

Chapter 296-310 WAC
FARM LABOR CONTRACTING RULES

WAC

296-310-010	Definitions.
296-310-020	Application for initial and renewed licenses.
296-310-030	Denial of license.
296-310-040	Requirements for a license to transport employees.
296-310-050	Amount of bond or security.
296-310-060	Fees.
296-310-070	Duplicate licenses.
296-310-080	Length of license period.
296-310-090	Change in business structure, name, address, or number of employees.
296-310-100	Cancellation of insurance or bond.
296-310-110	Refund of security deposited with the department.
296-310-120	Revocation or suspension of license.
296-310-130	Submission of complaint.
296-310-140	Investigation of complaint.
296-310-150	Notice of violation.
296-310-160	Appeal of notices.
296-310-170	Hearing on appeal of notice.
296-310-180	Effect of final decision.
296-310-190	Suit by department for unpaid wages or damages.
296-310-200	Procedures for filing suit against a contractor.
296-310-210	Collection of judgments.
296-310-220	Priority for payment of judgments.
296-310-230	Civil penalties.
296-310-240	Adjustment of controversies.
296-310-250	Filing and service.
296-310-260	Liability of person who uses services of unlicensed contractor.
296-310-270	Inspection of records.

WAC 296-310-010 Definitions. For the purposes of this chapter:

(1) "Agricultural employee" means any person who renders personal services to, or under the direction of, an agricultural employer in connection with the employer's agricultural activity.

(2) "Agricultural employer" means any person engaged in agricultural activity, including the growing, producing, or harvesting of farm or nursery products, or engaged in the reforestation or reforestation of lands, which includes but is not limited to the planting, transplanting, tubing, precommercial thinning, and thinning of trees and seedlings, the clearing, piling, and disposal of brush and slash, the harvest of Christmas trees, and other related activities.

(3) "Bonded contractor" means a contractor who obtained a surety bond in order to comply with RCW 19.30.030(5).

(4) "Contractor" means a farm labor contractor.

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

(6) "Director" means the director of the department of labor and industries.

(7) "Employee" means an agricultural employee.

(8) "Farm labor contractor" means any person, or his or her agent or subcontractor, who, for a fee, performs any farm labor contracting activity.

(9) "License" means a farm labor contractor license.

(10) "Secured contractor" means a contractor who assigned a savings account to, or deposited cash or other security with, the department in order to comply with RCW 19.30.030(5).

(11) "Security" means a savings account assigned to, or cash or other security deposited with, the department.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-010, filed 12/11/85.]

(2009 Ed.)

WAC 296-310-020 Application for initial and renewed licenses. (1) To obtain a license, a contractor must:

(a) Complete an application for a license;
(b) Provide the information required by RCW 19.30.030 (1), (6), and (7);

(c) Obtain a surety bond or provide other acceptable security to the department. If the contractor obtains a bond, it must submit the original bond to the department;

(d) Obtain insurance and supply the information required by WAC 296-310-040(2) if the contractor seeks a license to transport workers; and

(e) Pay the fee set by WAC 296-310-060.

(2) The department shall send a renewal notice to the contractor's last recorded address at least forty-five days before the contractor's license expires. The contractor may renew its license if it submits the renewal notice and provides the materials required in subsection (1)(b), (c), (d) if appropriate, and (e) of this section.

(3) The contractor must submit all materials to the department in one package. Each of the materials must name the contractor exactly as it is named on the application for license or the renewal notice. If the contractor is renewing its license, each of the materials must include the contractor's license number. If any of the materials are missing, do not properly name the contractor, or do not include the license number, the department shall refuse to license or renew the license of the contractor.

(4) The bond and the insurance policy must expire no sooner than the expiration date of the license for which the contractor has applied.

(5) Applications for issuance or renewal of a license must be sent to:

Department of Labor and Industries
ESAC Division
General Administration Building
Olympia WA 98504

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-020, filed 12/11/85.]

WAC 296-310-030 Denial of license. (1) The department may refuse to issue or renew a license for the reasons listed in RCW 19.30.050 and 19.30.060. If the department refuses a license for any of these reasons, it shall serve on the contractor a notice of denial of license. The notice of denial of license shall:

(a) Describe concisely the ground for denial of the license; and

(b) Specify the statutory authority for the denial.

The notice of denial shall inform the contractor that it may request a hearing pursuant to WAC 296-310-160 on the denial. The notice shall specify that if no hearing is requested within thirty days of the date of issuance of the notice the director shall issue a final, unappealable order denying the license.

(2) The department also shall refuse to issue a license to or renew the license of a contractor who fails to comply with WAC 296-310-020. The department shall inform the contractor of the problem either in writing or, if appropriate, orally. Because compliance with WAC 296-310-020 involves tech-

[Title 296 WAC—p. 2705]

nical requirements that are entirely within the control of the contractor, no hearing shall be granted on a failure to comply.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-030, filed 12/11/85.]

WAC 296-310-040 Requirements for a license to transport employees. (1) A contractor who intends to transport employees must obtain liability insurance. The department shall require public liability and property damage insurance that provides coverage, for each single occurrence and for each vehicle used to transport employees, in the following minimum amounts:

- (a) \$50,000 for injury or damage to property;
- (b) \$100,000 for injury or damage, including death, to any one person; and
- (c) \$500,000 for injury or damage, including death, to more than one person.

(2) The contractor must also provide to the department evidence of the insurance policy or policies.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-040, filed 12/11/85.]

WAC 296-310-050 Amount of bond or security. (1) A contractor must provide a bond or security in the following minimum amount:

- (a) If the contractor employs or intends to employ:
 - (i) From one to ten employees: \$ 5,000
 - (ii) From eleven to fifty employees: \$10,000
 - (iii) From fifty-one to one hundred employees: \$15,000
 - (iv) Over one hundred employees: \$20,000

(b) If the contractor does not employ agricultural employees, but only recruits, solicits, supplies, transports, or hires employees for another person, and that person takes complete responsibility for payment of wages to the employees, the contractor shall obtain a \$5,000 bond or other security.

(2) If the contractor obtains a two-year license, the bond or security shall be twice the minimum amounts stated in subsection (1) of this section.

(3) The department may order the contractor to obtain a bond or security for an amount greater than the minimums set by subsections (1) and (2) of this section if the security or bond is insufficient to satisfy the contractor's potential liability for the license period. If the department determines that an increased bond is necessary, it shall serve on the contractor a notice to increase bond or security. The notice shall:

- (a) Describe concisely the reasons an increase in the bond or security is necessary;
- (b) Specify the statutory authority for the required increase; and
- (c) Grant the contractor thirty days from the date of issuance of the notice to obtain and provide to the department the increased bond or security.

The notice shall inform the contractor that it may request a hearing pursuant to WAC 296-310-160 on the order to increase the bond or security. The notice shall specify that if no hearing is requested within thirty days of the date of issuance of the notice the director shall issue a final, unappealable order requiring the contractor to submit the increased bond or security. The notice shall also specify that, if the con-

tractor neither appeals nor obtains the increased bond or security within the thirty days, the department shall suspend the contractor's license.

(4) If the director issues a final, unappealed decision raising the amount of the bond or security, the raised amount shall be required for all license periods after the date of issuance of the final decision unless the decision specifically states otherwise. A contractor may, if the circumstances that led to the increased amount change, file with the department a written petition to lower the amount. The petition shall specify the grounds that justify a lowering of the bond or security. The department shall investigate the petition and shall issue a new notice stating its decision on the bond amount. The contractor, if aggrieved, may appeal this new notice as provided in subsection (3) of this section.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-050, filed 12/11/85.]

WAC 296-310-060 Fees. (1) The fee for a one-year license is:

- (a) For a contractor engaged in forestation or reforestation: \$100.00
- (b) For all other contractors: \$ 35.00
- (2) The fee for a two year license is:
 - (a) For a contractor engaged in forestation or reforestation: \$200.00
 - (b) For all other contractors: \$ 70.00

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-060, filed 12/11/85.]

WAC 296-310-070 Duplicate licenses. If a contractor loses its license, or if the license is stolen or destroyed, the contractor may obtain a duplicate license upon application to the department. The application must specify the reason a duplicate is necessary.

The duplicate license shall be stamped prominently with the word "duplicate." A new contractor license number shall be supplied to the contractor.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-070, filed 12/11/85.]

WAC 296-310-080 Length of license period. A contractor who is obtaining its initial license shall be licensed for one year only. A contractor who is renewing its license may choose to obtain either a one-year or two-year license, unless the department informs the contractor that it may obtain only a one-year license.

All one-year licenses shall expire on December 31 of the year of issuance. All two-year licenses shall expire on December 31 of the year following the year of issuance.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-080, filed 12/11/85.]

WAC 296-310-090 Change in business structure, name, address, or number of employees. (1) If a contractor changes its business structure (for example, if it changes from a partnership to a corporation, or if the partners in a partnership change), the contractor must apply for a new license in the manner required by WAC 296-310-020. If a contractor

does not obtain a new license after a change in its business structure, its previous license may be invalid.

(2) If a contractor changes its name or address, it must notify the department within ten days.

(3) If a contractor begins employing agricultural employees, or increases the number of its employees, so that the bond or security is insufficient for that number of employees, the contractor must obtain a new bond or security in the amount required by WAC 296-310-050 and submit it to the department. The department need not issue a notice to increase the amount of bond or security in this situation.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-090, filed 12/11/85.]

WAC 296-310-100 Cancellation of insurance or bond. (1) No surety company may cancel any bond issued to a contractor pursuant to RCW 19.30.040, unless the contractor previously submits another bond or other security, for the same amount, that covers the contractor's liability for the same period as that for the bond that is to be cancelled.

(2) A cancellation of a surety bond or insurance policy is effective thirty days after the department receives the cancellation notice, if the cancellation notice contains the following information:

- (a) The name of the contractor, exactly as it appears on the contractor's license;
- (b) The contractor's license number;
- (c) The contractor's business address;
- (d) The number of the bond or insurance policy that is to be cancelled;
- (e) The effective date of the bond or insurance policy that is to be cancelled; and
- (f) If the cancellation is of a surety bond, a certification that the contractor has previously obtained and submitted to the department a new bond or other security as required by subsection (1) of this section.

(3) To help the department process cancellations, the information in subsection (2) of this section should be provided in the order shown.

(4) The insurance and bonding companies should send cancellation notices to the department by certified or registered mail.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-100, filed 12/11/85.]

WAC 296-310-110 Refund of security deposited with the department. (1) If a contractor is secured, the department shall release its interest in the security three years after the contractor's last license expired. The department shall not release its interest, however, if an unsatisfied judgment or claim is outstanding against the contractor.

(2) The department shall in any case release its interest in the security if the contractor provides a surety bond in the same amount that covers all of the periods in which the contractor was licensed for the previous three years, plus for the contractor's current license period if applicable.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-110, filed 12/11/85.]

(2009 Ed.)

WAC 296-310-120 Revocation or suspension of license. (1) The department may revoke a contractor's license for the reasons listed in RCW 19.30.050(1) and 19.30.060. If the department revokes a license, it shall serve on the contractor a notice of revocation. The notice of revocation shall:

- (a) Describe concisely the ground for the revocation; and
- (b) Specify the statutory authority for the revocation.

The notice of revocation shall inform the contractor that it may request a hearing on the revocation. The notice shall specify that if no hearing is requested within thirty days after the date of issuance of the notice, the director shall issue a final, unappealable order revoking the contractor's license. The hearing may be requested pursuant to WAC 296-310-160.

(2) A contractor is entitled to retain its license only if it remains in compliance with the bonding and insurance requirements of RCW 19.30.030 and 19.30.040. If a contractor's surety bond or other security is impaired or becomes insufficient, the contractor's insurance policy is cancelled, or the contractor transports employees without insurance, the department shall suspend the contractor's license until the contractor obtains a new bond, other security, or insurance policy, eliminates the impairment to the bond or security, or ceases to transport workers. The contractor may not do business while its license is suspended.

The department shall inform the contractor in writing of the suspension and of the steps the contractor must take to remove the suspension. The contractor may not appeal a suspension of licensing.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-120, filed 12/11/85.]

WAC 296-310-130 Submission of complaint. Any person may submit to the department a complaint alleging a violation of chapter 19.30 RCW or challenging an application for a license. The complaint must describe the alleged violation or ground for denying a license, and must identify the alleged violator or applicant. It would aid the department's investigation if the complaint also specifies:

- (1) The name and address of the complainant; and
- (2) The address of the alleged violator or applicant.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-130, filed 12/11/85.]

WAC 296-310-140 Investigation of complaint. The department shall investigate a complaint unless the complaint was submitted more than three years after the date of the alleged violation. The department shall not investigate any complaint filed more than three years after the date of the violation.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-140, filed 12/11/85.]

WAC 296-310-150 Notice of violation. (1) If the department determines that there is reasonable cause to believe that chapter 19.30 RCW has been violated, the department shall serve on the violator a notice of violation. The notice of violation shall:

- (a) Describe concisely the violation;
- (b) Specify which statute was violated;

(c) If known, identify the employees who were affected by the violation;

(d) If known and applicable, state the amount of unpaid wages or damages the violator owes;

(e) State the penalty, if any, the department will assess for the violation; and

(f) State whether the contractor's license is being revoked as a result of the violation.

(2) If the notice alleges that the contractor owes unpaid wages or damages, the department shall serve a copy of the notice of violation on the violator's surety bond company.

(3) The notice of violation shall inform the violator and, if applicable, its surety that they may request a hearing on the violation, the amount of unpaid wages or damages owed, or the penalty assessed. The notice shall specify that if no hearing is requested within thirty days after the date the notice was issued the director shall issue a final, unappealable order finding that the violation did occur, ordering the violator to pay any unpaid wages or damages, and assessing penalties.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-150, filed 12/11/85.]

WAC 296-310-160 Appeal of notices. (1) The contractor or violator, or the violator's surety if the surety has an interest in the matter, may request a hearing on the matter asserted in a notice of denial of license, a notice of revocation, a notice of increased bond amount, or a notice of violation. One original and four copies of the request must be filed with the director within thirty days after the date the department issued the notice. A party requesting a hearing on a notice of violation must also serve a copy of the request on the surety or the violator as appropriate.

(2) The request for hearing must be in writing and must specify:

(a) The name and address of the party requesting the hearing;

(b) The name and date of issuance of the notice that is being appealed;

(c) The matters contained in the notice that the requestor believes are erroneous;

(d) The reasons the notice is erroneous; and

(e) If a surety is appealing a notice of violation, the name and address of the violating contractor.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-160, filed 12/11/85.]

WAC 296-310-170 Hearing on appeal of notice. (1) The director may hear an appeal personally or may delegate the authority to hold the hearing and draft a proposed decision to an administrative law judge pursuant to chapter 34.12 RCW. The plaintiff at the hearing shall be the department and the defendants shall be the contractor or the violator and its surety. The department shall have the burden of proving, by a preponderance of the evidence, that the matters stated in the notice occurred.

(2) Any person who has standing may, upon motion, be allowed to intervene as a plaintiff in a hearing on a notice of violation. Any interested person, whether or not admitted as a plaintiff, may submit written arguments and affidavits in any hearing.

[Title 296 WAC—p. 2708]

(3) The hearing shall be conducted in accordance with the uniform procedure rules, chapter 1-08 WAC.

(4) If the director presides over the hearing, the director shall issue a final decision that includes findings of fact and conclusions of law and, if appropriate for a violation, an order to pay unpaid wages, damages, or a penalty.

(5) If an administrative law judge presides over the hearing, she or he shall issue a proposed decision that includes findings of fact and conclusions of law and, if appropriate for a violation, an order to pay unpaid wages, damages, or a penalty. The proposed decision shall be served on the contractor or the violator and its surety, the department, and any persons who have intervened as plaintiffs. Any of these parties, if aggrieved by the proposed decision, may appeal to the director within thirty days after the date of issuance of the proposed decision. If none of the parties appeals within thirty days, the proposed decision may not be appealed either to the director or the courts. A copy of the proposed decision shall also be mailed to all persons who submitted written arguments or affidavits at the hearing.

(6) An appellant must file with the director an original and four copies of its notice of appeal. The notice of appeal must specify which findings and conclusions are erroneous. The appellant must attach to the notice the written arguments supporting its appeal.

The appellant must serve a copy of the notice of appeal and the arguments on the other parties. The respondent parties must file with the director their written arguments within thirty days after the date the notice of appeal and the arguments were served upon them.

(7) The director shall review the proposed decision in accordance with the Administrative Procedure Act, chapter 34.04 RCW. The director may: Require the parties to specify the portions of the record on which the parties rely; require the parties to submit additional information by affidavit or certificate; remand the matter to the administrative law judge for further proceedings; and require a department employee to prepare a summary of the record for the department to review. The director may allow the parties to present oral arguments as well as the written arguments. The director shall issue a final decision that can affirm, modify, or reverse the proposed decision.

(8) The director shall serve the final decision on all parties. Any aggrieved party may appeal the final decision to superior court pursuant to RCW 34.04.130 unless the final decision affirms an unappealed proposed decision. If no party appeals within the period set by RCW 34.04.130, the director's decision is conclusive and binding on all parties. The director shall also mail a copy of the final decision to all persons who submitted written arguments or affidavits at the hearing.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-170, filed 12/11/85.]

WAC 296-310-180 Effect of final decision. If the director issues a final decision that includes a finding that a violator owes unpaid wages or damages, and the finding is not appealed or is affirmed by the courts, the finding and the decision are res judicata in any action by the department, or by any other person who was a plaintiff at the hearing, against the violator and its surety to recover the unpaid wages or

(2009 Ed.)

damages. The finding and decision are not res judicata in any action by a person who was not a party at the hearing.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-180, filed 12/11/85.]

WAC 296-310-190 Suit by department for unpaid wages or damages. (1) RCW 19.30.160(4) authorizes the department to sue a violator and its surety on behalf of an employee to recover unpaid wages and other damages. The department is not required to bring suit and, in its sole discretion, may decide not to do so in any case. The department also shall not sue on behalf of any employee who has already brought a suit against the violator and its surety in the matter.

(2) The department may file a suit against the violator and its surety at any time and without regard to whether administrative proceedings have been exhausted.

(3) The department may include in any suit a request for an injunction against the violator.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-190, filed 12/11/85.]

WAC 296-310-200 Procedures for filing suit against a contractor. (1) A suit against a contractor and its bond or security for unpaid wages or damages may be brought in any court with jurisdiction. The venue may be in the county in which the claim arose, or in which either the damaged person or the defendant resides.

(2) When a contractor is sued, the plaintiff must serve the summons and complaint on the contractor and its surety by serving three copies of the summons and complaint by certified or registered mail on the department. The department shall not accept personal service of the summons and complaint.

(3) The department may be unable to process a summons and complaint if the summons and complaint do not contain the following information:

- (a) The contractor's name exactly as it appears on the contractor's license;
- (b) The contractor's business address;
- (c) The names of the owners, partners, or officers of the contractor; and
- (d) The contractor's license number.

If the suit names a surety as a defendant, the summons and complaint should also include:

- (e) The name and address of the surety that issued the contractor's bond;
- (f) The bond number; and
- (g) The effective date of the bond.

If the information is insufficient for the department to identify the contractor or surety that is being sued, the department shall not attempt to serve the summons and complaint and shall return them to the plaintiff.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-200, filed 12/11/85.]

WAC 296-310-210 Collection of judgments. (1) If a contractor is secured, a plaintiff who has received a final judgment against a contractor may satisfy the judgment out of the security held by the department.

(2009 Ed.)

(2) The department shall satisfy a final judgment if the plaintiff serves on the department three certified copies of the unsatisfied judgment. The plaintiff must include the following information with the copies of the judgment:

- (a) The name of the contractor, exactly as it appears on the contractor's license;
- (b) The contractor's business address;
- (c) The names of the owners, partners, or officers of the contractor;
- (d) The contractor's license number; and
- (e) The exact amount of the judgment awarded by the court, including attorney's fees and interest.

If the department does not receive sufficient information to enable it to pay the judgment, it shall inform the plaintiff that more information is needed.

(3) If a contractor is bonded, a plaintiff can satisfy a final judgment only against the contractor or the bonding company. The department can neither satisfy the judgment nor, unless the department itself is the plaintiff, force the contractor or the bonding company to pay the judgment. The plaintiff must join the bonding company in the suit if it wants the bonding company to pay the judgment.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-210, filed 12/11/85.]

WAC 296-310-220 Priority for payment of judgments. RCW 19.30.170 contains two different provisions for priority in paying judgments from the contractor's bond or security.

(1) If a contractor is secured, the department shall satisfy final judgments against the contractor in the order the department receives the judgments.

(2) If a contractor is bonded, claims for unpaid wages and benefits are satisfied first, claims for damages are satisfied second, and claims for costs and attorney's fees are satisfied last. No claim in a lesser category may be satisfied until all pending claims in the preceding categories are satisfied, unless the total amount of all pending claims in the preceding categories is less than the amount of the bond that remains unimpaired.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-220, filed 12/11/85.]

WAC 296-310-230 Civil penalties. (1) In determining the amount of any civil penalty to be imposed under RCW 19.30.160 the department shall consider the following factors:

- (a) Previous violations by the violator;
- (b) The history of the violator in taking all necessary measures to prevent or correct violations;
- (c) The magnitude and seriousness of the violation;
- (d) The remedial purpose of chapter 19.30 RCW;
- (e) Any mitigating circumstances; and
- (f) Any other factors the department considers relevant.

(2) It is the violator's responsibility to inform the department of mitigating evidence.

(3) The penalties for acting as a contractor without a license, or for transporting employees without an endorsement to do so, are:

- (a) Up to \$500 for the first violation;
- (b) Up to \$750 for the second violation; and

(c) Up to \$1000 for the third and any further violations.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-230, filed 12/11/85.]

WAC 296-310-240 Adjustment of controversies. (1)

Upon receipt of a complaint or on its own motion, the department shall attempt to adjust equitably a controversy between a contractor and its employees.

(2) No particular form of proceeding is necessary for resolving disputes. The supervisor of employment standards shall, in each case, use his or her best judgment in designing a procedure. However, in every case in which the supervisor determines that a hearing should be held, the supervisor shall notify the affected persons, or their representatives, of the time, date, place, and purpose of the hearing.

(3) A hearing shall be informal and shall not be subject to chapter 34.04 RCW. The supervisor's suggestions for resolution are advisory and not binding, and may not be appealed to any person or court.

(4) The director may delegate the resolution of any particular case to a person other than the supervisor of employment standards. That person shall have the same authority as the supervisor to determine the form of the proceeding.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-240, filed 12/11/85.]

WAC 296-310-250 Filing and service. All papers required to be filed with the director under this chapter or chapter 19.30 RCW shall be addressed to Director, Department of Labor and Industries, General Administration Building, Olympia, WA 98504.

Filing and service may be made as provided in WAC 1-08-090 through 1-08-140.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-250, filed 12/11/85.]

WAC 296-310-260 Liability of person who uses services of unlicensed contractor. (1) A person who knowingly uses the services of an unlicensed contractor is liable for unpaid wages, damages, and civil and criminal penalties to the same extent as the unlicensed contractor.

(2) Pursuant to RCW 19.30.200, a person may prove lack of knowledge by proving that she or he relied on a license issued by the department under chapter 19.30 RCW, or upon the department's representation that the contractor was licensed. The department shall not make oral representations that a contractor is or is not licensed. All representations by the department that a contractor is licensed shall be made in writing and shall be signed by the director or the employment standards supervisor or the assistant director. The department shall not accept reliance on a supposed oral representation as proof in any administrative enforcement proceeding.

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-260, filed 12/11/85.]

WAC 296-310-270 Inspection of records. A contractor or any person using a contractor's services shall allow a representative of the department to inspect at any reasonable time the records it is required to keep by chapter 19.30 RCW.

[Title 296 WAC—p. 2710]

[Statutory Authority: RCW 19.30.130. 86-01-027 (Order 85-34), § 296-310-270, filed 12/11/85.]

Chapter 296-350 WAC

WISHA ADMINISTRATIVE RULES

WAC

VARIANCES FROM WISHA RULES

296-350-70025 Interim orders—Description and requesting.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-350-010 Definitions. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-010, filed 5/17/00, effective 8/1/00. Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-010, filed 7/20/94, effective 9/20/94. 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), § 296-350-010, filed 11/13/80; Order 75-14, § 296-350-010, filed 4/14/75; Order 74-21, § 296-350-010, filed 5/6/74.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.

296-350-020 Reassumption of jurisdiction—Purpose. [Order 75-14, § 296-350-020, filed 4/14/75; Order 74-21, § 296-350-020, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.

296-350-030 Notice of appeal—Filing and service. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-030, filed 7/20/94, effective 9/20/94; 90-09-026 (Order 90-01), § 296-350-030, filed 4/10/90, effective 5/25/90. 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), § 296-350-030, filed 11/13/80; Order 75-14, § 296-350-030, filed 4/14/75; Order 74-21, § 296-350-030, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.

296-350-040 Notice of appeal—Contents. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-040, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-040, filed 4/14/75; Order 74-21, § 296-350-040, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.

296-350-050 Reassumption of jurisdiction—Time—Notice of reassumption of jurisdiction and informal conference. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-050, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-16-008 (Order 86-27), § 296-350-050, filed 7/25/86; Order 76-6, § 296-350-050, filed 3/1/76; Order 75-14, § 296-350-350 (codified as WAC 296-350-050), filed 4/14/75; Order 74-21, § 296-350-050, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.

296-350-060 Notices of reassumption of jurisdiction and informal conferences—Service—Posting record. [Order 75-14, § 296-350-060, filed 4/14/75; Order 74-21, § 296-350-060, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.

296-350-070 Reassumption of jurisdiction—Informal conferences—Procedure—Evidence. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-070, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-070, filed 4/14/75; Order 74-21, § 296-350-070, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.

296-350-080 Reassumption of jurisdiction—Final determination—Mailing. [Statutory Authority: RCW 49.17.040 and 49.17.050. 86-16-008 (Order 86-27), § 296-350-080, filed 7/25/86; 82-13-045 (Order 82-22), § 296-350-080,

	filed 6/11/82; Order 76-6, § 296-350-080, filed 3/1/76; Order 75-14, § 296-350-080, filed 4/14/75; Order 74-21, § 296-350-080, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.		
296-350-090	Reassumption of jurisdiction—Statement of redetermination—Appeal. [Order 75-14, § 296-350-090, filed 4/14/75; Order 74-21, § 296-350-090, filed 5/6/74.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-15035	Gravity and base penalties. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15035, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-095	Settlement agreements. [Statutory Authority: RCW 49.17.040 and 49.17.050. 82-13-045 (Order 82-22), § 296-350-095, filed 6/11/82.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-15040	Adjustments to base penalties. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15040, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-100	Inspections and citations. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-100, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-15045	Increasing penalty amounts. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15045, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-10010	Selecting workplaces to inspect. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-10010, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-200	Variances—Foreword. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-200, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-200, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-10020	Inspections—Site visit. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-10020, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-210	Types of orders granting a variance. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-210, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-210, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-10030	Complaints by employees or employee representatives. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-10030, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-230	Effect of variances. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-230, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-230, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-10040	Results of a WISHA inspection—Notice of violations. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-10040, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-240	Variance applications—Form of documents—Subscription. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-240, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-240, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-10050	Posting a citation and notice. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-10050, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-250	Order granting a temporary variance—Application. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-250, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-250, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-150	Civil penalties. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-150, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-255	Order granting a permanent variance—Application. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-255, filed 7/20/94, effective 9/20/94. 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), § 296-350-255, filed 11/13/80; Order 75-14, § 296-350-255, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-15010	Assessing civil penalties—Purpose. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15010, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-260	Interim order—Application—Notice of grant. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-260, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-260, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-15015	Minimum penalty amounts. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15015, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-270	Notice of denial of application for variance. [Order 75-14, § 296-350-270, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-15020	Severity and probability determine base penalties. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15020, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-280	Hearings on applications for variances—Temporary and permanent. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-280, filed 7/20/94, effective 9/20/94. 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), § 296-350-280, filed 11/13/80; Order 75-14, § 296-350-280, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-15025	Severity. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15025, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.		
296-350-15030	Probability. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-15030, filed 5/17/00, effective 8/1/00.] Repealed by 01-		

296-350-300	Repeat violations. [Statutory Authority: RCW 49.17-040 and 49.17.050, 86-06-002 (Order 86-17), § 296-350-300, filed 2/20/86.] Repealed by 91-24-017 (Order 91-07), filed 11/22/91, effective 12/24/91. Statutory Authority: Chapter 49.17 RCW.	296-350-35060	by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].-040, and [49.17].050.
296-350-350	Extension of abatement date(s)—Application—Authority. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-350, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-350, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].-040, and [49.17].050.	296-350-400	Extension of abatement date(s)—Decision and order. [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), § 296-350-35060, filed 11/13/80; Order 75-14, § 296-350-35060, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.
296-350-35010	Application for extension of abatement date(s). [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-35010, filed 7/20/94, effective 9/20/94. 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), § 296-350-35010, filed 11/13/80; Order 76-29, § 296-350-35010, filed 9/30/76; Order 75-14, § 296-350-35010, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-450	Posting of notices—Posting of citation and notice—Availability of act and applicable standards. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-400, filed 7/20/94, effective 9/20/94; 91-24-017 (Order 91-07), § 296-350-400, filed 11/22/91, effective 12/24/91. Statutory Authority: RCW 49.17.-040 and 49.17.050. 86-03-064 (Order 86-02), § 296-350-400, filed 1/17/86; 82-13-045 (Order 82-22), § 296-350-400, filed 6/11/82; Order 75-14, § 296-350-400, filed 4/14/75. Formerly WAC 296-27-200.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.
296-350-35015	Extension of abatement date(s)—Application—Timeliness. [Order 76-29, § 296-350-35015, filed 9/30/76; Order 75-14, § 296-350-35015, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.	296-350-460	Complaints by employees or their representatives. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-450, filed 7/20/94, effective 9/20/94; Order 75-14, § 296-350-450, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-35020	Extension of abatement date(s)—Application—Service. [Order 75-14, § 296-350-35020, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-470	Complaints—Inspection not warranted—Informal review. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-460, filed 7/20/94, effective 9/20/94. 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), § 296-350-460, filed 11/13/80; Order 75-14, § 296-350-460, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.
296-350-35025	Extension of abatement date(s)—Application—Contents. [Order 75-14, § 296-350-35025, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-500	Citation not issued following complaint. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-470, filed 7/20/94, effective 9/20/94. 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), § 296-350-470, filed 11/13/80; Order 75-14, § 296-350-470, filed 4/14/75.] Repealed by 00-11-098, filed 5/17/00, effective 8/1/00. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-35030	Extension of abatement date(s)—Provisional determination. [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), § 296-350-35030, filed 11/13/80; Order 75-14, § 296-350-35030, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.	296-350-550	Citation and notice—Copy to employee representative. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-500, filed 7/20/94, effective 9/20/94; 87-24-051 (Order 87-24), § 296-350-500, filed 11/30/87. 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), § 296-350-500, filed 11/13/80; Order 75-14, § 296-350-500, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-35035	Extension of abatement date(s)—Notice of application—Notice of opportunity for hearing—Notice of provisional determination. [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), § 296-350-35035, filed 11/13/80; Order 75-14, § 296-350-35035, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-600	WISHA appeals. [Statutory Authority: RCW 49.17.-010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-600, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.
296-350-35040	Extension of abatement date(s)—Posting. [Order 75-14, § 296-350-35040, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.	296-350-60010	Filing an appeal—Who, when and where. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 00-11-098, § 296-350-60010, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-35045	Extension of abatement date(s)—Application for hearing. [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), § 296-350-35045, filed 11/13/80; Order 75-14, § 296-350-35045, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.	296-350-60015	What must be in a WISHA appeal. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-60015, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
296-350-35050	Extension of abatement date(s)—Notice of hearing. [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), § 296-350-35050, filed 11/13/80; Order 75-14, § 296-350-35050, filed 4/14/75.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.	296-350-60020	Why we reassume jurisdiction. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-60020, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01.
296-350-35055	Extension of abatement date(s)—Hearings. [Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-350-35055, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17.040 and 49.17.050. 82-13-045 (Order 82-22), § 296-350-35055, filed 6/11/82. 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), § 296-350-35055, filed 11/13/80; Order 75-14, § 296-350-35055, filed 4/14/75.] Repealed		

- Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-350-60025 Reassuming jurisdiction or forwarding an appeal to the board. [Statutory Authority: RCW 49.17.010, [49.17].-040, and [49.17].050. 00-11-098, § 296-350-60025, filed 5/17/00, effective 8/1/00.] Repealed by 01-17-033, filed 8/8/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-350-60030 Reviewing appeals and extending review time. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-60030, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-350-60035 Informal WISHA conferences. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-60035, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-350-60040 Issuing and appealing corrective notices. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 00-11-098, § 296-350-60040, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-350-60045 Notifying employees. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-60045, filed 5/17/00, effective 8/1/00.] Repealed by 01-11-038, filed 5/9/01, effective 9/1/01. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-350-700 Variance from WISHA rules. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-700, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70010 Purpose of variances. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70010, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70015 Permanent variances—Description. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70015, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.-040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70020 Temporary variances—Description. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70020, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.-040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70030 Requesting a permanent variance. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70030, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70035 Requesting a temporary variance. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70035, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70040 Renewing temporary variances. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70040, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70045 Submitting variance requests. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70045, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70050 Notifying employees about variance requests. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 00-11-098, § 296-350-70050, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70055 Department review and decision. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70055, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70060 Your responsibilities once we make a decision. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70060, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70065 Changing a variance. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70065, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-70070 Variance hearings. [Statutory Authority: RCW 49.17.-010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70070, filed 5/17/00, effective 8/1/00.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.
- 296-350-990 Appendix A—Form F418-023-000—Application for copies of citations and notices. [Statutory Authority: Chapter 49.17 RCW. 87-24-051 (Order 87-24), § 296-350-990, filed 11/30/87. 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), § 296-350-990, filed 11/13/80; Order 75-14, Appendix A—Form 300 (codified as WAC 296-350-990), filed 4/14/75.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 WAC.

VARIANCES FROM WISHA RULES

WAC 296-350-70025 Interim orders—Description and requesting. (1) You may request an interim order when requesting a permanent or temporary variance, or anytime after. Interim orders allow you to vary from existing WISHA requirements until we make a final decision on your variance request.

(2) We may choose to issue an interim order in response to a variance request, even when the interim order was not specifically requested.

(3) Our decision to grant or deny an interim order will not restrict our decision on a permanent or temporary variance request.

(4) Interim orders will be effective until revoked or until we approve or deny your variance request.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 00-11-098, § 296-350-70025, filed 5/17/00, effective 8/1/00.]

Chapter 296-360 WAC

DISCRIMINATION, PURSUANT TO RCW 49.17.160

WAC

296-360-005	Definitions.
296-360-010	Introduction.
296-360-020	General requirements of RCW 49.17.160 of WISHA.
296-360-030	Filing a complaint of discrimination.
296-360-040	Notification of assistant director's determination.
296-360-050	Withdrawal of complaint.
296-360-060	Arbitration or other agency proceedings.
296-360-070	Persons prohibited from discriminating.
296-360-080	Persons protected by RCW 49.17.160.
296-360-090	Unprotected activities distinguished.
296-360-100	Discrimination because of a complaint under or related to WISHA.
296-360-110	Discrimination because of a proceeding under or related to the act.
296-360-120	Discrimination because of testimony.
296-360-130	Discrimination because of exercise of any right afforded by WISHA—In general.
296-360-140	Discrimination because of exercise of right afforded by WISHA—Walkaround pay.
296-360-150	Discrimination because of exercise of right afforded by WISHA—Refusal to work in an unsafe condition.
296-360-160	Payment of damages to employee discriminated against.
296-360-170	Employee's refusal to comply with safety rules.

WAC 296-360-005 Definitions. For the purposes of this chapter.

(1) "Assistant director" - the assistant director for the division of consultation and compliance.

(2) "Division" - the division of consultation and compliance of the department of labor and industries.

[Statutory Authority: Chapter 49.17 RCW, 94-15-096 (Order 94-07), § 296-360-005, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17-040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW, 80-17-015 (Order 80-21), § 296-360-005, filed 11/13/80.]

WAC 296-360-010 Introduction. (1) Chapter 49.17 RCW, the Washington Industrial Safety and Health Act (WISHA), is designed to regulate employment conditions affecting industrial safety and health and to achieve safer and healthier work places throughout the state. WISHA requires every person who has employees to furnish each of his or her employees employment and a place of employment free from recognized hazards that are causing or likely to cause death or serious physical harm, and to comply with industrial safety and health standards promulgated under WISHA.

(2) Employees and representatives of employees are afforded a wide range of substantive and procedural rights under WISHA. Effective implementation of WISHA and achievement of its goals depend in large part upon the active but orderly participation of employees, individually and through their representatives.

(3) This chapter deals essentially with the rights of employees afforded under RCW 49.17.160. RCW 49.17.160 prohibits reprisals, in any form, against employees who exercise rights under WISHA. The purpose of this chapter is to make available in one place interpretations of the various provisions of section 16 of WISHA that will guide the assistant director in the performance of his or her duties thereunder.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW, 80-17-015 (Order 80-21), § 296-360-010, filed 11/13/80.]

WAC 296-360-020 General requirements of RCW 49.17.160 of WISHA. RCW 49.17.160 provides that no per-

son shall discharge or in any manner discriminate against any employee because the employee has filed any complaint under or related to WISHA, instituted or caused to be instituted any proceeding under or related to WISHA, testified or is about to testify in any proceeding under or related to WISHA, or exercised on his or her own behalf or on behalf of others any right afforded by WISHA. Any employee who believes that he/she has been discriminated against in violation of section 16 of WISHA may, within thirty days after the violation occurs, file a complaint with the assistant director alleging the violation. The division shall investigate the complaint and, if the assistant director determines that section 16 of WISHA has been violated, the division may bring a civil action against the violator in superior court. The suit may ask the court to restrain violations of RCW 49.17.160 and to grant other appropriate relief, including rehiring or reinstating the employee to his or her former position with back pay.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW, 80-17-015 (Order 80-21), § 296-360-020, filed 11/13/80.]

WAC 296-360-030 Filing a complaint of discrimination.

(1) Who may file. A complaint of RCW 49.17.160 discrimination may be filed by the employee him- or herself, or by a representative authorized to do so on his or her behalf.

(2) Nature of filing. No particular form of complaint is required.

(3) Place of filing. The complaint should be filed with the division.

(4) Time for filing. RCW 49.17.160(3) provides that an employee who believes that he or she has been discriminated against in violation of RCW 49.17.160 "may, within thirty days after such violation occurs" file a complaint with the assistant director. A major purpose of the thirty-day period is to allow the assistant director to decline to entertain complaints that have become stale. Accordingly, the division will presume that complaints not filed within thirty days of an alleged violation are untimely. There may be circumstances, however, that justify tolling the thirty-day period on recognized equitable principles or because strongly extenuating circumstances exist, e.g., where the employer has concealed, or misled the employee regarding the grounds for, discharge or other adverse action. In the absence of circumstances justifying a tolling of the thirty-day period, the division shall not accept untimely complaints.

[Statutory Authority: RCW 49.17.040 and 49.17.050, 82-13-045 (Order 82-22), § 296-360-030, filed 6/11/82. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW, 80-17-015 (Order 80-21), § 296-360-030, filed 11/13/80.]

WAC 296-360-040 Notification of assistant director's determination.

(1) RCW 49.17.160(3) provides that the assistant director is to notify a complainant within ninety days of the complaint of his determination whether prohibited discrimination has occurred. This ninety-day provision is directory, not mandatory. Although every effort will be made to notify complainants of the assistant director's determination within ninety days, there may be instances when it is not possible to do so.

(2) If a complainant receives a determination from the assistant director that prohibited discrimination has not occurred, the complainant may file a written request for

review by the director within fifteen working days of receipt of the determination. The request for review must set forth the basis for the request. The request shall be filed by mailing or delivering the request to the Director of Labor and Industries, P.O. Box 44000, Olympia, Washington 98504-4000. Upon review the director may set aside the assistant director's determination, remand the matter for further investigation, or affirm the determination of the assistant director. The director shall notify the complainant of the decision after review.

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-360-040, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17-040 and 49.17.050. 85-10-004 (Order 85-09), § 296-360-040, filed 4/19/85. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-040, filed 11/13/80.]

WAC 296-360-050 Withdrawal of complaint. Enforcing the provisions of RCW 49.17.160 is not only a matter of protecting rights of individual employees, but also of protecting the public interest. Attempts by an employee to withdraw a filed complaint will not necessarily result in termination of the division's investigation. The division's jurisdiction cannot be foreclosed as a matter of law by unilateral action of the employee. However, a voluntary and uncoerced request from a complainant to withdraw his/her complaint shall generally be accepted.

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-360-050, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17-040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-050, filed 11/13/80.]

WAC 296-360-060 Arbitration or other agency proceedings. (1) General.

(a) An employee who files a complaint under RCW 49.17.160 may pursue remedies under grievance arbitration proceedings in collective bargaining agreements, and may also resort to other agencies, such as the National Labor Relations Board, for relief. The division's jurisdiction to entertain RCW 49.17.160 complaints, to investigate, and to determine whether discrimination has occurred, is independent of the jurisdiction of other agencies or bodies. The division may file an action in superior court regardless of the pendency of other proceedings.

(b) Where it is possible, however, the division favors voluntary resolution of disputes under procedures in collective bargaining agreements. Also, the division should defer to the jurisdiction of other forums established to resolve disputes that may also be related to RCW 49.17.160 complaints. Thus, where a complainant is pursuing remedies other than those provided by RCW 49.17.160 it may be proper to postpone the assistant director's determination whether discrimination has occurred, and defer to the results of such proceedings.

(2) Postponement of determination. Postponement of determination is justified where the rights asserted in other proceedings are substantially the same as rights under RCW 49.17.160 and those proceedings are not likely to violate the rights guaranteed by RCW 49.17.160. The factual issues in the such proceedings must be substantially the same as those raised by the RCW 49.17.160 complaint, and the forum hearing the matter must have the power to determine the ultimate issue of discrimination.

(2009 Ed.)

(3) Deferral to outcome of other proceedings. Determinations to defer to the outcome of another proceeding begun by a complainant must be made after careful scrutiny. It must be clear that the proceeding dealt adequately with all factual issues, that it was fair, regular, and free of procedural infirmities, and that its outcome did not violate the purpose and policy of WISHA. If another action begun by a complainant is dismissed without an adjudicatory hearing on the merits, the division will not necessarily regard the dismissal as determinative of the merits of the RCW 49.17.160 complaint.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-060, filed 11/13/80.]

