per exercise)
 - True average measured continuously during the respirator sample
 - Determine the test aerosol concentration inside the respirator in one of the following ways:
 - Average peak penetration values. Determine aerosol penetration for each exercise by:
 - Using integrators or computers that calculate the actual test agent penetration
- OR**
- Average the peak heights shown on the strip chart recording, graph, or by computer integration
 - Maximum peak penetration. Use strip chart recordings to determine the highest peak penetration for each exercise and use this value
 - Area under the peaks. Use computerized integration or other appropriate calculations to integrate the area under individual peaks for each exercise.
13. Using individual exercise fit factors (ffE) calculate the **overall fit factor** by doing **ALL** of the following:
- Convert each exercise fit factor to a penetration value
 - Determine the average penetration value
 - Convert the average penetration value back to a fit factor
- OR**
- Use this equation to calculate the **overall fit factor**:
- Overall fit factor =
$$\frac{1}{\frac{1}{\text{ffE1}} + \frac{1}{\text{ffE2}} + \frac{1}{\text{ffE3}} + \dots + \frac{1}{\text{ffEn}}}$$
- Where:
- n = The number of exercises;
 - ffE1 = The fit factor for the first exercise;
 - ffE2 = The fit factor for the second exercise;
 - ffE3 = The fit factor for the third exercise; and
 - ffEn = The fit factor for the nth exercise.

Table 19

Fit-Test Exercises			
<p>Important:</p> <ul style="list-style-type: none"> • This list applies when you use any fit test • Employees tested must perform ALL exercises marked with an "X" as described for the fit-test procedure used <ul style="list-style-type: none"> – Once exercises begin, any adjustments made void the test AND you must begin again – After test exercises are completed, you must ask the employee about the comfort of the respirator. If it has become unacceptable, have the employee choose another one for testing • When the controlled negative pressure procedure is used, STOP and repeat the test if the employee adjusts the respirator OR takes a breath and fails to hold it for 10 seconds • Controlled negative pressure tests conducted according to the method published in 29 CFR 1910.134, Appendix A are an acceptable alternative to the method outlined below. 			
Description of Required Fit-Test Exercises	Fit-Test Procedures		
	Qualitative Procedures	Quantitative Procedures; EXCEPT the CNPP	Controlled Negative Pressure Procedure (CNPP)
<ul style="list-style-type: none"> • Normal breathing <ul style="list-style-type: none"> – Breathe normally, while standing for one minute 	X	X	
<ul style="list-style-type: none"> • Deep breathing <ul style="list-style-type: none"> – Breathe slowly and deeply while standing for one minute – Take caution to avoid hyperventilating 	X	X	
<ul style="list-style-type: none"> • Head side to side <ul style="list-style-type: none"> – Slowly turn head from side to side while standing for one minute, pausing at each extreme position to inhale – Be careful to NOT bump the respirator 	X	X	
<ul style="list-style-type: none"> • Head up and down <ul style="list-style-type: none"> – Slowly move head up and down while standing for one minute, inhaling in the up position – Be careful to NOT bump the respirator 	X	X	
<ul style="list-style-type: none"> • Talking <ul style="list-style-type: none"> – Talk slowly and loud enough to be heard clearly by the individual conducting fit testing for one minute. Choose ONE of the following: <ul style="list-style-type: none"> ■ Read from a prepared text such as the Rainbow Passage¹ ■ Count backward from 100 ■ Recite a memorized poem or song. 	X	X	
<ul style="list-style-type: none"> • Grimace <ul style="list-style-type: none"> – Smile or frown for fifteen seconds. 		X	
<ul style="list-style-type: none"> • Bending over <ul style="list-style-type: none"> – Bend over to touch toes while standing. Repeat at a comfortable pace for one minute OR – Jog in place for one minute if the test enclosure, such as a hood, does not permit bending over 	X	X	
<ul style="list-style-type: none"> • Normal breathing <ul style="list-style-type: none"> – Breathe normally while standing for one minute 	X	X	
<ul style="list-style-type: none"> • Face forward <ul style="list-style-type: none"> – Premeasurement activity: Stand and breath normally, without talking, for 30 seconds – Measurement position: Face forward while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Bending over <ul style="list-style-type: none"> – Premeasurement activity: While standing, bend at the waist, as if to touch toes – Measurement position: Hold the bending position with face parallel to the floor while holding breath for 10 seconds 			X

Fit-Test Exercises			
<ul style="list-style-type: none"> • Head shaking <ul style="list-style-type: none"> – Premeasurement activity: Vigorously shake head from side to side for about 3 seconds while shouting – Measurement position: Face forward, while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Redon-1 <ul style="list-style-type: none"> – Premeasurement activity: Loosen all facepiece straps and remove the respirator completely, then put it back on – Measurement position: Face forward while holding breath for 10 seconds 			X
<ul style="list-style-type: none"> • Redon-2 <ul style="list-style-type: none"> – Repeat the premeasurement activity and measurement position described in Redon-1 			X

The 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."