WAC 296-360-070 Persons prohibited from discriminating. RCW 49.17.160 specifically states that "no person shall discharge or in any manner discriminate against any employee" because the employee has exercised rights under WISHA. RCW 49.17.020(5), defines "person" as "one or more individuals, partnerships, associations, corporations, business trusts, legal representatives, or any organized group of persons." Consequently, the prohibitions of RCW 49.17-160 are not limited to actions taken by employers against their own employees. A person may be charged with discriminating against an employee of another person. RCW 49.17-160 extends to such entities as organizations representing employees in collective bargaining, employment agencies, or any other person in a position to discriminate against an employee. See *Meek v. United States*, 136 F.2d 679 (6th Cir., 1943); *Bowe v. Judson C. Burns*, 137 F.2d 37 (3rd Cir., 1943).

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-070, filed 11/13/80.]

WAC 296-360-080 Persons protected by RCW 49.17.160. (1) All employees are afforded the full protection of RCW 49.17.160. WISHA defines an employee as "an employee of an employer who is employed in a business of his/her employer which affects commerce." RCW 49.17.020 (4). WISHA does not define "employ"; however, the broad remedial nature of WISHA demonstrates a clear intent that the existence of an employment relationship, for purposes of RCW 49.17.160, is to be based upon economic realities rather than upon common law doctrines and concepts. See *U.S. v. Silk*, 331 U.S. 704 (1947); *Rutherford Food Corporation v. McComb*, 331 U.S. 722 (1947).

(2) For purposes of RCW 49.17.160, an applicant for employment could be considered an employee. See *NLRB v. Lamar Creamery*, 246 F.2d 8 (5th Cir., 1957).

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-360-080, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17-040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-080, filed 11/13/80.]

WAC 296-360-090 Unprotected activities distinguished. (1) An employer or others may base actions that adversely affect an employee upon nondiscriminatory grounds. An employee's engagement in activities protected by WISHA does not automatically render him/her immune from discharge or discipline for legitimate reasons, or from adverse action dictated by nonprohibited considerations. See

[Title 296 WAC—p. 2715]

NLRB v. Dixie Motor Coach Corp. 128 F.2d 201 (5th Cir., 1942).

(2) To establish a violation of RCW 49.17.160, the employee's engagement in protected activity need not be the sole consideration behind discharge or other adverse action. If protected activity was a substantial reason for the action, or if the discharge or other adverse action would not have taken place "but for" the employee's engagement in protected activity, RCW 49.17.160 has been violated.

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-360-090, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17-040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-090, filed 11/13/80.]

WAC 296-360-100 Discrimination because of a complaint under or related to WISHA. RCW 49.17.160 prohibits discharge of, or discrimination against, an employee because the employee has filed any complaint under or related to this act.

(1) An example of a complaint made "under" WISHA would be an employee request for inspection pursuant to section 11 (RCW 49.17.110). This is not the only type of complaint protected by RCW 49.17.160, however. The range of complaints "related to" WISHA is commensurate with the broad remedial purposes of this legislation and the sweeping scope of its application.

(2) Complaints registered with other state or federal agencies that have the authority to regulate or investigate industrial safety and health conditions are complaints "related to" WISHA.

(3) The protection offered employees by WISHA would be seriously undermined if employees were discouraged from lodging complaints about industrial safety and health matters with their employers. Complaints to employers, if made in good faith, are related to WISHA, and an employee is protected against discharge or discrimination caused by a complaint to the employer.

(4) To come within the protection of RCW 49.17.160, a complaint must relate to conditions at the work place, as distinguished from complaints touching only upon general public safety and health.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-100, filed 11/13/80.]

WAC 296-360-110 Discrimination because of a proceeding under or related to the act. (1) RCW 49.17.160 prohibits discharge of, or discrimination against, any employee because the employee has "instituted or caused to be instituted any proceeding under or related to WISHA." Proceedings that can arise specifically under WISHA include inspections of worksites under RCW 49.17.070, employee contest of an abatement date under RCW 49.17.140, employee initiation of proceedings for promulgation of an industrial safety and health standard, employee application for modification or revocation of a variance under RCW 49.17.080, employee judicial challenge of a standard, and employee appeal of board of industrial insurance appeals order under RCW 49.17.140. In determining whether a "proceeding" is "related to" WISHA, the considerations discussed in WAC 296-360-100 are also applicable.

[Title 296 WAC—p. 2716]

(2) An employee need not directly institute a proceeding. It is sufficient if he or she sets into motion acts of others that result in proceedings under or related to WISHA.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-110, filed 11/13/80.]

WAC 296-360-120 Discrimination because of testimony. RCW 49.17.160 prohibits discharge of, or discrimination against, any employee because the employee "has testified or is about to testify" in proceedings under or related to WISHA. This protection is not limited to testimony in proceedings instituted or caused to be instituted by the employee, but extends to any statements given in the course of judicial, quasijudicial, and administrative proceedings, including inspections, investigations, administrative adjudications, and rules hearings.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-120, filed 11/13/80.]

WAC 296-360-130 Discrimination because of exercise of any right afforded by WISHA—In general. In addition to protecting employees who file complaints, institute proceedings, or testify in proceedings under or related to WISHA, RCW 49.17.160 also protects employees from discrimination occurring because of the exercise "of any right afforded by this chapter." Certain rights are explicitly stated in WISHA. Other rights exist by necessary implication. For example, employees may request information from the occupational safety and health administration or the department of labor and industries. Also, employees interviewed by agents of the division in the course of inspections or investigations cannot subsequently be discriminated against because of their cooperation.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-130, filed 11/13/80.]

WAC 296-360-140 Discrimination because of exercise of right afforded by WISHA—Walkaround pay. Employee participation in walkaround inspections under RCW 49.17.100 is essential. Employees are a vital source of information to the division about work place hazards. Employees must be able freely to exercise their statutory right to participate in walkarounds without fear of economic loss, such as the denial of pay for the time spent helping WISHA inspectors during the walkaround. To ensure the unimpeded flow of information to the inspectors, and the unfettered statutory right of employees to participate in walkaround inspections, an employer's failure to pay employees for time they spend in walkaround inspections is discrimination under RCW 49.17.160. In addition, an employer's failure to pay employees for time spent in other inspection-related activities, such as answering questions of inspectors or participating in the opening and closing conferences, is discrimination under RCW 49.17.160.

[Statutory Authority: Chapter 49.17 RCW. 94-15-096 (Order 94-07), § 296-360-140, filed 7/20/94, effective 9/20/94. Statutory Authority: RCW 49.17-040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-140, filed 11/13/80.]

(2009 Ed.)

WAC 296-360-150 Discrimination because of exercise of right afforded by WISHA—Refusal to work in an unsafe condition. (1) Review of WISHA and examination of the legislative history discloses that, as a general matter, WISHA grants no specific right to employees to walk off the job because of potential unsafe conditions at the work place. A hazardous condition that may violate WISHA will ordinarily be corrected by the employer, once brought to its attention. If the employer does not correct a hazard, or if there is a dispute about the existence of a hazard, the employee normally can ask the division to inspect the work place pursuant to RCW 49.17.110, or can seek help from other public agencies that have responsibility for safety and health. Under such circumstances, an employer would not violate RCW 49.17-160 by disciplining an employee who refuses to work because of an alleged safety or health hazard.

(2) Occasions arise, however, when an employee is confronted with a choice between not performing assigned tasks or subjecting him- or herself to serious injury or death arising from a hazard at the work place. If the employee, with no reasonable alternative, refuses in good faith to expose him- or herself to the dangerous condition, he or she is protected against subsequent discrimination.

(3) An employee's refusal to work is protected if he or she meets the following requirements:

(a) The refusal to work must be in good faith, and must not be a disguised attempt to harass the employer or disrupt the employer's business;

(b) The hazard causing the employee's apprehension of death or injury must be such that a reasonable person, under the circumstances then confronting the employee, would conclude that there is a real danger of death or serious injury; and

(c) There must be insufficient time, due to the urgency of the situation, to eliminate the danger through resort to regular statutory enforcement channels.

(4) As indicated in subsection (3), an employee's refusal to work is not protected unless it is a good faith response to a hazardous condition. To determine whether an employee has acted in good faith, the division will consider, among other factors, whether the employee:

(a) Asked the employer to correct the hazard;

(b) Asked for other work;

(c) Remained on the job until ordered to leave by the employer; or

(d) Informed the employer that, if the hazard was not corrected, the employee would refuse to work.

The lack of one or more of these factors shall not necessarily preclude a finding of good faith if other factors do establish good faith. The division will also consider whether the employer knew that the hazard could cause serious injury or death, or that the hazard was prescribed by a specific safety standard promulgated under WISHA or any other law that relates to the safety and health of a place of employment.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-150, filed 11/13/80.]

WAC 296-360-160 Payment of damages to employee discriminated against. (1) If an employer discriminates against an employee such that the employee earns less than he or she would have earned absent the discrimination, the employer shall pay the employee the difference between the

wages that the employee would have earned absent the discrimination and the wages the employee actually earned after the discrimination.

(2) If an employer discriminates against an employee for a refusal to work that is protected under WAC 296-360-150, the employer need not pay the employee's wages for the time spent fixing the hazard, or that would have been spent fixing the hazard, if the employer (a) had to or would have had to shut down the job to make the repair and (b) had not other work the employee could have done.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-160, filed 11/13/80.]

WAC 296-360-170 Employee's refusal to comply with safety rules. An employee who refuses to comply with industrial safety and health standards or valid safety rules implemented by the employer in furtherance of WISHA is not exercising a right afforded by WISHA. Discipline taken by employers solely in response to an employee's refusal to comply with appropriate safety rules and regulations is not discrimination prohibited by RCW 49.17.160. This situation should be distinguished from refusals to work discussed in WAC 296-360-150.

[Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. 80-17-015 (Order 80-21), § 296-360-170, filed 11/13/80.]

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-021	How do I obtain a medical gas piping installer endorsement?
296-400A-022	What procedure is required for renewal of a journeyman medical gas endorsement?
296-400A-023	What process is required for renewal of journeyman, domestic pump specialty, and residential specialty plumber certificates of competency?
296-400A-025	Who approves medical gas piping installer endorsement training courses?
296-400A-026	What training course approval procedures for medical gas will the department follow?
296-400A-027	Where can I obtain information regarding department approved training course providers?
296-400A-028	What are the requirements for continuing education and classroom training?
296-400A-029	What is the implementation schedule for the continuing education course requirements?
296-400A-030	Do I need a temporary permit?
296-400A-031	How do I qualify for a temporary permit?
296-400A-032	How do I obtain a temporary permit?
296-400A-033	What is the duration of a temporary permit?
296-400A-035	How can I be placed on inactive status?
296-400A-036	How can I maintain my plumbing certificate as an honorary accomplishment?
296-400A-045	What fees will I have to pay?
296-400A-050	When does the advisory board of plumbers meet?
296-400A-070	Can I work as a certified plumber in Washington without taking the Washington state plumbers' competency examination?
296-400A-100	For certification purposes, how are "years of employment" computed and documented?
296-400A-110	Does previous work experience count toward my trainee certificate?
296-400A-120	What do I need to know about plumber trainee certificates (excluding backflow assembly maintenance and repair specialty certification)?

296-400A-121	What do I need to know about trainee experience and plumber examination requirements for the journeyman and specialty plumber (excluding the backflow assembly maintenance and repair specialty)?
296-400A-122	What do I need to know about trainee experience 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-135	How does the department enforce trainee supervision?
296-400A-140	How does the department enforce plumbers certification requirements?
296-400A-150	May the department audit the records of a contractor?
296-400A-155	Audit of trainee hours.
296-400A-300	What procedures does the department follow when issuing a notice of infraction?
296-400A-400	What are the monetary penalties for violating certification requirements?
296-400A-425	What if I owe outstanding penalties related to a department issued plumber infraction?
296-400A-430	If I am a certified backflow assembly maintenance and repair, journeyman, or specialty plumber do I need to be a registered contractor under chapter 18.27 RCW?

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 journeyman, domestic pump specialty plumber, 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 journeyman, 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 within a building. 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; or

(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, 18.106.140. 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 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 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, PT03, PT03A, 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, 18.106.140, 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) Passing the competency examination;

(e) Providing documentation to the department with continuing education requirements;

(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; and

(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.

(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(2); and

(c) Passing the competency examination.

[Statutory Authority: RCW 18.106.040, 18.106.140, 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-021 How do I obtain a medical gas piping installer endorsement? (Only journeyman plumbers holding active state of Washington certification may apply for this endorsement.)

You can obtain a medical gas piping installer endorsement by completing the following requirements:

(1) Submit an application to the department; and

(2) Pay the examination application fee shown in WAC 296-400A-045; and

(3) Submit the required evidence of approved training to the department; and

[Title 296 WAC—p. 2720]

(4) Pass the written and practical competency examination;* and

(5) Pay the endorsement issuance fee shown in WAC 296-400A-045 to the department.

*The written and practical competency examination is performed under contract with a nationally recognized testing agency. The results of the competency examination will be forwarded to the department for processing.

[Statutory Authority: RCW 19.103.040, 18.106.140, and chapter 18.106 RCW, 05-11-061, § 296-400A-021, 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-021, filed 5/28/04, effective 6/30/04. Statutory Authority: Chapter 18.106 RCW, 98-13-126, § 296-400A-021, filed 6/17/98, effective 7/20/98.]

WAC 296-400A-022 What procedure is required for renewal of a journeyman medical gas endorsement? (1) Maintain an active Washington state journeyman certification;

(2) Submit affidavit of continuity;

(3) Submit affidavit of review of current medical gas code adopted by the Washington state building code council;

(4) Pay the appropriate fee: If renewal occurs before expiration of current endorsement, the renewal fee shown in WAC 296-400A-045; if renewal occurs within ninety days of expiration of current endorsement, you must pay a double renewal fee; if the current endorsement has been expired for ninety-one days or more, you must take an examination relating to medical gas installation administered by the department and pay the examination application fee shown in WAC 296-400A-045; and

(5) Contractors shall accurately verify and attest to brazing performed by the journeyman by sending an affidavit to the department.

[Statutory Authority: RCW 19.103.040, 18.106.140, and chapter 18.106 RCW, 05-11-061, § 296-400A-022, filed 5/17/05, effective 6/30/05.]

WAC 296-400A-023 What process is required for renewal of journeyman, domestic pump specialty, and residential specialty plumber certificates of competency?

(1) An individual must apply for renewal of their plumbing certificate before the expiration date of the certificate. The individual may not apply for renewal more than ninety days prior to the expiration date. Journeyman and residential specialty plumber certificates are renewed every two years. Domestic pump specialty plumber certificates are renewed every three years.

(2) An individual may renew their certificate within ninety days after the expiration date without reexamination if the individual pays the late renewal fee listed in WAC 296-400A-045.

(3) All applications for renewal received more than ninety days after the expiration date of the plumbing certificate require that the plumber pass the appropriate competency examination before being recertified.

(4) All applicants for plumbing 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 296-400A-028.

If an individual files inaccurate or false evidence of continuing education information when renewing a plumbing certificate, the individual's plumbing certificate may be suspended or revoked.

(5) A journeyman, domestic pump specialty, or residential specialty plumber certificate holder who has not completed the required hours of continuing education prior to the renewal date must pay a doubled fee according to RCW 18.106.070. Also, if the required hours of continuing education are not completed within ninety days after the expiration date the applicant will be required to retake the examination and pay the appropriate fees prior to being placed in active status.

(6) An individual may renew a suspended plumbing 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.

(7) An individual may not renew a revoked plumbing certificate.

[Statutory Authority: RCW 18.106.040, 18.106.140, 06-24-040, § 296-400A-023, 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-023, filed 5/28/04, effective 6/30/04.]

WAC 296-400A-025 Who approves medical gas piping installer endorsement training courses? RCW 18.106-050 authorizes the department to:

(1) Approve training courses for the medical gas piping installer endorsement; and

(2) Set training course fees.

[Statutory Authority: Chapter 18.106 RCW, 98-13-126, § 296-400A-025, filed 6/17/98, effective 7/20/98.]

WAC 296-400A-026 What training course approval procedures for medical gas will the department follow?

(1) The department will review and approve courses submitted by training course providers that offer medical gas piping systems training. Course approvals will be decided in consultation with the state advisory board of plumbers.

(2) All providers seeking course approval, must submit the required information (see subsection (5) of this section) to the department at least thirty days before a regularly scheduled advisory board meeting. **No course can be offered as meeting the requirements of a medical gas endorsement until it has been approved.**

(3) All material required for approval will be reviewed without testimony and the review will be based solely upon the information submitted. Once reviewed, the department has five working days to give a provider written notification of acceptance or rejection. In the case of rejection, the department must specify its reasons.

(4) If a provider has a course rejected, it may request a hearing before the advisory board at the next regularly scheduled meeting. Any information supporting the provider's position, which was not included with the original approval request, must be submitted to the board at least twenty days before the meeting at which the hearing will be held.

At the hearing, the department and the provider may produce witnesses and give testimony. The hearing must be conducted according to chapter 34.05 RCW. The board must

(2009 Ed.)

base its decision upon the testimony and evidence presented and must notify the parties immediately upon reaching its decision. A majority of the board is necessary to render a decision.

(5) Specific course approval criteria:

(a) All training courses must conform to and be based upon current standards and requirements governing the installation of medical gas piping systems.

(b) All course approval requests must include:

(i) A general description of the course including its scope, the instructional materials to be used and the instructional methods to be followed; and

(ii) A copy of the complete medical gas piping installer training curriculum; and

(iii) A detailed course outline; and

(iv) The name and qualifications of the course instructor(s); and

(v) The locations where the course will be taught; and

(vi) The days and hours the course will be offered; and

(vii) The specific fees associated with the course, as well as, the total cost of the course.

(c) All fees for approved training courses must be reasonable and in line with fees charged for other comparable code based training courses.

(6) Training courses are approved for a three-year period.

(7) A provider, whose courses are approved, must give the department literature describing the courses so the department can share this information to prospective applicants.

(8) It is the responsibility of the provider to annually review and update its courses and to notify the department of any changes.

(9) The department may withdraw its approval of any training course if it determines the provider is no longer in compliance with the requirements of this chapter. If the department withdraws its approval of a training course, it must give the provider written notification of the withdrawal specifying the reasons for its decision. If the department withdraws its approval of a training course the provider may request a hearing before the advisory board at the next regularly scheduled meeting. Any information supporting the provider's position must be submitted to the board at least twenty days before the meeting at which the hearing will be held. At the hearing the department and the provider may produce witnesses and give testimony. The hearing must be conducted according to chapter 34.05 RCW. The board must base its decision upon the testimony and evidence presented and must notify the parties immediately upon reaching its decision. A majority of the board is necessary to render a decision.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399, 04-12-046, § 296-400A-026, filed 5/28/04, effective 6/30/04. Statutory Authority: Chapter 18.106 RCW, 98-13-126, § 296-400A-026, filed 6/17/98, effective 7/20/98.]

WAC 296-400A-027 Where can I obtain information regarding department approved training course providers? The department will produce a list of all approved training course providers and/or course contact persons. This list will be available to all applicants who request it. It will also be available at all department service locations.

[Title 296 WAC—p. 2721]

[Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-027, filed 6/17/98, effective 7/20/98.]

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 at least four hours of approved continuing education in plumbing for each year prior to the certification period and at least four hours of approved continuing education in electrical for each year prior to the certification.

(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. Trainee 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.

Domestic pump specialty plumber trainee must have eight hours of plumbing continuing education and eight hours of electrical continuing education, which totals sixteen hours of continuing education for a two-year renewal.

(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.

Note: Subsections (1), (2) and (3) of this section take effect July 1, 2005.

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 depart-

ment. 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 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 National Electrical Code.

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 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.

tion. 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, 18.106.140, 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-029 What is the implementation schedule for the continuing education course requirements?

- Individuals that renew between July 1, 2005, and June 30, 2006, are required to complete eight hours of continuing education courses.
- Effective July 1, 2006, all renewals will require sixteen hours of continuing education.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399, 04-12-046, § 296-400A-029, filed 5/28/04, effective 6/30/04.]

WAC 296-400A-030 Do I need a temporary permit?

You need a temporary permit if you are an active out-of-state journeyman plumber, domestic pump specialty plumber, or a residential specialty plumber residing in a state that does not have a reciprocal agreement with Washington and you would like to work as a plumber in Washington. Temporary permits are not issued for installers of medical gas piping systems.

Temporary permits are not issued for the backflow assembly maintenance and repair specialty. Therefore, WAC 296-400A-030 through 296-400A-033 do not apply to this specialty.

[Statutory Authority: RCW 18.106.040, 18.106.140, 06-24-040, § 296-400A-030, 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-030, 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-030, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW, 98-13-126, § 296-400A-030, 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-030, filed 5/20/97, effective 6/30/97.]

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 an apprentice plumber.

[Statutory Authority: RCW 18.106.040, 18.106.140. 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-032 How do I obtain a temporary permit? If you qualify, you can obtain a temporary permit by applying to the department and paying both the examination application fee and the temporary permit fee shown in WAC 296-400A-045.

[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-032, 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 ninety days and is nonrenewable.

[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-035 How can I be placed on inactive status? To be placed on inactive status, you must meet these three requirements:

- (1) You must currently be a certified plumber;
- (2) Have your inactive status request submitted and approved by the department prior to the expiration date of your plumbing certificate; and
- (3) Not be working in the plumbing trade.

<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	\$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

Inactive status means that you are not currently working in the plumbing trade and you are not required to pay the annual certificate renewal fee. If you have been in inactive status for less than five years, you may return to active status, without reexamination, by paying the reinstatement fee shown in WAC 296-400A-045. If you have been in inactive status for five or more years, you are required to reapply and pass the competency examination pursuant to WAC 296-400A-020 and pay the appropriate fees shown in WAC 296-400A-045.

- (4) Required to meet a minimum of sixteen hours continuing education with four of the hours being in electrical training before being reinstated.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399. 04-12-046, § 296-400A-035, 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-035, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-035, 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-035, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-036 How can I maintain my plumbing certificate as an honorary accomplishment? (1) To maintain your plumbing certificate as an honorary accomplishment, you must meet the following four requirements:

- (a) You must renew your certificate on or before your renewal date and pay the current fee as established in WAC 296-400A-045.
- (b) You must provide the department with a signed affidavit stating you aren't working in the plumbing trade.
- (c) The affidavit must state you are not acting in a supervisory manner for any person working in the plumbing trade.

(2) If you return to work, you must provide the proper documentation of sixteen hours continuing education with a minimum of eight hours plumbing code, a minimum of four hours industry-related electrical, and four hours industry-related plumbing from the approved list of courses from the department of labor and industries plumbing certification program.

(3) If you are found working in the plumbing trade while your certificate is in honorary status, your certificate will be revoked.

[Statutory Authority: RCW 18.106.040, 18.106.140. 06-24-040, § 296-400A-036, filed 11/30/06, effective 12/31/06.]

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>
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. The domestic pump specialty trainee certificate shall expire two years from the date of issuance and must be renewed on or before the date of expiration.

*** 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: 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-050 When does the advisory board of plumbers meet? The advisory board of plumbers meets every quarter on the third Tuesday of January, April, July and October.

[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-050, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-070 Can I work as a certified plumber in Washington without taking the Washington state plumbers' competency examination? You may be eligible to work in Washington state without taking an examination if:

- (1) You have a current plumbers certificate or license from another state; and
- (2) That state has a current reciprocal agreement with the department of labor and industries; and
- (3) You pay the reciprocity application fee and journeyman or specialty certificate fee shown in WAC 296-400A-045.

The director of labor and industries negotiates reciprocal agreements with states that have equivalent requirements for certification and licensing of journeyman and specialty plumbers. The agreement allows plumbers from those states to work in Washington and Washington-certified plumbers to work in the other state without taking competency examinations. To find out if your state has an agreement with the department, contact the plumber's certification clerk at the department's Tumwater, WA headquarters.

Reciprocity agreements cannot be used to take the Washington state competency examination instead of the examination in your home state.

(4)(a) Those actively certified by the department of health on or before July 1, 2001, as backflow assembly testers and registered as a contractor under chapter 18.27 RCW or employed by a registered contractor, may perform maintenance and repair of backflow prevention assemblies, without being a certified plumber under chapter 18.106 RCW and these rules, until January 1, 2003.

(b) After January 1, 2003, backflow assembly testers exempted under (a) of this subsection are required to meet the eligibility requirements for a specialty plumber's certificate of competency under chapter 18.106 RCW and these rules.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-070, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-070, 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-070, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-100 For certification purposes, how are "years of employment" computed and documented?

(1) For certification purposes, 2,000 hours of employment is considered one year. See RCW 18.106.070(2).

(2) When you renew your certificate, you must document your previous years' plumbing work by accurately completing the department's approved form and submitting it to the department.

(3) If you have completed a one, two, three, four or more years plumbing construction trainee program, you must have the necessary training hours for the year in which you are registered. See RCW 18.106.040.

(4) Subsections (1) through (3) of this section do not apply to the backflow assembly maintenance and repair specialty certification as years of employment are not required for this specialty. Applicants for this specialty designation are

required to have fulfilled the requirements in WAC 296-400A-122 and pay the applicable fees in WAC 296-400A-045(2).

(5) Experience obtained as a backflow assembly maintenance and repair specialty may not be applied toward journeyman or specialty plumber certification.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW. 02-14-074, § 296-400A-100, 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-100, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-110 Does previous work experience count toward my trainee certificate? If your work experience was in plumbing construction, you will be given credit for all verifiable hours that are properly submitted to the department's approved form. Plumber trainee hours accumulated in the state of Washington will be credited only if an active Washington state trainee card was in place when the work occurred. (Refer to the definition of "plumbing" in WAC 296-400A-005.)

[Statutory Authority: Chapter 18.106 RCW. 98-13-126, § 296-400A-110, 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-110, 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) The department issues separate trainee certificates once a year.

(b) The plumbing trainee may not apply for renewal more than ninety days prior to the expiration date. Journeyman, residential specialty, and backflow specialty plumber trainee certificates are valid for one year. Domestic pump specialty plumber trainee certificate is valid for two years.

(c) All applicants for trainee certificate of renewal must:

- (i) Submit a complete renewal application;
- (ii) Pay all appropriate fees; and
- (iii) Provide accurate evidence on the renewal form that the individual has completed the continuing education requirements described in chapter 296-400A WAC.

(d) 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.

(e) An individual who has not completed the required hours of continuing education cannot renew a trainee certificate.

(f) 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.

(g) 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.

(h) 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.

(i) An individual may not renew a revoked trainee certificate.

(j) 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.

(k) 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.

(l) 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.

(m) 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.

(n) 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.

(2) **Trainee work hours.** Journeyman, residential specialty, and backflow specialty plumber trainee shall renew the certificate annually but not more than ninety days before the expiration date. Domestic pump specialty plumber trainee shall renew the certificate every two years but not more than ninety days before the expiration date.

(a) An annual fee shall be charged for the issuance or renewal of the certificate.

(b) 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.

(c) Trainee hours will not be credited if the trainee owes outstanding penalties for violations of this chapter.

(3) 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.

(4) 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.

(5) 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, 18.106.140, 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-121 What do I need to know about trainee experience and plumber examination requirements for the journeyman and specialty plumber (excluding the backflow assembly maintenance and repair specialty)? (1) If you possess a trainee certificate:

(a) You may take the residential specialty plumber examination after completing 6,000 hours of documented training.

(b) You may take the journeyman examination after completing 8,000 hours of documented training which must include 4,000 hours of commercial plumbing experience.

(2) All journeyman trainees must work under the direct supervision of a journeyman plumber until they have completed 8,000 hours of training.

When 8,000 training hours have been completed, the trainee must take the journeyman examination. Any trainee who has failed the journeyman plumber examination cannot retake the examination for at least one month and must work under the direct supervision of a journeyman plumber until the examination is passed.

(3) To be eligible for the residential specialty plumber's examination, a residential specialty trainee must complete 6,000 hours of training under the direct supervision of either a certified specialty plumber or a journeyman plumber. Any residential specialty trainee who has failed the residential specialty examination, cannot retake the examination for at least one month and must work under the direct supervision of a certified plumber until the examination is passed.

(4) For domestic pump specialty plumbers:

(a) To be eligible for a limited volume domestic pump specialty plumbers examination defined by RCW 18.106.010

(10)(c), the trainee must complete 2,000 hours practical experience working under the direct supervision of a certified limited volume domestic pump specialty plumber, a certified unrestricted domestic pump specialty plumber, or a journeyman plumber on pumping systems not exceeding one hundred gallons per minute. The experience may be obtained at the same time the individual is meeting the experience required by RCW 19.28.191, or equivalent experience may be accepted as determined by rule by the department in consultation with the advisory board.

(b) To be eligible for an unrestricted domestic pump specialty plumbers examination defined by RCW 18.106.010 (10)(c), the trainee must complete 4,000 hours practical experience working under the direct supervision of a certified unrestricted domestic pump specialty plumber or a journeyman plumber on pumping systems. The experience may be obtained at the same time the individual is meeting the experience required by RCW 19.28.191 or equivalent experience may be accepted as determined by rule by the department in consultation with the advisory board.

(5) Effective January 1, 2005, all plumber trainees will be required to meet the current hour requirements to test.

(6) **Apprentice/trade school endorsement requirements.** An individual who has a current journeyman plumber, domestic pump specialty plumber, or residential specialty plumber trainee certificate and who has successfully completed or is currently enrolled in an approved apprenticeship program or in a technical school program in the plumbing construction trade in a school approved by the work force training and education coordinating board, may work without direct on-site supervision during the last six months of meeting the practical experience requirements of this chapter. In order to work without direct on-site supervision applicable to the type (residential or journeyman) of training hours for which certification is being sought by the individual, this individual must obtain an apprentice/trade school trainee endorsement by submitting the applicable forms provided by the department and paying the applicable fees. This individual may work without direct on-site supervision until he or she receives the remaining hours required to be eligible to take the applicable examination. This individual may not supervise trainees. (See RCW 18.106.070.)

(7) **Any applicant** (trainee, specialty plumber or journeyman) 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. Applications shall be submitted and received by the plumbing certification program office two weeks before the next scheduled date.

[Statutory Authority: RCW 18.106.040, 18.106.140, 06-24-040, § 296-400A-121, 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-121, 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-121, 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-121, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-122 What do I need to know about trainee experience and the backflow assembly maintenance and repair specialty examination requirements?

(1) 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.

(2) 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.

(3) **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, 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) All required applications and annual statements of employment hours are made under oath. Making false statements and/or material misrepresentations carry serious consequences. Any person who knowingly makes a false statement or material misrepresentation on an application, an affidavit of experience or a trainee certificate may have their certificate suspended, revoked, and/or be referred to the county prosecutor for criminal prosecution. In addition, the department may issue an infraction for a violation of this chapter.

(2) The annual statements of employment described in subsection (1) of this section do not apply to the backflow assembly maintenance and repair specialty certification.

[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-135 How does the department enforce trainee supervision?

(1) A journeyman plumber on each and every commercial job site shall supervise either a residential specialty plumber or a domestic pump specialty plumber with a current plumber trainee card or trainee with a current plumber trainee card.

(a) The ratio on each commercial site shall be not more than one residential plumber or one plumber trainee working on any one job site for every certified journeyman plumber working as a journeyman plumber on that site.

(b) The time of supervision shall be a minimum of seventy-five percent of the time spent on each and every job site.

(2) A journeyman plumber or residential specialty plumber on each and every residential specialty job site shall

supervise a plumber trainee with a current plumber trainee card.

(a) The ratio on each residential specialty job site shall be not more than two trainees with current plumber trainee cards on any one residential specialty job site for every certified journeyman plumber or residential specialty plumber on that site.

(b) The time of supervision shall be a minimum of seventy-five percent of the time spent on each and every job site.

(3) A journeyman plumber with current medical gas endorsement may supervise either a residential specialty plumber with a current trainee card or a plumber trainee with a current trainee card.

(a) The residential specialty plumber or the plumber trainee has to have successfully completed or is currently enrolled in an approved medical gas piping installer training course approved by the department.

(b) The residential specialty plumber or other plumber trainee is under the direct supervision of a certified medical gas journeyman plumber on one-to-one ratio for one hundred percent of the time on each and every medical gas site.

(4) A backflow specialty plumber, a journeyman plumber or a residential specialty plumber shall supervise a backflow trainee to do maintenance and repair work on every backflow assembly on potable water systems, inside every commercial or residential building. The ratio shall be one-to-one for one hundred percent of the time on every job site.

(5) A journeyman plumber or appropriate domestic pump specialty plumber on each and every domestic pump job site shall supervise a plumber trainee with a current plumber trainee card.

(a) The ratio on each domestic pump job site shall be not more than two trainees with current plumber trainee cards on any one residential specialty job site for every certified journeyman plumber or appropriate domestic specialty plumber on that site.

(b) The time of supervision shall be a minimum of seventy-five percent of the time spent on each and every job site. Restricted domestic pump specialty trainees who have completed at least seven hundred twenty hours of on-the-job training and passed the competency examination required by WAC 296-400A-020 may work unsupervised for the remainder of the time required for work experience to become a restricted domestic pump specialty plumber.

[Statutory Authority: RCW 18.106.040, 18.106.140, 06-24-040, § 296-400A-135, 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-135, filed 5/28/04, effective 6/30/04.]

WAC 296-400A-140 How does the department enforce plumbers certification requirements? The department enforces plumber certification requirements by means of job-site inspections conducted by an authorized representative of the department. The representative must determine whether:

(1) Each person doing plumbing work has a proper certificate on their person; and

(2) The ratio of certified specialty and/or journeyman plumbers to certified trainees is correct; and

(3) Each certified trainee is directly supervised by either a certified specialty plumber or a certified journeyman; and

(2009 Ed.)

(4) Persons who are installing medical gas piping systems have active medical gas piping installer endorsements in addition to their active plumber certification.

(5) Persons who are certified as backflow assembly maintenance and repair specialties must have an active backflow assembly tester certification from the department of health.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399, 04-12-046, § 296-400A-140, 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-140, filed 6/28/02, effective 7/1/02. Statutory Authority: Chapter 18.106 RCW, 98-13-126, § 296-400A-140, 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-140, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-150 May the department audit the records of a contractor? Yes, for any reason such as: Dispatching, ratio, supervision, excessive hours, and certification. The department may audit the records of contractors as authorized under RCW 18.106.320 when the department has reason to believe that a violation of the plumbing certification laws has occurred.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399, 04-12-046, § 296-400A-150, filed 5/28/04, effective 6/30/04.]

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 was employed by the 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, 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 either:

(a) An individual who is plumbing without a current plumber certificate; or

(b) The employer of the individual who is plumbing without a current plumber certificate; or

(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 either:

(a) An individual who is installing medical gas piping systems without a current plumber certificate and a current medical gas piping installer endorsement; or

(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; or

(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, 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.]

WAC 296-400A-400 What are the monetary penalties for violating certification requirements? (1) A person cited for an infraction under RCW 18.106.020 or 18.106.320 shall be assessed a monetary penalty based upon the following schedule:

(a) Individual

First Infraction	\$250.00
Second Infraction	\$500.00
Third Infraction	\$750.00
Fourth and each additional infraction	Not more than \$1,000.00

[Title 296 WAC—p. 2730]

(b) Contractor or dispatcher

First Infraction	\$250.00
Second Infraction	\$500.00
Third and each additional infraction	Not more than \$1,000.00

(2) Each day a person is in violation is considered a separate infraction.

(3) Each job site at which a person is in violation is considered a separate infraction.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399, 04-12-046, § 296-400A-400, filed 5/28/04, effective 6/30/04. 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-400, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-425 What if I owe outstanding penalties related to a department issued plumber infraction?

The department may deny your application or renewal of your certificate or endorsement if you owe outstanding penalties. The department must notify you of their denial by registered mail, return receipt requested. This notice of denial will be mailed to the address on your application.

Upon receipt of the notice, you have twenty days to file a notice of appeal with the department. Your notice of appeal must be accompanied by a certified check for two hundred dollars. This amount will be returned to you if the department's decision is not upheld by the hearings officer. If the hearings officer upholds the department's decision, the two hundred dollars will be applied to the cost of the hearing.

The office of administrative hearings shall conduct the hearing under chapter 34.05 RCW.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2002 c 82, and 2003 c 399, 04-12-046, § 296-400A-425, filed 5/28/04, effective 6/30/04. 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-425, filed 5/20/97, effective 6/30/97.]

WAC 296-400A-430 If I am a certified backflow assembly maintenance and repair, journeyman, or specialty plumber do I need to be a registered contractor under chapter 18.27 RCW?

Anyone who advertises, offers to do work, submits a bid, or performs any work under chapter 18.106 RCW and these rules must be a registered contractor as required under chapter 18.27 RCW, or an employee of such a registered contractor, with wages as their sole compensation.

[Statutory Authority: RCW 18.106.040, 18.106.140, 2001 c 281, and chapter 18.106 RCW, 02-14-074, § 296-400A-430, filed 6/28/02, effective 7/1/02.]

Chapter 296-403A WAC**AMUSEMENT RIDES OR STRUCTURES**

(Formerly chapter 296-403 WAC)

WAC

296-403A-100	Definitions.
296-403A-110	Insurance.
296-403A-120	Application for and renewal of operating permit.
296-403A-130	Operating permit.
296-403A-140	Temporary operating permit.
296-403A-150	Fees.
296-403A-160	Appeals.

(2009 Ed.)

296-403A-170	Amusement ride inspector qualifications.
296-403A-180	Safety and maintenance seminar.
296-403A-190	Safety standards for amusement rides and amusement structures.
296-403A-195	Incident reporting.
296-403A-200	Reciprocal certificate.
296-403A-210	Revocation and suspension of certification of amusement ride inspectors—Reinstatement.
296-403A-220	Fees for examination, certification, and renewal of certification for inspectors.
296-403A-230	Electrical requirements for amusement rides and amusement structures.
296-403A-240	Department on-site electrical inspection.

WAC 296-403A-100 Definitions. Definitions as found in ASTM F 747-97 Standard Terminology Related to Amusement Rides and Devices are adopted in addition to the following:

(1) **"Air supported"** structure or device means an amusement device that incorporates a structural and mechanical system and employs a high-strength fabric or film that achieves its strength, shape and stability by pretensioning with internal air pressure (inflation).

(2) **"Amusement ride"** means any vehicle, boat, or other mechanical or air supported device moving upon or within a structure, along cables or rails, through the air by centrifugal force or otherwise, or across water, that is used to convey one or more individuals for amusement, entertainment, diversion, or recreation. For purposes of this chapter, "boats" does not refer to personal watercraft or vessels operated on the waters of this state according to chapter 79A.60 RCW. Examples of an amusement ride include, but are not limited to, devices commonly known as skyrides, ferris wheels, carousels, parachute towers, tunnels of love, roller coasters, mechanical bulls, gyrotron, space balls, bungee operated, simulators and similar devices.

Conveyances for persons in recreational winter sports activities such as: Ski lifts, ski tows, j-bars, t-bars, and similar devices subject to regulation under chapter 70.88 RCW are not amusement rides. Any single-passenger coin-operated ride that is manually, mechanically, or electrically operated and customarily placed in a public location that does not normally require the supervision or services of an operator is not an amusement ride. Nonmechanized playground equipment including, but not limited to, swings, seesaws, stationary spring-mounted animal features, rider-propelled merry-go-rounds, climbers, slides, trampolines, and physical fitness devices are not amusement rides. Permanent water slides are not amusement rides. Animal rides such as: Pony rides, riding stables, hay rides and elephant rides are not amusement rides.

(a) **"Portable amusement ride"** means an amusement ride which is relocated at least once per year with or without disassembly.

(b) **"Permanent amusement ride"** means an amusement ride which is erected to remain a lasting part of the premises.

(3) **"Amusement structure"** means any electrical, mechanical, nonmechanical, or air-supported device or any combinations thereof operated for revenue and to provide amusement or entertainment to viewers or audiences at carnivals, fairs, or amusement parks. A game or concession where a member of the public performs an act or makes a purchase is not an amusement structure. Examples of an amusement

structure include, but are not limited to, structures commonly known as permanent steel or wooden roller coasters, a permanent dark ride or fun house, a permanent drop tower, or a permanent building enclosing a portable amusement device.

(4) **"ASTM"** means the American Society for Testing and Materials (F-24 committee) as it relates to amusement rides and devices. Copies of the ASTM are available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959.

(5) **"Authority having jurisdiction"** means the department.

(6) **"Carnival"** means a mobile enterprise principally devoted to offering amusement or entertainment to patrons in, upon, or by means of portable amusement rides or structures.

(7) **"Certificate of inspection"** means a document given under oath or affirmation from an insurer or a person with whom the insurer has contracted to make a safety inspection of the amusement ride or structure. The certificate must contain: The name, address and signature of the inspector, the complete description of the amusement ride or structure and the name and address of the owner or operator.

(8) **"Certificate of insurance"** means a document certifying that the insurance required by chapter 67.42 RCW is in effect. Copies of this document/form are available from the department upon request.

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

(10) **"Insurance policy"** means an insurance policy written by an insurer authorized to do business in this state under Title 48 RCW.

(11) **"Major modification"** means any change to the original configuration or layout of components or replacement of components that are not like-for-like.

(12) **"NEC"** means the 2002 edition of the National Electrical Code (NFPA 70-2002) including Annex A, B, and C, but excluding Article 80. Copies of the NEC, NFPA 70-2002 are available from the NFPA (National Fire Protection Association), 1 Batterymarch Park, Quincy, Massachusetts 02169-7471.

(13) **"Operating permit"** means a permit that is issued by the department.

(14) **"Operating permit decal"** is a decal issued by the department that must be affixed on or adjacent to the control panel of the amusement ride or structure in a location visible to the patrons of the ride or structure.

(15) **"RCW"** means the *Revised Code of Washington*. Copies of RCWs are available from the office of the code reviser.

(16) **"Safety inspection"** means a procedure to be conducted by a safety inspector to determine whether an amusement ride or device is assembled, maintained, tested, operated, and inspected in accordance with the current ASTM standards, the manufacturer's or insurer's standards, and this chapter, whichever is the most stringent, and that determines the current operational safety of the ride or device.