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-22010, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-22010, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-22010, filed 10/1/03, effective 1/1/04.]

WAC 296-842-22020 Follow procedures established for seal checking respirators. Make sure employees perform a user seal check as outlined in Table 21 **each time** the respirator is worn, to make sure the seal is adequate.

IMPORTANT:

- User seal checks are **NOT** a substitute for fit tests. See WAC 296-842-22010 for fit test procedures.

- You may use a seal check procedure recommended by the respirator manufacturer **INSTEAD** of the procedure outlined in Table 21 if you can demonstrate the procedure is based on a scientific study that, for example, demonstrates the procedure effectively identifies respirators that fit poorly when put on or adjusted.

Table 21

User Seal Check Procedure
<p>Important information for employees:</p> <ul style="list-style-type: none"> • You need to conduct a seal check each time you put your respirator on BEFORE you enter the respirator use area. The purpose of a seal check is to make sure your respirator (which has been previously fit tested by your employer) is properly positioned on your face to prevent leakage during use and to detect functional problems • The procedure below has two parts; a positive pressure check and a negative pressure check. You must complete both parts each time. It should only take a few seconds to perform, once you learn it ◆ If you cannot pass both parts, your respirator is NOT functioning properly, see your supervisor for further instruction.
<p>Positive pressure check:</p> <ol style="list-style-type: none"> 1. Remove exhalation valve cover, if removable.

User Seal Check Procedure
<ol style="list-style-type: none"> 2. Cover the exhalation valve completely with the palm of your hand WHILE exhaling gently to inflate the facepiece slightly. 3. The respirator facepiece should remain inflated (indicating a build-up of positive pressure and NO outward leakage). <ul style="list-style-type: none"> • If you detect NO leakage, replace the exhalation valve cover (if removed), and proceed to conduct the negative pressure check • If you detect evidence of leakage, reposition the respirator (after removing and inspecting it), and try the positive pressure check again.
<p>Negative pressure check:</p> <ol style="list-style-type: none"> 4. Completely cover the inhalation opening(s) on the cartridges or canister with the palm(s) of your hands WHILE inhaling gently to collapse the facepiece slightly. <ul style="list-style-type: none"> • If you cannot use the palm(s) of your hands to effectively cover the inhalation openings on cartridges or canisters, you may use: <ul style="list-style-type: none"> – Filter seal(s) (if available) OR – Thin rubber gloves. 5. Once the facepiece is collapsed, hold your breath for 10 seconds WHILE keeping the inhalation openings covered. 6. The facepiece should remain slightly collapsed (indicating negative pressure and NO inward leakage). <ul style="list-style-type: none"> • If you detect NO evidence of leakage, the tightness of the facepiece is considered adequate, the procedure is completed, and you may now use the respirator • If you detect leakage, reposition the respirator (after removing and inspecting it) and repeat BOTH the positive and negative fit checks.

[Statutory Authority: RCW 49.17.050 and 29 C.F.R. Subpart Z. 09-19-119, § 296-842-22020, filed 9/22/09, effective 12/1/09. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-072, § 296-842-22020, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-22020, filed 10/1/03, effective 1/1/04.]

**Chapter 296-843 WAC
HAZARDOUS WASTE OPERATIONS**

WAC

296-843-19005 Provide and use appropriate PPE.

WAC 296-843-19005 Provide and use appropriate PPE.

Reference: See WAC 296-843-110, Evaluations and inspections, found in this chapter, for more information about how to identify hazards and complete your preliminary site evaluation.

You must:

(1) Make sure the PPE you provide and use for initial entry protects employees from known or suspected safety and health hazards identified during the preliminary site evaluation as follows:

If	Then
The need for atmosphere supplying respirators and chemical protective clothing has NOT been eliminated	Provide atmosphere supplying respirators and protective clothing
Employees use respiratory protection other than a positive-pressure SCBA for initial entry	Include an escape self-contained breathing apparatus (SCBA) with enough air to reach a safe location and always at least five minutes of air

- Use Table 2, Selecting PPE in Various Exposure Situations, to determine the level of PPE to provide during initial entry:

You must:

(2) Make sure the PPE you select provides employee protection based on:

- Actual and potential hazards identified during the site characterization and analysis (see WAC 296-843-110, Evaluations and inspections).

- Hazards likely to be encountered.
- Required tasks and their duration.
- Site requirements and limitations.

- Use Table 2 to identify the type of PPE that is required for various exposure situations.

**Table 2
Selecting PPE in Various Exposure Situations**

If	Then
Changing site conditions indicate a change in employee exposure	Review and adjust the level of protection as appropriate

If	Then
	<p>Note: You may decrease the level of protection when information indicates this will not increase employee exposure to safety or health hazards</p>
<p>There is a substantial possibility that skin absorption or contact with a hazardous substance may:</p> <ul style="list-style-type: none"> • Impair an employee's ability to escape • Cause immediate serious illness or injury • Is an IDLH or immediate death hazard 	<p>Use totally encapsulating chemical protective (TECP) suits and make sure they will protect employees from the hazards</p> <ul style="list-style-type: none"> • Use, decontaminate, inspect, and remove TECP suits from service according to the manufacturer's recommendations • Perform any TECP integrity tests recommended by the manufacturer and make sure all TECP suits are capable of: <ul style="list-style-type: none"> – Maintaining positive air pressure – Preventing inward test gas leakage of more than 0.5% <p>Note: Follow the manufacturer's recommended procedures for testing a TECP suit's ability to maintain positive air pressure and prevent inward gas leakage. Other established test protocols for these suits, for example, NFPA 1991 and ASTM F1052-97, may also be used</p>
<p>There is a substantial possibility that employee exposure to hazardous substances will either:</p> <ul style="list-style-type: none"> • Immediately cause death, serious illness, or serious injury <p>OR</p> <ul style="list-style-type: none"> • Impair an employee's ability to escape 	<p>Use a positive-pressure SCBA or an airline respirator with an escape SCBA</p> <ul style="list-style-type: none"> • Protect air supply from contamination and the entire respirator system from physical damage

Note: If there is not a permissible exposure limit (PEL) or other published exposure level for a hazardous substance, you may use published studies and information as a guide for selecting appropriate PPE.

(3) PPE required by this standard is to be provided at no cost to the employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-05-071, § 296-843-19005, filed 2/17/09, effective 4/1/09; 04-02-053, § 296-843-19005, filed 1/5/04, effective 5/1/04.]

Chapter 296-848 WAC

ARSENIC

WAC

296-848-40040 Personal protective equipment (PPE).
296-848-40045 Respirators.

WAC 296-848-40040 Personal protective equipment (PPE).**You must:**

• Provide at no cost to employees, make sure employees use, and maintain PPE as follows:

– Provide clean and dry protective clothing to employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas.

– Provide impervious protective clothing to employees exposed to arsenic trichloride.

Note:

- Arsenic trichloride is corrosive and can be rapidly absorbed through skin.
- Examples of protective clothing appropriate for inorganic arsenic exposures include:
 - Coveralls or similar full-body work clothing.
 - Gloves, and shoes or coverlets.
 - Face shields or vented goggles when necessary to prevent eye irritation.

You must:

– Make sure employees do not remove inorganic arsenic from PPE by blowing or shaking.

– Make sure protective clothing is removed:

■ In change rooms;

AND

■ At the end of the work shift.

– Make sure contaminated protective clothing that will be cleaned, laundered, or disposed of, is placed in a closed container located in the change room.

■ Make sure the container prevents the release of inorganic arsenic.

– Launder protective clothing:

■ At least weekly if employees work in areas where exposure monitoring results of inorganic arsenic are below an eight-hour time-weighted average concentration of 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$);

OR

■ Daily if employees work in areas where either exposure monitoring results of inorganic arsenic are above an eight-hour time-weighted average concentration of 100 $\mu\text{g}/\text{m}^3$ or when more frequent washing is needed to prevent skin irritation.

– Maintain the effectiveness of PPE by repairing or replacing it, as needed:

■ Dispose of protective clothing if it will not be repaired.