(17) **"Safety inspector"** and **"amusement ride inspector"** both mean a third-party inspector authorized by the department to conduct safety inspections of amusement rides or devices in compliance with this chapter. The inspector must be an independent, third party with no organizational,

managerial, financial, design, or promotional affiliation with the amusement ride or amusement structure being inspected. The inspector must not be a principal, owner, or employee of any amusement company or manufacturer doing business in the state of Washington, unless authorized by the department to conduct specific inspections on a case-by-case basis.

Inspectors who have installed, modified or repaired an amusement ride or structure may not perform the initial inspection on the equipment they have installed, modified, or repaired. The inspector must have an adequate diversity of clients or activity so that the loss or award of a specific contract regarding amusement ride or amusement structure safety certification would not be a deciding factor in the financial well being of the inspector.

(18) "**WAC**" means the *Washington Administrative Code*. Copies of WACs are available from the department and the office of the code reviser.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-100, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-110 Insurance. The following are the requirements for insurance for amusement rides and structures:

(1) An original copy of the insurance policy in an amount not less than one million dollars per occurrence from an insurer authorized to do business in the state of Washington must be filed with the department.

(2) A certificate of insurance must be presented to either the sponsor, lessor, landowner or other person responsible for an amusement ride being offered for use by the public.

(3) The insurance company must notify the department at least thirty days before canceling or revoking a policy and upon the nonrenewal of the policy.

(4) If the insurance company withdraws, cancels, revokes, suspends, or excludes coverage of any ride(s) from any policy furnished to the department, such withdrawal, cancellation, revocation, suspension, or exclusion must be plainly stated in documents furnished to the department.

(5) The department must be notified within twenty-four hours of the withdrawal, cancellation, revocation, suspension, or exclusion of insurance coverage of an amusement ride or structure for which an operating permit has been issued by the department.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-110, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-120 Application for and renewal of operating permit. (1) The person(s) making application for an operating permit for an amusement structure or an amusement ride must provide the following documentation on an application form provided by the department and pay the appropriate fee:

(a) The name, address and telephone number of the owner or operator of the amusement ride or structure together with the name and signature of the applicant.

(b) Description of amusement ride or structure. Each amusement ride or structure must be individually identified:

(i) By a trade name or title and a narrative description from which the amusement structure or ride can be identified; and

(ii) A serial number which is welded onto the frame or contained on an identification plate which is permanently affixed to the amusement structure or ride.

(c) Certificate of inspection. The amusement ride inspector or insurer per RCW 67.42.020(2) must certify that the amusement ride or structure has been inspected for safety and meets the standards for compliance with all applicable requirements of the National Electrical Code and this chapter, manufacturer's specifications, American Society of Testing and Materials (ASTM) Standards on Amusement Rides and Devices, and insurance company inspection requirements.

(d) Amusement rides or structures that undergo major modification must be recertified by an amusement ride inspector or insurer per RCW 67.42.020(2) before being placed into operation.

(2) **Renewal of operating permit.** An operating permit may be renewed before the expiration date by submitting an application with the proper fee and a certificate of safety inspection. The safety inspection must have been performed within thirty days before the expiration date of the operating permit.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-120, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-130 Operating permit. An amusement ride or structure must not be operated unless the owner or operator has obtained an operating permit and an operating permit decal is posted on the ride, unless a temporary operating permit has been issued as outlined in WAC 296-403A-140. The owner or operator of the amusement ride or structure must have available for inspection, at the location where the amusement ride or structure is to be operated, a copy of the operating permit for each amusement ride or structure. Each operating permit that has been issued to an owner or operator is valid for one year from the date of issue or the date of inspection whichever is less, unless revoked. The operating permit will become null and void in the event that the insurance policy is canceled or is no longer in effect or if an amusement ride or structure is materially rebuilt or materially modified.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-130, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-140 Temporary operating permit. A temporary operating permit expires after fifteen days and will not be renewed or extended unless authorized by the chief electrical inspector. The department electrical section may issue a temporary operating permit when:

(1) The insurance policy required by chapter 67.42 RCW is on file with the department; and

(2) The safety inspection of the amusement ride or structure has been performed within the last year; and

(3) The department has received a complete application for an operating permit.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-140, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-150 Fees. The fee for issuing each operating permit (including bungee jumping operating permits) and operating permit decal is ten dollars.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-150, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-160 Appeals. (1) Decisions by the department under this chapter can be appealed when:

- (a) An operating permit has been denied or revoked.
- (b) The department has ordered the cessation of the operation of an amusement ride or structure.
- (c) An amusement ride inspector application has been denied, or certificate has been suspended or revoked.

The appeal will be conducted in accordance with chapter 34.05 RCW. An appeal does not stay the decision of the department. The appeal must be filed within twenty days after notice of the decision of the department is sent by certified mail, return receipt requested, or is served upon the owner or operator.

(2) An appeal is made by filing a written notice of appeal with the department's chief electrical inspector and must state the decision by the department that is being appealed and the relief that is desired. The formal appeal must be accompanied by a certified check for two hundred dollars which will be returned to the holder of the certificate or permit if the department's decision is overturned. If the department's decision is not overturned, the two hundred dollars will be applied to pay the costs associated with the appeal, and any balance remaining after payment of per diem and expenses will be paid into the electrical license fund.

(3) All requests for appeals must be filed with the department's chief electrical inspector, Department of Labor and Industries, 7273 Linderson Way, P.O. Box 44460, Olympia, WA 98504-4460. The filings may be submitted by ordinary mail, certified or registered mail, or by personal delivery. The date of filing is the date the paper is actually received in the office of the chief electrical inspector.

(4) See chapter 34.05 RCW and chapter 10-08 WAC for additional information on appeals.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-160, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-170 Amusement ride inspector qualifications. An amusement ride inspector must meet the following minimum qualifications:

- (1) Two years experience with an insurance company as an amusement ride inspector; or
- (2) Two years experience inspecting amusement rides and enforcing amusement ride codes while employed by a state or other governmental body regulating amusement rides; or
- (3) Not less than five years documented field operating and maintenance experience with amusement rides and

(2009 Ed.)

devices, including responsibility for erection, assembly, disassembly; personnel supervision responsibility for erection, maintenance, and operating functions; or

(4) Not less than ten years documented practical experience in the design, construction, maintenance, repair, field inspection, and operation of amusement rides and devices as an authorized representative of a recognized amusement ride manufacturer; and

(5) In addition to the above criteria an amusement ride inspector must be certified by the department after demonstrating competency by:

- (a) Passing a competency examination administered by the department; or
- (b) Passing a test administered by the National Association of Amusement Ride Safety Officials for NAARSO Level II or other certification organizations recognized by the department, as an amusement ride inspector.

Those individuals who are certified by the department before December 31, 2000, will have until December 31, 2003, to take and successfully pass one of the examinations in (a) or (b) of this subsection. Individuals with at least ten years as an amusement ride inspector may become certified without testing if they were certified with the department on December 31, 2000.

(6) An amusement ride inspector may work without certification, as a trainee, if directly and continually supervised during the inspection process by a certified amusement ride inspector.

(7) This section does not apply to insurers or a person with whom the insurer has contracted with per RCW 67.42.-020(2).

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-170, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-180 Safety and maintenance seminar. Every amusement ride inspector must annually attend at least one amusement ride safety and maintenance seminar sponsored by the Amusement Industry Manufacturers and Equipment Suppliers, Northwestern Showman's Club, National Association of Amusement Ride Safety Officials, International Association of Amusement Parks and Attractions, or an equivalent approved by the department. All experience and schooling must be documented and verified and must be furnished to the department with an application for an amusement ride inspector certificate.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-180, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-190 Safety standards for amusement rides and amusement structures. (1) A certified amusement ride inspector will inspect amusement rides and structures for safety. Amusement rides and structures must comply with all applicable requirements of the National Electrical Code and this chapter, manufacturer's specifications, American Society of Testing and Materials (ASTM) Standards on Amusement Rides and Devices, insurance company

[Title 296 WAC—p. 2733]

inspection requirements, and the requirements established by the local authority having jurisdiction.

(2) The amusement ride inspector must verify the correction of all deficiencies noted on the application for an amusement ride operating decal. The correction of any deficiencies must be completed within fifteen calendar days unless the inspector has determined that deficiencies are of a serious nature that will prohibit operation of the amusement ride or amusement structure. The period to correct deficiencies may be extended for a specific period at the discretion of the safety inspector and/or the department. The amusement ride inspector must report to the department any amusement ride or structure that is not allowed to operate because of serious safety deficiencies. Any deficiencies must be reinspected by the amusement ride inspector/company or other qualified inspector/company authorized by the original ride inspector/company.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-190, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-195 Incident reporting. (1) Amusement structure/ride owner(s) and/or operator(s) must report to the department:

(a) Any incident or accident where evacuation of a ride results from an electrical or mechanical malfunction or when emergency personnel are required to assist in the evacuation; and

(b) Any incident/accident involving an amusement ride or structure involving personal injury that requires medical treatment, other than ordinary first aid. Medical treatment other than ordinary first aid means treatment beyond that which occurs at the location of the incident/accident and is provided by or under the supervision of a physician licensed to practice medicine, and the treatment is in response to a medical concern that is related directly to the incident/accident.

(2) Reports meeting the above criteria must be made in writing within twenty-four hours after any incident/accident. This report may be faxed to a phone number supplied by the department followed by the original report in the mail. The report must include a detailed description of all available facts regarding the incident/accident for review by the department. After review, the department may require the amusement ride or structure to be inspected by an amusement ride inspector before continuing the operation of the ride or structure. When the department revokes a ride operating permit, a complete and detailed account of the incident/accident must be provided to the department before a new operating permit will be issued following an incident/accident.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-195, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-200 Reciprocal certificate. The department may upon proper application, issue an amusement ride inspector certificate to an individual who meets the minimum qualifications as set forth in this chapter and who possesses a current, valid amusement ride inspector certifi-

cate in a state or province which has equal or higher standards for amusement ride inspectors as those contained in this chapter. No amusement ride inspection examination will be required of those persons who qualify for a reciprocal amusement ride inspector certificate.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-200, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-210 Revocation and suspension of certification of amusement ride inspectors—Reinstatement.

(1) An amusement ride inspector's certificate of competency may be suspended or revoked for cause such as: Certifying the safety of an unsafe ride, falsifying records or reports or certifying an amusement ride or structure which he or she has not personally inspected.

(2) The suspension or revocation of a certificate of competency that is not contested will be suspended or revoked immediately. If the suspension or revocation of a certificate of competency is contested, the suspension or revocation will not occur until after a hearing has been held before the department. The inspector and his or her employer are entitled to appear at such hearings and to be heard.

(3) The department must deliver to both the inspector charged and to his or her employer (if known), not less than ten days prior to the hearing, a written notice of the charges and of the time and place of such hearing.

(4) An inspector whose certificate of competency has been suspended may apply for reinstatement not less than ninety days after the time of suspension. If the certificate of competency has been revoked, the inspector will need to reapply for certification according to this chapter.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-210, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-220 Fees for examination, certification, and renewal of certification for inspectors.

(1) Fee for each application for inspector's certificate of competency and examination, one hundred dollars.

(2) Application fee (nonrefundable), twenty dollars.

(3) Fee for annual renewal of certificate of competency or reciprocal inspector certificate, twenty dollars.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-220, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-230 Electrical requirements for amusement rides and amusement structures.

(1) Electrical distribution system. Service equipment, separately derived systems, feeders and circuits for each amusement ride, amusement structure or concession must comply with all applicable requirements of the National Electrical Code and chapter 296-46A WAC, as amended.

(2) Flexible multiconductor cords must be connected to equipment by approved connectors designed for the purpose or by listed cord caps. Individual conductors of multiconductor cords in sizes #2 AWG and larger are permitted to be connected by listed and labeled connection systems in accor-

dance with Article 520-53(k) of the National Electrical Code. Where conductors are connected individually by such connection systems, the outer jacket of multiconductor cord must be secured to the electrical equipment independent from the receptacles and plugs by approved cable grips that are installed in a manner to prevent pressure from being applied to the receptacles and plugs.

(3) Individual, single conductor, insulated, portable power cable, in addition to complying with Section 525-13 of the National Electrical Code, must comply with the following:

(a) All conductors of the feeder or circuit including the equipment grounding conductor must originate in the same electrical equipment and terminate in the same equipment.

(b) All conductors of the feeder or circuit including the ungrounded, grounded, and equipment grounding conductors must run together, except for portions installed within approved cable protection systems.

(c) The cables must be secured to the electrical equipment independent from the cable receptacles and plugs by approved cable grips that prevent pressure from being applied to the connectors.

(d) The cables must be connected to electrical equipment by approved listed and labeled connection systems in compliance with Section 520-53(k) of the National Electrical Code.

(4) Disconnecting means. A separate, enclosed, externally operable fused switch or circuit breaker must be installed on each amusement ride, structure or concession to disconnect all electrical equipment. The disconnecting means must be readily accessible and identified as the disconnecting means. The disconnecting means is not required to be readily accessible when a disconnecting means meeting the requirements of NEC 525-30 is also installed. Where more than one power supply is employed, the disconnecting means must be grouped.

(5) Rotating equipment. Components of amusement rides or structures that rotate more than three hundred sixty degrees and which have electrically operated equipment, must be supplied by approved collector rings that are totally enclosed or located so they are accessible to authorized personnel only. The collector rings must be factory produced with an equipment grounding segment having a voltage and current rating that equals or exceeds the rating of the current carrying segments. Collector rings must have an ampacity not less than one hundred twenty-five percent of the full-load current of the largest device served plus the full-load current of all other devices served. Collector rings for control and signal purposes must have an ampacity not less than one hundred twenty-five percent of the full-load current of the largest device served plus the full-load current of all other devices served.

(6) Equipment grounding. All noncurrent carrying metal parts of amusement rides and structures must be grounded by an equipment grounding conductor routed with the feeder or circuit conductors in accordance with the National Electrical Code and these rules. The metallic structure must not be used as a current carrying conductor.

EXCEPTION: The metallic structure is permitted to be used as the return path for low voltage systems that do not exceed thirty volts, provided that the ungrounded conductors are protected by an overcurrent device in accordance

with the National Electrical Code and the system is factory built for such use.

(7) Existing concessions or games electrical systems must comply with the National Electrical Code and must be maintained in full compliance with codes and standards in effect at the time they were manufactured. When new concessions or games are purchased, manufactured or constructed, or where existing concessions or games have major modification, the electrical system must comply with this chapter and the edition of the National Electrical Code in effect at the time. All concessions and games must be identified in or on the disconnecting means and in records furnished to the department with the edition of the National Electrical Code the electrical system is intended to comply with, or be certified and labeled by the department as a factory assembled structure.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-230, filed 10/22/02, effective 11/22/02.]

WAC 296-403A-240 Department on-site electrical inspection. (1) Department electrical inspection will be done each time an amusement ride or structure is set up. Fees will be paid in accordance with chapter 296-46A WAC, as amended. An on-site electrical inspection permit and fee is not required for any amusement ride or structure when all of the following conditions are met:

(a) The ride is equipped with a supply cord that does not exceed 120 volts or 20 amps.

(b) The amusement ride inspector, on the operating permit application, has documented the size and length of the supply cord.

(c) No extension cords are used to supply the equipment.

(d) The amusement ride or structure has a current amusement ride operating permit decal.

(2) Itinerary for set-up locations must be made available to the chief electrical inspector upon request.

(3) Amusement rides that are leased and set up for private use (not operated for revenue) must also comply with the following in addition to the on-site inspection and operating permit requirements established by this chapter:

(a) The lessor must provide the lessee with manufacturer's set up instructions.

(b) The lessor or their authorized agent is responsible for providing proper set up and tear down of each amusement ride or structure (authorized agents must be under written contract to the owner or operator).

(c) The lessor is responsible to maintain proper documentation assuring that each lessee has been provided with proper manufacturer's instructions for operating and setting up each individual leased amusement ride or structure.

[Statutory Authority: RCW 19.28.010, 19.28.031, 19.28.061, 19.28.101, 19.28.171, 19.28.191, 19.28.201, 19.28.251, 19.28.271, 19.28.311, 19.28.-321, 67.42.020, 67.42.025, 67.42.050, and chapters 19.28 and 67.42 RCW. 02-21-103, § 296-403A-240, filed 10/22/02, effective 11/22/02.]

Chapter 296-800 WAC

SAFETY AND HEALTH CORE RULES

WAC

296-800-100 Introduction.

EMPLOYER RESPONSIBILITIES: SAFE WORKPLACE

296-800-110	Employer responsibilities: Safe workplace—Summary.
296-800-11005	Provide a workplace free from recognized hazards.
296-800-11010	Provide and use means to make your workplace safe.
296-800-11015	Prohibit employees from entering, or being in, any workplace that is not safe.
296-800-11020	Construct your workplace so it is safe.
296-800-11025	Prohibit alcohol and narcotics from your workplace.
296-800-11030	Prohibit employees from using tools and equipment that are not safe.
296-800-11035	Establish, supervise, and enforce rules that lead to a safe and healthy work environment that are effective in practice.
296-800-11040	Control chemical agents.
296-800-11045	Protect employees from biological agents.

EMPLOYEE RESPONSIBILITIES

296-800-120	Rule.
296-800-12005	Employee responsibilities.

SAFETY COMMITTEES AND SAFETY MEETINGS

296-800-130	Safety committees/safety meetings—Summary.
296-800-13020	Establish and conduct safety committees.
296-800-13025	Follow these rules to conduct safety meetings.

ACCIDENT PREVENTION PROGRAM

296-800-140	Accident prevention program.
296-800-14005	Develop a formal, written accident prevention program.
296-800-14020	Develop, supervise, implement, and enforce safety and health training programs that are effective in practice.
296-800-14025	Make sure your accident prevention program is effective in practice.

FIRST-AID SUMMARY

296-800-150	Rule summary.
296-800-15005	Make sure that first-aid trained personnel are available to provide quick and effective first aid.
296-800-15020	Make sure appropriate first-aid supplies are readily available.
296-800-15030	Make sure emergency washing facilities are functional and readily accessible.
296-800-15035	Inspect and activate your emergency washing facilities.
296-800-15040	Make sure supplemental flushing equipment provides sufficient water.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

296-800-160	Summary.
296-800-16005	Do a hazard assessment for PPE.
296-800-16010	Document your hazard assessment for PPE.
296-800-16015	Select appropriate PPE for your employees.
296-800-16020	Provide PPE to your employees.
296-800-16025	Train your employees to use PPE.
296-800-16030	Retrain employees to use PPE, if necessary.
296-800-16035	Document PPE training.
296-800-16040	Require your employees to use necessary PPE on the job.
296-800-16045	Keep PPE in safe and good condition.
296-800-16050	Make sure your employees use appropriate eye and face protection.
296-800-16055	Make sure your employees use appropriate head protection.
296-800-16060	Make sure your employees use appropriate foot protection.
296-800-16065	Make sure your employees use appropriate hand protection.
296-800-16070	Make sure your employees are protected from drowning.

EMPLOYER—CHEMICAL HAZARD COMMUNICATION INTRODUCTION

296-800-170	Employer chemical hazard communication—Introduction.
296-800-17005	Develop, implement, maintain, and make available a written Chemical Hazard Communication Program.
296-800-17007	Include multiemployer workplaces in your program if necessary.
296-800-17010	Identify and list all the hazardous chemicals present in your workplace.
296-800-17015	Obtain and maintain material safety data sheets (MSDSs) for each hazardous chemical used.

296-800-17020	Make sure material safety data sheets (MSDSs) are readily accessible to your employees and NIOSH.
296-800-17025	Label containers holding hazardous chemicals.
296-800-17030	Inform and train your employees about hazardous chemicals in your workplace.
296-800-17035	Follow these rules for laboratories using hazardous chemicals.
296-800-17040	Follow these rules for handling chemicals in factory-sealed containers.
296-800-17045	Translate certain chemical hazard communication documents upon request.
296-800-17050	Attempt to obtain a material safety data sheet (MSDS) upon request.
296-800-17055	Items or chemicals exempt from the rule, and exemptions from labeling.
296-800-180	Material safety data sheets (MSDSs) as exposure records.
296-800-18005	Preserve exposure records for at least 30 years.
296-800-18010	Inform current employees of exposure records.
296-800-18015	Provide access to exposure records.
296-800-18020	Transfer records when ceasing to do business.

SAFETY BULLETIN BOARD

296-800-190	Summary/rule.
296-800-19005	Provide a safety bulletin board in your workplace.

WISHA POSTER

296-800-200	WISHA poster.
296-800-20005	Post and keep a WISHA poster in your workplace.

LIGHTING

296-800-210	Lighting.
296-800-21005	Provide and maintain adequate lighting.

HOUSEKEEPING, DRAINAGE, AND STORAGE

296-800-220	Housekeeping, drainage, and storage—Summary.
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HOUSEKEEPING

296-800-22005	Keep your workplace clean.
296-800-22010	Sweep and clean your workplace to minimize dust.
296-800-22015	Keep your workplace free of obstacles that interfere with cleaning.
296-800-22020	Control pests in your workplace.
296-800-22022	Make sure floors are maintained in a safe condition.

DRAINAGE

296-800-22025	Keep your workroom floors dry, when practical.
296-800-22030	Provide proper drainage.

STORAGE AREAS

296-800-22035	Store things safely.
296-800-22040	Control vegetation in your storage areas.

SANITATION AND HYGIENE FACILITIES AND PROCEDURES

296-800-230	Summary.
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DRINKING WATER

296-800-23005	Provide safe drinking (potable) water in your workplace.
296-800-23010	Clearly mark the water outlets that are not fit for drinking (nonpotable).
296-800-23015	Make sure that systems delivering not-fit-for-drinking (nonpotable) water prevent backflow into drinking water systems.

BATHROOMS AND WASHING FACILITIES

296-800-23020	Provide bathrooms for your employees.
296-800-23025	Provide convenient and clean washing facilities.

EATING AREAS AND FOOD SERVICE

296-800-23040	Make sure eating areas are safe and healthy.
296-800-23045	Follow these requirements if you provide food service to your employees.

GARBAGE AND WASTE DISPOSAL

296-800-23050	Dispose of garbage and waste safely.
296-800-23055	Remove garbage and waste in a way that does not create a health hazard.

LUNCHROOMS AND PERSONAL SERVICE ROOMS

- 296-800-23060 Provide a separate lunchroom if employees are exposed to toxic substances if they are allowed to eat and drink on the job site.
- 296-800-23065 Provide showers when required for employees working with chemicals.
- 296-800-23070 Provide change rooms when required.
- 296-800-23075 Make sure any work clothes you provide are dry.

ENVIRONMENTAL TOBACCO SMOKE IN THE OFFICE

- 296-800-240 Summary.
- 296-800-24005 Prohibit tobacco smoke in your office work environment.

STAIRS AND STAIR RAILINGS SUMMARY

- 296-800-250 Summary.
- 296-800-25005 Provide fixed stairs where required.
- 296-800-25010 Provide stairs that minimize hazards.
- 296-800-25015 Provide handrails and stair railings.

FLOOR OPENINGS, FLOOR HOLES AND OPEN-SIDED FLOORS

- 296-800-260 Summary.
- 296-800-26005 Guard or cover floor openings and floor holes.
- 296-800-26010 Protect open-sided floors and platforms.

WORKPLACE STRUCTURAL INTEGRITY

- 296-800-270 Summary.
- 296-800-27005 Do not overload floors or roofs.
- 296-800-27010 Make sure that floors are safe.
- 296-800-27015 Make sure floors can support equipment that moves or has motion.
- 296-800-27020 Post approved load limits (weight limits) for floors.

BASIC ELECTRICAL RULES

- 296-800-280 Basic electrical rules.
- 296-800-28005 Inspect all electrical equipment your employees use to make sure the equipment is safe.
- 296-800-28010 Make sure all electrical equipment is used for its approved or listed purpose.
- 296-800-28015 Make sure electrical equipment used or located in wet or damp locations is designed for such use.
- 296-800-28020 Make sure electrical equipment that is not marked is not used.
- 296-800-28022 Identify disconnecting means.
- 296-800-28025 Maintain electrical fittings, boxes, cabinets and outlets in good condition.
- 296-800-28030 Maintain all flexible cords and cables in good condition and use safely.
- 296-800-28035 Guard electrical equipment to prevent your employees from electrical hazards.
- 296-800-28040 Make sure electrical equipment is effectively grounded.
- 296-800-28045 Make sure electrical equipment has overcurrent protection.

PORTABLE FIRE EXTINGUISHERS

- 296-800-300 Summary—Portable fire extinguishers.
- 296-800-30005 Provide portable fire extinguishers in your workplace.
- 296-800-30010 Select and distribute portable fire extinguishers in your workplace.
- 296-800-30015 Make sure that portable fire extinguishers are kept fully charged, in operable condition, and left in their designated places.
- 296-800-30020 Inspect and test all portable fire extinguishers.
- 296-800-30025 Train your employees to use portable fire extinguishers.

EXIT ROUTES AND EMPLOYEE ALARM SYSTEMS

- 296-800-310 Summary.

EXIT ROUTES

- 296-800-31005 Provide an adequate number of exit routes.
- 296-800-31010 Make sure that exit routes are large enough.
- 296-800-31015 Make sure that exit routes meet their specific design and construction requirements.
- 296-800-31020 Make sure that each exit route leads outside.
- 296-800-31025 Provide unobstructed access to exit routes.
- 296-800-31030 Exit doors must be readily opened from the inside.
- 296-800-31035 Use side-hinged doors to connect rooms to exit routes.
- 296-800-31040 Provide outdoor exit routes that meet these requirements.

- 296-800-31045 Minimize danger to employees while they are using emergency exit routes.
- 296-800-31050 Mark exits adequately.
- 296-800-31053 Provide adequate lighting for exit routes and signs.
- 296-800-31055 Maintain the fire retardant properties of paints or other coatings.
- 296-800-31060 Maintain emergency safeguards.
- 296-800-31065 Maintain exit routes during construction and repair.
- 296-800-31067 Provide doors in freezer or refrigerated rooms that open from the inside.
- 296-800-31070 Install and maintain an appropriate employee alarm system.
- 296-800-31075 Establish procedures for sounding emergency alarms.
- 296-800-31080 Test the employee alarm system.

ACCIDENT REPORTING AND INVESTIGATING

- 296-800-320 Summary.
- 296-800-32005 Report the death, probable death of any employee, or the in-patient hospitalization of any employee within 8 hours.
- 296-800-32010 Make sure that any equipment involved in an accident is not moved.
- 296-800-32015 Assign people to assist the department of labor and industries.
- 296-800-32020 Conduct a preliminary investigation for all serious injuries.
- 296-800-32025 Document the preliminary investigation findings.

RELEASING ACCIDENT INVESTIGATION REPORTS

- 296-800-330 Releasing accident investigation reports.

PROTECTING THE IDENTITY OF THE SOURCE OF CONFIDENTIAL INFORMATION

- 296-800-340 Protecting the identity of the source of confidential information.

USING STANDARDS FROM NATIONAL ORGANIZATIONS AND FEDERAL AGENCIES

- 296-800-360 Rule.
- 296-800-36005 Comply with standards national organizations or of federal agencies when referenced in WISHA rules.
- 296-800-370 Definitions.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

- 296-800-13005 Establish a safety committee or have safety meetings. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-13005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-13005, filed 5/9/01, effective 9/1/01.] Repealed by 02-16-047, filed 8/1/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050.
- 296-800-13010 Make sure that each meeting includes a discussion of established safety topics. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-13010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-13010, filed 5/9/01, effective 9/1/01.] Repealed by 02-16-047, filed 8/1/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-800-13015 Make sure that safety committee meeting minutes are recorded and preserved. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-13015, filed 5/9/01, effective 9/1/01.] Repealed by 02-16-047, filed 8/1/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050.
- 296-800-15010 Make sure first-aid training contains required subjects. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-15010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-15010, filed 5/9/01, effective 9/1/01.] Repealed by 04-07-160, filed 3/23/04, effective 5/1/04. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060.
- 296-800-15015 Document your first-aid training. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-15015, filed 5/9/01, effective 9/1/01.] Repealed by 04-07-160, filed 3/23/04, effective 5/1/04. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060.

296-800-15025	Provide a first-aid station when required. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 01-11-038, § 296-800-15025, filed 5/9/01, effective 9/1/01.] Repealed by 04-07-160, filed 3/23/04, effective 5/1/04. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060.	296-800-29035	Safely use a portable wooden ladder when working more than 25 feet above ground. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-29035, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.
296-800-23030	Keep containers used for garbage or waste in a sanitary condition. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-23030, filed 5/9/01, effective 9/1/01.] Repealed by 03-18-090, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. Later promulgation, see WAC 296-800-23050.	296-800-29040	Use wooden stepladders safely. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-29040, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.
296-800-23035	Remove garbage and waste in a way that does not create a health hazard. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-23035, filed 5/9/01, effective 9/1/01.] Repealed by 03-18-090, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. Later promulgation, see WAC 296-800-23055.	296-800-350	Introduction. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-350, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-350, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-24010	Control tobacco smoke that comes in from the outside. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-24010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-24010, filed 5/9/01, effective 9/1/01.] Repealed by 06-22-023, filed 10/24/06, effective 12/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.	296-800-35002	Types of workplace inspections. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35002, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-290	Summary. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-290, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35004	Scheduling inspections. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35004, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-29005	Inspect your portable metal ladders periodically. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-29005, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35006	Inspection techniques. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35006, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-29010	Make sure your portable metal ladders are kept in good condition. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-29010, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35008	Response to complaints submitted by employees or their representatives. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35008, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-29015	Use your portable metal ladders safely. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 01-23-060, § 296-800-29015, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-29015, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35010	Citations mailed after an inspection. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35010, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-29020	Inspect your portable wooden ladders frequently. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-29020, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35012	Employees (or their representatives) can request a citation and notice. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35012, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35012, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-29025	Make sure your portable wooden ladders are kept in a good condition. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-29025, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-29025, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35016	Posting a citation and notice and employee complaint information. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35016, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-29030	Use your portable wooden ladders safely and for their intended purpose. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-29030, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-29030, filed 5/9/01, effective 9/1/01.] Repealed by 05-20-068, filed 10/4/05, effective 1/1/06. Statutory Authority: RCW 49.17.010, 49.17.-040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-876 WAC.	296-800-35018	Reasons to assess civil penalties. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35018, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040,

296-800-35020	49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter. Minimum penalties. [Statutory Authority: RCW 49.17.-010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35020, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35044	For willful, repeated, or serious violations, submit additional documentation. [Statutory Authority: RCW 49.17010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35044, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35022	Base penalty calculations—Severity and probability. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35022, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35046	Submitting correction action plans. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35046, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.-040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35024	Severity rate determination. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35024, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35048	Submit progress reports to the department when required. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35048, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35048, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35026	Probability rate determination. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35026, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35026, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35049	WISHA determines the date by which abatement documents must be submitted. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35049, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35028	Determining the gravity of a violation. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 01-11-038, § 296-800-35028, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35050	Inform affected employees and their representatives of abatement actions you have taken. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35050, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35050, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35030	Base penalty adjustments. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-35030, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-35030, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35030, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35052	Tag cited moveable equipment to warn employees of a hazard. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-18-080, § 296-800-35052, filed 8/31/04, effective 11/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 01-11-038, § 296-800-35052, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35032	Types of base penalty adjustments. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35032, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.-040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35056	You can request more time to comply. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 02-16-047, § 296-800-35056, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-35056, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35038	Minimum and maximum adjusted base penalty amounts. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-35038, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 01-11-038, § 296-800-35038, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35062	WISHA's response to your request for more time. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-35062, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35062, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35062, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35040	Reasons for increasing civil penalty amounts. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-35040, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.-010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-35040, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-35040, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35040, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.-040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35063	Post the department's response. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35063, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
296-800-35042	Employers must certify that violations have been abated. [Statutory Authority: RCW 49.17.010, [49.17].-040, and [49.17].050. 01-11-038, § 296-800-35042, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.	296-800-35064	A hearing can be requested about the department's response. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-35064, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].-050. 01-23-060, § 296-800-35064, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35064, filed 5/9/01,

- effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35065 Post the department's hearing notice. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35065, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35066 Hearing procedures. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35066, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35066, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35072 Post the hearing decision. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35072, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35076 Employers and employees can request an appeal of a citation and notice. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-35076, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-35076, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35078 Await the department's response to your appeal request. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35078, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35080 Department actions when reassuming jurisdiction over an appeal. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35080, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35082 Appealing a corrective notice. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-35082, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.
- 296-800-35084 Notify employees. [Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-35084, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-35084, filed 5/9/01, effective 9/1/01.] Repealed by 06-06-020, filed 2/21/06, effective 6/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Later promulgation, see chapter 296-900 chapter.

WAC 296-800-100 Introduction. The WISHA Core Rules: Your foundation for a safe and healthful workplace. This book contains 26 basic safety and health rules that affect all employers and should cover almost everything small, nonmanufacturing employers need for a safe and healthful workplace. These core rules include requirements for your Accident Prevention Program, personal protective equipment, first aid, and hazard communication program.

Note: You may need to comply with other WISHA rules. For a complete list of WISHA rules, see the resources section of this book.

Why does workplace safety and health matter to you?

On average, two people lose their lives every week in job-related incidents in Washington state. Each year, more than 250,000 workers' compensation claims are accepted for work-related injuries and illnesses. Medical care and wage replacement for these injured workers costs more than a billion dollars. The indirect costs of workplace injuries are even larger in terms of lost quality of life, personal financial ruin, operating costs of business, and decreased profitability. Employers and employees who work together to identify and control hazards on the job can save lives and money while improving business and productivity.

What are L&I and WISHA?

The department of labor and industries (L&I) is a state agency that provides many different services:

- Workplace safety and health, including inspections and enforcement, consultation, technical assistance, training, education and grants. (WISHA)
- Workers' compensation (or industrial insurance), including claims management, rate setting, medical payments, and research.
- Specialty compliance services, including contractor registration, electrical inspections, boiler and elevator inspections, apprenticeship programs and employment standards.

Many of these services are available from L&I's twenty-two regional offices (see the resource section of this book for a list of regional offices).

In 1973, the legislature passed the Washington Industrial Safety and Health Act or WISHA (Revised Code of Washington (chapter 49.17 RCW)). WISHA requires employers to provide safe and healthful workplaces for all employees. It gives L&I the responsibility to establish and enforce workplace safety and health rules. These rules are the Washington Administrative Code (WAC).

How does WISHA work?

WISHA covers nearly all employers and employees in Washington, including employees who work for the state, counties, and cities. L&I inspectors enforce WISHA rules by inspecting workplaces without advance notice including investigations of work-related deaths, injuries, and employees' complaints. When WISHA inspectors find a violation in a workplace, they issue a citation to the employer and a penalty may be attached. If you have questions about whether you are covered by WISHA, call 1-800-4BE SAFE (1-800-423-7233) or a local office of L&I.

What is OSHA and its relationship to WISHA?

The U.S. Congress created the Occupational Safety and Health Administration (OSHA) in 1971 to develop and enforce workplace safety and health rules throughout the country. States may choose to run their own safety and health programs as long as they are at least as effective as OSHA. Washington state has chosen to run its own program and most employers in the state, therefore, are subject to enforcement by L&I and not by federal OSHA.

In Washington state, OSHA covers workplaces with federal employees, nonfederal employees working on federal reservations and military bases, employees working on floating worksites (floating dry docks, fishing boats, construction barges), and employees working for tribal employers on tribal lands.

Does WISHA apply to you?

WISHA applies to almost every employer and employee in Washington. WISHA applies to you if:

- You hire someone to work for you as an employee, including workers from a temporary agency.
- You are hired to work for someone as their employee.
- You own your own business or you are a corporate officer and have elected industrial insurance coverage for yourself.
- You have a contract with someone else that primarily involves personal labor, even though you are not required to pay industrial insurance or unemployment insurance premiums.
- You volunteer your personal labor, or you have volunteers working for you who receive any benefit or compensation.

If you have any questions about your particular situation, call **1-800-4BE SAFE (1-800-423-7233)** or contact your local office of L&I for help. See the resource section of this book for a complete list of L&I offices.

Are there other safety and health rules I need to know about?

In addition to the rules in the *WISHA Safety and Health Core Rules* book, there are other general WISHA rules that may apply to employers, depending upon the industry and workplace activities. See the resource section of this book for a complete list of WISHA rules or go to the web site for all the state rules administered by L&I at <http://www.wa.gov/lni/home/wacs.htm>. If you have questions about these rules or would like copies of them, call 1-800-4BE SAFE (1-800-423-7233) or your local office of L&I.

How do the WISHA rules relate to fire, building and electrical codes?

Fire codes: WISHA rules contain basic requirements for portable fire extinguishers, exit routes, housekeeping, storage, stairs and electrical hazards for the protection of employees in your workplace. The rules contained in this book are the most basic requirements to make sure that as an employer you provide a safe and healthy work environment. However, these are not the only rules regarding the requirements for portable fire extinguishers, exit routes, housekeeping, storage, stairs and electrical equipment. The fire marshal and local fire authorities enforce the Uniform Fire Code (UFC). WISHA and UFC differ in some areas, for example UFC requires exit sign lettering to be 6" or more and WISHA only states that the letters have to be clearly visible. Fire codes have more detailed and extensive requirements for the protection of the public than WISHA. Some codes overlap with WISHA requirements.

Building and electrical codes: WISHA rules are minimum requirements regardless of when the building was built or remodeled. Buildings must also comply with building and electrical codes at the time of construction. If you remodel, you must comply with the building and electrical codes applicable at that time. Building authorities and electrical inspection authorities enforce rules from the Uniform Building Code (UBC), and the National Electrical Code (NEC).

You are encouraged to call your local fire, building or electrical authority. For more information on the requirements in your area look in the government section of your

phone book. Copies of these codes are available at your local library.

How can WISHA help employers and employees?

Employers can ask WISHA safety and health consultation staff for free, confidential consulting services in your workplace. WISHA safety and health professionals can examine your workplace and make recommendations about how to comply with WISHA rules. If the consultant finds hazards, the employer will be given a reasonable period of time to correct the hazard without citation or penalty.

Sometimes you might have to wait for an appointment because of the demand for these services. You still must provide a safe workplace while you wait for a consultation.

WISHA offers a wide variety of free services:

- Safety and health workshops held in locations throughout the state
- A comprehensive safety and health video lending library
- Safety and health publications geared for both employer and employee
- Web site with on-line publications and learning opportunities

Note: By law, WISHA consultants do not have any enforcement authority.

Link: For more information, call 1-800-4BE SAFE (1-800-423-7233) or visit <http://www.wa.gov/lni/home/training.htm>.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-100, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-100, filed 5/9/01, effective 9/1/01.]

EMPLOYER RESPONSIBILITIES: SAFE WORKPLACE**WAC 296-800-110 Employer responsibilities: Safe workplace—Summary.****Your responsibility:**

To provide a safe and healthy workplace free from recognized hazards.

IMPORTANT:

Use these rules where there are no specific rules applicable to the particular hazard.

You must:

Provide a workplace free from recognized hazards.

WAC 296-800-11005.

Provide and use means to make your workplace safe.

WAC 296-800-11010.

Prohibit employees from entering, or being in, any workplace that is not safe.

WAC 296-800-11015.

Construct your workplace so it is safe.

WAC 296-800-11020.

Prohibit alcohol and narcotics from your workplace.

WAC 296-800-11025.

Prohibit employees from using tools and equipment that are not safe.

WAC 296-800-11030.

Establish, supervise, and enforce rules that lead to a safe and healthy work environment that are effective in practice.

WAC 296-800-11035.

Control chemical agents.

WAC 296-800-11040.

Protect employees from biological agents.

WAC 296-800-11045.

Note: Employees may discuss and participate in any WISHA safety and health related practice and may refuse to perform dangerous tasks without fear of discrimination. Discrimination includes: Dismissal, demotion, loss of seniority, denial of a promotion, harassment, etc. see chapter 296-360 WAC, Discrimination pursuant to RCW 49.17.160, for a complete description of discrimination and the department's responsibility to protect employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-110, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-110, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-110, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-110, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11005 Provide a workplace free from recognized hazards. You must:

- Provide your employees a workplace free from recognized hazards that are causing, or are likely to cause, serious injury or death.

Note: A hazard is recognized if it is commonly known in the employer's industry, or if there is evidence that the employer knew or should have known of the existence of the hazard, or if it can be established that any reasonable person would have recognized the hazard.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-11005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-11005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11010 Provide and use means to make your workplace safe. You must:

- Provide and use safety devices, safeguards, and use work practices, methods, processes, and means that are reasonably adequate to make your workplace safe.

- Do not remove, displace, damage, destroy or carry off any safety device, safeguard, notice or warning, furnished for use in any employment or place of employment.

- Do not interfere with use of any of the above.

- Do not interfere with the use of any method or process adopted for the protection of any employee.

- Do everything reasonably necessary to protect the life and safety of your employees.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-11010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11015 Prohibit employees from entering, or being in, any workplace that is not safe. You must:

- Prohibit employees from entering, or being in, any workplace that is not safe.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-11015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11020 Construct your workplace so it is safe. You must:

- Not construct, or cause to be constructed, a workplace that is not safe.

- This rule applies to employers, owners, and renters of property used as a place of employment.

[Title 296 WAC—p. 2742]

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-11020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-11020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11025 Prohibit alcohol and narcotics from your workplace. You must:

- Prohibit alcohol and narcotics from your workplace, except in industries and businesses that produce, distribute, or sell alcohol and narcotic drugs.

- Prohibit employees under the influence of alcohol or narcotics from the worksite.

EXEMPTION: Employees who are taking prescription drugs, as directed by a physician or dentist, are exempt from this section, if the employees are not a danger to themselves or other employees.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-11025, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11030 Prohibit employees from using tools and equipment that are not safe.

You must:

- Take responsibility for the safe condition of tools and equipment used by employees.

Note: This applies to all equipment, materials, tools, and machinery whether owned by the employer or another firm or individual.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-18-090, § 296-800-11030, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-11030, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11035 Establish, supervise, and enforce rules that lead to a safe and healthy work environment that are effective in practice. You must:

- Establish, supervise, and enforce rules that lead to a safe and healthy work environment that are effective in practice.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-11035, filed 5/9/01, effective 9/1/01.]

WAC 296-800-11040 Control chemical agents. You must:

- Control chemical agents in a manner that they will not present a hazard to your workers; or

- Protect workers from the hazard of contact with, or exposure to, chemical agents.

Note: Pesticides are considered to be chemical agents. As required by this rule, you must control them or provide protection to workers from exposure to pesticide hazards. Pesticide manufacturers supply precautionary statements in the information provided with the pesticide that tells you how to protect your workers from these hazards.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-11040, filed 8/1/02, effective 10/1/02.]

WAC 296-800-11045 Protect employees from biological agents.

You must:

- (1) Protect employees from exposure to hazardous concentrations of biological agents that may result from processing, handling or using materials or waste.

Note: Potential exposure to biological agents occurs during cleanup, or other tasks, where employees handle:
– Animals or animal waste

- Body fluids
 - Biological agents in a medical research lab
 - Mold or mildew
- Check The Center of Disease Control web site (www.cdc.gov) to find published guidelines and information on safe handling and protection from specific biological agents (examples: Hanta virus, TB).

You must:

- (2) Warn employees of biohazards.
- Use signs, tags, or labels to identify:
 - The actual or potential presence of a biohazard;

AND

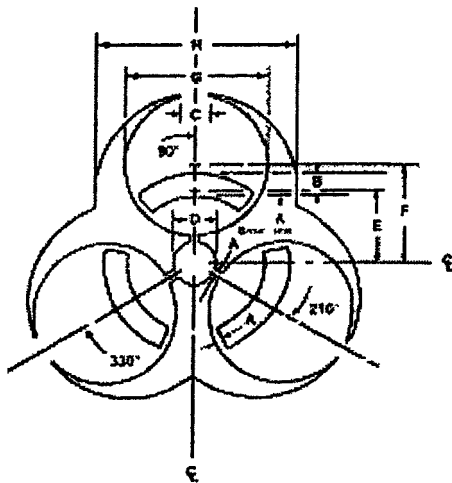
- Equipment, containers, rooms, materials, experimental animals, or any combinations of these that contain viable hazardous agents.

Definition:

Biohazard means those infectious agents presenting a risk or potential risk of death, injury or illness to employees.

You must:

- Make sure the sign, tag, or label includes the biohazard symbol that is designed and proportioned in the illustration that follows.



Dimension	A	B	C	D	E	F	G	H
Units	1	3/4	4	6	11	16	21	30

You must:

- Make sure that there is sufficient contrast for the symbol to be clearly defined, if the sign, tag, or label has a background color.

Reference: Additional requirements for biohazard signs, tags, and labels may apply. See WAC 296-823-14025 and 296-823-18040 of the *Bloodborne Pathogens* book.

- Note:**
- It's recommended that the sign, tag, or label have a key color of fluorescent orange or orange-red and lettering or symbols in a contrasting color.
 - Appropriate wording may be used in association with the symbol to indicate:
 - The nature or identity of the hazard;
 - Name of individual responsible for its control;
 - Precautionary information;
 - OR**
 - Other information.
 - This information should not be written on the symbol.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-18-080, § 296-800-11045, filed 8/31/04, effective 11/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-11045, filed 8/1/02, effective 10/1/02.]

EMPLOYEE RESPONSIBILITIES

WAC 296-800-120 Rule. Employee's responsibility:

To play an active role in creating a safe and healthy workplace and comply with all applicable safety and health rules.

Note: Employees may discuss and participate in any WISHA safety and health related practice and may refuse to perform dangerous tasks without fear of discrimination. Discrimination includes: Dismissal, demotion, loss of seniority, denial of a promotion, harassment, etc. (see chapter 296-360 WAC, Discrimination) pursuant to RCW 49.17.160 for a complete description of discrimination and the department's responsibility to protect employees.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-120, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-120, filed 5/9/01, effective 9/1/01.]

WAC 296-800-12005 Employee responsibilities.

Employees must:

- Study and follow all safe practices that apply to their work.
- Coordinate and cooperate with all other employees in the workplace to try to eliminate on-the-job injuries and illnesses.
- Apply the principles of accident prevention in their daily work and use proper safety devices and protective equipment as required by their employment or employer.
- Take care of all personal protective equipment (PPE) properly.
- Not wear torn or loose clothing while working around machinery.

Note: Things such as clothing, hair, and jewelry can get caught in machinery and be a hazard on the job.

Employees must:

- Report promptly to their supervisor every industrial injury or occupational illness.
- Not remove, displace, damage, or destroy or carry off any safeguard, notice, or warning provided to make the workplace safe.
- Not interfere with use of any safeguard by anyone in the workplace.
- Not interfere with the use of any work practice designed to protect them from injuries.
- Do everything reasonably necessary to protect the life and safety of employees.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-12005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-12005, filed 5/9/01, effective 9/1/01.]

SAFETY COMMITTEES AND SAFETY MEETINGS

WAC 296-800-130 Safety committees/safety meetings—Summary.

Important:

This rule requires you to have a method of communicating and evaluating safety and health issues brought up by you or your employees in your workplace. Larger employers **must** establish a safety committee. Smaller employers have the choice of either establishing a safety committee or holding safety meetings with a management representative present.

There is a difference between a safety committee and a safety meeting.

- A safety committee is an organizational structure where members represent a group. This gives everyone a voice but keeps the meeting size to an effective number of participants.

- A safety meeting includes all employees and a management person is there to ensure that issues are addressed. Typically, the safety committee is an effective safety management tool for a larger employer and safety meetings are more effective for a smaller employer.

Your responsibility:

To establish a safety committee or hold safety meetings to create and maintain a safe and healthy workplace for all employees.

You must:

Establish and conduct safety committees.

WAC 296-800-13020.

Follow these rules to conduct safety meetings.

WAC 296-800-13025.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-130, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-130, filed 5/9/01, effective 9/1/01.]

WAC 296-800-13020 Establish and conduct safety committees. You must:

If:	Then:
You employ 11 or more employees on the same shift at the same location	You must establish a safety committee

(1) Establish a safety committee.

- Make sure your committee:

- Has employee-elected and employer-selected members.

- ◆ The number of employee-elected members must equal or exceed the number of employer-selected members.

Note: Employees selected by the employees bargaining representative or union qualify as employee-elected.

- ◆ The term of employee-elected members must be a maximum of one year. (There is no limit to the number of terms a representative can serve.)

- ◆ If there is an employee-elected member vacancy, a new member must be elected prior to the next scheduled meeting.

- Has an elected chairperson.

- Determines how often, when, and where, the safety committee will meet.

Note: • Meetings should be one hour or less, unless extended by a majority vote of the committee.

• If the committee cannot agree on the frequency of meetings, the department of labor and industries regional safety consultation representative should be consulted for recommendations. (See the resources section of this book for contacts.)

You must:

(2) Cover these topics:

- Review safety and health inspection reports to help correct safety hazards.

- Evaluate the accident investigations conducted since the last meeting to determine if the cause(s) of the unsafe situation was identified and corrected.

- Evaluate your workplace accident and illness prevention program and discuss recommendations for improvement, if needed.

- Document attendance.

- Write down subjects discussed.

(3) Record meetings.

- Prepare minutes from each safety committee and:

- Preserve them for one year.

- Make them available for review by safety and health consultation personnel of the department of labor and industries.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-13020, filed 8/1/02, effective 10/1/02.]

WAC 296-800-13025 Follow these rules to conduct safety meetings. You must:

If:	Then:
You have 10 or fewer employees OR If you have 11 or more employees that • Work on different shifts with 10 or fewer employees on each shift OR • Work in widely separate locations with 10 or fewer employees at each location	You may choose to hold a safety meeting instead of a safety committee

(1) Do the following for safety meetings.

- Make sure your safety meetings:

- Are held monthly. You may meet more often to discuss safety issues as they come up.

- Have at least one management representative.

(2) Cover these topics.

- Review safety and health inspection reports to help correct safety hazards.

- Evaluate the accident investigations conducted since the last meeting to determine if the cause(s) of the unsafe situation was identified and corrected.

- Evaluate your workplace accident and illness prevention program and discuss recommendations for improvement, if needed.

- Document attendance.

- Write down subjects discussed.

Note: There are no formal documentation requirements for safety meetings except for writing down who attended and the topics discussed.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-13025, filed 8/1/02, effective 10/1/02.]

ACCIDENT PREVENTION PROGRAM

WAC 296-800-140 Accident prevention program.

Summary.

Your responsibility: To establish, supervise and enforce an accident prevention program (APP) that is effective in practice. (You may call this your total safety and health plan.)

You must:

Develop a formal, written accident prevention program (APP).

WAC 296-800-14005.

Develop, supervise, implement, and enforce safety and health training programs that are effective in practice.

WAC 296-800-14020.

Make sure your accident prevention program (APP) is effective in practice.

WAC 296-800-14025.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-140, filed 5/9/01, effective 9/1/01.]

WAC 296-800-14005 Develop a formal, written accident prevention program. You must:

- Develop a formal accident prevention program that is outlined in writing. The program must be tailored to the needs of your particular workplace or operation and to the types of hazards involved.

Note: The term "accident prevention program" refers to your written plan to prevent accidents, illnesses, and injuries on the job. Your accident prevention program may be known as your safety and health plan, injury prevention program, or by some other name.

You must:

- Make sure your Accident Prevention Program contains at least the following elements:

- A safety orientation:

- ◆ A description of your total safety and health program.

- ◆ On-the-job orientation showing employees what they need to know to perform their initial job assignments safely.

- ◆ How and when to report on-the-job injuries including instruction about the location of first-aid facilities in your workplace.

- ◆ How to report unsafe conditions and practices.

- ◆ The use and care of required personal protective equipment (PPE).

- ◆ What to do in an emergency, including how to exit the workplace.

- ◆ Identification of hazardous gases, chemicals, or materials used on-the-job and instruction about the safe use and emergency action to take after accidental exposure.

- A safety and health committee.

(WAC 296-800-130.)

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-14005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-14020 Develop, supervise, implement, and enforce safety and health training programs that are effective in practice. You must:

- Develop, supervise, implement, and enforce training programs to improve the skill, awareness, and competency of all your employees in the field of occupational safety and health.

- Make sure training includes on-the-job instruction to employees prior to their job assignment about hazards such as:

- Safe use of powered materials-handling equipment, such as forklifts, backhoes, etc.

- Safe use of machine tool operations.

- Use of toxic materials.

- Operation of utility systems.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-14020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-14025 Make sure your accident prevention program is effective in practice. You must:

- Establish, supervise, and enforce your accident prevention program in a manner that is effective in practice.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-14025, filed 5/9/01, effective 9/1/01.]

FIRST-AID SUMMARY

WAC 296-800-150 Rule summary. Your responsibility: Make sure first-aid trained personnel are available to provide quick and effective first aid.

You must:

Make sure that first-aid trained personnel are available to provide quick and effective first aid.

WAC 246-800-15005 [296-800-15005.].

Make sure appropriate first-aid supplies are readily available.

WAC 296-800-15020.

Make sure emergency washing facilities are functional and readily accessible.

WAC 296-800-15030.

Inspect and activate your emergency washing facilities.

WAC 296-800-15035.

Make sure supplemental flushing equipment provides sufficient water.

WAC 296-800-15040.

Note:

- Employers who require their employees to provide first aid must comply with chapter 296-823 WAC, Occupational exposure to bloodborne pathogens.
- Your workplace may be covered by separate first-aid rules. If you do any of the types of work listed below, you must follow separate industry specific rules:

Industry	Chapter (WAC)
Agriculture	296-307
Compressed air	296-36
Construction	296-155
Fire fighting	296-305
Logging	296-54
Sawmill	296-78
Ship building and repairing	296-304

You can get copies of these rules by calling 1-800-4BE SAFE (1-800-423-7233), or by going to <http://www.lni.wa.gov>.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-07-160, § 296-800-150, filed 3/23/04, effective 5/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-150, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-150, filed 5/9/01, effective 9/1/01.]

WAC 296-800-15005 Make sure that first-aid trained personnel are available to provide quick and effective first aid.

You must:

Comply with the first-aid training requirements of 29 CFR 1910.151(b) which states:

"In the absence of an infirmary, clinic, or hospital in near proximity to the workplace, which is used for the treatment of

all injured employees, a person or persons shall be adequately trained to render first aid."

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060, 04-07-160, § 296-800-15005, filed 3/23/04, effective 5/1/04; 03-09-110, § 296-800-15005, filed 4/22/03, effective 8/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-15005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-15005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-15020 Make sure appropriate first-aid supplies are readily available. You must:

- Make sure first-aid supplies are readily available.
- Make sure first-aid supplies at your workplace are appropriate to:
 - Your occupational setting.
 - The response time of your emergency medical services.

Note: First-aid kits from your local retailer or safety supplier should be adequate for most nonindustrial employers.

You must:

- Make sure that first-aid supplies are:
 - Easily accessible to all your employees.
 - Stored in containers that protect them from damage, deterioration, or contamination. Containers must be clearly marked, not locked, and may be sealed.
 - Able to be moved to the location of an injured or acutely ill worker.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-15020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-15030 Make sure emergency washing facilities are functional and readily accessible. You must:

- Provide an emergency shower:
 - When there is potential for major portions of an employee's body to contact corrosives, strong irritants, or toxic chemicals.
 - That delivers water to cascade over the user's entire body at a minimum rate of 20 gallons (75 liters) per minute for fifteen minutes or more.
- Provide an emergency eyewash:
 - When there is potential for an employee's eyes to be exposed to corrosives, strong irritants, or toxic chemicals.
 - That irrigates and flushes both eyes simultaneously while the user holds their eyes open.
 - With an on-off valve that activates in one second or less and remains on without user assistance until intentionally turned off.
 - That delivers at least 0.4 gallons (1.5 liters) of water per minute for fifteen minutes or more.

Note: Chemicals that require emergency washing facilities:

- You can determine whether chemicals in your workplace require emergency washing facilities by looking at the material safety data sheet (MSDS) or similar documents. The MSDS contains information about first-aid requirements and emergency flushing of skin or eyes.
- For chemicals developed in the workplace, the following resources provide information about first-aid requirements:
 - NIOSH Pocket Guide to Chemical Hazards
 - *DHHS (NIOSH) Publication No. 97-140
 - *<http://www.cdc.gov/niosh/npg/ggdstart.html>
 - Threshold Limit Values for Chemical Substances and Physical Agents American Conference of Governmental Industrial Hygienists (ACGIH)

You must:

- Make sure emergency washing facilities:
 - Are located so that it takes no more than ten seconds to reach.
 - Are kept free of obstacles blocking their use.
 - Function correctly.
 - Provide the quality and quantity of water that is satisfactory for emergency washing purposes.

Note:

- If water in emergency washing facilities is allowed to freeze, they will not function correctly. Precautions need to be taken to prevent this from happening.
- The travel distance to an emergency washing facility should be no more than fifty feet (15.25 meters).
- For further information on the design, installation, and maintenance of emergency washing facilities, see American National Standards Institute (ANSI) publication Z358.1 - 1998, *Emergency Eyewash and Shower Equipment*. Emergency washing facilities that are designed to meet ANSI Z358.1 - 1998 also meet the requirements of this standard. The ANSI standard can be obtained from the American National Standards Institute, 1430 Broadway, New York, New York 10018.

Reference:

- Training in the location and use of your emergency washing facilities is required under the employer chemical hazard communication rule, WAC 296-800-170, and the accident prevention program rule, WAC 296-800-140.
- All emergency washing facilities using "not fit for drinking" (nonpotable) water must have signs stating the water is "not fit for drinking." See WAC 296-800-23010.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-15030, filed 8/1/02, effective 10/1/02.]

WAC 296-800-15035 Inspect and activate your emergency washing facilities. You must:

- Make sure all plumbed emergency washing facilities are inspected once a year to make sure they function correctly.

Note: Inspections should include:

- Examination of the piping
- Making sure that water is available at the appropriate temperature and quality
- Activation to check that the valves and other hardware work properly
- Checking the water flow rate.

You must:

- Make sure plumbed emergency eyewashes and handheld drench hoses are activated weekly to check the proper functioning of the valves, hardware, and availability of water
- Make sure all self-contained eyewash equipment and personal eyewash units are inspected and maintained according to manufacturer instructions.
 - Inspections to check proper operation must be done once a year
 - Sealed personal eyewashes must be replaced after the manufacturer's expiration date.

Note: Most manufacturers recommend replacing fluid in open self-contained eyewashes every six months. The period for sealed containers is typically two years.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-15035, filed 8/1/02, effective 10/1/02.]

WAC 296-800-15040 Make sure supplemental flushing equipment provides sufficient water.

Note: Supplemental flushing equipment cannot be used in place of required emergency showers or eyewashes.

You must:

- Make sure hand-held drench hoses deliver at least 3.0 gallons (11.4 liters) of water per minute for fifteen minutes or more.

Note:

- Why use a drench hose? A drench hose is useful when:
 - The spill is small and does not require an emergency shower
 - Used with a shower for local rinsing, particularly on the lower extremities.

You must:

- Make sure personal eyewash equipment delivers only clean water or other medically approved eye flushing solutions.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-15040, filed 8/1/02, effective 10/1/02.]

PERSONAL PROTECTIVE EQUIPMENT (PPE)

WAC 296-800-160 Summary. Your responsibility: To make sure that your employees have, use, and care for the appropriate personal protective equipment (PPE).

PPE is an item or items used to protect the eyes, face, head, body, arms, hands, legs, and feet such as goggles, helmets, head covers, gloves, rubber slickers, disposable coveralls, safety shoes, protective shields, and barriers.

You must:

Do a hazard assessment for PPE.

WAC 296-800-16005.

Document your hazard assessment for PPE.

WAC 296-800-16010.

Select appropriate PPE for your employees.

WAC 296-800-16015.

Provide PPE to your employees.

WAC 296-800-16020.

Train your employees to use PPE.

WAC 296-800-16025.

Retrain employees to use PPE, if necessary.

WAC 296-800-16030.

Document PPE training.

WAC 296-800-16035.

Require your employees to use necessary PPE on the job.

WAC 296-800-16040.

Keep your PPE safe and in good condition.

WAC 296-800-16045.

Make sure your employees use appropriate face and eye protection.

WAC 296-800-16050.

Make sure your employees use appropriate head protection.

WAC 296-800-16055.

Make sure your employees use appropriate foot protection.

WAC 296-800-16060.

Make sure your employees use appropriate hand protection.

WAC 296-800-16065.

Make sure your employees are protected from drowning.

WAC 296-800-16070.

Exemption:

- WAC 296-800-16015, 296-800-16025, 296-800-16030, and 296-800-16035 do not apply to electrical protective equipment or respiratory protection. See chapters 296-24 WAC, Part L and chapter 296-842

WAC, for rules about these types of protective equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-03-093, § 296-800-160, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-160, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-160, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16005 Do a hazard assessment for PPE. You must:

- Look for and identify hazards or potential hazards in your workplace and determine if PPE is necessary on the job.

Note:

- PPE alone should not be relied on to provide protection for your employees. PPE should be used after all other reasonable means of reducing hazards have been carried out. Identifying hazards in your workplace should be built into your regular routine. You should take active steps to get rid of all identified hazards. For example, you can:
 - Consider other ways to get hazardous jobs done.
 - Reduce hazardous materials or processes.
 - Apply engineering controls to reduce or eliminate hazards.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16010 Document your hazard assessment for PPE. You must:

- Verify that a hazard assessment for PPE has been done at your workplace and complete a written certification (paper or electronic format) that includes the:

- Name of the workplace
- Address of the workplace you inspected for hazards
- Name of person certifying that a workplace hazard assessment was done
- Date(s) the workplace hazard assessment was done
- Statement identifying the document as the certification of hazard assessment for PPE for the workplace

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16015 Select appropriate PPE for your employees. You must:

- (1) Select appropriate PPE.
 - Select appropriate PPE for your employees if hazards are present, or likely to be present.
 - Select PPE for each at-risk employee to use for protection from the hazards identified in your workplace hazard assessment.
- (2) Select PPE that properly fits each at-risk employee.

Note:

- The hazards in your workplace have special rules that apply to them.
- For information about PPE for specific workplaces, see these WISHA rule books:

Construction Work	Chapter 296-155 WAC
Electrical Workers	Chapter 296-45 WAC
Fire Fighters	Chapter 296-305 WAC
General Occupational Health Standards	Chapter 296-62 WAC
General Safety and Health Standards	Chapter 296-24 WAC
Logging Operations	Chapter 296-54 WAC
Pulp, Paper and Paper Board Mills and Converters	Chapter 296-79 WAC

Ship Repairing, Ship Building and Shipbreaking	Chapter 296-304 WAC
Ski Area Facilities and Operations	Chapter 296-59 WAC
Telecommunication	Chapter 296-32 WAC
Textile Industry	Chapter 296-301 WAC

- Note: For help in selecting PPE for your employees, you have several options. You may:
- Visit the OSHA web site <http://www.osha-slc.gov/SLTC/personalprotectiveequipment/index.html>.
 - Call 1-800-4BE SAFE (1-800-423-7233) for guidelines for selecting PPE.
 - Consult with safety and health professionals knowledgeable in this area. See resource section for links to professional organizations.
 - Discuss PPE choices with your employees.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-16015, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-16015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16020 Provide PPE to your employees. You must:

- Provide PPE wherever hazards exist from:
 - Processes or the environment
 - Chemical hazards
 - Radiological hazards or
 - Mechanical irritants that could cause injury or impairment to the function of any body part through absorption, inhalation, or physical contact.
- Provide necessary PPE to employees at no cost to the employee if the PPE:
 - Will be used to protect against hazardous materials
 - Is the type that would not reasonably or normally be worn away from the workplace, such as single use or disposable PPE.

- Note: Examples of PPE that the employer **must** provide are:
- Boots or gloves that could become contaminated with hazardous materials in the workplace.
 - Safety glasses, goggles, and nonprescription protective eye wear.
 - Goggles that fit over prescription eye wear.
 - Hard hats.
 - Full body harnesses and lanyards.
 - Single use or disposable PPE such as plastic type gloves used in the food service or medical industries.
- Examples of PPE that the employer may **not** have to provide are:
- Coats to protect against inclement weather.
 - Leather boots, with or without steel toes, that will not become contaminated on the job.
 - Prescription protective eye wear (except as part of a full face piece or hooded respirator).

[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 296-800-16025 Train your employees to use PPE. You must:

- Communicate your PPE selection decision to each at-risk employee.
- Provide training to each employee who is required to use PPE on the job. Each affected employee must be trained to know at least the following:
 - When PPE is necessary
 - What PPE is necessary
 - How to put on, take off, adjust, and wear PPE

[Title 296 WAC—p. 2748]

- Limitations of PPE
- Proper care, maintenance, useful life, and disposal of PPE.
 - Make sure before an employee is allowed to perform work requiring the use of PPE that the employee can:
 - Demonstrate an understanding of the training specified above; and
 - Demonstrate the ability to use PPE properly.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-16025, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-16025, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16030 Retrain employees to use PPE, if necessary. You must:

- Retrain an employee when you have reason to believe the understanding, motivation, and skills required to use the PPE has not been retained. Circumstances where retraining is required include:
 - Changes in the workplace that make previous training out of date.
 - Changes in the types of PPE to be used make previous training out of date.
 - Work habits or demonstrated knowledge indicate that the employee has not retained the necessary understanding, skill, or motivation to use PPE.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16030, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16035 Document PPE training. You must:

- Document in writing that each employee using PPE has received and understood the required training. This documentation must include:
 - Name of each employee
 - Date(s) of training
 - Subject of the training

Note: Documentation may be stored on a computer as long as it is available to safety and health personnel from the department of labor and industries.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16035, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16040 Require your employees to use necessary PPE on the job. You must:

- Require your employees to use necessary PPE on the job.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16040, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16045 Keep PPE in safe and good condition. You must:

- Make sure all PPE is safe for the work to be performed. It must:
 - Be durable.
 - Fit snugly.
 - Not interfere with the employee's movements.
- Make sure PPE is used and maintained in a clean and reliable condition.
 - Defective equipment **MUST NOT** be used.

(2009 Ed.)

- Make sure if employees provide their own PPE, that it is adequate for the workplace hazards, and maintained in a clean and reliable condition.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16045, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16050 Make sure your employees use appropriate eye and face protection. You must:

- Make sure that employees exposed to hazards that could injure their eyes and/or face use appropriate protection. Examples of these hazards include:

- Flying particles.
- Molten metal.
- Liquid chemicals.
- Acids or caustic liquids.
- Chemical gases or vapors.
- Any light that could injure the eyes such as lasers, ultraviolet, or infrared light.
- Objects that puncture.

- Make sure employees exposed to hazards from flying objects have eye protection with side protection, such as safety glasses with clip-on or slide-on side shields.

- Make sure eye protection for employees who wear prescription lenses:

- Incorporates the prescription into the design of the eye protection; or
- Is large enough to be worn over the prescription lenses without disturbing them.

- Make sure PPE used to protect the eyes and face meet the following specific ANSI (American National Standards Institute) standards. Most commercially available PPE is marked with the specific ANSI requirements.

- PPE bought before February 20, 1995, must meet ANSI standard Z87.1-1968.

- PPE bought on or after February 20, 1995, must meet ANSI standard Z87.1-1989.

- If you use eye or face protection that does not meet these ANSI standards, you must show they are equally effective.

Note: ANSI is the American National Standards Institute that publishes nationally recognized safety and health requirements. Their address is:
ANSI (American National Standards Institute)
1819 L Street NW
Washington, DC 20036
Phone: (202) 293-8020
Fax: (202) 293-9287
<http://www.ansi.org>

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-16050, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-16050, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-16050, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16055 Make sure your employees use appropriate head protection. You must:

(1) Make sure employees wear appropriate protective helmets.

- Where employees are exposed to hazards that could cause a head injury. Examples of this type of hazard include:

- Flying or propelled objects.
- Falling objects or materials.

- Where employees are working around or under scaffolds or other overhead structures.

(2009 Ed.)

- That helmets meet the following specific ANSI standards (most commercially available PPE is marked with specific ANSI requirements):

- Protective helmets bought before February 20, 1995, must meet ANSI standard Z89.1-1969.

- Protective helmets bought after February 20, 1995, must meet ANSI standard Z89.1-1986.

- If you use protective helmets that do not meet these ANSI standards, you must show they are equally effective.

(2) Make sure employees working near exposed electrical conductors that could contact their head wear a protective helmet designed (that meet the above ANSI standards) to reduce electrical shock hazard.

- Caps with metal buttons or metal visors must **not** be worn around electrical hazards.

(3) Make sure employees working around machinery or in locations that present a hair-catching or fire hazard wear caps or head coverings that completely cover their hair.

- Employees must wear a hair net that controls all loose ends when:

- Hair is as long as the radius of pressure rolls with exposed in-running nip points.

- Hair is twice as long as the circumference of exposed revolving shafts or tools in fixed machines.

- Employees must wear a hair covering of solid material when:

- The employee is exposed to an ignition source and may run into an area containing class-1 flammable liquids, such as ether, benzene, or combustible atmospheres if their hair is on fire.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16055, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16060 Make sure your employees use appropriate foot protection. You must:

(1) Use appropriate foot protection.

- Where employees are exposed to hazards that could injure their feet. Examples of these hazards are:

- Falling objects
- Rolling objects
- Piercing/cutting injuries
- Electrical hazards

- That meets specific ANSI requirements. (Most commercially available PPE is marked with specific ANSI requirements.)

- PPE bought before February 20, 1995, must meet ANSI standard Z41.1-1967.

- PPE bought after February 20, 1995, must meet ANSI standard Z41-1991.

- If you use foot protection that does not meet these ANSI standards, you must show it is equally effective.

(2) Make sure your employees wear calks or other suitable footwear to protect against slipping while they are working on top of logs.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16060, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16065 Make sure your employees use appropriate hand protection. You must:

• Make sure employees exposed to hazards that could injure their hands use appropriate hand protection. Examples of these hazards include:

- Absorbing harmful substances
- Severe cuts, lacerations or abrasions
- Punctures
- Chemical burns and/or thermal burns
- Harmful temperature extremes

• Make sure when choosing hand protection, you consider how well the hand protection performs relative to the:

- Task
- Conditions present
- Duration of use
- Hazards
- Potential hazards

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-16065, filed 5/9/01, effective 9/1/01.]

WAC 296-800-16070 Make sure your employees are protected from drowning. You must:

(1) Provide and make sure your employees wear personal flotation devices (PFD).

• When they work in areas where the danger of drowning exists, such as:

- On the water.
- Over the water.
- Alongside the water.

Note: Employees are not exposed to the danger of drowning when:

- Employees are working behind standard height and strength guardrails.
- Employees are working inside operating cabs or stations that eliminate the possibility of accidentally falling into the water.
- Employees are wearing an approved safety belt with a lifeline attached that prevents the possibility of accidentally falling into the water.

You must:

• Provide your employees with PFDs approved by the United States Coast Guard for use on commercial or merchant vessels. The following are appropriate or allowable United States Coast Guard-approved PFDs:

Type of PFD	General Description
Type I	Off-shore life jacket - effective for all waters or where rescue may be delayed.
Type II	Near-shore buoyant vest - intended for calm, inland water or where there is a good chance of quick rescue.
Type III	Flotation aid - good for calm, inland water, or where there is a good chance of rescue.
Type V	Flotation aids such as board-sailing vests, deck suits, work vests and inflatable PFDs marked for commercial use.

Note: • Commercially available PFDs are marked or imprinted with the type of PFD.
• Type IV PFDs are throwable devices. They are used to aid persons who have fallen into the water.

You must:

• Inspect PFDs before and after each use for defects and make sure that defective PFDs are not used.

(2) Provide approved life rings with an attached line on all docks, walkways, and fixed installations on or adjacent to water more than five feet deep.

• Life rings must:

- Be United States Coast Guard approved 30 inch size.
- Have attached lines that are at least 90 feet in length.
- Have attached lines at least 1/4 inch in diameter.
- Have attached lines with a minimum breaking strength of 500 pounds.

– Be spaced no more than 200 feet apart.
– Be kept in easily visible and readily accessible locations.

• Life rings and attached lines must:

– Be maintained to retain at least 75 percent of their designed buoyancy and strength.

– Be provided in the immediate vicinity when employees are assigned work at other casual locations where the risk of drowning exists.

– Work assigned over water where the vertical drop from an accidental fall would be more than 50 feet, must be subject to specific procedures as approved by the department.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-16070, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-16070, filed 5/9/01, effective 9/1/01.]

EMPLOYER—CHEMICAL HAZARD COMMUNICATION INTRODUCTION

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 or substance
- 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, and 49.17.-060. 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.]

WAC 296-800-17005 Develop, implement, maintain, and make available a written Chemical Hazard Communication Program.

You must:

• Develop, implement, maintain, and make available a written Chemical Hazard Communication Program specific to your workplace. The Chemical Hazard Communication Program must, at a minimum, include:

- A list of hazardous chemicals known to be present in your workplace.
- Procedures for making sure all containers are properly labeled.
- A description of how you are going to obtain and maintain your material safety data sheets (MSDSs).
- A description of how you are going to train and inform your employees about hazardous chemicals in their workplace.
- A description of how you are going to inform your employees about:

◆ Chemical hazards used during nonroutine tasks.

◆ The hazards associated with chemicals contained in unlabeled pipes in employee work areas.

You must:

• Make your Chemical Hazard Communication Program available to your employees.

Note: • You must make the written Chemical Hazard Communication Program available, upon request, to employees, their designated representatives, the department and NIOSH, in

accordance with the requirements of chapter 296-802 WAC, Employee medical and exposure records.

- Where employees must travel between workplaces during a workshift, that is, if their work is carried out at more than one geographical location, the written Chemical Hazard Communication Program may be kept at the primary workplace facility.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-800-17005, filed 4/27/04, effective 8/1/04; 03-18-090, § 296-800-17005, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-17005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17007 Include multiemployer workplaces in your program if necessary.

IMPORTANT:

• Sharing chemical hazard information at multiemployer workplaces is required for the success of your hazard communication program and the success of other employers' programs.

• This section applies to a site where you or your employees work if:

– Your employees may be exposed to hazardous chemicals used by another employer;

OR

– Another employer's employees may be exposed to hazardous chemicals you or your employees use.

Examples include employees of construction companies, cleaning services, or maintenance contractors visiting or working on-site.

You must:

• Include, in your written Chemical Hazard Communication Program, the methods you will use to share the following hazard information with other employers when their employees share a workplace with you and are potentially exposed to chemicals you produce, use, or store:

– How you will provide other employers with a copy of the relevant material safety data sheets (MSDSs), or provide access to the MSDSs in a specified location.

– How you will inform the other employers of any precautionary measures needed to protect employees during normal operating conditions and in foreseeable emergencies.

– A description of how you will inform other employers of the labeling system you use.

Note: You may rely on another employer's Chemical Hazard Communication Program to share the information required if the program meets the requirements of this rule.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-17007, filed 9/2/03, effective 11/1/03.]

WAC 296-800-17010 Identify and list all the hazardous chemicals present in your workplace. You must:

• Identify all hazardous chemicals at your workplace.

– This includes any chemical that is known to be present in your workplace in such a way that employees may be exposed to it under normal conditions of use or in a foreseeable emergency.

• Create a list of these chemicals using the chemical or common name on the material safety data sheet (MSDS).

This list:

– Must be compiled for the workplace as a whole, or for individual work areas.

[Title 296 WAC—p. 2752]

– Is necessary to make sure that all hazardous chemicals are identified and that MSDS, and labeling rules are met.

– Must be current.

Note: The following are some ways to determine whether a product is hazardous:

• Look for words on the label, such as "CAUTION," "WARNING," or "DANGER."

• Look for words or "hazard coding" that indicate that the chemical is flammable, an irritant, corrosive, carcinogenic, etc. "Hazard coding" refers to words, numbers, or colors that tell you a chemical is dangerous.

• Check the product's MSDS for hazard information.

Examples of hazardous chemicals are: Acids, adhesives, caustics, fuels, paints, varnishes, shellacs and pesticides. Too many other classes of hazardous chemicals exist to list them all here. If you have any questions about a chemical you have at your workplace, contact your local L&I office (see the resource section of this book).

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-17010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17015 Obtain and maintain material safety data sheets (MSDSs) for each hazardous chemical used.

Note: MSDSs are a type of employee exposure record. Therefore, you must comply with the material safety data sheets (MSDSs) as exposure records, WAC 296-800-180, located in this book.

You must:

• Obtain a MSDS for each hazardous chemical used as soon as possible if the MSDS is not provided with the shipment of a hazardous chemical, from the chemical manufacturer or importer.

Note: • To obtain a MSDS, you may try calling the manufacturer or checking their web site.

• If you have a commercial account with a retailer or wholesaler, you have the right to request and receive a MSDS about hazardous chemicals you purchase.

• If a chemical is purchased from a retailer with no commercial accounts, you have the right to request and receive the manufacturer's name and address so that you can contact them and request a MSDS for the chemical.

• Whoever prepares the MSDS is required to mark all blocks on the form, even if there is no relevant information for that section.

• If you have problems getting a MSDS within 30 calendar days after making a written request to the chemical manufacturer, importer, or distributor, you can get help from WISHA. You may contact your local regional office for assistance or make a written request for assistance to the:

Department of Labor and Industries

Right-to-Know Program

P.O. Box 44610

Olympia, Washington 98504-4610.

Include in your request:

– A copy of the purchaser's written request to the chemical manufacturer, importer, or distributor.

– The name of the product suspected of containing a hazardous chemical.

– The identification number of the product, if available.

– A copy of the product label, if available.

– The name and address of the chemical manufacturer, importer, or distributor from whom the product was obtained.

You must:

• Maintain a MSDS for each hazardous chemical:

– Keep copies of the required MSDSs for each hazardous chemical present in your workplace.

– Each MSDS must be in English. You may also keep copies in other languages.

Reference: See material safety data sheets and label preparation, chapter 296-839 WAC, if you choose to create your own MSDS or label.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-18-090, § 296-800-17015, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-17015, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17020 Make sure material safety data sheets (MSDSs) are readily accessible to your employees and NIOSH.

You must:

- Make sure that MSDSs are readily accessible, easily obtained without delay during each work shift by employees when they are in their work area(s).
- Make sure that employees, who must travel between workplaces during a work shift, such as when their work is carried out at more than one geographical location, can immediately obtain the required MSDS information in an emergency. (MSDSs may be kept at a central location at the primary workplace facility and accessed by means such as voice communication or laptop computer.)

- Note:**
- Electronic access (such as computer or fax), microfiche, and other alternatives to maintaining paper copies of the MSDSS are permitted as long as they do not create barriers to immediate employee access in each workplace.
 - Barriers to immediate access of electronic MSDSSs may include:
 - Power outages
 - Equipment failure
 - System delays
 - Deficient user knowledge to operate equipment
 - Location of equipment outside the work area.
- Solutions to eliminating these and other possible barriers to access may require the availability of back-up systems, employee training, and providing access equipment in the work areas.

You must:

- Make MSDSs readily available, when requested, to representatives of the National Institute for Occupational Safety and Health (NIOSH).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-18-090, § 296-800-17020, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-17020, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-17020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17025 Label containers holding hazardous chemicals.

- Exemptions:**
- The following is a summary of items that are exempt from this rule:
 - Pesticides, when labeled as required by the Environmental Protection Agency (EPA).
 - Food, food additives, color additives, drugs, cosmetics, or medical/veterinary devices or products.
 - Alcoholic beverages not intended for industrial use.
 - Consumer products labeled as required by the Consumer Product Safety Commission.
 - Agriculture or vegetable seeds treated and labeled as required by the Federal Seed Act.
- For complete information about each of these, see WAC 296-800-17055.

- Note:** You are not required to label portable containers into which hazardous chemicals are transferred from labeled containers, if the chemical is used and controlled by the same employee who performed the transfer within the same shift.

You must:

- Make sure that each container of hazardous chemicals in the workplace is labeled, tagged, or marked with the following information:

(2009 Ed.)

- The identity of the hazardous chemical(s) using either the chemical or common name.

- Appropriate hazard warnings which give general information about the relevant health and physical hazards of the chemicals. This includes health effects information, such as information about organs most likely to be affected by the chemicals.

- For individual stationary process containers, you may use alternate labeling methods such as:

- ◆ Signs
- ◆ Placards
- ◆ Process sheets
- ◆ Batch tickets
- ◆ Operating procedures or
- ◆ Other such written materials,

- as long as the alternate method identifies the containers and conveys the required label information.

- Note:**
- You do not need to put on new labels if existing labels already provide the required information.
 - You are not required to list each component in a hazardous mixture on the label. If a mixture is referred to on an MSDS by a product name, then the product name should be used as the identifier.
 - You may use words, pictures, symbols, or any combination of these, to communicate the hazards of the chemical.

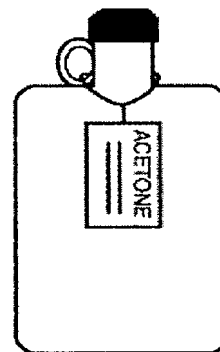
Sample Container Labels



- Be sure to train your employees so they can demonstrate a knowledge of the labeling system you use.
- Some alternative labeling systems do not communicate target organ information, so the employee will have to rely on training provided by the employer to obtain this information.

You must:

- Not remove or deface existing labels on incoming containers of hazardous chemicals unless the container is immediately labeled with the required information.



This is an example of a labeled container. You may use a laminated or coated label, affixed to the container with a wire, to avoid deterioration of labels due to a solvent, such as acetone.

You must:

- Make sure that labels or other forms of warning are legible, in English, and prominently displayed on the container,

[Title 296 WAC—p. 2753]

or readily available in the work area throughout each work shift.

Note: Employers with non-English speaking employees may use other languages in the warning information in addition to the English language.

- Make sure if the hazardous chemical is regulated by WISHA or OSHA in a substance-specific health rule, that the labels or other warnings are used according to those rules.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-17025, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-17025, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17025, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17030 Inform and train your employees about hazardous chemicals in your workplace. You must:

- Provide employees with effective information on hazardous chemicals in their work area at the time of their initial job assignment. Whenever a new physical or health hazard related to chemical exposure is introduced into their employees' work areas, information must be provided.

- Inform employees of:

- ◆ The requirements of this rule
- ◆ Any operations in their work area where hazardous chemicals are present

- ◆ The location and availability of your written Chemical Hazard Communication Program, including the list(s) of hazardous chemicals and material safety data sheets (MSDSs) required by this rule.

- Provide employees with effective training about hazardous chemicals in their work area at the time of their initial job assignment. Whenever a new physical or health hazard related to chemical exposure is introduced, the employees must be trained.

- Make sure employee training includes:

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area. Examples of these methods and observations may include:

- ◆ Monitoring conducted by you
- ◆ Continuous monitoring devices
- ◆ Visual appearance or odor of hazardous chemicals when being released

- Physical and health hazards of the chemicals in the work area, including the likely physical symptoms or effects of overexposure

- Steps employees can take to protect themselves from the chemical hazards in your workplace, including specific procedures implemented by you to protect employees from exposure to hazardous chemicals. Specific procedures may include:

- ◆ Appropriate work practices
- ◆ Engineering controls
- ◆ Emergency procedures
- ◆ Personal protective equipment to be used

- Details of the chemical hazard communication program developed by you, including an explanation of the labeling system and the MSDS, and how employees can obtain and use the appropriate hazard information.

- Tailor information and training to the types of hazards to which employees will be exposed. The information and

training may be designed to cover categories of hazards, such as flammability or cancer-causing potential, or it may address specific chemicals. Chemical-specific information must always be available through labels and MSDSs

- Make reasonable efforts to post notices in your employees' native languages (as provided by the department) if those employees have trouble communicating in English.

Note:

- Interactive computer-based training or training videos can be used provided they are effective.
- Your MSDSs may not have WISHA permissible exposure limits (PELs) listed. In some cases, WISHA PELs are stricter than the OSHA PELs and other exposure limits listed on the MSDSs you receive. If this is the case, you must refer to the WISHA PEL table, WAC 296-62-075, for the appropriate exposure limits to be covered during training.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-17030, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-17030, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17030, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17035 Follow these rules for laboratories using hazardous chemicals.

Note:

- Laboratories are required to have a written chemical hygiene plan under chapter 296-828 WAC, if applicable. They are **not** required to have a written Chemical Hazard Communication Program.
- You may combine your accident prevention program and chemical hazard communication program to assist you in developing a chemical hygiene plan for your laboratory.

You must:

- (1) Make sure that labels on incoming containers of hazardous chemicals are in place and readable.

- (2) Maintain material safety data sheets (MSDSs) received with incoming shipments of hazardous chemicals and make them readily accessible to laboratory employees when they are in their work areas.