• Inform individuals who clean or launder protective clothing about the possible health effects associated with inorganic arsenic, including carcinogenic effects, by doing the following:

– Provide the information in writing;

AND

– Label containers of contaminated PPE with the following warning:

CAUTION:

Clothing contaminated with inorganic arsenic
Do not remove dust by blowing or shaking

Dispose of inorganic arsenic contaminated wash water as applicable local, state, or federal regulations require

Reference: To see additional Personal protective equipment requirements go to the Safety and health core rules, chapter 296-800 WAC, and find the section titled, PPE, WAC 296-800-160.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-05-071, § 296-848-40040, filed 2/17/09, effective 4/1/09; 05-01-173, § 296-848-40040, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40045 Respirators.**IMPORTANT:**

• The requirements in this section are in addition to the requirements found in other chapters:

– Airborne contaminants, chapter 296-841 WAC.

– Respirators, chapter 296-842 WAC.

You must:

• Provide each employee with an appropriate respirator that complies with the requirements of this section, and require that employees use them in circumstances where exposure is above the permissible exposure limit (PEL), including any of the following circumstances:

– Employees are in an exposure control area.

– Feasible exposure controls are being put in place.

– Where you determine that exposure controls are not feasible.

– Feasible exposure controls do not reduce exposures to, or below, the PEL.

– Emergencies.

• Provide high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

• Provide a powered air-purifying respirator (PAPR) to employees required to use respirators when:

– The employee chooses to use this type of respirator or a licensed health care professional (LHCP) recommends this type of respirator in their written opinion.

AND

– It will provide proper protection.

• Follow these additional specifications for inorganic arsenic compounds with significant vapor pressure such as arsenic trichloride and arsenic phosphide:

– Select front- or back-mounted gas masks equipped with HEPA filters and acid gas canisters or any full facepiece supplied-air respirator, when concentrations are at or below 500 mg/m^3 .

– Select for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators equipped with HEPA (or equivalent) filters and acid gas cartridges when concentrations are at or below 100.

• Prohibit the use of half-facepiece respirators for protection against arsenic trichloride. This is because arsenic trichloride is corrosive and rapidly absorbed through the skin.

Note: When selecting air-purifying respirators for protection against inorganic arsenic, you'll need to consider whether other contaminants could be present at levels above permissible exposure limits and determine if a combination filter/gas-sorbent cartridge or canister is appropriate.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-848-40045, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-848-40045, filed 2/20/07, effective 4/1/07; 05-01-173, § 296-848-40045, filed 12/21/04, effective 5/1/05.]

Chapter 296-849 WAC
BENZENE

WAC
296-849-13045 Respirators.

WAC 296-849-13045 Respirators.

IMPORTANT:

These requirements are in addition to the requirements found in other chapters:

- Airborne contaminants, chapter 296-841 WAC;
- Respirators, chapter 296-842 WAC.

You must:

• Provide each employee with an appropriate respirator that complies with the requirements of this section, and require that employees use them in circumstances where exposure is above either permissible exposure limit (PEL) for benzene, including any of the following circumstances:

- Employees are in an exposure control area;
- Feasible exposure controls are being put in place;
- Where you determine that exposure controls are not feasible;
- Feasible exposure controls do not reduce exposures to, or below, a PEL;
- Emergencies.

- Provide employees, for escape, either:

- Any full-facepiece organic vapor gas mask;

OR

– Any full-facepiece self-contained breathing apparatus (SCBA);

OR

– A hood-style SCBA that operates in positive-pressure mode.

• Use organic vapor cartridges or canisters on powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

• Use only chin-style canisters on full-facepiece gas masks.

Note: When other contaminants present a hazard, then you will need to use a filter or other combination sorbent cartridge that removes the additional contaminants.

You must:

• Make sure respirator cartridges or canisters are replaced at the beginning of each work shift, or sooner if their service life has expired.

• Make sure canisters on air-purifying respirators have a minimum service life of four hours when tested under these conditions:

- A benzene concentration of 150 ppm;
- A temperature of 25°C;
- A relative humidity of 85%;
- A flow rate of one of the following:

■ 64 liters per minute (lpm) for nonpowered air-purifying respirators;

■ 115 lpm for **tight**-fitting PAPRs;

■ 170 lpm for **loose**-fitting PAPRs.

• Provide an employee a respirator with low breathing resistance, such as a PAPR or an air-line respirator when the:

- Employee cannot use a negative-pressure respirator;

OR

– A licensed health care professional's (LHCP's) written opinion allows this type of respirator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-849-13045, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-849-13045, filed 2/20/07, effective 4/1/07; 05-13-152, § 296-849-13045, filed 6/21/05, effective 8/1/05; 05-01-172, § 296-849-13045, filed 12/21/04, effective 3/1/05.]