- (3) Provide laboratory employees with information and training as described in: "Inform and train your employees about hazardous chemicals in your workplace," WAC 296-800-17030. You do not have to cover the location and the availability of the Hazard Communication Program.

Note: Laboratory employers that ship hazardous chemicals are considered to be either chemical manufacturers or distributors. When laboratory employers ship hazardous chemicals they must comply with the rule, "hazard communication standards for chemical manufacturers, importers and distributors," WAC 296-62-054.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 06-02-060, § 296-800-17035, filed 1/3/06, effective 4/1/06. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-17035, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17035, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17040 Follow these rules for handling chemicals in factory-sealed containers. This applies to situations where employees only handle chemicals in factory-sealed containers that are not opened under normal use (such as those found in marine cargo handling, trucking, warehousing, or retail sales).

You must:

- (1) Make sure that labels on incoming containers of hazardous chemicals are in place and readable.

- (2) Keep or obtain material safety data sheets (MSDSs).
 - Keep any MSDSs that are received with incoming shipments of the sealed containers of hazardous chemicals.

- If a factory-sealed container of hazardous chemicals comes without a MSDS, obtain one as soon as possible, if an employee requests it.

(3) Make sure that the MSDSs are readily accessible during each work shift to employees when they are in their work area(s).

(4) Inform and train your employees about hazardous chemicals in your workplace, to protect them in case of a hazardous chemical spill or leak from a factory-sealed container. You do not have to cover the location and availability of the written Chemical Hazard Communication Program.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-17040, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-17040, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17045 Translate certain chemical hazard communication documents upon request. The department must:

- Upon receipt of a written or verbal request, prepare and make available (within available resources) to employers or the public, a translation into Cambodian, Chinese, Korean, Spanish, or Vietnamese of any of the following:

- An employer's written Chemical Hazard Communication Program.

- A material safety data sheet or

- Written materials prepared by the department to inform employees of their rights described in this rule, regarding chemical hazard communication.

Note: Written requests for translations should be directed to:
Department of Labor and Industries
Right-to-Know Program
P.O. Box 44610
Olympia, Washington 98504-4610.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-17045, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17050 Attempt to obtain a material safety data sheet (MSDS) upon request. The department must:

- Upon receipt of an employer's written request for a material safety data sheet, attempt to obtain the MSDS from the chemical manufacturer, importer, or distributor. When the department receives the MSDS, the department must forward a copy of it to the purchaser at no cost. Small business employers will be given priority for this service.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-17050, filed 5/9/01, effective 9/1/01.]

WAC 296-800-17055 Items or chemicals exempt from the rule, and exemptions from labeling.

- Listed below are the full descriptions of the items or chemicals that are exempt, or not covered, by this rule:

- Any consumer product or hazardous substance, defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substance Act (15 U.S.C. 1261 et seq.) respectively, where you can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure that is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended.

- Any hazardous waste defined by the Hazardous Waste Management Act chapter 70.105 RCW, when subject to regulations issued under that act by the department of ecology that describes specific safety, labeling, personnel training, and other rules for the accumulation, handling and management of hazardous waste.

- Any hazardous waste 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 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 Environmental Protection Agency regulations.

- Tobacco or tobacco products.

- Wood or wood products, including lumber that will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to the employees is the potential for flammability or combustibility. Wood or wood products that have been treated with hazardous chemicals covered by this rule, and wood that may be subsequently sawed or cut, generating dust, are not exempted.

- Articles, meaning manufactured items other than a fluid or particle that:

- ◆ Are formed to a specific shape or design during manufacture;

- ◆ Have end use function(s) dependent in whole or in part upon their shape or design during end use; and

- ◆ Under normal conditions of use, do not release more than very small quantities, for example, minute or trace amounts of a hazardous chemical such as, emissions from a marking pen or a newly varnished wood chair, and do not pose a physical hazard or health risk to employees

- Food or alcoholic beverages that are sold, used, or prepared in a retail establishment such as a grocery store, restaurant, or drinking place, and foods intended for personal consumption by employees while in the workplace.

- Any drug, defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), when it is in solid, final form for direct administration to the patient (for example, tablets or pills); drugs that are packaged by the chemical manufacturer for sale to consumers in a retail establishment (for example, over-the-counter drugs); and drugs intended for personal consumption by employees while in the workplace (for example, first-aid supplies). Aerosolized or cytotoxic drugs administered by a health care worker are not excluded.

- Cosmetics packaged for sale to consumers in a retail establishment, and cosmetics intended for personal consumption by employees while in the workplace.

- Ionizing and nonionizing radiation.

- Biological hazards.

- This rule does not require labeling of the following chemicals:

- Any pesticide defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.), when subject to the labeling requirements of that act and labeling regulations issued under that act by the Environmental Protection Agency.

– Any chemical substance or mixture defined in the Toxic Substance Control Act (15 U.S.C. 2601 et seq.), when subject to the labeling requirements of that act, and labeling requirements issued under that act by the Environmental Protection Agency.

– Any food, food additive, color additive, drug, cosmetic, or medical/veterinary device or product, including materials intended for use as ingredients in such products (for example, flavors and fragrances), are defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.) or the Virus-Serum Toxin Act of 1913 (21 U.S.C. 151 et seq.) and regulations issued under those acts, when they are subject to the labeling requirements under those acts by either the Food and Drug Administration or the Department of Agriculture.

– Any distilled spirits (beverage alcohols), wine, or malt beverage intended for nonindustrial use, defined in the Federal Alcohol Administration Act (27 U.S.C. 201 et seq.) and regulations issued under that act, when subject to the labeling requirements of that act and labeling regulations issued under that act by the Bureau of Alcohol, Tobacco, and Firearms.

– Any consumer product or hazardous substance defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, when subject to a consumer product safety rule or labeling requirement of those acts, or regulations issued under those acts by the Consumer Product Safety Commission.

– Agricultural or vegetable seed treated with pesticides and labeled in accordance with the Federal Seed Act (7 U.S.C. 1551 et seq.) and the labeling requirements issued under that act by the Department of Agriculture.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-17055, filed 5/9/01, effective 9/1/01.]

WAC 296-800-180 Material safety data sheets (MSDSs) as exposure records. Important: Exposure records contain information about employees' exposure to toxic substances or harmful physical agents. Material safety data sheets (MSDSs) are one type of exposure record. The preservation of and access to exposure records is necessary to improve detection, treatment, and prevention of occupational diseases.

This rule supplements the chemical hazard communication rule by extending access to MSDSs, or their alternative, after employment and after the hazardous chemical is no longer used in the workplace.

Your responsibility:

To preserve and provide access to material safety data sheets (MSDSs) or their alternative as exposure records.

You must:

Preserve exposure records for at least thirty years.

WAC 296-800-18005.

Inform current employees of exposure records.

WAC 296-800-18010.

Provide access to exposure records.

WAC 296-800-18015.

Transfer records when ceasing to do business.

WAC 296-800-18020.

Note: • Employee medical and exposure records, chapter 296-802 WAC, requires the preservation and access to other exposure records including records such as workplace monitoring data

and biological monitoring results and medical records. If you keep these other types of employee exposure records or employee medical records, you must comply with these additional requirements.

• This rule applies to every employer who maintains, makes, contracts for, or has access to MSDSs for chemicals used in their workplace.

• The specific identity of a toxic substance may be withheld from a disclosable record if it is a verifiable trade secret. For trade secret requirements see chapter 296-816 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-800-180, filed 4/27/04, effective 8/1/04. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-180, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-180, filed 5/9/01, effective 9/1/01.]

WAC 296-800-18005 Preserve exposure records for at least 30 years. You must:

• Keep material safety data sheets (MSDSs) and analysis using MSDSs for at least thirty years, including current, former, and future employers receiving transferred records. Preserve MSDSs in any form, as long as the information is not altered and is retrievable. You may keep alternative records instead of MSDSs concerning the identity of a substance. The alternative record must also be kept for thirty years and contain the following information:

– Some record of the identity (chemical name, if known) of a substance or agent

– Where the substance or agent was used

– When the substance or agent was used

Note: Keeping alternative records may be less work than you think. When developing your hazard communication program's list of hazardous chemicals (WAC 296-800-17010), add the "where used" and "when used" information required by this rule.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-18005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-18010 Inform current employees of exposure records. You must:

• Inform current employees who are, or will be exposed to a toxic chemical of:

Note: A chemical is toxic if:

• The latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) lists the substance. This may be obtained on-line, CD-ROM, or on a computer tape.

• Testing by or known to the employer has shown positive evidence that the substance is an acute or chronic health hazard.

• A material safety data sheet (MSDS) kept by or known to the employer shows the material may be a hazard to human health.

– The existence, location, and availability of MSDSs or alternative records, and any other records covered by this rule.

– The person responsible for maintaining and providing access to records.

– Exposure records when the employee first enters into employment and then once a year thereafter.

– Existence and their rights of access to these records.

Note: Informing employees of the availability of these records may be accomplished by posting, group discussion or by individual notifications.

You must:

- Keep a copy of this rule and make copies available upon request to employees.
- Distribute to employees any informational materials about this rule that are made available to the employer by the department.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-18010, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-18010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-18015 Provide access to exposure records. You must:

- Provide access, whenever requested by an employee or their designated representative, to a relevant exposure record:
 - In a reasonable time, place, and manner.
 - Within fifteen working days. If the employer cannot meet this requirement, they must inform the requesting party of the reason for the delay and the earliest date the record will be made available.

Note: • Employee means any current, former or transferred worker.
• A relevant exposure record is an MSDS or its alternative or analysis using MSDSs or their alternative.

You must:

- Make sure labor and industries has prompt access to any exposure records and related analysis. This must be done without violation of any rights under the Constitution or the Washington Industrial Safety and Health Act that the employer chooses to exercise.

Note: Nothing in this rule is meant to prevent employees and collective bargaining agents from getting access to information beyond that is required by this rule.

You must:

- Make sure that whenever an employee or designated representative requests an initial copy of an exposure record, related analysis or new information added to the record:
 - A copy of the record is provided without cost to the employee or their representative or
 - The facilities are made available for copying without cost to the employee or their representative or
 - The record is loaned to the employee or their representative for a reasonable time to enable a copy to be made.

Note: Whenever a record has been previously provided without cost to an employee or designated representative, and they request additional copies, the employer may charge reasonable, non-discriminatory administrative costs (e.g., search and copying expenses, but no overhead expenses).

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-18015, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-18015, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-18015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-18020 Transfer records when ceasing to do business. You must:

- Transfer all material safety data sheets (MSDSs) as exposure records to the successor employer, who must do the following to these records:
 - Received
 - Preserve
 - Keep unchanged
- If there is no successor to receive and preserve the employee exposure records:

(2009 Ed.)

- Notify affected current employees of their rights of access to records at least 3 months prior to the cessation of the employer's business

and

- Transfer the records to the department, if required by a specific WISHA safety and health rule.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-18020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-18020, filed 5/9/01, effective 9/1/01.]

SAFETY BULLETIN BOARD

WAC 296-800-190 Summary/rule. Your responsibility: To provide a safety bulletin board.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-190, filed 5/9/01, effective 9/1/01.]

WAC 296-800-19005 Provide a safety bulletin board in your workplace. You must:

- Install and maintain a safety bulletin board in every fixed workplace (establishment) that has eight or more employees. Make sure the safety bulletin board is large enough to post information such as the following:

- Safety bulletins
- Safety newsletters
- Safety posters
- Accident statistics
- Other safety educational material.

Note: You may want to post your emergency phone numbers on the safety bulletin board.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-19005, filed 5/9/01, effective 9/1/01.]

WISHA POSTER

WAC 296-800-200 WISHA poster. Your responsibility: To post the WISHA poster, which informs your employees of their job safety and health protection rights.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-200, filed 5/9/01, effective 9/1/01.]

WAC 296-800-20005 Post and keep a WISHA poster in your workplace. You must:

- Post it where it can easily be seen by employees and keep it in good condition.

Note: • Other programs within labor and industries may require other workplace posters. These are:

- Job safety and health protection
- AND
- Notice to employees—If a job injury occurs

AND

- Your rights as a nonagricultural worker
- You can obtain a free copy of labor and industries posters from any labor and industries office or by printing it off our web site (<http://www.lni.wa.gov/ipub/101-054-000.htm>). You can find the labor and industries office closest to you by:

- Checking the resource section of this book for regional offices.

OR

- Calling 1-800-4BE SAFE (1-800-423-7233)

OR

- <http://www.lni.wa.gov/wisha/question.htm#contact>.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-20005, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-

800-20005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-20005, filed 5/9/01, effective 9/1/01.]

LIGHTING

WAC 296-800-210 Lighting. Your responsibility: To provide and maintain adequate lighting in your workplace.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-210, filed 5/9/01, effective 9/1/01.]

WAC 296-800-21005 Provide and maintain adequate lighting.

Note: This section establishes minimal levels of lighting for safety purposes only. Guidelines pertaining to optimal levels of lighting and illumination may be found in Practice for Industrial Lighting, ANSI/IES RP7-1979. (See the resource section of this book on how to contact ANSI.)

You must:

- Provide and maintain adequate lighting for all work activities in your workplace. See the following table.

Activity	Lighting Table	
	Minimum acceptable average lighting level in an area: (Foot-candles)	Any one single measurement used to determine the average lighting level* cannot be less than: (Foot-candles)
Indoor task	10	5
Outdoor task	5	2.5
Nontask activities for both indoor and outdoor	3	1.5

* Lighting levels must be measured at thirty inches above the floor/working surface at the task.

You must:

- Have adequate light for employees to see nearby objects that might be potential hazards or to see to operate emergency controls or other equipment, if general lighting is not available.

Note: • Lighting levels can be measured with a light meter.
• Conversion information: 1 foot-candle = 1 lumen incident per square foot = 10.76 lux.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-21005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-21005, filed 5/9/01, effective 9/1/01.]

HOUSEKEEPING, DRAINAGE, AND STORAGE

WAC 296-800-220 Housekeeping, drainage, and storage—Summary. Your responsibility: To provide your employees with a clean, dry, pest-free workplace.

Note: The introduction has important information about building, electrical and fire codes that may apply to you in addition to WISHA rules. See "How do the WISHA rules relate to building, fire, and electrical codes" in the introduction section of this book.

You must:

Housekeeping

Keep your workplace clean.
WAC 296-800-22005.

Sweep and clean your workplace to minimize dust.
WAC 296-800-22010.

Keep your workplace free of obstacles that interfere with cleaning.
WAC 296-800-22015.

Control pests in your workplace.
WAC 296-800-22020.

Make sure floors are maintained in a safe condition.
WAC 296-800-22022.

Drainage

Keep your workroom floors dry, when practical.
WAC 296-800-22025.

Provide proper drainage.
WAC 296-800-22030.

Storage areas

Store things safely.
WAC 296-800-22035.

Control vegetation in your storage areas.
WAC 296-800-22040.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-220, filed 5/9/01, effective 9/1/01.]

HOUSEKEEPING

WAC 296-800-22005 Keep your workplace clean.

You must:

- Keep all areas of your workplace, passageways, storage rooms, and service rooms in a clean, orderly and sanitary condition to the extent the nature of the work allows.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-22010 Sweep and clean your workplace to minimize dust. You must:

- Sweep and clean your workplace in a way that minimizes dust in the air as much as possible.
- When practical, clean after hours so that your employees are not exposed to dust in the air on the job.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-22015 Keep your workplace free of obstacles that interfere with cleaning. You must:

- Keep your workplace clear of obstructions such as nails, splinters, loose boards and unnecessary holes and openings to make cleaning easier and more effective.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-22020 Control pests in your workplace. You must:

- Make sure each building in your workplace is constructed, equipped and maintained so it restricts pests from entering or living in it. Pests include animals such as:
 - Rodents (rats, mice, and squirrels)
 - Birds (starlings, pigeons, and swallows)
 - Insects (bees, wasps, and mosquitoes)
- Take steps to effectively control pests in your workplace, if they are detected.
 - Carry out a continuing and effective control program in the areas of your workplace where pests have been detected.

- Note:
- By handling dead or live pests including their waste products, attached parasites and other contaminated materials, your employees may be exposed to certain health risks. These risks include, but are not limited to: Hanta virus, rabies, lyme disease and psittacosis. Contact your local L&I office (see resource section of this book) or the public health department for more information about health risks and proper pest handling and disposal techniques.
 - "Workplace" includes storage areas.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-22020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-22020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-22022 Make sure floors are maintained in a safe condition. You must:

- Make sure floors are kept free of debris. This includes:
 - Buildings
 - Platforms
 - Walkways and driveways
 - Storage yards
 - Docks
- Use a nonslip coating on all polished floors.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22022, filed 5/9/01, effective 9/1/01.]

DRAINAGE

WAC 296-800-22025 Keep your workroom floors dry, when practical. You must:

- Do the following to help keep your employees dry if wet processes are used in your work area:
 - Maintain drainage away from the work area; and

- Provide false floors, platforms, or other dry places where employees can stand, where practical, or
- Provide appropriate waterproof footwear.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22025, filed 5/9/01, effective 9/1/01.]

WAC 296-800-22030 Provide proper drainage. You must:

- Provide all areas where employees work, such as yards, basements, or garages, with adequate drainage.

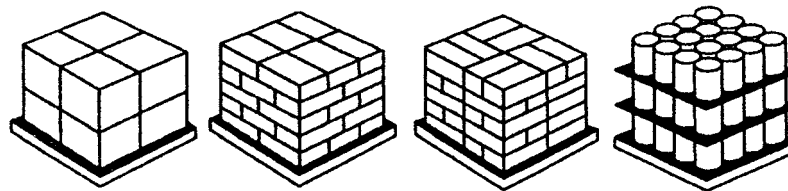
[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22030, filed 5/9/01, effective 9/1/01.]

STORAGE AREAS

WAC 296-800-22035 Store things safely. You must:

- Store materials so they do not create a hazard.
- Keep workplace storage areas free from accumulation of materials that could create hazards from tripping, fire, or explosion.
 - Secure stored items such as bundles, containers, and bags to prevent them from falling, sliding, or collapsing by doing one or more of the following:
 - Stacking
 - Racking
 - Blocking
 - Interlocking
 - Otherwise securing them
 - Make sure stored items are limited in height so that they are stable and secure to prevent sliding or collapse.

Examples of Proper Material Storage



Block Pattern Brick Pinwheel Rigid Spacer

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22035, filed 5/9/01, effective 9/1/01.]

WAC 296-800-22040 Control vegetation in your storage areas. You must:

- Control vegetation in your storage areas when necessary to create a safe working environment.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-22040, filed 5/9/01, effective 9/1/01.]

SANITATION AND HYGIENE FACILITIES AND PROCEDURES

WAC 296-800-230 Summary.

Your responsibility:

To provide safe drinking (potable) water, bathrooms, washing facilities, eating areas and garbage and waste disposal in your workplace.

You must:

General requirements for all workplaces.

Drinking water

Provide safe drinking (potable) water in your workplace. *WAC 296-800-23005.*

Clearly mark water outlets that are not fit for drinking (nonpotable).

WAC 296-800-23010.

Make sure systems delivering not fit for drinking (non-potable) water prevent backflow into drinking water systems.

WAC 296-800-23015.

Bathrooms and washing facilities

Provide bathrooms for your employees.

WAC 296-800-23020.

Provide convenient, clean washing facilities.
WAC 296-800-23025.

Eating areas and food service

Make sure eating areas are safe and healthy.
WAC 296-800-23040.

Follow these requirements if you provide food service to your employees.

WAC 296-800-23045.

Garbage and waste disposal

Dispose of garbage and waste safely.
WAC 296-800-23050.

Remove garbage and waste in a way that does not create a health hazard.

WAC 296-800-23055.

Lunchrooms and personal service rooms

Provide a separate lunchroom if employees are exposed to toxic substances if they are allowed to eat and drink on the job site.

WAC 296-800-23060.

Provide showers when required for employees working with chemicals.

WAC 296-800-23065.

Provide change rooms when required.

WAC 296-800-23070.

Make sure any work clothes you provide are dry.

WAC 296-800-23075.

Note: Some industries may have additional rules on bathrooms and washing facilities. Some examples include:

Industry	WAC
Agriculture; indoor sanitation and temporary labor camps	chapter 296-307 WAC
Carcinogens; general regulated area requirements	WAC 296-62-07308
Charter boats	WAC 296-115-050
Compressed air work	WAC 296-36-160(5)
Construction	WAC 296-155-140
Temporary labor camps	WAC 296-24-12507

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-18-090, § 296-800-230, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-230, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-230, filed 5/9/01, effective 9/1/01.]

DRINKING WATER

WAC 296-800-23005 Provide safe drinking (potable) water in your workplace.

You must:

(1) Provide safe drinking (potable) water for employees for:

- Washing themselves
- Personal service rooms
- Cooking
- Washing premises where food is prepared or processed
- Washing food, eating utensils, or clothing

(2) Make sure when providing movable or portable drinking water dispensers that they are:

- Capable of being closed
- Kept in sanitary condition
- Equipped with a tap

(3) Prohibit employees from:

- Using shared drinking cups or utensils.
- Using open containers such as barrels, pails, and tanks that require employees to dip or pour drinking water, even if the containers have covers.

Definition:

• Potable water is water that you can safely drink that meets specific safety standards prescribed by the United States Environmental Protection Agency's *National Interim Primary Drinking Water Regulations*, published in 40 CFR Part 141, and 40 CFR 147.2400.

• Personal service rooms are used for activities not directly connected with a business' production or service function such as first aid, medical services, dressing, showering, bathrooms, washing and eating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-18-090, § 296-800-23005, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-23005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-23005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-23010 Clearly mark the water outlets that are not fit for drinking (nonpotable).

You must:

(1) Mark water outlets that are not fit for drinking (non-potable), such as those used for industrial processes or fire fighting, so they will not be used for:

- Drinking
- Washing themselves, except in emergencies
- Cooking
- Washing food, eating utensils, or clothing.

(2) Prohibit the use of nonpotable water containing substances that could create unsafe conditions such as:

- Concentrations of chemicals, such as lead or chlorine
- Fecal coliform bacteria.

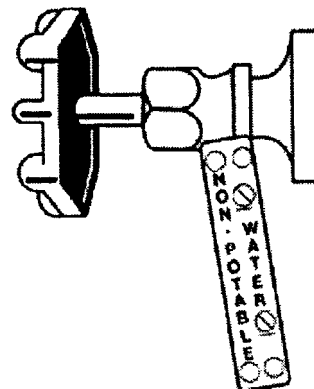
Note: As long as the nonpotable water is free of substances that could create unsafe conditions, the water can be used for cleaning both:

- Work premises used for activities other than food preparation or processing

AND

- Personal service rooms, such as bathrooms.

Reference: You may need to follow additional requirements for emergency washing facilities. See WAC 296-800-150 First aid, for more information.



Outlets for water not fit to drink must be marked.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23010, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-23010, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-23010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-23010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-23015 Make sure that systems delivering not-fit-for-drinking (nonpotable) water prevent backflow into drinking water systems. You must:

- Make sure that systems delivering not-fit-for-drinking (nonpotable) water prevent backflow into drinking water systems.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-23015, filed 5/9/01, effective 9/1/01.]

BATHROOMS AND WASHING FACILITIES

WAC 296-800-23020 Provide bathrooms for your employees.

Exemption: You do not have to provide bathrooms: For mobile crews or at work locations not normally attended by employees, if there is transportation immediately available to nearby bathrooms that meet the requirements of this section.

Exemption: You do not have to provide bathrooms: For mobile crews or at work locations not normally attended by employees, if there is transportation immediately available to nearby bathrooms that meet the requirements of this section.

You must:

(1) Provide bathrooms with the appropriate number of toilets for your employees at every workplace based on Table 1.

- Have an appropriate number of toilets for each gender, based on the number of male and female employees at your workplace.

– For example, if you have thirty-seven men and seven-teen women, you need to have three toilets for the men and two toilets for the women, based on Table 1.

- Make sure each toilet is in a separate compartment with a door and walls or partitions for privacy.

Table 1

Required Number of Employee Toilets at Every Workplace

Maximum Number of Employees Present at Any One Time During a Shift	Minimum Number of Toilets Required
1 to 15	1
16 to 35	2
36 to 55	3
56 to 80	4
81 to 110	5
111 to 150	6
Over 150	One additional toilet for each additional 40 employees

Note: A shared bathroom (multiple toilets without enclosures) counts as one toilet no matter how many toilets it contains. In bathrooms used only by men, urinals may be substituted for up to 1/3 of the required toilets.

You must:

(2) Provide toilet paper and a toilet paper roll holder for each toilet.

(3) Make sure bathrooms are maintained in a clean and sanitary condition.

(4) Make sure the sewage disposal method does not endanger the health of employees.

- Exemption:** Separate bathrooms for men and women are not required if the bathroom:
- Will only be occupied by one person at a time.
 - Can be locked from the inside.
 - Contains at least one toilet.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23020, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-23020, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-23020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-23025 Provide convenient and clean washing facilities.

- Exemption:** You do **not** have to provide washing facilities for:
- Mobile crews or work locations not normally attended by employees, if there is immediately available transportation to nearby washing facilities that meet the requirements of this rule.

You must:

• Provide convenient and clean washing facilities for employees including:

- Sinks or basins for personal washing
- Hot and cold water, or lukewarm (tepid), running water in each sink and basin
- Hand soap or similar cleaning agents
- One of the following:
 - Individual paper or cloth hand towels
 - Individual sections of clean continuous cloth toweling
 - Warm air blowers for drying hands, located near the sinks and basins.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23025, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-23025, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-23025, filed 5/9/01, effective 9/1/01.]

EATING AREAS AND FOOD SERVICE

WAC 296-800-23040 Make sure eating areas are safe and healthy.

You must:

(1) Make sure employees are not allowed to eat and drink in:

- Bathrooms.
- Areas exposed to toxic substances.

(2) Make sure food is not stored in bathrooms or areas exposed to toxic substances.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23040, filed 9/2/03, effective 11/1/03.]

WAC 296-800-23045 Follow these requirements if you provide food service to your employees.

You must:

- Make sure all food service facilities and operations you make available follow sound hygiene principles.
- Make sure the food is:

- Unspoiled.
- Protected from contamination during processing, preparation, handling, and storage.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23045, filed 9/2/03, effective 11/1/03.]

GARBAGE AND WASTE DISPOSAL

WAC 296-800-23050 Dispose of garbage and waste safely.

You must:

- (1) Make sure garbage containers are:
 - Kept in a clean and sanitary condition.
 - Made from smooth, corrosion resistant materials.
 - Easily cleaned or are disposable.
 - Equipped with a solid tight-fitting cover unless you can keep them in a sanitary condition without a cover.
- (2) Provide enough garbage containers to make sure they:
 - Are conveniently located to encourage their use.
 - Won't be overfilled.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23050, filed 9/2/03, effective 11/1/03.]

WAC 296-800-23055 Remove garbage and waste in a way that does not create a health hazard.

You must:

- Remove all sweepings, solid and liquid wastes, refuse, and garbage as often as needed to keep the workplace in a sanitary condition.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23055, filed 9/2/03, effective 11/1/03.]

LUNCHROOMS AND PERSONAL SERVICE ROOMS

WAC 296-800-23060 Provide a separate lunchroom if employees are exposed to toxic substances if they are allowed to eat and drink on the job site.

You must:

- (1) Provide a lunchroom separate from the work area if employees are exposed to toxic substances.
- (2) Use Table 2 to determine the required square footage in your lunchroom based on the number of employees using the room at any one time.

Table 2

Maximum Number of Employees Using Lunchroom at One Time

Number of Persons	Square Feet per Person
25 and less	13
26-74	12
75-149	11
150 and over	10

Note: You do not have to provide a separate lunchroom if it is convenient for employees to leave the workplace to eat and drink.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23060, filed 9/2/03, effective 11/1/03.]

[Title 296 WAC—p. 2762]

WAC 296-800-23065 Provide showers when required for employees working with chemicals.

You must:

- Provide showers for employees if:
 - They work with chemicals that could cause an occupational illness;

AND

- The chemicals remain on the skin between work shifts.
- Make sure employees who work with such chemicals shower at the end of their shifts.
 - Make sure showers have:
 - Soap or other cleansing agents.
 - Hot and cold water with a common discharge line.
 - Provide individual, clean towels for each employee who is required to shower.
 - Provide at least one shower for every ten employees (or every fraction of 10) of each gender.

Note: Table 3 shows the number of showers to provide based on a "fraction of 10."

Table 3

Number of Employees of Each Gender	Number of Showers
1-10	1
11-20	2
21-30	3
31-40	4
41-50	5

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23065, filed 9/2/03, effective 11/1/03.]

WAC 296-800-23070 Provide change rooms when required.

You must:

- Provide change rooms when employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials.
 - Make sure change rooms have separate storage facilities for street clothes and protective clothing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23070, filed 9/2/03, effective 11/1/03.]

WAC 296-800-23075 Make sure any work clothes you provide are dry.

You must:

- Make sure when providing work clothes to employees that the clothing provided is dry if the clothing:
 - Gets wet during use;
- OR**
- Is washed before it is reused.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-18-090, § 296-800-23075, filed 9/2/03, effective 11/1/03.]

ENVIRONMENTAL TOBACCO SMOKE IN THE OFFICE

WAC 296-800-240 Summary. Your responsibility: To eliminate exposure to *environmental tobacco smoke* in your *office work environment*.

You must:

Prohibit tobacco smoke in your office work environment

WAC 296-800-24005.

Note: This rule does not preempt any federal, state, municipal, or other local authority's regulation of indoor smoking that is more protective than this section.

Definition: Office work environment is an indoor or enclosed occupied space where clerical work, administration, or business is carried out. In addition, it includes:

- Other workplace spaces controlled by the employer and used by office workers, such as cafeterias, meeting rooms, and washrooms.
- Office areas of manufacturing and production facilities, not including process areas.
- Office areas of businesses such as food and beverage establishments, agricultural operations, construction, commercial trade, services, etc.

Link: For work environments outside the office, contact your local health department using the link <http://www.seconhandsmokesyou.com> or by calling them directly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-22-023, § 296-800-240, filed 10/24/06, effective 12/1/06. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-240, filed 5/9/01, effective 9/1/01.]

WAC 296-800-24005 Prohibit tobacco smoke in your office work environment. Exemption: The minimum criteria specified in this rule do not apply to outdoor structures provided for smokers such as gazebos or lean-tos that maintain the twenty-five feet distance from entrances, exits, windows that open, and ventilation intakes that serve an enclosed area where smoking is prohibited.

You must:

(1) Prohibit *smoking* in your office work environment

(2) Use administrative controls to prevent tobacco smoke from entering your office from outside the building.

- Make sure that outside smoking areas used by your employees are at least twenty-five feet from entrances, exits, windows that open, and ventilation intakes that serve an enclosed area where smoking is prohibited.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-22-023, § 296-800-24005, filed 10/24/06, effective 12/1/06. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-24005, filed 5/9/01, effective 9/1/01.]

STAIRS AND STAIR RAILINGS SUMMARY

WAC 296-800-250 Summary. Your responsibility: To make sure stairs used by employees are safe

You must:

Provide fixed stairs where required

WAC 296-800-25005

Provide stairs that minimize hazards

WAC 296-800-25010

Provide handrails and stair railings

WAC 296-800-25015.

Exemptions: This rule does **not** apply to:

- ◆ Stairs used exclusively for fire exit purposes
- ◆ Construction operations (See WAC 296-24-76503 for the specifications for the safe design and construction of fixed general industrial stairs.)
- ◆ Private buildings or residences
- ◆ Articulated stairs (for example, stairs used at a marina)
- ◆ Nonindustrial and monumental stairs are excluded as they are not industrial stairs; however, when public and private building steps are located at loading or receiving docks, in maintenance areas, etc., or are used exclusively by employees, the requirements of this rule must apply.

Note: The introduction has important information about building, electrical and fire codes that may apply to you in addition to WISHA rules. See "How do the WISHA rules relate to building, fire, and electrical codes" in the introduction section of this book.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-250, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-250, filed 5/9/01, effective 9/1/01.]

WAC 296-800-25005 Provide fixed stairs where required. You must:

- Install fixed stairs where:

- Employees travel between different levels on a predictable and regular basis.

- Access to platforms is required to give routine attention to equipment under operation.

- Daily movement between elevations is required to gauge, inspect, and maintain equipment where those work assignments may expose employees to acids, caustics, gases, or other harmful substances.

- Carrying tools or equipment by hand is a normal work requirement.

- Not use spiral stairways except as secondary exit routes.

Note:

- You can use fixed ladders for climbing elevated structures, such as tanks, towers, and overhead traveling cranes, when their use is common practice in your industry.

- You can use winding stairways on tanks and similar round structures if the structure's diameter is at least five feet.

- You could use a spiral stairway as an exit route in a restricted area that lacks room for a conventional stairway.

Definitions:

- A stairway or fixed stairs is a series of steps and landings:

- Leading from one level or floor to another.

- Leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment.

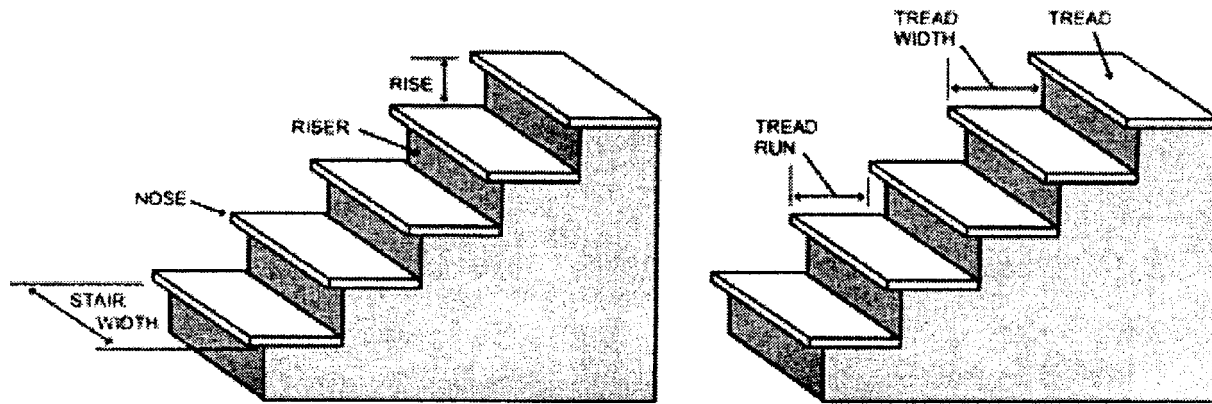
- Used more or less continuously or routinely by employees or only occasionally by specific individuals.

- With three or more risers.

- A riser is the vertical part of the step at the back of a tread that rises to the front of the tread above.

- A tread is the horizontal part of the step. Tread width is the distance from the front of the tread to the back.

Stair Components



Stair Railing is removed to show detail.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-25005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-25005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-25010 Provide stairs that minimize hazards. You must:

- (1) Make sure stairs have slip-resistant treads.
- (2) Make sure that stairs with four or more risers have:
 - Railings on the open sides of all exposed stairways and stair platforms
 - Handrails on at least one side of closed stairways, preferably on the right side while descending
- (3) Provide a platform where doors or gates open directly on a stairway. The swing of the door must not reduce the effective width of the platform to less than 20 inches.

Note: To see all of the rules for building fixed stairs, refer to WAC 296-24-75011 and 296-24-765 of the General safety and health standard.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-25010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-25015 Provide handrails and stair railings.

- Exemption: Vehicle service pit stairways are exempt from the rules for stairway railing and guards, if they would prevent a vehicle from moving into a position over the pit.
- Definition:
 - A handrail is a single bar or pipe on brackets from a wall or partition to provide a continuous handhold for persons using a stair.
 - A stair railing is a vertical barrier attached to a stairway with an open side, to prevent falls. The top surface of the stair railing is used as a handrail.

You must:

- Make sure stairways less than forty-four inches wide have:
 - At least one handrail, preferably on your right side as you go down the stairs, if both sides are enclosed.
 - OR
 - At least one stair railing on the open side, if one side is open.
 - OR
 - One stair railing on each side, if both sides are open.
- Make sure stairways more than forty-four inches wide but less than eighty-eight inches wide have:
 - One handrail on each enclosed side.

[Title 296 WAC—p. 2764]

- One stair railing on each open side.
- Make sure stairways at least eighty-eight inches wide have:

- One handrail on each enclosed side.
- One stair railing on each open side.
- One intermediate stair railing located approximately midway of the width.
- Equip winding stairs with a handrail, offset to prevent walking on all portions of the treads, less than six inches wide.

Reference: Railings must consist of a top rail, intermediate rail, and posts. To see all of the rules for building handrails and stairway railings, refer to WAC 296-24-75011, of the general safety and health standard.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-25015, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-25015, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-25015, filed 5/9/01, effective 9/1/01.]

FLOOR OPENINGS, FLOOR HOLES AND OPEN-SIDED FLOORS

WAC 296-800-260 Summary. Your responsibility: To safely guard floor openings, floor holes, and open-sided floors in your workplace.

You must:

- Guard or cover floor openings and floor holes.
- WAC 296-800-26005.
- Protect open-sided floors and platforms.
- WAC 296-800-26010.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-260, filed 5/9/01, effective 9/1/01.]

WAC 296-800-26005 Guard or cover floor openings and floor holes.

Definition: A **floor opening** is an opening in any floor, platform, pavement, or yard that measures at least twelve inches in its smallest dimension and through which a person can fall.

Examples of floor openings are:

- Hatchways
- Stair or ladder openings
- Pits

(2009 Ed.)

- Large manholes.

The following are **not** considered floor openings:

- Openings occupied by elevators
- Dumbwaiters
- Conveyors
- Machinery
- Containers

A **floor hole** is an opening in any floor, platform, pavement, or yard that measures at least one inch but less than twelve inches at its smallest dimension and through which materials and tools (but not people) can fall.

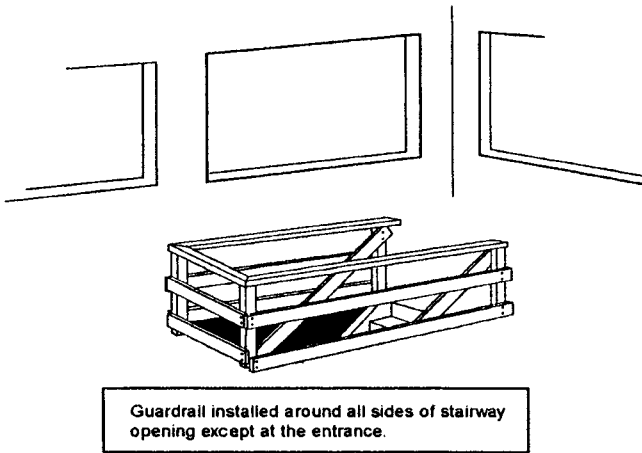
Examples of floor holes are:

- Belt holes
- Pipe openings
- Slot openings

You must:

(1) Guard stairway floor openings, temporary floor openings and floor holes.

- Protect all stairway floor openings with a railing. The railing must protect all open sides except the stairway entrance side.



- Use a hinged cover and a removable railing where traffic across an infrequently used stairway floor opening prevents the installation of a fixed railing. This removable railing must protect all open sides except the stairway entrance side.

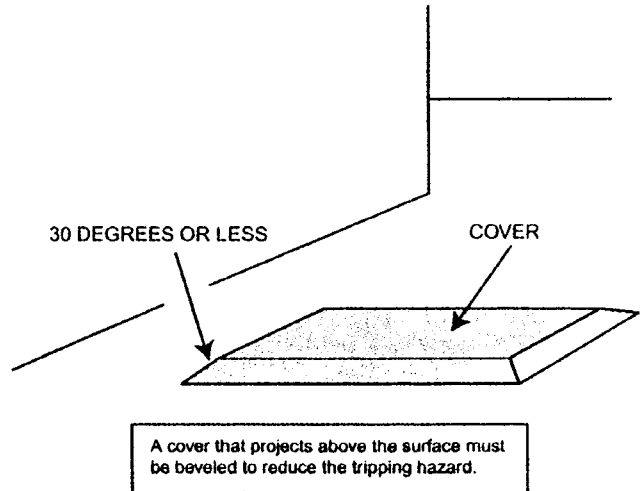
- Protect temporary floor openings by either a railing or by a person who constantly attends the opening.

- Protect exposed floor holes into which a person can accidentally walk by either:

- A railing with a toeboard on all open sides or
- A floor hole cover of standard strength and construction that can be hinged in place. When a floor hole cover is not in place, the hole must be protected by a removable railing or constantly attended by someone.

- Provide covers for floor openings. Floor opening covers may be of any material that has a safety factor of four, or is strong enough to hold up to four times the intended load. Covers that do not project more than one inch above the floor level may be used providing all edges are beveled (slanted) to prevent tripping. All hinges, handles, bolts, or other parts of a cover must set flush with the floor or cover surface.

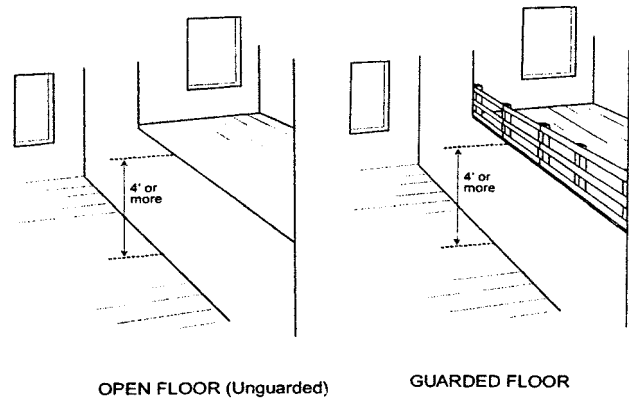
(2009 Ed.)



(2) Prevent tools and materials from falling through a floor hole. The floor hole must be protected by a cover that leaves an opening no more than one inch wide and is securely held in place. This applies only to floor holes that persons cannot accidentally walk into on account of fixed machinery, equipment, or walls.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-26005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-26010 Protect open-sided floors and platforms.



You must:

(1) Guard open-sided floors and platforms.

- Guard open-sided floors and platforms four feet or more above adjacent floor or ground level by a railing. The entrance to a ramp, stairway, or fixed ladder does not need a railing.

- Guard open-sided floors, walkways and platforms above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and other similar hazards, regardless of height with a railing and toeboard.

(2) Make sure tools and loose materials are not left on overhead platforms and scaffolds.

Note: • Where the guarding rules above do not apply because employees exposure to falls is infrequent (not on a predictable and regular basis), you must comply with the Personal

Protective Equipment (PPE) rules (WAC 296-800-160) or other effective fall protection must be provided.

- You can find the minimum requirements for standard railings of various types of construction in WAC 296-24-75011.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-26010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-26010, filed 5/9/01, effective 9/1/01.]

WORKPLACE STRUCTURAL INTEGRITY

WAC 296-800-270 Summary. Your responsibility: To make sure that the buildings, floors, and other structures in your workplace are safe, well-built, and not overloaded

You must:

Not overload floors or roofs

WAC 296-800-27005.

Make sure that floors are safe

WAC 296-800-27010.

Make sure floors can support equipment that moves or has motion

WAC 296-800-27015.

Post approved load limits (weight limits) for floors

WAC 296-800-27020.

Note: The introduction has important information about fire, building and electrical codes that may apply to you in addition to WISHA rules. See "How do the WISHA rules relate to fire, building and electrical codes" in the introduction section of this book.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-270, filed 5/9/01, effective 9/1/01.]

WAC 296-800-27005 Do not overload floors or roofs.

You must:

- Prohibit overloading roofs and floors of any building or other structure with more weight than is approved by the building official.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-27005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-27010 Make sure that floors are safe.

You must:

- Make sure that floors including their parts and structural members are safe.
- Make sure floors are of substantial construction and kept in good repair. This includes floors of:

– Buildings

– Platforms

– Walks and driveways

– Storage yards

– Docks

- Make sure that structures are designed, constructed, and maintained to provide a safety factor of 4 times the imposed maximum strain.

– If you notice bowing, cracking, or other indications of excessive strain on a structure, you must take action to make sure it is safe.

Note: This rule applies to all buildings or those that have had complete or major changes or repairs built after 5/7/74.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-27010, filed 5/9/01, effective 9/1/01.]

[Title 296 WAC—p. 2766]

WAC 296-800-27015 Make sure floors can support equipment that moves or has motion. You must:

- Make sure flooring of buildings, ramps, docks, trestles and other fixed structures that supports equipment that moves or has motion such as vibration, must not be less than two and one-half inch material.

Note: Where flooring is covered by steel floor plates, 2-inch material may be used.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-27015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-27020 Post approved load limits (weight limits) for floors. You must:

- Post approved load limits (weight limits) for floors used for mercantile, business, industrial or storage purposes in an obvious place.

- As the owner, or owner's agent, of a building (or other part of a workplace) post the load approved by the building official by:

– Supplying and affixing a durable metal sign that is marked with the approved load.

– Placing the metal sign in an obvious spot in the space to which it applies.

– Replacing the metal sign if it is lost, defaced, damaged, or removed.

Note: This rule applies to the floor that supports shelving, but not to the shelves themselves.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-27020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-27020, filed 5/9/01, effective 9/1/01.]

BASIC ELECTRICAL RULES

WAC 296-800-280 Basic electrical rules. Summary. Your responsibility: To protect your employees from hazards when working with electrical equipment, tools, and appliances.

You must:

Inspect all electrical equipment your employees use to make sure the equipment is safe.

WAC 296-800-28005.

Make sure all electrical equipment is used for its approved or listed purpose.

WAC 296-800-28010.

Make sure electrical equipment used or located in wet or damp locations is designed for such use.

WAC 296-800-28015.

Make sure electrical equipment that is not marked by the manufacturer cannot be used.

WAC 296-800-28020.

Identify disconnecting means.

WAC 296-800-28022.

Maintain electrical fittings, boxes, cabinets, and outlets in good condition.

WAC 296-800-28025.

Maintain all flexible cords and cables in good condition and use safely.

WAC 296-800-28030.

Guard electrical equipment to prevent your employees from electrical hazards.

WAC 296-800-28035.

Make sure electrical equipment is effectively grounded.
WAC 296-800-28040.

Make sure electrical equipment has overcurrent protection.
WAC 296-800-28045.

- Exemptions:
- These rules apply to all electrical equipment used in the workplace, except for:
 - Electrical installations and equipment on ships, aircraft and all automotive vehicles other than mobile homes and recreational vehicles.
 - Electrical installations and equipment used to generate, transmit, transform or distribute power exclusively for operation of rolling stock.
 - Electrical installations used exclusively for signaling and communicating with rolling stock.
 - Installations underground in mines.
 - Installations of communication equipment located outdoors or inside buildings used and controlled exclusively by communication utilities.
 - Installations controlled and used exclusively by electric utilities for communication or metering, or For generating, controlling, transforming, transmitting and distributing electric energy in buildings used exclusively by the company located:
 - ◆ Outdoors on property owned or leased by the utility; or
 - ◆ On public highways, streets and roads; or
 - ◆ Outdoors by established rights on private property.

- Note:
- The introduction has important information about fire, building and electrical codes that may apply to you in addition to WISHA rules. See "How do the WISHA rules relate to fire, building and electrical codes" in the introduction section of this book.
 - These rules guide how electrical equipment is used and maintained in your workplace. They should not be used in place of your local electrical codes if you are installing electrical wiring, electrical circuits or electrical distribution equipment.
 - This rule applies to 600 volts or less. Requirements for specific equipment or special installation are found in chapter 296-24 WAC, Part L.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-280, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-280, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28005 Inspect all electrical equipment your employees use to make sure the equipment is safe.
You must:

- Inspect electrical equipment to make sure there are no recognized hazards likely to cause your employees' death or

serious physical harm. Determine the safety of the equipment by using the following list:

- Has been approved or listed by a recognized testing laboratory, such as Underwriters Laboratories (UL) or other approving agency.
- Is approved, or listed as approved, for the purpose it is being used.
- Has strong and durable guards providing adequate protection including parts designed to enclose and protect other equipment.
- Is insulated.
- Will not overheat under conditions of use.
- Will not produce arcs during normal use.
- Is classified by:
 - ◆ Type
 - ◆ Size
 - ◆ Voltage
 - ◆ Current capacity
 - ◆ Specific use
 - ◆ Other factors


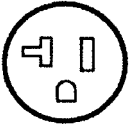
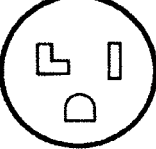
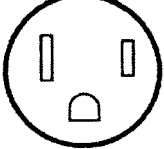


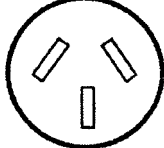
[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-28005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-28005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28010 Make sure all electrical equipment is used for its approved or listed purpose.

- Definitions:
- Electrical outlets are places on an electric circuit where power is supplied to equipment through receptacles, sockets and outlets for attachment plugs.
 - Receptacles are outlets that accept a plug to supply electric power to equipment through a cord or cable.

You must:

- Make sure electrical outlets are rated equal or greater to the electrical load supplied.
- Make sure the proper mating configuration exists when connecting the attachment plug to a receptacle.
- Make sure when electrical outlets, cord connectors, and receptacles are joined, they accept the attachment plug with the same voltage or current rating.

SOME COMMON ELECTRICAL OUTLET (RECEPTACLE) CONFIGURATIONS				
	15 Ampere	20 Ampere	30 Ampere	50 Ampere
Two Pole 3 - Wire Grounding 125 Volt				
Three Pole 3 - Wire 125/250 Volt				

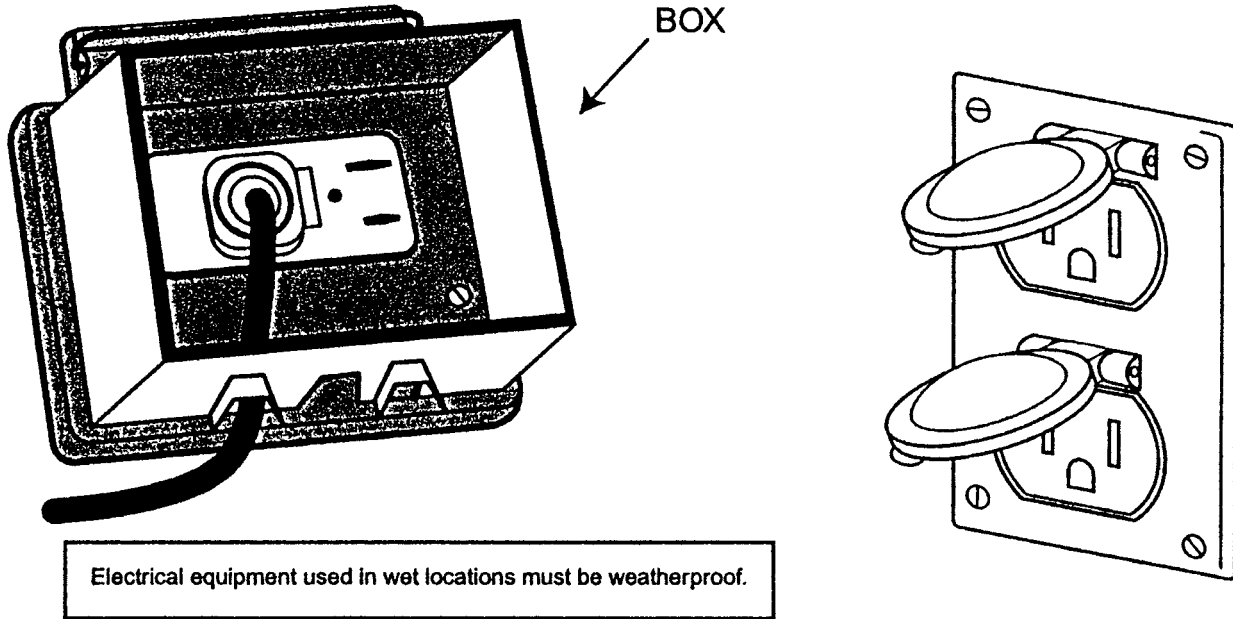
Note: A 20-ampere "T-slot" outlet or cord connector may accept a 15-ampere attachment plug of the same voltage rating.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-28010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28015 Make sure electrical equipment used or located in wet or damp locations is designed for such use. You must:

- Make sure fixtures and receptacles located in wet or damp locations are approved for such use. They must be constructed or installed so that water cannot enter or accumulate in wireways, lampholders, or other electrical parts.

- Make sure cabinets, fittings, boxes, and other enclosures in wet or damp locations are installed to prevent moisture or water from entering and accumulating inside.
 - In wet locations these enclosures must be weatherproof.
 - Switches, circuit breakers, and switchboards located in wet locations must be in weatherproof enclosures.



[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-28015, filed 5/9/01, effective 9/1/01.]

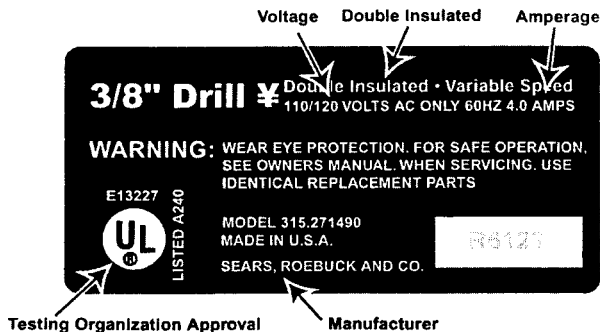
WAC 296-800-28020 Make sure electrical equipment that is not marked is not used. You must:

- Make sure markings are durable and appropriate to the environment.
 - Appropriate markings include:
 - The manufacturer's name;
 - or
 - Trademark;
 - or
 - The organization responsible for the product;
 - and
 - Voltage, current and wattage or other ratings as necessary.

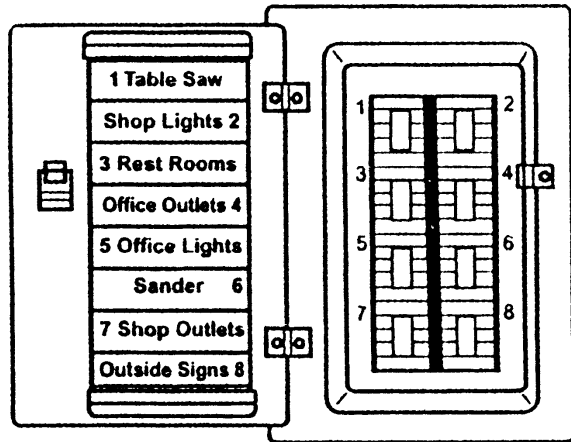
[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-28020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-28020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28022 Identify disconnecting means. You must:

- Make sure the disconnect means (such as on/off switches and circuit breakers) is marked to show when it is open and closed and what equipment it controls, unless located and arranged so the purpose is obvious.
- Make sure each service, feeder and branch circuit is marked, at its disconnecting means or overcurrent device, to show when the circuit is open and closed and what circuit it controls, unless located and arranged so the purpose is obvious.
- Make sure markings are durable and appropriate to the environment.



Electrical tools and equipment marked to show manufacturer, approvals and power requirements.



Electrical panel circuit breakers labeled to show the equipment or circuits they control.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-28022, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28025 Maintain electrical fittings, boxes, cabinets and outlets in good condition. You must:

(1) Do the following to covers and openings:

- Do the following when conductors enter boxes, cabinets, or fittings:
 - Protect the conductor (wires) from abrasion.
 - Effectively close the openings where conductors enter.
 - Effectively close all unused openings.
- Provide pull boxes, junction boxes, and fittings with covers approved for the purpose.
 - Make sure each outlet box has a cover, faceplate, or fixture canopy in completed installations.
 - Make sure covers for outlet boxes with openings for flexible cord pendants have bushings to protect the cord, or

have a smooth and well rounded surface where the cord touches the opening.

- Ground metal covers.

(2) Make sure the area in front of electrical panels, circuit breaker boxes and similar equipment which operates at 600 volts or less:

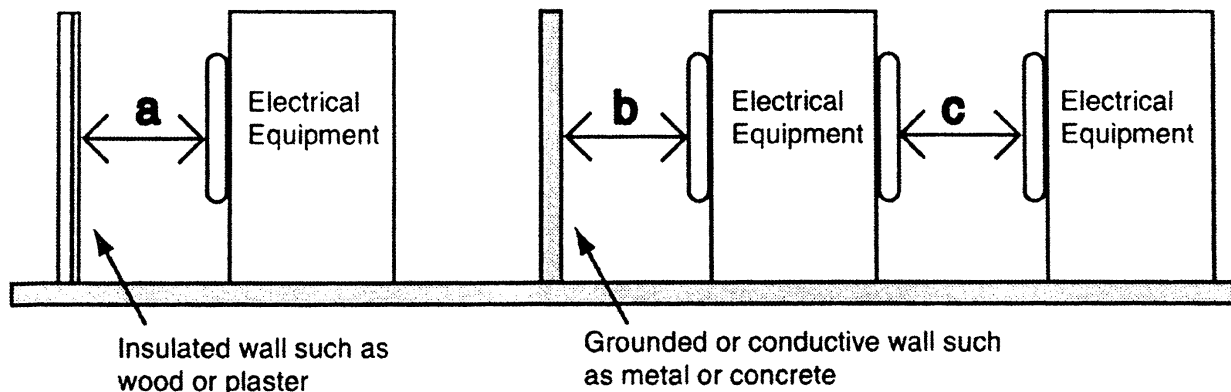
- Has sufficient working area at least thirty inches wide for operation and maintenance of the equipment.
- Is kept clear and free of stored materials so that employees can access this equipment for servicing, adjustments or maintenance.
- Has at least one access route to provide free and unobstructed access.
- Has at least three feet of working space in front, measured from the exposed live parts or the enclosure front. (See the work clearance table on the following page.)
- Has adequate indoor lighting. (WAC 296-800-210.)
- Has at least six feet three inches of headroom.

This table shows the area you must keep clear depending on the layout of the electrical equipment.

Conditions*	0 - 150 volts to ground	151 - 600 volts to ground
a	3 ft.	3 ft.
b	3 ft.	3 1/2 ft.
c	3 ft.	4 ft.

Minimum clear distances may be 2 feet 6 inches for equipment built or installed before 3/20/82.

- Conditions a, b, and c are as follows:
 - a = Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating material. Insulated wire or insulated bus bars operating at not over 300 volts are not considered live parts.
 - b = Exposed live parts on one side and grounded parts on the other side.
 - c = Exposed live parts on both sides of the workspace (not guarded as provided in condition (a) with the operator between the panels).



Distances are measured from live parts if they are exposed or from the enclosure front if live parts are enclosed.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-28025, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-28025, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28030 Maintain all flexible cords and cables in good condition and use safely.

Exemption: These rules do not apply to cords and cables that are an internal part of factory assembled appliances and equipment, like the windings on motors or wiring inside electrical panels.

Note: Flexible cords and cables are typically used to connect electrical equipment to a power source. These cords can have an electrical plug to connect to a power source or can be permanently wired into the power source. The terms flexible cords, extension cord, cables and electrical cords all refer to a type of flexible cord.

You must:

(1) Perform visual inspections.

• On portable cord- and plug-connected equipment and extension cords before use on each work shift. Defects and damage to look for include:

- Loose parts.
- Deformed or missing pins.
- External defects and damage.
- Damage to the outer covering or insulation.
- Pinched or crushed covering or insulation that might indicate internal damage.

Exemption: You do not need to visually inspect portable cord- and plug-connected equipment and extension cords that stay connected once in place and are not exposed to damage until they are moved.

You must:

• Remove from service any defective or damaged cord until repaired and tested.

• Make sure flexible cords and cables are used as described.

(2) Use.

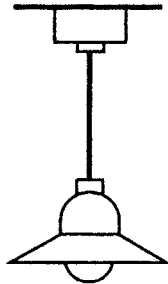
• Use flexible cords only as follows:

- Wiring of equipment and appliances.
- Data processing cables approved as a part of the data processing system.
- Pendants.
- Wiring for fixtures.
- Connecting portable lamps or appliances to an approved outlet with an attachment plug.
- Connecting stationary equipment that is frequently changed with an attachment plug energized from an approved outlet.
- Preventing noise or vibration transmission.
- Appliances that have been designed to permit removal for maintenance and repair if the appliance is equipped with an attachment plug energized from an approved outlet.
- Elevator cables.
- Wiring of cranes and hoists.

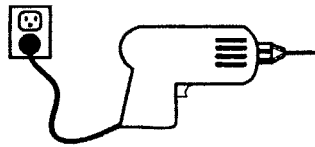
Common Acceptable Uses of Flexible Cords



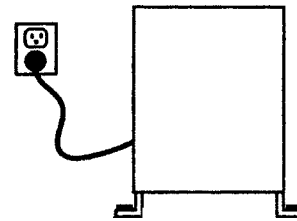
Extension Cord



Pendant Cord Lamp or Control



Portable Appliances Tools and Lamps



Fixed or Stationary Equipment For Easy Maintenance or Replacement

Note: Extension cords (flexible cord sets) may be used on a temporary basis if you follow the rules described in the temporary use section, WAC 296-800-28030(3).

You must:

- Not use flexible cords in the following ways:
 - As a substitute for fixed wiring of a structure.
 - To run through holes in walls, ceilings, or floors.
 - To run through doorways, windows, or similar openings.
 - To attach to building surfaces.
 - To conceal behind building walls, ceilings, or floors.
 - To raise or lower equipment.
- Make sure flexible cords and cables are approved and suitable for:
 - The way they will be used.
 - The location where they will be used.
- Not fasten or hang cords and equipment in any way that could cause damage to the outer jacket or insulation of the cord.

• Make sure insulation on flexible cords and cables is intact.

• Make sure flexible cords and electrical cords are:

- Connected to devices and fittings so that any pulling force on the cord is prevented from being directly transmitted to joints or terminal screws on the plug.

• Used only in continuous lengths without splice or tap.

• Prohibit your employees from using wet hands to plug or unplug equipment or extension cords if the equipment is energized.

Note: Hard service flexible cords No. 12 or larger may be repaired or spliced if the insulation, outer sheath properties, and use characteristics of the cord are retained.

You must:

(3) Provide the following for temporary use.

- Make sure temporary electrical power and lighting installations that operate at 600 volts or less are used only:
 - During and for remodeling, maintenance, repair or demolition of buildings and similar activities.
 - Experimental or developmental work.

- For no more than ninety days for:
 - ◆ Christmas decorative lighting.
 - ◆ Carnivals.
 - ◆ Other similar purposes.
- Make sure flexible cords and electrical cords used on a temporary basis are protected from accidental damage:
 - By avoiding sharp corners and projections
 - If they pass through doorways or other pinchpoints.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-28030, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-28030, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28035 Guard electrical equipment to prevent your employees from electrical hazards. You must:

(1) Guard live parts of electric equipment operating at 50 volts or more against accidental contact by any of the following means:

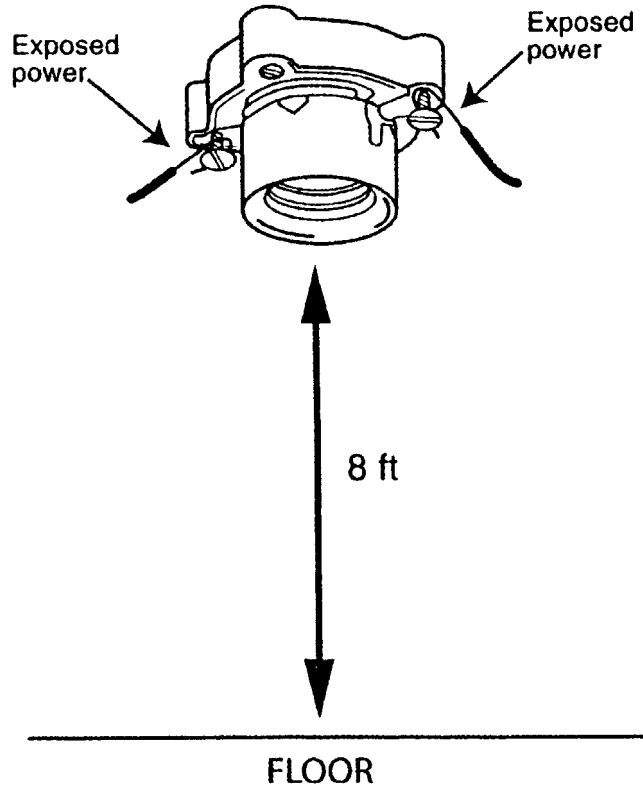
- By approved cabinets or other forms of approved enclosures.
- By location in a room, vault, or similar enclosure that is accessible only to employees qualified to work on the equipment. Entrances to rooms and other guarded locations containing exposed live parts must be marked with conspicuous warning signs forbidding unqualified persons to enter.
- By permanent, substantial partitions or screens so that only employees qualified to work on the equipment will have access within reach of the live parts. Any openings must prevent accidental contact with live parts by employees or objects employees carry.
- By location on a balcony, gallery, or platform that will exclude unqualified persons.
- By being located eight feet or more above the floor or other working surface.

(2) Make sure all electrical appliances, fixtures, lampholders, lamps, rosettes, and receptacles do not have live parts normally exposed to employee contact.

- Rosettes and cleat type lampholders at least 8 feet above the ground may have exposed parts.

(3) In locations where electric equipment would be exposed to physical damage, enclosures or guards must be so arranged and of such strength as to prevent such damage.

Live Parts Guarded by Distance



[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-28035, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28040 Make sure electrical equipment is effectively grounded. You must:

- Make sure the path to ground from circuits, equipment, and enclosures is permanent and continuous.
- Make sure equipment connected by cord and plug is grounded under these conditions:
 - Equipment with exposed noncurrent carrying metal parts.
 - Cord and plug connected equipment which may become energized.
 - Equipment that operates at over 150 volts to ground.
 - Equipment in hazardous locations. (WAC 296-24-95613)

Exemption: This does not apply to guarded motors and metal frames of electrically heated appliances, if the appliance frames are permanently and effectively insulated from ground.

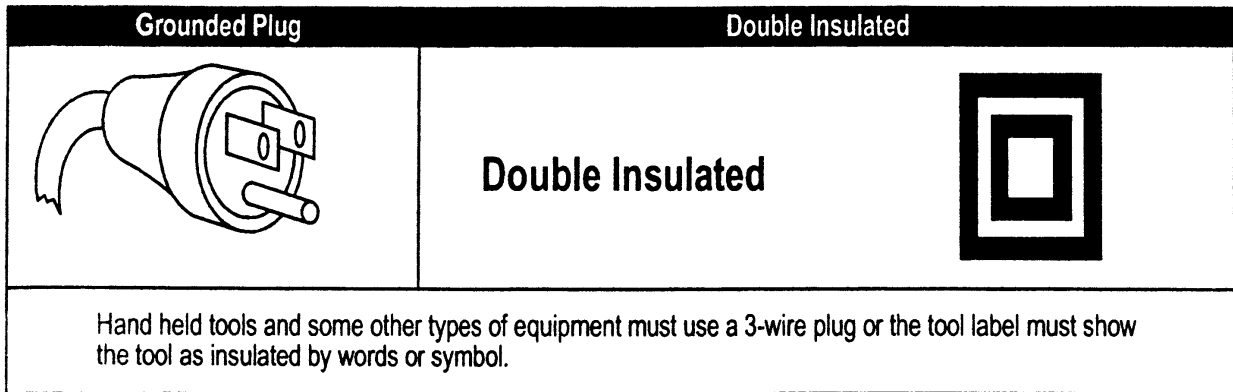
You must:

- Ground the following type of equipment:
 - Hand-held motor-operated tools
 - Refrigerators
 - Freezers
 - Air conditioners
 - Clothes washers and dryers
 - Dishwashers
 - Electrical aquarium equipment
 - Hedge clippers
 - Electric lawn mowers
 - Electric snow blowers

- Wet scrubbers
- Tools likely to be used in damp or wet locations
- Appliances used by employees standing on the ground, on metal floors or working inside of metal tanks or boilers

- Portable hand lamps

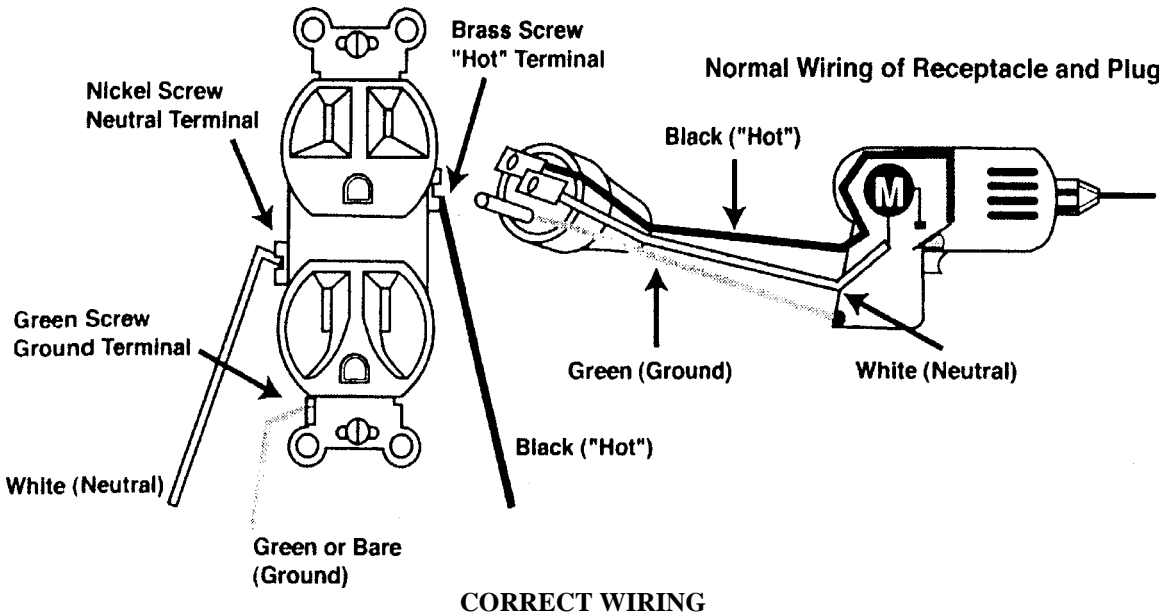
Note: Grounding can be achieved by: Using tools and appliances equipped with an equipment grounding conductor (three-prong plug and grounded electrical system).

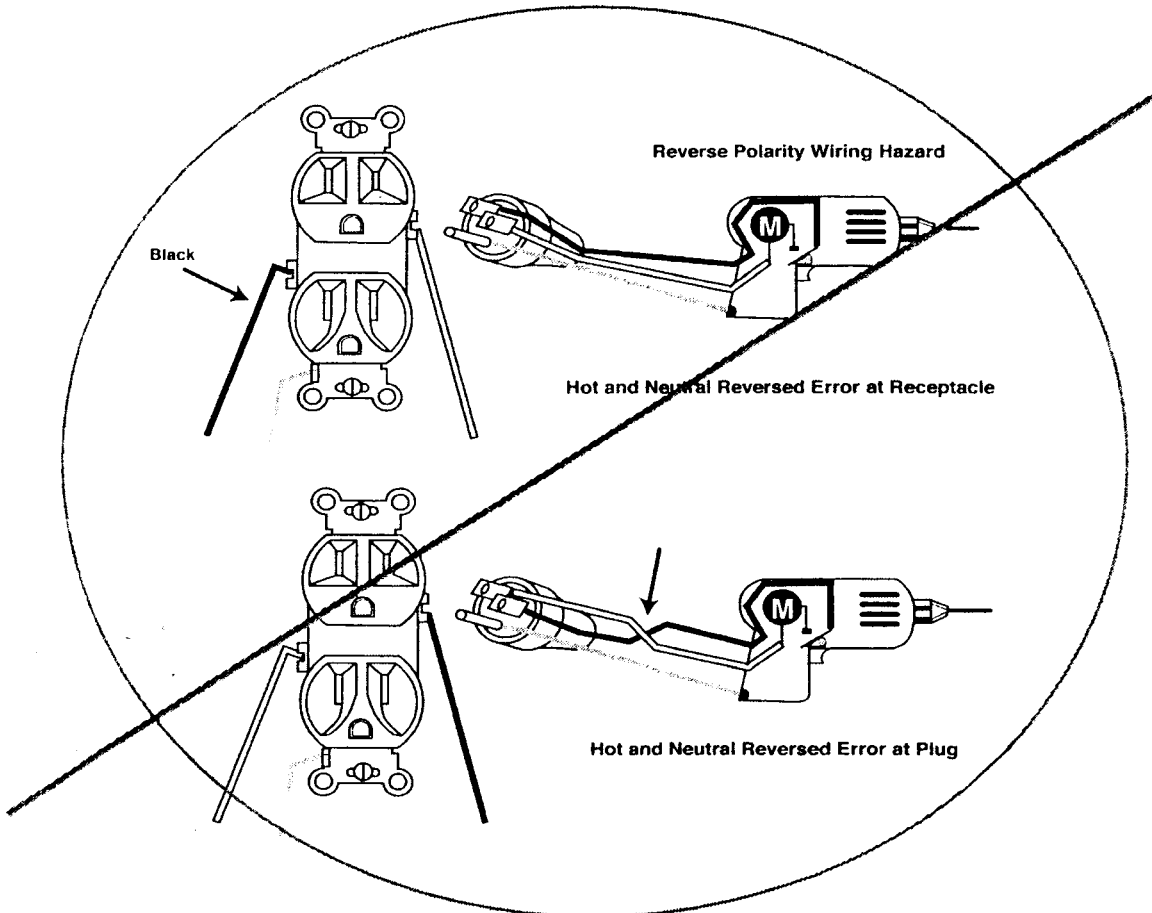


You must:

- Make sure exposed metal parts of fixed equipment that do not conduct electricity, but may become energized, are grounded if the equipment is in a wet or damp location and is not isolated.
- Make sure ground wires are identified and look different than the other conductors (wires).
- Make sure grounded conductors are not attached to any terminal or lead to reverse polarity of the electrical outlet or receptacle. See illustration - Examples of wiring.
- Make sure grounding terminals or grounding-type devices on receptacles, cords, connectors, or attachments plugs are not used for purposes other than grounding.

EXAMPLES OF WIRING





INCORRECT WIRING

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-28040, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-28040, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-28040, filed 5/9/01, effective 9/1/01.]

WAC 296-800-28045 Make sure electrical equipment has overcurrent protection. You must:

- Make sure all electrical circuits that are rated at 600 volts or less have overcurrent protection.
- Protect conductors and equipment according to their ability to safely conduct electrical current.
- Make sure overcurrent devices do not interrupt the continuity of grounded conductors unless all conductors are opened at the same time, except for motor running overload protection.
 - Protect employees from electrical arcing or suddenly moving electrical parts by locating fuses and circuit breakers in safe places. If this is not possible, install shields on fuses and circuit breakers.
- Make sure the following fuses and thermo cutouts have disconnecting mechanisms:
 - All cartridge fuses accessible to nonqualified persons
 - All fuses on circuits over 150 volts to ground
 - All thermal cutouts on circuits over 150 volts to ground
 - The disconnecting mechanisms must be installed so you can disconnect the fuses or thermal cutouts without disrupting service to equipment and circuits unrelated to those protected by the overcurrent device.
- Provide easy access to overcurrent devices for each employee or authorized building management personnel.

- Protect the overcurrent devices by locating them away from easily ignitable material.
 - They must be placed to avoid exposure to physical damage.
- Make sure circuit breakers:
 - Clearly indicate when they are open (off) and closed (on)
 - That operate vertically are installed so the handle is in the "up" position when the breaker is closed (on). See WAC 296-24-95603 (2)(c) for more information
 - Used as switches in 120-volt, fluorescent lighting circuit must be approved for that purpose and marked "SWD." See WAC 296-24-95603 (2)(c) for more information
 - That have arcing or suddenly moving parts, are shielded or located so employees will not get burned or injured by the operation of the circuit breaker.
- ◆ Make sure fuses that have arcing or suddenly moving parts, are shielded or located so employees will not get burned or injured by the operation of the fuses.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-28045, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-28045, filed 5/9/01, effective 9/1/01.]

PORTABLE FIRE EXTINGUISHERS

WAC 296-800-300 Summary—Portable fire extinguishers. Important:

The following WISHA rule applies to the placement, use, maintenance, and testing of portable fire extinguishers provided for the use of employees. Your local fire marshal also enforces fire codes which address fire safety that are more comprehensive and may go beyond WISHA rules.

Your responsibility:

To provide readily accessible, appropriate portable fire extinguishers for employees in your workplace

You must:

Provide portable fire extinguishers in your workplace

WAC 296-800-30005

Select and distribute portable fire extinguishers in your workplace

WAC 296-800-30010

Make sure that portable fire extinguishers are kept fully charged, in good operating condition, and left in their designated places

WAC 296-800-30015

Inspect and test all portable fire extinguishers

WAC 296-800-30020

Train your employees to use portable fire extinguishers

WAC 296-800-30025

Exemptions:

- You are exempt from the requirements of portable fire extinguishers if you have the following:

- A written fire safety policy that requires the immediate and total evacuation of employees from the workplace when there is a fire alarm signal,

AND

- An emergency action plan and a fire prevention plan which meet the requirements of WAC 296-24-567

AND

- Portable fire extinguishers in your workplace that are not accessible for employee use

- If another WISHA rule requires portable fire extinguishers, then you must comply with these requirements.

- Where extinguishers are provided but are not intended for employee use and you have an emergency action plan and a fire prevention plan (which meet the requirements of WAC 296-24-567), then only the requirements of WAC 296-800-30020 apply.

Note: The introduction has important information about building, electrical and fire codes that may apply to you in addition to WISHA rules. See "How do the WISHA rules relate to building, fire and electrical codes" in the introduction section of this book.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-300, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-300, filed 5/9/01, effective 9/1/01.]

WAC 296-800-30005 Provide portable fire extinguishers in your workplace. You must:

(1) Provide approved portable fire extinguishers for your workplace and distribute them so they are readily accessible

- Make sure that your portable fire extinguisher does not use extinguishing agents such as carbon tetrachloride or chlorobromomethane extinguishing agents. In addition, soda-acid foam, loaded stream, antifreeze and water extinguishers of

the inverting type shall not be recharged or placed into service.

(2) Mount, locate, and identify portable fire extinguishers so employees can easily reach them, without being subjected to possible injury.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-30005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-30010 Select and distribute portable fire extinguishers in your workplace. Exemption:

- This does not apply to the portable fire extinguishers provided for employees to use outside of workplace buildings or structures.

- You are exempt from the distribution requirements of this rule if you have an emergency action plan (that meets requirements of WAC 296-24-567):

- Which designates certain employees to be the only employees authorized to use the available portable fire extinguishers; and

- Requires all other employees in the fire area to immediately evacuate the affected work area upon the sounding of the fire alarm

You must:

- Provide the correct type of portable fire extinguishers and distribute them in your workplace, depending on the type, size, and severity of fire that could occur

- The type of portable fire extinguishers you must have in your workplace depends on the types of fire hazards that exist in your workplace

Fire Extinguisher Distance Table

Type of fire hazard extinguisher	Maximum distance from the fire hazard to a fire extinguisher
Type of fire hazard Wood, cloth, paper, rubber (Class A fire hazards)	No more than 75 feet (22.9 m) Note: You may use uniformly spaced standpipe systems or hose stations instead of Class A portable fire extinguishers, if they meet the requirements of WAC 296-24-602 or 296-24-607.
Liquids, grease, gases (Class B fire hazards)	No more than 50 feet (15.2 m) Note: You may choose to use a smaller fire extinguisher in lieu of that required for the 50 foot distance. If you choose to have the smaller fire extinguisher, the travel distance must not be greater than 30 feet. See UFC Standard 10 Chapter 3 for the basic minimum extinguisher rating allowed.
Live electrical equipment and circuits (Class C fire hazards)	Distribute any Class C portable fire extinguishers the same pattern that you have for any Class A or Class B fire hazards. Note: If the electrical equipment is deenergized, you may use a Class A or Class B portable fire extinguisher.

Type of fire hazard extinguisher	Maximum distance from the fire hazard to a fire extinguisher
Powder, flakes, and residue from combustible metals, like magnesium and titanium, that build up over a 2-week period (Class D fire hazards)	No more than 75 feet (22.9 m)

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-30010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-30010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-30015 Make sure that portable fire extinguishers are kept fully charged, in operable condition, and left in their designated places. You must:

- Make sure that fire extinguishers found with deficiencies are removed from service and replaced with a suitable fire extinguisher.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-30015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-30020 Inspect and test all portable fire extinguishers. You must:

- Perform inspections:
 - Make sure that portable fire extinguishers or hose systems (used instead of fire extinguishers) are visually inspected monthly
- Perform maintenance checks:
 - Make sure that all portable fire extinguishers are subjected to an annual maintenance check
 - Keep records of all annual maintenance checks and make available to the department upon request
 - ◆ For 1 year after the last maintenance check;
 - OR
 - ◆ For the life of the shell, whichever is less
 - Make sure that equal protection is provided when portable fire extinguishers are removed from service for maintenance and recharging

Exemption: Most stored pressure extinguishers do not require an internal examination. Examples of those that do require an internal examination are those containing a loaded stream agent.

You must:

- Perform hydrostatic testing:

Exemption:

- Dry chemical extinguishers that have nonrefillable disposable containers are exempt from this requirement.
- Manually pressurized pumptanks are exempt from this requirement.

You must:

- Make sure that portable extinguishers are hydrostatically tested:
 - At the intervals listed in Table 1, of this section
 - Whenever they show evidence of corrosion or mechanical injury
 - Not perform hydrostatic testing on fire extinguishers if:
 - The unit has been repaired by soldering, welding, brazing, or use of patching compounds
 - The cylinder or shell threads are damaged

(2009 Ed.)

- Corrosion has caused pitting, including corrosion under removable name plate assemblies
- The extinguisher has been burned in a fire
- Calcium chloride extinguishing agents have been used in a stainless steel shell

Note: Specific rules regarding conducting hydrostatic tests are covered in WAC 296-24-59212.

You must:

- Maintain records showing that hydrostatic testing has been performed. Provide the following evidence to the department upon request:
 - Date of test
 - Test pressure used
 - The serial number, or other identifier of the fire extinguisher that was tested
 - Person or agency performing the test
- Keep records until:
 - The extinguisher is retested;
- OR
 - The extinguisher is taken out of service, whichever comes first
 - Empty and maintain stored-pressure dry chemical extinguishers requiring a 12-year hydrostatic test, every six years:
 - When recharging or hydrostatic testing is performed, the 6-year requirement begins from that date

Hydrostatic Test Table

Type of Extinguisher	Test Interval (Years)
Stored pressure water and/or antifreeze	5
Wetting agent	5
Foam (stainless steel shell)	5
Aqueous film forming form (AFFF)	5
Loaded stream	5
Dry chemical with stainless steel	5
Carbon dioxide	5
Dry chemical, stored pressure, with mild steel, brazed brass or aluminum shells	12
Halon 1211	12
Halon 1301	12
Dry powder, cartridge or cylinder operated, with mild steel shell	12

Note: Due to a manufacturer's recall, stored pressure water extinguishers with fiberglass shell (pre-1976) are prohibited from hydrostatic testing.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-30020, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-30020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-30025 Train your employees to use portable fire extinguishers. You must:

- Train your employees where you have provided portable fire extinguisher for their use in:

- The hazards involved with incipient stage fire fighting (the early stage of a fire when it can be extinguished by a portable fire extinguisher)
 - The general principles of fire extinguisher use
 - Provide the training when they are first hired and then annually.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-30025, filed 5/9/01, effective 9/1/01.]

EXIT ROUTES AND EMPLOYEE ALARM SYSTEMS

WAC 296-800-310 Summary. Your responsibility: To provide and maintain emergency exit routes and to install and maintain adequate employee alarm systems.

IMPORTANT:

An employer who demonstrates compliance with the exit route provisions of NFPA 101-2000, the Life Safety Code, will be in compliance with the corresponding requirements of this section.

Exit routes:

You must:

Provide an adequate number of exit routes.

WAC 296-800-31005.

Make sure that exit routes are large enough.

WAC 296-800-31010.

Make sure that exit routes meet their specific design and construction requirements.

WAC 296-800-31015.

Make sure that each exit route leads outside.

WAC 296-800-31020.

Provide unobstructed access to exit routes.

WAC 296-800-31025.

Exit doors must be readily opened from the inside.

WAC 296-800-31030.

Use side-hinged doors to connect rooms to exit routes.

WAC 296-800-31035.

Provide outdoor exit routes that meet requirements.

WAC 296-800-31040.

Minimize danger to employees while they are using emergency exit routes.

WAC 296-800-31045.

Mark exits adequately.

WAC 296-800-31050.

Provide adequate lighting for exit routes and signs.