Chapter 296-855 WAC
ETHYLENE OXIDE

WAC
296-855-40040 Respirators.

WAC 296-855-40040 Respirators.

IMPORTANT:

The requirements in this section are in addition to the requirements found in another chapter, Respirators, chapter 296-842 WAC.

Medical evaluations meeting all requirements of WAC 296-855-30030, will fulfill the medical evaluation requirement found in another chapter, Respirators, chapter 296-842 WAC.

You must:

• Provide each employee with an appropriate respirator that complies with the requirements of this section, and require that employees use them in circumstances where exposure is above either PEL, such as when:

■ Feasible exposure controls are being put in place.

■ Employees conduct work operations such as maintenance and repair activities or vessel cleaning for which exposure controls are not feasible.

■ Feasible exposure controls do not reduce exposures to or below the PELs.

■ Employees are responding to emergencies.

• Ensure all respirator use is accompanied by eye protection either through the use of full-facepiece respirators, hoods, or chemical goggles.

• Develop, implement, and maintain a respirator program that meets the requirements of another chapter, Respirators, chapter 296-842 WAC, which covers each employee required by this chapter to use a respirator.

– Select and provide to employees appropriate respirators according to this section and WAC 296-842-13005 in the respirator rule.

– Limit selection and use of respirators, including escape respirators, to those with a full-facepiece or another type of respirator providing eye protection. This is necessary to prevent eye irritation or injury from EtO exposure.

– Equip full-facepiece air-purifying respirators, including escape respirators, with a front- or back-mounted canister certified for protection against ethylene oxide.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-15-145, § 296-855-40040, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-855-40040, filed 2/20/07, effective 4/1/07; 05-17-168, § 296-855-40040, filed 8/23/05, effective 1/1/06.]

Chapter 296-856 WAC
FORMALDEHYDE

WAC
296-856-40030 Respirators.

WAC 296-856-40030 Respirators.**IMPORTANT:**

• The requirements in this section are in addition to the requirements found in the following separate chapters:

- Respiratory hazards, chapter 296-841 WAC.
- Respirators, chapter 296-842 WAC.

• Medical evaluations meeting all requirements of Medical and emergency evaluations, WAC 296-856-30020, will fulfill the medical evaluations requirements found in Respirators, chapter 296-842 WAC, a separate chapter.

You must:

• Develop, implement, and maintain a respirator program as required by chapter 296-842 WAC, Respirators, which covers each employee required by this chapter to use a respirator.

– Require that employees use respirators in any of the following circumstances:

- Employees are in an exposure control area.
- Feasible exposure controls are being put in place.
- Where you determine that exposure controls are not feasible.

■ Feasible exposure controls do not reduce exposures to, or below, the PEL.

■ Employees are performing tasks presumed to have exposures above the PEL.

- Emergencies.

• Select, and provide to each employee who uses a respirator required by this chapter, an appropriate respirator as specified in this section and in WAC 296-842-13005 in the respirator rule.

• Equip full-facepiece air-purifying respirators with cartridges or canisters approved for protection against formaldehyde.

• Provide to employees, for escape, one of the following respirator options:

– A self-contained breathing apparatus operated in demand or pressure-demand mode;

OR

– A full-facepiece air-purifying respirator equipped with a chin-style, or front- or back-mounted industrial size canister or cartridge.

• Make sure all air-purifying respirator use is accompanied by eye protection either through the use of full-facepiece models or effective, gas-proof chemical goggles.

• Provide employees with powered air-purifying respirators (PAPRs) when:

– The employee has difficulty using a negative pressure respirator or a LHCP recommends this type of respirator;

AND

– The employee chooses to use this type of respirator.

• Replace the chemical cartridges or canisters on air-purifying respirators;

– When indicated by NIOSH-approved, end-of-service-life indicators if these are used;

OR

– When NIOSH-approved ESLIs aren't used:

■ At times specified by your cartridge change schedule;

OR

■ At the end of the work shift, when this occurs before the time indicated by your cartridge change schedule.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-15-145, § 296-856-40030, filed 7/21/09, effective 9/1/09; 07-05-072, § 296-856-40030, filed 2/20/07, effective 4/1/07; 06-08-087, § 296-856-40030, filed 4/4/06, effective 9/1/06.]