WAC 296-800-31053.

Maintain the fire retardant properties of paints or other coatings.

WAC 296-800-31055.

Maintain emergency safeguards.

WAC 296-800-31060.

Maintain exit routes during construction and repair.

WAC 296-800-31065.

Provide doors in freezer or refrigerated rooms that open from the inside.

WAC 296-800-31067.

Employee alarm systems:

You must:

Install and maintain an appropriate employee alarm system.

WAC 296-800-31070.

Establish procedures for sounding emergency alarms.

WAC 296-800-31075.

Test the employee alarm system.

WAC 296-800-31080.

Exemption: This rule does not apply to vehicles, vessels, or other mobile structures.

Note: The introduction has important information about building, electrical and fire codes that may apply to you in addition to WISHA rules. See "How do the WISHA rules relate to building, fire, and electrical codes" in the introduction section of this book.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-18-056, § 296-800-310, filed 9/2/08, effective 11/2/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-310, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-310, filed 5/9/01, effective 9/1/01.]

EXIT ROUTES

WAC 296-800-31005 Provide an adequate number of exit routes. You must:

- Provide a minimum of two exit routes to provide different ways for employees to leave the workplace safely during an emergency (at least two of the exit routes must be remote from one another so employees can safely exit if one exit route becomes blocked or unavailable).

- Provide an adequate number (at least two) of exit routes, considering the kind, number, location and capacity, appropriate to each building according to the following conditions:

- Number of employees
- Size of building
- Arrangement of workplace
- Building occupancy

Note: A single exit route is permitted where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace indicates that a single exit will allow all employees to exit safely during an emergency. Other means of escape, such as fire exits or accessible windows, should be available where only one exit route is provided.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31010 Make sure that exit routes are large enough. You must:

- Make sure each exit route is large enough to accommodate the maximum-permitted occupant load for each floor served by the route.

- Make sure the capacity of an exit route does not decrease at any point.

- Make sure an exit route is at least 6 feet 8 inches high at all points.

- Make sure projections from the ceiling do not reach a point less than 6 feet 8 inches from the floor.

- Make sure exit routes are at least 28 inches wide at all points between any handrails.

- If necessary, routes must be wider than 28 inches to accommodate the expected occupant load.

- Make sure objects that stick out into the exit route, such as cabinets on walls, do not reduce the minimum width of the exit route.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-18-056, § 296-800-31010, filed 9/2/08, effective 11/2/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-

31010, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-31010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31015 Make sure that exit routes meet their specific design and construction requirements. You must:

- Make sure each exit is a permanent part of the workplace.
- Make sure an exit route has only those openings necessary to permit access to, or exit from, occupied areas of the workplace.
 - Make sure any opening into an exit through a fire wall is protected by a self-closing fire door that remains closed.
 - Make sure each fire door, its frame, and its hardware is listed or approved by a nationally recognized testing laboratory.
- Make sure construction materials, used to separate an exit route, have at least:
 - One-hour fire resistance rating if the exit connects three stories or less.
 - Two-hour fire resistance rating if the exit connects four stories or more.
- Make sure employees are provided with stairs or a ramp, if the exit route is not substantially level.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31020 Make sure that each exit route leads outside. You must:

- Make sure that building exit routes lead:
 - Directly outside or to a street, walkway, refuge area, or to an open space with access to the outside.
 - To streets, walkways, or open spaces large enough to accommodate all building occupants likely to use the exit.
- Make sure the exit routes clearly show the route employees use to leave the building in an emergency.
- Install a standard safeguard with a warning sign, if a doorway or corner of a building could allow an employee to walk in front of an engine or trolley.
- Use doors, partitions, or other effective means to show employees the correct route out of the building, if the stairs in your exit route lead anywhere but out of the building.

Note: If the stairs in your exit route lead past the exit to the basement, you might install a gate at the point they lead towards that basement. The gate could help your employees stay on the exit route taking them out of the building.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-18-056, § 296-800-31020, filed 9/2/08, effective 11/2/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31025 Provide unobstructed access to exit routes. You must:

- (1) Provide exit routes that are always free of obstructions so all employees can safely exit the building during an emergency.
- (2) Make sure employees are not required to travel to a dead end or through a room that can be locked, such as a restroom.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31025, filed 5/9/01, effective 9/1/01.]

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WAC 296-800-31030 Exit doors must be readily opened from the inside.

Exemption: An exit door may be locked or blocked from the inside in a mental, penal, or correctional institution, if supervisory personnel are continuously on duty and a plan exists to remove employees and inmates during an emergency.

You must:

- Make sure all exit doors readily open from the inside without keys, tools, or special knowledge. A device that locks only from the outside, such as a panic bar, is permitted. An exit door must be free of any device or alarm that could restrict emergency use of an exit if the device or alarm fails.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31030, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31035 Use side-hinged doors to connect rooms to exit routes. You must:

- Use a side-hinged exit door to connect any room to an exit route. The door must swing out when the room:
 - Is occupied by more than fifty persons or
 - Contains highly flammable or explosive materials.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-31035, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-31035, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31040 Provide outdoor exit routes that meet these requirements. You must:

- Make sure an outdoor exit route (such as an interior balcony, porch, gallery, or roof) meets all requirements for an indoor exit route. In addition, an outdoor exit route must also:
 - Have guardrails to protect unenclosed sides.
 - Be covered if snow or ice is likely to accumulate without regular removal.
 - Be reasonably straight with smooth, solid, substantially level floors.
 - Have no dead ends more than twenty feet long that branch off of the exit route.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31040, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31045 Minimize danger to employees while they are using emergency exit routes. You must:

- Maintain each exit route to minimize danger to employees during an emergency.
- Keep each exit route free of explosive or highly flammable furnishings and decorations.
- Not require employees to travel toward areas where high hazard materials are stored, unless the route is protected by partitions or physical barriers. High hazard materials are materials that:
 - Burn quickly
 - Emit poisonous fumes when burned
 - Are explosive

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31045, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31050 Mark exits adequately.

You must:

- Mark each exit with a clearly visible, distinctive sign reading "exit."

- Make sure the letters in the word "EXIT" are at least six inches high and 3/4 inch wide.
- Mark any doorway or passage that might be mistaken for an exit with "not an exit" or with an indication of its actual use.
- Make sure exit signs are a distinctive color.
- Make sure signs are posted and arranged along exit routes to adequately show how to get to the nearest exit and clearly indicate the direction of travel.
- Not obstruct or conceal exit signs in any way.
- Keep exit doors free of signs or decorations that obscure their visibility.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-18-090, § 296-800-31050, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31050, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31053 Provide adequate lighting for exit routes and signs. You must:

- Illuminate each exit route adequately and reliably.
- Have at least five foot-candles illumination from a reliable light source.
- Make sure any exit signs illuminated by artificial lights and made of translucent material (other than internally illuminated types)
 - Have screens, discs or lens of at least twenty-five square inches in size; and
 - Show red or other designated color on the approach side of the exit.
- Make sure brightly lit signs, displays, or objects in or near the line of vision do not distract attention from the exit sign.
- Make sure exit signs that are self-lighting have a minimum luminance surface value of .06 footlamberts.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31053, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31055 Maintain the fire retardant properties of paints or other coatings. You must:

- Maintain any paints or other coatings with fire retardant properties so they retain their fire retardant properties.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31055, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31060 Maintain emergency safeguards. You must:

- Maintain each safeguard in proper working order to protect employees during an emergency. Emergency safeguards include items such as:
 - Sprinkler systems.
 - Alarm systems.
 - Fire doors.
 - Exit lighting.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31060, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31065 Maintain exit routes during construction and repair. You must:

- Have enough exit routes that comply with these rules before letting your employees occupy a workplace under new construction.

[Title 296 WAC—p. 2778]

- Make sure that employees do not occupy an existing workplace unless:
 - All exits and existing fire protection are maintained; or
 - Alternate fire protection is provided that ensures an equivalent level of safety.

- Make sure that flammable or explosive materials used during construction or repair do not expose employees to additional hazards or prevent emergency escape.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31065, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31067 Provide doors in freezer or refrigerated rooms that open from the inside. You must:

- Make sure that walk-in refrigerators or freezer rooms have doors with opening devices allowing them to be opened from the inside even when they are locked from the outside.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31067, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31070 Install and maintain an appropriate employee alarm system.

- Exemptions:**
- If you have ten or fewer employees in a particular workplace, you can use direct voice communication to sound the alarm, if all employees can hear it. For this kind of workplace, you do not need a back-up system.
 - In workplaces where employees would not otherwise be able to recognize audible or visible alarms, you can use tactile devices to alert them.

You must:

- Make sure that a working employee alarm system with a distinctive signal to warn employees of fire or other emergencies is installed and maintained.

- Exemption:** You do not need an alarm system if employees can promptly see or smell a fire or other hazard in time to provide adequate warning to other employees.

- Make sure that the following systems meet the requirements of this rule, if you use them as your employee alarm system:

- Supervisory alarms
- Discharge alarms
- Detection systems required on fixed extinguishing systems
- Detection systems required on fire suppression systems

- Make sure that your employee alarm systems are:
 - Providing enough warning to allow employees to safely escape from the workplace, the immediate work area, or both.

- Noticeable above surrounding noise or light levels by all employees in the affected portions of the workplace.
- Distinctive and recognizable as a signal, to evacuate the work area.

- Restored to working order as soon as possible, after each test or alarm.

- Supervised, if installed after July 1, 1982, and if it has that capacity.

- Able to alert assigned personnel whenever a malfunction exists in the system.

- Adequately warning employees of emergencies.

- Serviced, maintained, and tested by a person trained in the alarm system's design and functions to keep the system operating reliably and safely.

- In working order, except when undergoing repairs or maintenance.

- Warning employees of fire or other emergencies with a distinctive signal, if they are not able to see or smell a fire or other hazard.

- Manual actuation devices that, if provided, are unobstructed, easy to find, and readily accessible.

- Using alarm devices, components, combinations of devices, or systems with approved construction and installation. This applies to steam whistles, air horns, strobe lights, or similar lighting devices, as well as tactile devices.

- Supplied with spare alarm devices available to restore the system promptly if a component breaks, is worn, or destroyed.

- Kept in full operating condition by maintaining and replacing power supplies as often as necessary.

- Supplied with a back-up means of alarm, such as employee runners or telephones, when regular systems are out of service.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-18-056, § 296-800-31070, filed 9/2/08, effective 11/2/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31070, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31075 Establish procedures for sounding emergency alarms. You must:

- Explain to each employee how to sound the alert for emergencies. Methods of reporting emergencies can include:

- Manual pull box alarms.

- Public address systems.

- Radio.

- Telephones.

- Post emergency numbers near telephones, employee notice boards, or other conspicuous locations, if you use telephones to report emergencies.

- Require that all emergency messages have priority over all nonemergency messages if the communication system also serves as an employee alarm system.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31075, filed 5/9/01, effective 9/1/01.]

WAC 296-800-31080 Test the employee alarm system. You must:

- Test the reliability and adequacy of your employee alarm system every two months.

- Use a different activation device in each test of a multi-actuation device system, so the entire alarm system gets tested.

- Make sure that supervised (monitored) employee alarm systems are tested at least once a year for reliability and adequacy.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-31080, filed 5/9/01, effective 9/1/01.]

(2009 Ed.)

ACCIDENT REPORTING AND INVESTIGATING

WAC 296-800-320 Summary. Your responsibility:

To report and conduct an investigation of certain types of accidents.

You must:

Report the death, or probable death, of any employee, or the in-patient hospitalization of any employee within 8 hours

WAC 296-800-32005

Make sure that any equipment involved in an accident is not moved.

WAC 296-800-32010

Assign people to assist the department of labor and industries

WAC 296-800-32015

Conduct a preliminary investigation for all serious injuries

WAC 296-800-32020

Document the investigation findings

WAC 296-800-32025

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 09-01-158, § 296-800-320, filed 12/23/08, effective 3/1/09; 08-05-012, § 296-800-320, filed 2/8/08, effective 4/1/08. Statutory Authority: RCW 49.17-010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-320, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-320, filed 5/9/01, effective 9/1/01.]

WAC 296-800-32005 Report the death, probable death of any employee, or the in-patient hospitalization of any employee within 8 hours. (1) You must report to us within eight hours of an incident that:

- Causes a fatal or possibly fatal injury

- Causes injury requiring in-patient hospitalization of any employee

To report, contact your nearest labor and industries office by phone or in person, or call the OSHA toll-free hotline, 1-800-321-6742.

EXCEPTION: If you do not learn of a reportable incident when it happens, you must report it within eight hours of learning about the incident.

(2) Your report must include:

- Establishment name

- Location of the incident

- Time of the incident

- Number of fatalities, hospitalized employees, or pesticide exposures

- Contact person

- Phone number

- Brief description of the incident

(3) Fatalities or hospitalizations that occur within thirty days of an incident must also be reported.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-05-012, § 296-800-32005, filed 2/8/08, effective 4/1/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-23-060, § 296-800-32005, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-32005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-32010 Make sure that any equipment involved in an accident is not moved. You must:

- Not move equipment involved in a work or work related accident or incident if any of the following results:

[Title 296 WAC—p. 2779]

- A death
- A probable death
- An employee's hospitalization
- Not move the equipment until a representative of the department of labor and industries investigates the incident and releases the equipment unless:

- Moving the equipment is necessary to:
 - ◆ Remove any victims
 - ◆ Prevent further incidents and injuries

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-05-012, § 296-800-32010, filed 2/8/08, effective 4/1/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-32010, filed 5/9/01, effective 9/1/01.]

WAC 296-800-32015 Assign people to assist the department of labor and industries. You must:

- Assign witnesses and other employees to assist department of labor and industries personnel who arrive at the scene to investigate the incident involving:

- A death
- Probable death
- An employee's hospitalization

Include:

- The immediate supervisor
- Employees who were witnesses to the incident
- Other employees the investigator feels are necessary to complete the investigation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 08-05-012, § 296-800-32015, filed 2/8/08, effective 4/1/08. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-32015, filed 5/9/01, effective 9/1/01.]

WAC 296-800-32020 Conduct a preliminary investigation for all serious injuries. You must:

- Make sure your preliminary investigation is conducted to evaluate the facts relating to the cause of the incident by the following people:

- A person designated by the employer
- The immediate supervisor of the injured employee
- Witnesses
- An employee representative, such as a shop steward or other person chosen by the employees to represent them
- Any other person who has the experience and skills.

- If the employee representative is the business agent of the employee bargaining unit and is unavailable to participate without delaying the investigation group, you may proceed, by using one of the following:

- The shop steward
- An employee representative member of your safety committee
- A person selected by all employees to represent them

- Note: A preliminary investigation includes noting information such as the following:
- Where did the accident or incident occur?
 - What time did it occur?
 - What people were present?
 - What was the employee doing at the time of the accident or incident?
 - What happened during the accident or incident?

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-32020, filed 5/9/01, effective 9/1/01.]

WAC 296-800-32025 Document the preliminary investigation findings. You must:

- Document the preliminary investigation findings for use at any formal investigation.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-16-047, § 296-800-32025, filed 8/1/02, effective 10/1/02; 01-11-038, § 296-800-32025, filed 5/9/01, effective 9/1/01.]

RELEASING ACCIDENT INVESTIGATION REPORTS

WAC 296-800-330 Releasing accident investigation reports. The department must:

- Keep accident investigations and related reports confidential.
- Not freely release results of accident investigations and related reports that are confidential.
- Make available accident investigation reports, without the need of a court order, only to the following:
 - Injured workers, their legal representatives, or their labor organization representatives.
 - The legal representative or labor organization representative of a deceased worker.
 - The employer of any injured or deceased worker.
 - Any other employer or person whose actions or business operations are the subject of the report or investigation.
 - Any attorney representing a party in any pending legal action in which an investigative report constitutes material and relevant evidence.
 - Employees of governmental agencies in the performance of their official duties.
 - Any beneficiary of a deceased worker actually receiving benefits under the terms of Title 51 RCW, the Industrial Insurance Act.

Note: The records officer may provide accident investigation reports to the closest surviving member of the deceased worker's immediate family.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-330, filed 5/9/01, effective 9/1/01.]

PROTECTING THE IDENTITY OF THE SOURCE OF CONFIDENTIAL INFORMATION

WAC 296-800-340 Protecting the identity of the source of confidential information. The department must:

- Not reveal the source of information when a promise has been made to keep the identity of the source confidential.
- Not disclose information that would reveal the source's identity, whenever a department file contains an investigative report or information from a source under a promise of confidentiality.
 - The contents of an investigative report may be withheld only to the extent necessary to conceal the identity of the source.
 - When information is withheld, the records officer must give a general characterization of the information withheld, but must not reveal the identity of the information's source.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-340, filed 5/9/01, effective 9/1/01.]

USING STANDARDS FROM NATIONAL ORGANIZATIONS AND FEDERAL AGENCIES

WAC 296-800-360 Rule. Your responsibility: To use the safety and health standards from national organizations and federal agencies, when directed to by WISHA rules.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-360, filed 5/9/01, effective 9/1/01.]

WAC 296-800-36005 Comply with standards national organizations or of federal agencies when referenced in WISHA rules. You must:

- Use the following to be in compliance with WISHA rules:
 - The edition of the standard specified in the WISHA rule or
 - Any edition published after the edition specified in the WISHA rule.

Note: The specific standards referenced in the WISHA rules are available:

- For review at your local department of labor and industries office.
- See <http://www.wa.gov/lni/pa/direct.htm>
- Through the local library system
- Through the issuing organization.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 01-11-038, § 296-800-36005, filed 5/9/01, effective 9/1/01.]

WAC 296-800-370 Definitions.

Abatement Action Plans

Refers to your written plans for correcting a WISHA violation.

Abatement date

The date on the citation when you must comply with specific safety and health standards listed on the citation and notice of assessment or the corrective notice of redetermination.

Acceptable

As used in **Electrical, WAC 296-800-280** means an installation or equipment is acceptable to the director of labor and industries, and approved:

- If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory; or
- With respect to an installation or equipment of a kind which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, if it is inspected or tested by another federal agency, or by a state, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code, and found in compliance with the provisions of the National Electrical Code as applied in this section;

OR

- With respect to custom-made equipment or related installations which are designed, fabricated for, and intended for use by a particular customer, if it is determined to be safe for its intended use by its manufacturer on the basis of test data which the employer keeps and makes available for inspection to the director and his/her authorized representatives. Refer to federal regulation 29 CFR 1910.7 for definition of nationally recognized testing laboratory.

Accepted

As used in **Electrical, WAC 296-800-280** means an installation is accepted if it has been inspected and found by a nationally recognized testing laboratory to conform to specified plans or to procedures of applicable codes.

Access

As used in material safety data sheets (MSDSs) as Exposure Records, WAC 296-800-180 means the right and opportunity to examine and copy exposure records.

Affected employees

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means employees exposed to hazards identified as violations in a citation.

Analysis using exposure or medical records

• An analysis using exposure records or medical records can be any collection of data or a statistical study. It can be based on either:

- Partial or complete information from individual employee exposure or medical records or
- Information collected from health insurance claim records

• The analysis is not final until it has been:

- Reported to the employer or
- Completed by the person responsible for the analysis

ANSI

This is an acronym for the American National Standards Institute.

Approved means:

• Approved by the director of the department of labor and industries or their authorized representative, or by an organization that is specifically named in a rule, such as Underwriters' Laboratories (UL), Mine Safety and Health Administration (MSHA), or the National Institute for Occupational Safety and Health (NIOSH).

• As used in **Electrical, WAC 296-800-280** means acceptable to the authority enforcing this section. The authority enforcing this section is the director of labor and industries. The definition of acceptable indicates what is acceptable to the director and therefore approved.

Assistant director

The assistant director for the WISHA services division at the department of labor and industries or his/her designated representative.

ASTM

This is an acronym for American Society for Testing and Materials.

Attachment plug or plug

As used in the basic electrical rules, WAC 296-800-280 means the attachment at the end of a flexible cord or cable that is part of a piece of electrical equipment. When it is inserted into an outlet or receptacle, it connects the conductors supplying electrical power from the outlet to the flexible cable.

Bare conductor

A conductor that does not have any covering or insulation.

Bathroom

A room maintained within or on the premises of any place of employment, containing toilets that flush for use by employees.

Biological agents

Organisms or their by-products.

Board

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means the board of industrial insurance appeals.

Ceiling

An exposure limit that must not be exceeded during any part of the employee's workday. The ceiling must be determined over the shortest time period feasible and should not exceed fifteen minutes.

Certification

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means refers to an employer's written statement describing when and how a citation violation was corrected.

CFR

This is an acronym for Code of Federal Regulations.

Chemical

Any element, chemical compound, or mixture of elements and/or compounds.

Chemical agents (airborne or contact)

A chemical agent is any of the following:

- Airborne chemical agent which is any of the following:
 - Dust - solid particles suspended in air, that are created

by actions such as:

- Handling.
- Drilling.
- Crushing.
- Grinding.
- Rapid impact.
- Detonation.

• Decrepiation of organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

– Fume - solid particles suspended in air, that are created by condensation from the gaseous state.

– Gas - a normally formless fluid, such as air, which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both.

– Mist - liquid droplets suspended in air. Mist is created by:

- Condensation from the gaseous to the liquid state;

OR

• Converting a liquid into a dispersed state with actions such as splashing, foaming, spraying or atomizing.

– Vapor - the gaseous form of a substance that is normally in the solid or liquid state.

- Contact chemical agent which is any of the following:

– Corrosive - a substance that, upon contact, causes destruction of living tissue by chemical action, including acids with a pH of 2.5 or below or caustics with a pH of 11.0 or above.

– Irritant - a substance that will induce a local inflammatory reaction upon immediate, prolonged, or repeated contact with normal living tissue.

– Toxicant - a substance that has the inherent capacity to produce personal injury or illness to individuals by absorption through any body surface.

Chemical manufacturer

An employer with a workplace where one or more chemicals are produced for use or distribution.

Chemical name

The scientific designation of a chemical in accordance with one of the following:

- The nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC)
- The Chemical Abstracts Service (CAS) rules of nomenclature
- A name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

Circuit breaker

• Is a device used to manually open or close a circuit. This device will also open the circuit automatically and without damage to the breaker when a predetermined overcurrent is applied. (600 volts nominal or less)

• Is a switching device capable of making, carrying, and breaking currents under normal circuit conditions, and also making, carrying for a specified time, and breaking currents under specified abnormal circuit conditions, such as those of short circuit. (Over 600 volts nominal)

Citation

Refers to the citation and notice issued to an employer for any violation of WISHA safety and health rules. A citation and notice may be referred to as a citation and notice of assessment but is more commonly referred to as a citation.

Combustible liquid

A combustible liquid has a flashpoint of at least 100°F (37.8°C) and below 200°F (93.3°C). Mixtures with at least 99% of their components having flashpoints of 200°F (93.3°C) or higher are not considered combustible liquids.

Commercial account

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means an arrangement in which a retail distributor sells hazardous chemical(s) to an employer, generally in large quantities over time, and/or at costs that are below the regular retail price.

Common name

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any designation or identification such as:

- Code name
- Code number
- Trade name
- Brand name
- Generic name used to identify a chemical other than by its chemical name.

Compressed gas

A gas or mixture of gases that, when in a container, has an absolute pressure exceeding:

- 40 psi at 70°F (21.1°C)

OR

• 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C)

Compressed gas can also mean a liquid with a vapor pressure that exceeds 40 psi at 100°F (37.8°C)

Conductor

A wire that transfers electric power.

Container

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any container, except for pipes or

piping systems, that contains a hazardous chemical. It can be any of the following:

- Bag
- Barrel
- Bottle
- Box
- Can
- Cylinder
- Drum
- Reaction vessel
- Storage tank

Correction date

The date by which a violation must be corrected. Final orders or extensions that give additional time to make corrections establish correction dates. A correction date established by an order of the board of industrial insurance appeals remains in effect during any court appeal unless the court suspends the date.

Corrective notice

Refers to a notice changing a citation and is issued by the department after a citation has been appealed.

Corrosive

A substance that, upon contact, causes destruction of living tissue by chemical action, including acids with a pH of 2.5 or below or caustics with a pH of 11.0 or above.

Covered conductor

A conductor that is covered by something else besides electrical insulation.

Damp location

As used in basic electrical rules, WAC 296-800-280 means partially protected areas that are exposed to moderate moisture. Outdoor examples include roofed open porches and marquees. Interior examples include basements and barns.

Department

Those portions of the department of labor and industries responsible for enforcing the Washington Industrial Safety Act (WISHA).

Designated representative

- Any individual or organization to which an employee gives written authorization.
- A recognized or certified collective bargaining agent without regard to written authorization.
- The legal representative of a deceased or legally incapacitated employee.

Director

The director means the director of the department of labor and industries or their designee.

Distributor

A business, other than a chemical manufacturer or importer, that supplies hazardous chemicals to other distributors or to employers.

Documentation

As used in WISHA appeals, penalties and other procedural rules, WAC 296-800-350 means material that you submit to prove that a correction is completed. Documentation includes, but is not limited to, photographs, receipts for materials and/or labor.

Dry location

As used in basic electrical rules, WAC 296-800-280 means areas not normally subjected to damp or wet condi-

tions. Dry locations may become temporarily damp or wet, such as when constructing a building.

Dust

Solid particles suspended in air that are created by actions such as:

- Handling.
- Drilling.
- Crushing.
- Grinding.
- Rapid impact.
- Detonation.
- Decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

Emergency washing facilities

Emergency washing facilities are emergency showers, eyewashes, eye/face washes, hand-held drench hoses, or other similar units.

Electrical outlets

Places on an electric circuit where power is supplied to equipment through receptacles, sockets, and outlets for attachment plugs.

Employee

Based on chapter 49.17 RCW, the term employee and other terms of like meaning, unless the context of the provision containing such term indicates otherwise, means an employee of an employer who is employed in the business of his or her employer whether by way of manual labor or otherwise and 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 personal labor for an employer under this standard whether by way of manual labor or otherwise.

Employee exposure record

As used in material safety data sheets (MSDSs) as exposure records, WAC 296-800-180 means a record containing any of the following kinds of information:

- Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;
- Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;
- Material safety data sheets indicating that the material may pose a hazard to human health;

OR

- In the absence of the above, a chemical inventory or any other record which reveals where and when used and the identity (e.g., chemical, common or trade name) of a toxic substance or harmful physical agent.

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.

Exit

Provides a way of travel out of the workplace.

Exit route

A continuous and unobstructed path of exit travel from any point within a workplace to safety outside.

Explosive

A chemical that causes a sudden, almost instant release of pressure, gas, and heat when exposed to a sudden shock, pressure, or high temperature.

Exposed live parts

Electrical parts that are:

- Not suitably guarded, isolated, or insulated

AND

- Capable of being accidentally touched or approached closer than a safe distance.

Exposed wiring methods

Involve working with electrical wires that are attached to surfaces or behind panels designed to allow access to the wires.

Exposure or exposed

As used in employer chemical hazard communication, WAC 296-800-170 and material safety data sheets (MSDSs) as exposure records, WAC 296-800-180. An employee has been, or may have possibly been, subjected to a hazardous chemical, toxic substance or harmful physical agent while working. An employee could have been exposed to hazardous chemicals, toxic substances, or harmful physical agents in any of the following ways:

- Inhalation
- Ingestion
- Skin contact
- Absorption
- Related means.

The terms exposure and exposed only cover workplace exposure involving a toxic substance or harmful physical agent in the workplace different from typical nonoccupational situations in the way it is:

- Used
- Handled
- Stored
- Generated
- Present

Exposure record

See definition for employee exposure record.

Extension ladder

A portable ladder with 2 or more sections and is not self-supporting. The 2 or more sections travel in guides or brackets that let you change the length. The size of a portable ladder is determined by adding together the length of each section.

Failure-to-abate

Any violation(s) resulting from not complying with an abatement date.

Final order

Any of the following (unless an employer or other party files a timely appeal):

- Citation and notice;
- Corrective notice;
- Decision and order from the board of industrial insurance appeals;
- Denial of petition for review from the board of industrial insurance appeals; or
- Decision from a Washington State superior court, court of appeals, or the state supreme court.

Final order date

The date a final order is issued.

First aid

The extent of treatment you would expect from a person trained in basic first aid, using supplies from a first-aid kit.

Tests, such as X rays, must not be confused with treatment.

Flammable

A chemical covered by one of the following categories:

- Aerosol flammable means an aerosol that, when tested by the method described in 16 CFR 1500.45 yields either a flame projection more than 18 inches at full valve opening or a flashback (a flame extending back to the valve) at any degree of valve opening;

- Gas, flammable means:

– A gas that, at temperature and pressure of the surrounding area, forms a flammable mixture with air at a concentration of 13% by volume or less or

– A gas that, at temperature and pressure of the surrounding area, forms a range of flammable mixtures with air wider than 12% by volume, regardless of the lower limit.

- Liquid, flammable means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99% or more of the total volume of the mixture.

- Solid, flammable means a solid, other than a blasting agent or explosive as defined in 29 CFR 1910.109(a), that is likely to cause fire through friction, moisture absorption, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily. Solid, inflammable also means that when the substance is ignited, it burns so powerfully and persistently that it creates a serious hazard. A chemical must be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

Flashpoint

- The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested by any of the following measurement methods:

– Tagliabue closed tester: (See American National Standard Method of Test for Flash Point by Tag Closed Tester, Z11.24-1979 (ASTM D 56-79)) for liquids with a viscosity of less than 45 Saybolt Universal Seconds (SUS) at 100°F (37.8°C), that do not contain suspended solids and do not have a tendency to form a surface film under test; or

– Pensky-Martens closed tester: (See American National Standard Method of Test for Flash Point by Pensky-Martens Closed Tester, Z11.7-1979 (ASTM D 93-79)) for liquids with a viscosity equal to or greater than 45 SUS at 100°F (37.8°C), or that contain suspended solids, or that have a tendency to form a surface film under test; or

– Setaflash closed tester: (See American National Standard Method of Test for Flash Point by Setaflash Closed Tester (ASTM D 3278-78).)

Note: Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flashpoint measurement methods specified above.

Flexible cords and cables

Typically used to connect electrical equipment to an outlet or receptacle. These cords can have an attachment plug to connect to a power source or can be permanently wired into the power source. Flexible cords, extension cords, cables and electrical cords are all examples of flexible cord.

Floor hole

An opening in any floor, platform, pavement, or yard that measures at least one inch but less than 12 inches at its smallest dimension and through which materials and tools (but not people) can fall.

Examples of floor holes are:

- Belt holes
- Pipe openings
- Slot openings

Floor opening

An opening in any floor, platform, pavement, or yard that measures at least 12 inches in its smallest dimension and through which a person can fall.

Examples of floor openings are:

- Hatchways
- Stair or ladder openings
- Pits
- Large manholes

The following are NOT considered floor openings:

- Openings occupied by elevators
- Dumbwaiters
- Conveyors
- Machinery
- Containers

Foreseeable emergency

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any potential event that could result in an uncontrolled release of a hazardous chemical into the workplace. Examples of foreseeable emergencies include equipment failure, rupture of containers, or failure of control equipment.

Fume

Solid particles suspended in air that are created by condensation from the gaseous state.

Gas

A normally formless fluid, such as air, which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both.

Ground

As used in Electrical, WAC 296-800-280, a connection between an electrical circuit or equipment and the earth or

other conducting body besides the earth. This connection can be intentional or accidental.

Grounded

A connection has been made between an electrical circuit or equipment and the earth or another conducting body besides the earth.

Grounded conductor

A system or circuit conductor that is intentionally grounded.

Ground-fault circuit-interrupter

A device whose function is to interrupt the electric circuit to the load when a fault current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit.

Grounding conductor

Is used to connect equipment or the grounded circuit of a wiring system to a grounding electrode or electrodes.

Grounding conductor, equipment

A conductor used to connect noncurrent-carrying metal parts of equipment, raceways, and other enclosures to the system grounded conductor and/or the grounding electrode conductor at the service equipment or at the source of a separately derived system.

Guarded

Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable covers, casings, barriers, rails, screens, mats, or platforms to remove the likelihood of being accidentally touched or approached closer than a safe distance.

Hand-held drench hoses

Hand-held drench hoses are single-headed emergency washing devices connected to a flexible hose that can be used to irrigate and flush the face or other body parts.

Handrail

A single bar or pipe supported on brackets from a wall or partition to provide a continuous handhold for persons using a stair.

Harmful physical agent

Any physical stress such as noise, vibration, repetitive motion, heat, cold, ionizing and nonionizing radiation, and hypo- or hyperbaric pressure which:

- Is listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS); or
- Has shown positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer;

OR

- Is the subject of a material safety data sheet kept by or known to the employer showing that the material may pose a hazard to human health.

Hazard

Any condition, potential or inherent, which can cause injury, death, or occupational disease.

Hazard warning

As used in Employer Chemical Hazard Communication, WAC 296-800-170 can be a combination of words, pictures, symbols, or combination appearing on a label or other appropriate form of warning which shows the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).

Note: See definition for physical hazard and health hazard to determine which hazards must be covered.

Hazardous chemical

Any chemical that is a physical or health hazard.

Health hazard

A chemical, mixture, biological agent, or physical agent that may cause health effects in short- or long-term exposed employees. Based on statistically significant evidence from at least one study conducted using established scientific principles. Health hazards include:

- Carcinogens
- Toxic or highly toxic agents
- Reproductive toxins
- Irritants
- Corrosives
- Sensitizers
- Hepatotoxins (liver toxins)
- Nephrotoxins (kidney toxins)
- Neurotoxins (nervous system toxins)
- Substances that act on the hematopoietic system (blood or blood-forming system)
 - Substances that can damage the lungs, skin, eyes, or mucous membranes
 - Hot or cold conditions.

Hospitalization

To be admitted to a hospital or an equivalent medical facility on an emergent in-patient basis requiring an overnight stay.

Identity

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means any chemical or common name listed on the material safety data sheet (MSDS) for the specific chemical. Each identity used must allow cross-references among the:

- Required list of hazardous chemicals
- Chemical label
- MSDSs

Imminent danger violation

Any violation(s) resulting from conditions or practices in any place of employment, which are such that a danger exists which could reasonably be expected to cause death or serious physical harm, immediately or before such danger can be eliminated through the enforcement procedures otherwise provided by the Washington Industrial Safety and Health Act.

Importer

The first business within the Customs Territory of the USA that:

- Receives hazardous chemicals produced in other countries

AND

- Supplies them to distributors or employers within the USA

Insulated

A conductor has been completely covered by a material that is recognized as electrical insulation and is thick enough based on:

- The amount of voltage involved

AND

- The type of covering material

Interim waiver

An order granted by the department allowing an employer to vary from WISHA requirements until the department decides to grant a permanent or temporary waiver.

Irritant

A substance that will induce a local inflammatory reaction upon immediate, prolonged, or repeated contact with normal living tissue.

Ladder

Consists of 2 side rails joined at regular intervals by crosspieces called steps, rungs, or cleats. These steps are used to climb up or down.

Listed

Equipment is listed if it:

- Is listed in a publication by a nationally recognized laboratory (such as UL, underwriters laboratory) that inspects the production of that type of equipment,

AND

- States the equipment meets nationally recognized standards or has been tested and found safe to use in a specific manner.

Material safety data sheet (MSDS)

Written, printed, or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors, employers or employees about a hazardous chemical, its hazards, and protective measures as required by material safety data sheet and label preparation, chapter 296-839 WAC.

Medical treatment

Treatment provided by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first-aid treatment even if provided by a physician or registered professional personnel.

Mist

Liquid droplets suspended in air. Mist is created by:

- Condensation from the gaseous to the liquid state;

OR

- Converting a liquid into a dispersed state with actions such as splashing, foaming, spraying or atomizing.

Mixture

As used in Employer Chemical Hazard Communication, WAC 296-800-170, any combination of 2 or more chemicals (if that combination did not result from a chemical reaction).

Movable equipment

As used in WAC 296-800-35052, a hand-held or non-hand-held machine or device;

- That is powered or nonpowered;

AND

- Can be moved within or between worksites

Must

Must means mandatory.

NEMA

These initials stand for National Electrical Manufacturing Association.

NFPA

This is an acronym for National Fire Protection Association.

Nose

The portion of the stair tread that projects over the face of the riser below it.

Occupational Safety and Health Administration (OSHA)

Created in 1970 when the U.S. Congress passed the Occupational Safety and Health Act, the Occupational Safety and Health Administration (OSHA) provides safety on the job for workers. OSHA oversees state plans (such as WISHA in Washington) that have elected to administer the safety and health program for their state. OSHA requires WISHA rules to be at least as effective as OSHA rules.

Office work environment

An indoor or enclosed occupied space where clerical work, administration, or business is carried out.

In addition, it includes:

- Other workplace spaces controlled by the employer and used by office workers, such as cafeterias, meeting rooms, and washrooms.

- Office areas of manufacturing and production facilities, not including process areas.

- Office areas of businesses such as food and beverage establishments, agricultural operations, construction, commercial trade, services, etc.

Open riser

A stair step with an air space between treads has an open riser.

Organic peroxide

This is an organic compound containing the bivalent-0-0-structure. It may be considered a structural derivative of hydrogen peroxide if one or both of the hydrogen atoms has been replaced by an organic radical.

Outlet

See definition for electrical outlets.

Oxidizer

A chemical other than a blasting agent or explosive as defined in WAC 296-52-60130 or CFR 1910.109(a), that starts or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases.

Permissible exposure limits (PELs)

Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are specified in applicable WISHA rules.

Person

Based on chapter 49.17 RCW, one or more individuals, partnerships, associations, corporations, business trusts, legal representatives, or any organized group of persons.

Personal eyewash units

Personal eyewash units are portable, supplementary units that support plumbed units or self-contained units, or both, by delivering immediate flushing for less than fifteen minutes.

Personal service room

Used for activities not directly connected with a business' production or service function such as:

- First aid
- Medical services
- Dressing
- Showering
- Bathrooms
- Washing
- Eating

Personnel

See the definition for employees.

Physical hazard

As used in Employer Chemical Hazard Communication, WAC 296-800-170 means a chemical that has scientifically valid evidence to show it is one of the following:

- Combustible liquid
- Compressed gas
- Explosive
- Flammable
- Organic peroxide
- Oxidizer
- Pyrophoric
- Unstable (reactive)
- Water reactive

Platform

Platform means an extended step or landing that breaks a continuous run of stairs.

Plug

See definition for attachment plug.

Potable water

Water that you can safely drink. It meets specific safety standards prescribed by the United States Environmental Protection Agency's National Interim Primary Drinking Water Regulations, published in 40 CFR Part 141, and 40 CFR 147.2400.

Predictable and regular basis

Employee functions such as, but not limited to, inspection, service, repair and maintenance which are performed

- at least once every 2 weeks

OR

- 4 man-hours or more during any sequential 4-week period (to calculate man-hours multiply the number of employees by the number of hours during a 4-week period).

Produce

As used in Employer Chemical Hazard Communication, WAC 296-800-170, any one of the following:

- Manufacture
- Process
- Formulate
- Blend
- Extract
- Generate
- Emit
- Repackage

Purchaser

As used in Employer Chemical Hazard Communication, WAC 296-800-170, an employer who buys one or more hazardous chemicals to use in their workplace.

Pyrophoric

A chemical is pyrophoric if it will ignite spontaneously in the air when the temperature is 130°F (54.4°C) or below.

Qualified person

A person who has successfully demonstrated the ability to solve problems relating to the subject matter, work, or project, either by:

- Possession of a recognized degree, certificate, or professional standing;

OR

- Extensive knowledge, training and experience.

Railing or standard railing

A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.

Reassume jurisdiction

The department has decided to take back its control over a citation and notice being appealed.

Receptacle or receptacle outlet

As used in basic electrical rules, WAC 296-800-280 means outlets that accept a plug to supply electric power to equipment through a cord or cable.

Record

A record is any item, collection, or grouping of information. Examples include:

- Paper document
- Microfiche
- Microfilm
- X-ray film
- Computer record

Repeat violation

A violation is a repeat violation if the employer has been cited one or more times previously for a substantially similar hazard.

[Refuge area

- A protected space along an exit route that is separated from other spaces inside the building by a barrier with at least a one-hour fire resistance rating;

OR

- A floor in a building with an automatic sprinkler system that has at least two spaces that are separated by smoke-resistant partitions. See WAC 296-24-607 for requirements for automatic sprinkler systems.]

Responsible party

As used in employer chemical hazard communication, WAC 296-800-170. Someone who can provide appropriate information about the hazardous chemical and emergency procedures.

Rise

The vertical distance from the top of a tread to the top of the next higher tread.

Riser

The vertical part of the step at the back of a tread that rises to the front of the tread above.

Rungs

Rungs are the cross pieces on ladders that are used to climb up and down the ladder.

Runway

An elevated walkway above the surrounding floor or ground level. Examples of runways are footwalks along shafting or walkways between buildings.

Safety factor

The term safety factor means the ratio of when something will break versus the actual working stress or safe load when it is used.

Serious violation

Serious violation must be deemed to exist in a workplace if there is a substantial probability that death or serious physical harm could result from a condition which exists, or from one or more practices, means, methods, operations, or processes which have been adopted or are in use in such workplace, unless the employer did not, and could not with the

exercise of reasonable diligence, know of the presence of the violation.

[Self-lighting or self-luminous

A light source that:

- Is illuminated by a self-contained power source other than batteries;

AND

- Operates independently from external power sources.]

Short-term exposure limit (STEL)

An exposure limit, averaged over a short time period (usually measured for 15 minutes) that must not be exceeded during any part of an employee's workday.

Should

Should means recommended.

Single ladder

A type of portable ladder with one section.

It is distinguished by all of the following:

- It has one section
- It cannot support itself
- Its length cannot be adjusted

Smoking

A person is smoking if they are:

- Lighting up
- Inhaling
- Exhaling
- Carrying a pipe, cigar or cigarette of any kind that is burning

Specific chemical identity

This term applies to chemical substances. It can mean the:

- Chemical name
- Chemical Abstracts Service (CAS) registry number
- Any other information that reveals the precise chemical designation of the substance.

Stair railing

A vertical barrier attached to a stairway with an open side to prevent falls. The top surface of the stair railing is used as a handrail

Stairs or stairway

A series of steps and landings:

- leading from one level or floor to another,
- leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment
- Used more or less continuously or routinely by employees, or only occasionally by specific individuals.
- With three or more risers

Standard safeguard

Safety devices that prevent hazards by their attachment to:

- Machinery
- Appliances
- Tools
- Buildings
- Equipment

These safeguards must be constructed of:

- Metal
- Wood
- Other suitable materials

The department makes the final determination about whether a safeguard is sufficient for its use.

Step ladder

A portable ladder with:

- Flat steps
- A hinge at the top allowing the ladder to fold out and support itself
- Its length that cannot be adjusted.

Time weighted average (TWA₈)

An exposure limit, averaged over 8 hours, that must not be exceeded during an employee's work shift.

Toeboard

A barrier at floor level along exposed edges of a floor opening, wall opening, platform, runway, or ramp, to prevent falls of materials.

Toxic chemical

As used in first aid, WAC 296-800-150, is a chemical that produces serious injury or illness when absorbed through any body surface.

Toxic substance

Any chemical substance or biological agent, such as bacteria, virus, and fungus, which is any of the following:

- Listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS)
- Shows positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer
- The subject of a material safety data sheet kept by or known to the employer showing the material may pose a hazard to human health.

Toxicant

A substance that has the inherent capacity to produce personal injury or illness to individuals by absorption through any body surface.

Trade secret

Any confidential:

- Formula
- Pattern
- Process
- Device
- Information
- Collection of information

The trade secret is used in an employer's business and gives an opportunity to gain an advantage over competitors who do not know or use it.

See WAC 296-62-053 for requirements dealing with trade secrets.

Tread

As used in stairs and stair railings, WAC 296-800-250 means the horizontal part of the stair step.

Tread run

As used in stairs and stair railings, WAC 296-800-250 means the distance from the front of one stair tread to the front of an adjacent tread.

Tread width

The distance from front to rear of the same tread including the nose, if used.

UL (Underwriters' Laboratories, Inc.)

You will find these initials on electrical cords and equipment. The initials mean the cord or equipment meets the standards set by the Underwriters' Laboratories, Inc.

Unstable (reactive)

As used in employer chemical hazard communication, WAC 296-800-170. An unstable or reactive chemical is one that in its pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

Use

As used in employer chemical hazard communication, WAC 296-800-170, means to:

- Package
- Handle
- React
- Emit
- Extract
- Generate as a by-product
- Transfer.

Vapor

The gaseous form of a substance that is normally in the solid or liquid state.

Voltage of a circuit

The greatest effective potential difference between any two conductors or between a conductor and ground.

Voltage to ground

The voltage between a conductor and the point or conductor of the grounded circuit. For undergrounded circuits, it is the greatest voltage between the conductor and any other conductor of the circuit.

Voltage, nominal

Nominal voltage is a value assigned to a circuit or system to designate its voltage class (120/240, 480Y/277, 600, etc.). The actual circuit voltage can vary from the value if it is within a range that permits the equipment to continue operating in a satisfactory manner.

WAC

This is an acronym for **Washington Administrative Code**, which are rules developed to address state law.

Water-reactive

As used in Employer Chemical Hazard Communication, WAC 296-800-170, a water-reactive chemical reacts with water to release a gas that is either flammable or presents a health hazard.

Watertight

Constructed so that moisture will not enter the enclosure or container.

Weatherproof

Constructed or protected so that exposure to the weather will not interfere with successful operation. Rainproof, rain-tight, or watertight equipment can fulfill the requirements for weatherproof where varying weather conditions other than wetness, such as snow, ice, dust, or temperature extremes, are not a factor.

Wet location

As used in basic electrical rules, WAC 296-800-280 means:

- Underground installations or in concrete slabs or masonry that are in direct contact with the earth
- Locations that can be saturated by water or other liquids
- Unprotected locations exposed to the weather (like vehicle washing areas)

WISHA

This is an acronym for the Washington Industrial Safety and Health Act.

Work area

As used in employer chemical hazard communication, WAC 296-800-170, a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Working days

Means a calendar day, except Saturdays, Sundays, and legal holidays. Legal holidays include:

- New Year's Day - January 1
- Martin Luther King, Jr. Day
- Presidents' Day
- Memorial Day
- Independence Day - July 4
- Labor Day
- Veterans' Day - November 11
- Thanksgiving Day
- The day after Thanksgiving Day; and
- Christmas Day - December 25

The number of working days must be calculated by not counting the first working day and counting the last working day.

Worker

See the definition for employee.

Workplace

• The term workplace means:

- Any plant, yard, premises, room, or other place where an employee or employees are employed for the performance of labor or service over which the employer has the right of access or control, and includes, but is not limited to, all workplaces covered by industrial insurance under Title 51 RCW, as now or hereafter amended.

– As used in Employer Chemical Hazard Communication, WAC 296-800-170 means an establishment, job site, or project, at one geographical location containing one or more work areas.

You

See definition of employer.

Your representative

Your representative is the person selected to act in your behalf.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 09-01-158, § 296-800-370, filed 12/23/08, effective 3/1/09; 08-18-056, § 296-800-370, filed 9/2/08, effective 11/2/08; 03-18-090, § 296-800-370, filed 9/2/03, effective 11/1/03. Statutory Authority: RCW 49.17.010, [49.17]040, and [49.17].050, 02-16-047, § 296-800-370, filed 8/1/02, effective 10/1/02; 01-23-060, § 296-800-370, filed 11/20/01, effective 12/1/01; 01-11-038, § 296-800-370, filed 5/9/01, effective 9/1/01.]

Reviser's note: RCW 34.05.395 requires the use of underlining and deletion marks to indicate amendments to existing rules, and deems ineffectual changes not filed by the agency in this manner. The bracketed material in the above section does not appear to conform to the statutory requirement.

Chapter 296-802 WAC**EMPLOYEE MEDICAL AND EXPOSURE RECORDS****WAC**

296-802-100	Scope.
296-802-200	Keep employee medical and exposure records.
296-802-20005	Keep employee medical records.
296-802-20010	Keep employee exposure records.

296-802-20015	Keep analyses of medical or exposure records.
296-802-300	Inform employees about records.
296-802-30005	Inform current employees about their medical and exposure records.
296-802-400	Provide employees access to records and analyses.
296-802-40005	Provide access to employee medical records, exposure records, and analyses.
296-802-40010	Provide employee medical records.
296-802-40015	Provide employee exposure records.
296-802-500	Respond to medical record access orders.
296-802-50005	Respond to WISHA access orders for employee medical records.
296-802-50010	Content of WISHA written access orders.
296-802-600	Transfer and disposal of employee records.
296-802-60005	Transfer or dispose of employee medical and exposure records when you go out of business.
296-802-900	Definitions.

WAC 296-802-100 Scope. The purpose of this chapter is to provide employees and their designated representatives the right to access relevant medical and exposure records. It also describes the procedures WISHA will follow when accessing confidential medical information.

This chapter applies to:

• All employers who make, maintain, contract for, or have access to records relating to employee exposure to toxic substances or harmful physical agents, whether or not they are required by specific occupational safety and health rules. These records include:

- Employee medical records.
- Employee exposure records.
- Analyses of employee medical or exposure records.

IMPORTANT:

• The requirements of this chapter do not affect any other legal and ethical obligations the employer has to keep employee medical information confidential.

Exemption: Agricultural operations covered by chapter 296-307 WAC, Safety standards for agriculture, are exempt from the requirements of this chapter.

Reference:

- Requirements for material safety data sheets are found in WAC 296-800-180, Material safety data sheets (MSDSs) as exposure records.
- Additional information about accessing medical information can be found in chapter 70.02 RCW, Medical record—Health care information access and disclosure.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-10-026, § 296-802-100, filed 4/27/04, effective 8/1/04.]

WAC 296-802-200 Keep employee medical and exposure records.**Summary:****Your responsibility:**

To keep employee medical records, exposure records, and analyses.

IMPORTANT:

• Physicians or other health care personnel may keep medical records for you.

• You may keep information in any form as long as the information is retrievable.

• Unless a specific occupational safety and health rule provides a different time period, you must keep records for the period required by this chapter.

You must:

Keep employee medical records
WAC 296-802-20005.
Keep employee exposure records
WAC 296-802-20010.

Keep analyses of medical or exposure records
WAC 296-802-20015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-200, filed 4/27/04, effective 8/1/04.]

WAC 296-802-20005 Keep employee medical records.

You must:

- Keep medical records for at least as long as the employee works for you plus thirty years.

- Exemption:**
- If an employee works for you for less than **one** year and you provide the records to them when they leave employment, you do not have to keep their medical records.
 - You do not need to keep the following records for any specific period:
 - Health insurance claims records maintained separately from your medical program and records.
 - Records of first-aid treatment, if made on-site by a nonphysician and if kept separately from the employee medical record.

You must:

- Keep chest X-ray films in their original state, such as film or electronic image.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-20005, filed 4/27/04, effective 8/1/04.]

WAC 296-802-20010 Keep employee exposure records.

IMPORTANT:

You do not need to keep employee exposure records for exposure to toxic substances when they are:

- Purchased as a consumer product;

AND

- Used in the same manner and frequency that a consumer would use them.

You must:

- Keep employee exposure records for at least thirty years from the date the exposure record was made. These records include the following:
 - The sampling results.
 - The collection methodology (sampling plan).
 - A description of the analytical and mathematical methods used.
 - Background data to environmental monitoring or measuring, such as laboratory reports and work sheets.

Note: You do not have to keep the actual background data for more than one year if you keep a summary of the data for thirty years.

You must:

Keep a record, for at least thirty years, of the identity of any toxic substance used in your workplace. Include:

- Where the substance was used.
- When the substance was used.

Note: The identity may be retained either as part of the exposure record or as a separate record.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-20010, filed 4/27/04, effective 8/1/04.]

WAC 296-802-20015 Keep analyses of medical or exposure records.

You must:

- Keep each analysis using medical or exposure records for at least thirty years.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-20015, filed 4/27/04, effective 8/1/04.]

WAC 296-802-300 Inform employees about records.

Summary:

Your responsibility:

To inform current employees about their medical and exposure records.

You must:

Inform current employees about their medical and exposure records

WAC 296-802-30005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-300, filed 4/27/04, effective 8/1/04.]

WAC 296-802-30005 Inform current employees about their medical and exposure records.

You must:

- Inform employees covered by this rule about medical and exposure records when they first start employment, and then at least annually. Include the following information:

- Where the records are located.
- Who is responsible for the records.
- Who to contact for access to the records.
- Their rights to copy the records.

- Make copies of this rule available upon request to employees.

- Distribute to your employees any information about this chapter that you are given by the department.

Note: Some of the ways to inform employees that you have medical and exposure records include e-mail, letters, posters, or classroom training.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-30005, filed 4/27/04, effective 8/1/04.]

WAC 296-802-400 Provide employees access to records and analyses.

Summary:

Your Responsibility:

To provide employees access to records and analyses.

IMPORTANT:

- Employees or their designated representatives can use the collective bargaining process to gain access to records beyond what is required by this chapter.

- The requirements of this section apply to both current and former employees.

You must:

Provide access to employee medical records, exposure records, and analyses

WAC 296-802-40005.

Provide employee medical records

WAC 296-802-40010.

Provide employee exposure records

WAC 296-802-40015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-400, filed 4/27/04, effective 8/1/04.]

WAC 296-802-40005 Provide access to employee medical records, exposure records, and analyses.**You must:**

• Provide employees and their designated representatives access to requested records and analyses as follows:

- In a reasonable time, place, and manner.
- Within fifteen working days.

■ If there is a delay, inform the requesting party of the reason and the earliest date the record will be made available.

Exemption: You do not have to provide analyses that are currently being worked on or have not been reported to you.

You must:

• Provide a copy of the record, when requested, to the employee or designated representative without cost. This may be done by one of the following methods:

- Make a copy for the requestor.
- Make the record and a copier available.
- Loan the record to the employee or designated representative for a reasonable time, so a copy can be made.

Note: • Access to employee medical records will be provided to designated representatives only when the employee provides specific written authorization. See WAC 296-802-40010.

• To locate or identify the records being requested, you may request, from employees or their designated representatives, only known and necessary information. For example, you may request dates and location of where the employee worked during the time period in question.

• You are not required to perform an analysis of medical or exposure records at the request of an employee or designated representative.

• When there is an original X ray you may restrict access to an on-site examination or make other arrangements for a temporary loan.

• When a record has been provided without cost to an employee or designated representative, and they request additional copies, you may charge a reasonable, nondiscriminatory administrative cost. For example, you may charge search and copying expenses but not overhead expenses.

– A reasonable fee for copying, as defined in chapter 70.02 RCW, should not exceed sixty-five cents per page for the first thirty pages and fifteen cents per page for all additional pages. In addition, a clerical fee for searching and handling may be charged not to exceed fifteen dollars.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-40005, filed 4/27/04, effective 8/1/04.]

WAC 296-802-40010 Provide employee medical records.**You must:**

• Make sure employees have access, upon request, to their own medical records.

Note: • A physician, nurse, or other responsible health care professional who maintains employee medical records may delete from requested medical records the identity of individuals who provided confidential information regarding an employee's health status.

• If a physician represents you and believes that providing an employee access to their specific diagnosis of a terminal illness or psychiatric condition could harm the employee, they may request that the record be released only to a designated representative having specific written authorization.

• The physician representing you may recommend that the employee or designated representative do one of the following:

- Consult with the physician to review and discuss requested records.
- Accept a summary of facts and opinions instead of requested records.
- Accept the release of requested records only to another physician or designated representative.

You must:

• Make sure that individual employees are not identified in any portion of analyses that report the contents of employee medical records.

– Identifying information includes both direct identifiers such as name, address, Social Security number, and payroll number, and other information that could reasonably be used in the circumstances to identify individual employees such as exact age, height, or weight.

Note: If it is not feasible to remove personal identifying information from a document, you do not have to provide the portions where personal identifiers cannot be moved.

You must:

• Provide designated representatives access to employee medical records when the employee provides specific written authorization.

– If the written authorization does not contain an expiration date, it expires ninety days after it is signed.

– Release only medical information that exists on the date of the written employee consent, unless the consent specifically states that future information may be released.

Note: An employee may revoke the specific written authorization in writing at any time.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-40010, filed 4/27/04, effective 8/1/04.]

WAC 296-802-40015 Provide employee exposure records.**You must:**

• Provide requested exposure records that show the type and amount of toxic substances or harmful physical agents to which the employee is or has been exposed, for an employee's current or transfer work assignment.

– In the absence of records specific to the employee, exposure records of other employees with the same job duties or related working conditions will be used to the extent necessary to respond to the request.

• Provide a designated representative, who does not have specific employee consent, access to employee exposure records only when a reasonable written request is made that includes the following:

- The records requested.
- The occupational health need for accessing these records.

Note: Trade secret information may be withheld from exposure records. See chapter 296-816 WAC, Protecting trade secrets, for more information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-40015, filed 4/27/04, effective 8/1/04.]

WAC 296-802-500 Respond to medical record access orders.**Summary:****IMPORTANT:**

This section describes how WISHA accesses employee medical records and your related rights and obligations.

Your responsibility:

To post written WISHA access orders.

You must:

Respond to WISHA access orders for employee medical records

WAC 296-802-50005.

Content of WISHA written access orders
WAC 296-802-50010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-500, filed 4/27/04, effective 8/1/04.]

WAC 296-802-50005 Respond to WISHA access orders for employee medical records.

You must:

- Promptly respond to a written access order you receive from WISHA for personally identifiable employee medical information.
- Post a copy of the cover letter you receive from WISHA for fifteen working days where employees can easily review it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-50005, filed 4/27/04, effective 8/1/04.]

WAC 296-802-50010 Content of WISHA written access orders. A written access order from WISHA will contain at least the following information:

- The identity of employees whose medical information is being requested.
 - This may be either by name, job classification, time clock number, department, or similar identifier.
- A description of the medical information that will be examined.
- The purpose for seeking access to this medical information.
 - Any additional evidence supporting access to the medical information.
- A step-by-step description of how the records will be obtained, copied, reviewed, and stored, specifying the following:
 - Who will be in charge of on-site review of the records, or who will take possession of the records for off-site review.
 - Where the records will be reviewed.
 - When review or receipt of the records is to take place.
 - If the records are to be reviewed on-site, what type of information will be copied and removed off-site.
- How personal identifiers will be separated from the medical information and how long this information will be kept.
- The principal WISHA investigator's full name, business address and telephone number.
- The full names and titles of all individuals that will review the records.
- The WISHA industrial hygiene program manager's full name, business address and telephone number.

Note: WISHA does not need a written access order for the following types of employee medical records:

- Medical records and analyses that do not contain personal identification information.
- Examination of records to verify compliance with the medical surveillance requirements of another occupational health and safety rule.
- The following records when required by another occupational health and safety rule:
 - Medical opinions.
 - Biological monitoring results.
 - Results of medical examinations and laboratory tests.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-50010, filed 4/27/04, effective 8/1/04.]

(2009 Ed.)

WAC 296-802-600 Transfer and disposal of employee records.

Summary:

Your responsibility:

To transfer or dispose of employee medical and exposure records when you go out of business.

You must:

Transfer or dispose of employee medical and exposure records when you go out of business
WAC 296-802-60005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-600, filed 4/27/04, effective 8/1/04.]

WAC 296-802-60005 Transfer or dispose of employee medical and exposure records when you go out of business.

You must:

• Follow the requirements in Table 1 when transferring or disposing of records.

**Table 1
Transfer or Disposal of Records**

If	Then
Another employer continues the business when you go out of business	Transfer all employee records to that employer
No other employer continues the business when you go out of business	Do the following: <ul style="list-style-type: none"> – Notify affected current employees of their rights of access to records at least three months prior to the termination of your business AND EITHER: <ul style="list-style-type: none"> – Notify WISHA in writing of your impending decision to dispose of records at least three months prior to your planned disposal; OR <ul style="list-style-type: none"> – Transfer the records to WISHA, if required by a specific WISHA safety and health rule
You intend to dispose of records after the retention period has expired Note: If you dispose of records on a regular basis, you may notify WISHA once annually, at least three months before your first disposal, with the schedule of your planned disposals for the year	<ul style="list-style-type: none"> • Do the following: <ul style="list-style-type: none"> – Notify WISHA in writing of your impending decision to dispose of records at least three months prior to your planned disposal; OR <ul style="list-style-type: none"> – Transfer the records to WISHA, if required by a specific WISHA safety and health rule

Note: The address to notify WISHA in writing is:
Department of Labor & Industries/WISHA Services
Attention: Medical Records

P.O. Box 44610
Olympia, WA 98504-4610

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-10-026, § 296-802-60005, filed 4/27/04, effective 8/1/04.]

WAC 296-802-900 Definitions.

Access

The right and opportunity to examine and copy an employee record.

Analysis using exposure or medical records

- Any collection of data or a statistical study based on either:
 - Information from individual employee exposure or medical records;

OR

- Information collected from health insurance claim records.

Designated representative

- Any individual or organization to which an employee gives written authorization.
 - A recognized or certified collective bargaining agent without regard to written employee authorization.
 - The legal representative of a deceased or legally incapacitated employee.

Employee exposure record

Means a record containing any of the following kinds of information:

- Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained.
- Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (such as the level of a chemical in the blood, urine, breath, hair, or fingernails) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs.
- Material safety data sheets indicating that the material may pose a hazard to human health;

OR

- In the absence of the above:
 - A chemical inventory or any other record that reveals where and when used and the identity (e.g., chemical, common or trade name) of a toxic substance or harmful physical agent.
 - Exposure records of other employees with past or present job duties or related working conditions.

Employee medical record

A record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician, including:

- Medical and employment questionnaires or histories (including job description and occupational exposures).
- The results of medical examinations (preemployment, preassignment, periodic, or episodic) and laboratory tests (including chest and other X-ray examinations taken for purposes of establishing a baseline or detecting occupational illness, and all biological monitoring not defined as an "employee exposure record").

- Medical opinions, diagnoses, progress notes, and recommendations.

- First-aid records.

- Descriptions of treatments and prescriptions.

- Employee medical complaints.

An employee medical record does **not** include any of these types of medical information:

- Physical specimens (for example, blood or urine samples), which are routinely discarded as a part of normal medical practice.

- Records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier, such as Social Security number or payroll number.

- Records created solely in preparation for litigation that are privileged from discovery under applicable rules of procedure or evidence.

- Records concerning voluntary employee assistance programs, such as alcohol, drug abuse, or personal counseling programs, if maintained separately from the employer's medical program and records.

Exposure or exposed

The contact an employee has with a toxic substance, harmful physical agent or oxygen deficient condition. Exposure can occur through various routes, such as inhalation, ingestion, skin contact, or skin absorption.

First aid

Any of the following are considered first aid:

- Using a nonprescription medication at nonprescription strength.
- Administering tetanus immunizations. Other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment.
- Cleaning, flushing or soaking wounds on the surface of the skin.
 - Using wound coverings such as bandages, Band-Aids™, or gauze pads.
 - Using butterfly bandages or Steri-Strips™.
 - Using hot or cold therapy.
- Using any nonrigid means of support, such as elastic bandages, wraps, or nonrigid back belts.
 - Using temporary immobilization devices, such as splints, slings, neck collars, or back boards, while transporting an accident victim.
 - Drilling a fingernail or toenail to relieve pressure.
 - Draining fluid from a blister.
 - Using eye patches.
 - Removing foreign bodies from the eye using only irrigation or a cotton swab.
 - Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.
 - Using finger guards.
 - Using massages.
 - Drinking fluids for relief of heat stress.

Harmful physical agent

Any physical stress such as noise, vibration, repetitive motion, heat, cold, ionizing and nonionizing radiation, and hypo- or hyperbaric pressure which:

- Is listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS);

OR

- Has shown positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer;

OR

- Is the subject of a material safety data sheet kept by or known to the employer showing that the material may pose a hazard to human health.

Health professional

A physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist, who provides medical or other occupational health services to exposed employees.

Record

Any item, collection, or grouping of information. Examples include:

- Paper document.
- Microfiche.
- Microfilm.
- X-ray film.
- Computer record.

Specific chemical identity

Any other information that reveals the precise chemical designation of the substance, such as:

- Chemical name;

OR

- Chemical abstracts service (CAS) registry number.

Specific written authorization

A written authorization containing at least the following:

- The name and signature of the employee authorizing the release of medical information.

- The date of the written authorization.

- The name of the individual or organization that is authorized to release the medical information.

- The name of the designated representative (individual or organization) that is authorized to receive the information.

- A general description of the medical information that is authorized to be released.

- A general description of the purpose for the release of the medical information.

- A date or condition upon which the written authorization will expire.

Toxic substance

Any chemical substance or biological agent, such as bacteria, virus, and fungus, which is any of the following:

- Listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) *Registry of Toxic Effects of Chemical Substances* (RTECS).

- Shows positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer.

- The subject of a material safety data sheet kept by or known to the employer showing the material may pose a hazard to human health.

Trade secrets

Any confidential information that is used in an employer's business and gives an opportunity to gain an advantage over competitors who do not know or use it. It can be a:

- Formula.
- Pattern.
- Process.
- Device.
- Information.
- Collection of information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-10-026, § 296-802-900, filed 4/27/04, effective 8/1/04.]

Chapter 296-803 WAC LOCKOUT/TAGOUT (CONTROL OF HAZARDOUS ENERGY)

WAC

296-803-100	Scope.
296-803-200	Summary.
296-803-20005	Establish a written energy control program.
296-803-300	Summary.
296-803-30005	Make sure new or modified machines and equipment can accept lockout devices.
296-803-400	Summary.
296-803-40005	Provide appropriate means to control energy.
296-803-40010	Make sure lockout and tagout devices meet these requirements.
296-803-40015	Make sure lockout devices meet these additional requirements.
296-803-40020	Make sure tagout devices meet these additional requirements.
296-803-500	Summary.
296-803-50005	Use energy control procedures.
296-803-50010	Meet these requirements when applying lockout or tagout devices.
296-803-50015	Meet these additional requirements when applying lockout devices.
296-803-50020	Meet these additional requirements when applying tagout devices.
296-803-50025	Protect employees from the hazards of stored and residual energy.
296-803-50030	Verify that the machine or equipment is safe before starting work.
296-803-50035	Meet these requirements when removing lockout or tagout devices and energizing the machine or equipment.
296-803-50040	Meet these requirements if it's necessary to temporarily energize a machine, equipment, or component for testing or positioning.
296-803-50045	Protect employees during shift or personnel changes.
296-803-50050	Protect employees working in a group.
296-803-50055	Meet these additional requirements if more than one group is used.
296-803-50060	Coordinate with outside employers servicing or maintaining your machines or equipment.
296-803-600	Summary.
296-803-60005	Provide and document employee training on the energy control program.
296-803-60010	Provide additional training if you use tagout devices.
296-803-60015	Retrain employees when necessary.
296-803-700	Summary.
296-803-70005	Perform and document periodic reviews to verify employees know and follow the energy control procedures.
296-803-70010	Do periodic reviews of procedures using lockout devices.
296-803-70015	Do periodic reviews of procedures using tagout devices.
296-803-800	Definitions.

WAC 296-803-100 Scope. This chapter applies to the service and maintenance of machines and equipment, including piping systems, if employees could be injured by the:

- Unexpected energization or start up of the machine or equipment;

OR

- Release of stored energy.

Energy sources include mechanical, hydraulic, pneumatic, chemical, thermal, or other energy, including gravity.

- Note:**
- Machines and equipment include those that produce high intensity electromagnetic fields.
 - When other Title 296 WAC standards require the use of lockout or tagout, they have to be used and supplemented by the procedural and training requirements of this chapter.

- Exemption:** This chapter does not apply to:
- Construction activities covered by chapter 296-155 WAC, Safety standards for construction work.
 - Agriculture activities covered by chapter 296-307 WAC, Safety standards for agriculture.
 - Maritime activities covered by chapter 296-56 WAC, Safety standards—Longshore, stevedore and related waterfront operations and chapter 296-304 WAC, Safety standards for ship repairing, shipbuilding and shipbreaking.
 - Oil and gas well drilling and servicing.
 - Installations for generating, transmitting, and distributing electrical power (including related communication and metering equipment) that are controlled exclusively by electric utilities.
 - Hot tap operations on pressurized pipelines used to transmit and distribute substances such as gas, steam, water, or petroleum products if the employer can demonstrate that all of the following apply:
 - Continuity of service is essential.
 - Shutdown of the system is impractical.
 - Proven effective employee protection is provided by following documented procedures and using special equipment.
 - Service and maintenance of fire alarm and extinguishing systems and their components if:
 - Other employees depend on these systems for fire safety;
- AND**
- Employees working on fire extinguishing systems are protected from the unexpected release of hazardous energy by appropriate alternative measures.
 - Work on electric equipment receiving power only through a cord and plug if:
 - Unplugging the equipment eliminates the possibility of unexpected energization, unexpected start up, or the release of stored energy;
- AND**
- The plug is kept under the exclusive control of the employee doing the service or maintenance.
 - Exposure to electrical hazards from electrical work on, near, or with conductors or equipment that is covered by chapter 296-24 WAC, General safety and health standards, Part L, Electrical.
 - Service and maintenance during normal production operations, if an employee is not required to:
 - Remove or bypass a guard or other safety device;
- OR**
- Place any body part into the point of operation or any other hazardous area created by machine operation.
 - Minor tool changes, adjustments, and other minor service during normal production operations if:
 - They are routine, repetitive, and integral to the use of the equipment for production;
- AND**
- The work is done using measures which provide effective protection from hazards.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-100, filed 7/20/04, effective 11/1/04.]

WAC 296-803-200 Summary.

Your responsibility:

To establish an energy control program.

You must:

WAC 296-803-20005 Establish a written energy control program.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-200, filed 7/20/04, effective 11/1/04.]

[Title 296 WAC—p. 2796]

WAC 296-803-20005 Establish a written energy control program.

You must:

• Establish a written energy control program to protect employees that service or maintain a machine or equipment from injury caused by the:

- Unexpected energization or start up of the machine or equipment;

OR

- Release of stored energy.

• Make sure the program contains **all** of the following:

- Energy control procedures as described in WAC 296-803-500.

- Employee training as described in WAC 296-803-600.

- Periodic reviews as described in WAC 296-803-700.

• Develop and document in writing energy control procedures to protect employees doing service or maintenance of a machine or equipment from potentially hazardous energy.

Exemption: You do not have to have **written** energy control procedures for a particular machine or equipment if **all** of the following apply:

- The machine or equipment has a single energy source that is easily identified and can be isolated.
- The machine or equipment is completely deenergized and deactivated by isolating and locking out the energy source.
- There's no stored or residual energy that could be a hazard to employees, and the machine or equipment cannot reaccumulate such energy after it's been shut down.
- The energy source can be locked out with a single lockout device.
- The machine or equipment is isolated from the energy source and locked out during service or maintenance.
- The authorized employee doing the service or maintenance has exclusive control of the lockout device.
- The service or maintenance does not create a hazard for other employees.
- The machine or equipment has never been unexpectedly energized or activated during service or maintenance.

You must:

• Make sure energy control procedures clearly and specifically outline:

- The scope, purpose, authorization, rules, and techniques to control hazardous energy;

AND

- How you'll make sure employees follow the procedures.

• Make sure energy control procedures specifically identify at least the following:

- When the procedure must be used.

- What the specific procedural steps are for:

- Shutting down, isolating, blocking, and securing the machine or equipment.

- Placing, removing, and transferring lockout or tagout devices and who is responsible for them.

- How to test the machine or equipment to verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

Note: Similar machines and equipment may be covered by a single written procedure if **all** of the following apply:

- They use the same type and magnitude of energy.
- They have the same or similar types of controls.
- The specific machines and equipment covered by the procedure are identified by at least type and location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-20005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-300 Summary.

Your responsibility:

To make sure new or modified machines and equipment can accept lockout devices.

You must:

WAC 296-803-30005 Make sure new or modified machines and equipment can accept lockout devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-300, filed 7/20/04, effective 11/1/04.]

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.
- Have major repair.
- Are renovated or modified.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-30005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-400 Summary.

Your responsibility:

To provide appropriate lockout and tagout devices and means to control energy.

You must:

WAC 296-803-40005 Provide appropriate means to control energy.

WAC 296-803-40010 Make sure lockout and tagout devices meet these requirements.

WAC 296-803-40015 Make sure lockout devices meet these additional requirements.

WAC 296-803-40020 Make sure tagout devices meet these additional requirements.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-400, 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.
- Blind flanges.
- Cribbing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-40005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-40010 Make sure lockout and tagout devices meet these requirements.

You must:

• Make sure lockout and tagout devices meet all of the following:

- Create **no** additional hazards.
- Have a distinctive design or appearance.
- Are the only devices used for controlling energy.
- Are **not** used for any other purpose.
- Are durable enough to withstand the environment they're used in for the maximum time they're expected to be used.
- Are standardized within the facility by color, shape, or size.
- Identify the person applying the device.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-40010, filed 7/20/04, effective 11/1/04.]

WAC 296-803-40015 Make sure lockout devices meet these additional requirements.

You must:

• Make sure lockout devices are strong enough so that removing them by other than the normal unlocking method requires:

- Excessive force;

OR

– Unusual techniques such as the use of bolt cutters or other metal-cutting tools.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-40015, filed 7/20/04, effective 11/1/04.]

WAC 296-803-40020 Make sure tagout devices meet these additional requirements.

You must:

- Make sure all tags:
 - Use the same print and format within a facility.
 - Are constructed and printed so they will not deteriorate and the message on the tag remains legible when:
 - Exposed to weather.
 - Used in wet or damp locations.
 - Used in corrosive environments such as areas where acid or alkali chemicals are handled or stored.
 - Have a warning about **not** energizing the machine or equipment.

Note: The warning on the tag should include wording such as:

- Do not start.
- Do not open.
- Do not close.
- Do not energize.
- Do not operate.

You must:

- Make sure tagout devices are strong enough to prevent unintentional or accidental removal.
- Make sure the means used to attach the tag to the energy-isolating device meets all of the following:
 - Is not reusable.
 - Is self-locking.
 - Can be attached by hand.
 - Cannot be released with a force of less than fifty pounds.
 - Is similar in design and basic characteristics to a one-piece, all-environment-tolerant, nylon cable tie.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-15-105, § 296-803-40020, filed 7/20/04, effective 11/1/04.]

WAC 296-803-500 Summary.**Your responsibility:**

To make sure energy control procedures are used and include these requirements.

You must:**ENERGY CONTROL PROCEDURES**

WAC 296-803-50005 Use energy control procedures.

APPLYING LOCKOUT OR TAGOUT DEVICES

WAC 296-803-50010 Meet these requirements when applying lockout or tagout devices.

WAC 296-803-50015 Meet these additional requirements when applying lockout devices.

WAC 296-803-50020 Meet these additional requirements when applying tagout devices.

STORED ENERGY

WAC 296-803-50025 Protect employees from the hazards of stored and residual energy.

VERIFYING MACHINE ISOLATION

WAC 296-803-50030 Verify that the machine or equipment is safe before starting work.

REMOVING ENERGY CONTROL DEVICES

WAC 296-803-50035 Meet these requirements when removing lockout or tagout devices and energizing the machine or equipment.

TEMPORARY ENERGIZATION

WAC 296-803-50040 Meet these requirements if it's necessary to temporarily energize a machine, equipment, or component for testing or positioning.

SHIFT OR PERSONNEL CHANGES

WAC 296-803-50045 Protect employees during shift or personnel changes.

GROUP LOCKOUT/TAGOUT

WAC 296-803-50050 Protect employees working in a group.

WAC 296-803-50055 Meet these additional requirements if more than one group is used.

OUTSIDE EMPLOYEES

WAC 296-803-50060 Coordinate with outside employees servicing or maintaining your machines or equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-500, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50005 Use energy control procedures.**You must:**

- Use energy control procedures to protect employees servicing or maintaining machines and equipment from potentially hazardous energy.

- Use a lockout system if an energy-isolating device can be locked out.

Exemption: A tagout system may be used instead of a lockout system if it meets **all** of the following:

- The tagout device is attached where you would have put the lockout device.
- The tagout system provides the same level of employee protection as a lockout system.
- You can demonstrate that the tagout system:
 - Meets all tagout requirements of this chapter.
 - Includes additional safety measures to provide the same level of safety as a lockout system.

Note: Additional safety measures used with the tagout system to provide protection equal to a lockout system could include actions such as:

- Removing part of the isolating circuit.
- Blocking a controlling switch.
- Opening an extra disconnecting device.

- Removing a valve handle.

You must:

- Use a tagout system if an energy-isolating device cannot be locked out.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50005, 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.

- 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. 04-15-105, § 296-803-50010, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50015 Meet these additional requirements when applying lockout devices.**You must:**

- Make sure lockout devices hold the energy-isolating device in a "safe" or "off" position.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50015, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50020 Meet these additional requirements when applying tagout devices.**You must:**

- Make sure a tagout device is put on an energy-isolating device so it clearly shows that moving the energy-isolating device from the "safe" or "off" position is prohibited.

- Make sure a tagout device, when used with an energy-isolating device that can be locked out, is fastened to the device at the same point a lock would have been attached.

- Make sure a tagout device that cannot be attached directly to an energy-isolating device is located:

- As close as safely possible to the energy-isolating device;

AND

- In a position that is immediately obvious to anyone attempting to operate the energy-isolating device.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50020, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50025 Protect employees from the hazards of stored and residual energy.**You must:**

- Make sure all potentially hazardous stored and residual energy is relieved, disconnected, restrained, or otherwise rendered safe after the lockout or tagout devices have been put on the energy-isolating devices.

- Continue to verify the isolation of machines and equipment that could reaccumulate stored energy to a hazardous level until:

- Service or maintenance is completed;

OR

- The possibility of reaccumulating hazardous energy does not exist.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50025, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50030 Verify that the machine or equipment is safe before starting work.

You must:

- Make sure the authorized employee verifies that the machine or equipment that's been locked out or tagged out has been isolated from all energy sources and deenergized before starting work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50030, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50035 Meet these requirements when removing lockout or tagout devices and energizing the machine or equipment.

You must:

- Make sure the authorized employee does the following before removing any lockout or tagout device:

- Inspects the work area to make sure nonessential items have been removed;

- Verifies the machine or equipment is in operating condition and ready to energize;

AND

- Check that employees in the area are in positions that make it safe to energize the machine or equipment.

- Make sure only the authorized employee who applied a lockout or tagout device removes it.

Exemption: The employer may have the lockout or tagout device removed by someone other than the authorized employee who applied it if **all** of the following conditions are met:

- The energy control program has documented, specific procedures and training for this situation.

- You can show that the specific procedures used are as safe as having the device removed by the authorized employee who applied it.

- The specific procedures include at least the following:

- Verifying the authorized employee who applied the device is not at the facility.

- Making all reasonable efforts to contact and inform the authorized employee that the lockout or tagout device is being removed.

- Making sure the authorized employee is informed, before resuming work at the facility, that the lockout or tagout device has been removed.

You must:

- Do the following before energizing or starting the machine or equipment:

- Notify affected employees that the lockout or tagout devices have been removed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50035, filed 7/20/04, effective 11/1/04.]

(2009 Ed.)

WAC 296-803-50040 Meet these requirements if it's necessary to temporarily energize a machine, equipment, or component for testing or positioning.

You must:

- Follow your normal energy control procedures to:

- Remove the lockout or tagout devices.

- Energize the machine, equipment, or component.

- Reapply the lockout or tagout devices when testing or positioning is completed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50040, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50045 Protect employees during shift or personnel changes.

You must:

- Use specific procedures for shift or personnel changes to:

- Make sure there's continuous lockout or tagout protection during the change;

AND

- Provide for the orderly transfer of lockout or tagout device protection between employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50045, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50050 Protect employees working in a group.

You must:

- Make sure your energy control procedures provide each member of a crew, craft, department, or other group with the same level of protection as that provided by an individual lockout or tagout device.

- Make sure each authorized employee:

- Puts a personal lockout or tagout device on the group lockout device, lockbox, or comparable mechanism before beginning work;

AND

- Does **not** remove it until they have finished work on the machine or equipment.

- Assign a primary authorized employee who:

- Has overall responsibility for the service or maintenance;

- Attaches their lockout or tagout device to the energy-isolating device when the equipment is deenergized and before any work begins;

AND

- Is the last person to remove their lockout or tagout device when the job is completed.

Definition:

The *primary authorized employee* is the authorized employee who has overall responsibility for meeting the requirements of the lockout/tagout procedures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50050, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50055 Meet these additional requirements if more than one group is used.

You must:

- Do **all** of the following if more than one group works on a machine or equipment that has to be locked or tagged out:

– Assign an authorized employee as the group coordinator with overall responsibility to:

- Coordinate the different work groups;

AND

- Maintain continuous lockout or tagout protection.

– Assign a primary authorized employee in each group who has:

■ Responsibility for the group of employees who are protected by a group lockout or tagout device;

AND

■ A way to determine which employees of the group are exposed to the machine or equipment that's locked or tagged out.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50055, filed 7/20/04, effective 11/1/04.]

WAC 296-803-50060 Coordinate with outside employers servicing or maintaining your machines or equipment.

You must:

• Do the following before allowing another employer's personnel to service or maintain machines or equipment if your energy control procedures require they be locked or tagged out:

– Inform the outside employer of your lockout or tagout procedures.

– Make sure the outside employer informs you of their lockout or tagout procedures.

– Make sure you and the outside employer confirm that all employees understand and will follow the restrictions of the other employer's energy control program.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-50060, filed 7/20/04, effective 11/1/04.]

WAC 296-803-600 Summary.

Your responsibility:

To train employees on your energy control program.

You must:

WAC 296-803-60005 Provide and document employee training on the energy control program.

WAC 296-803-60010 Provide additional training if you use tagout devices.

WAC 296-803-60015 Retrain employees when necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-600, filed 7/20/04, effective 11/1/04.]

WAC 296-803-60005 Provide and document employee training on the energy control program.

You must:

- Train employees to make sure that they:

– Understand the purpose and function of the energy control program;

AND

– Have the knowledge and skills necessary to carry out their program responsibilities.

- Train each authorized employee in:

– The type and magnitude of energy available in the workplace.

– Recognizing hazardous energy sources that apply.

[Title 296 WAC—p. 2800]

– Methods and means to isolate and control energy.

• Instruct each affected employee in the purpose and use of the energy control procedures.

• Instruct all employees who work or may work where energy control procedures might be used about the:

– Procedures being used;

AND

– Prohibition against attempting to restart or reenergize a machine or equipment that's locked out or tagged out.

• Document that employee training has been done and kept up to date.

– Include the employee's name and the training date.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-60005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-60010 Provide additional training if you use tagout devices.

You must:

- Make sure employees are trained in the following:

– Tags are warning devices and do not provide the same level of physical restraint as a lock.

– When attached to energy-isolating devices, tags are not to be:

■ Removed without the approval of the authorized person responsible for it;

OR

■ Bypassed, ignored, or otherwise defeated.

– Tags need to be legible and understandable to be effective.

– Tags may evoke a false sense of security.

– The meaning of tags needs to be understood as part of the overall energy control program.

– Tags and their means of attachment must be:

■ Securely attached to energy-isolating devices so they cannot be inadvertently or accidentally detached;

AND

■ Made of materials that will withstand the environmental conditions they will be exposed to.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-60010, 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 inspection 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. 04-15-105, § 296-803-60015, filed 7/20/04, effective 11/1/04.]

WAC 296-803-700 Summary.**Your responsibility:**

To do periodic reviews to make sure employees know and use your energy control procedures.

You must:

WAC 296-803-70005 Perform and document periodic reviews to verify employees know and follow the energy control procedures.

WAC 296-803-70010 Do periodic reviews of procedures using lockout devices.

WAC 296-803-70015 Do periodic reviews of procedures using tagout devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-700, filed 7/20/04, effective 11/1/04.]

WAC 296-803-70005 Perform and document periodic reviews to verify employees know and follow the energy control procedures.**You must:**

- Do a periodic review at least annually to:
 - Make sure employees know and can apply the energy control procedures.
 - Correct any deviations or inadequacies identified.

Exemption: Energy control procedures used less frequently than once a year only need to be reviewed before being used.

You must:

- Have the periodic review done by an authorized employee other than the ones using the energy control procedure being reviewed.

- Document that periodic reviews have been done.

- Include all of the following:

- Machine or equipment the energy control procedure was used for.

- Date of the review.

- Employees included in the review.

- Person doing the review.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-70005, filed 7/20/04, effective 11/1/04.]

WAC 296-803-70010 Do periodic reviews of procedures using lockout devices.**You must:**

- Make sure, if a periodic review involves lockout devices, the reviewing employee reviews responsibilities with each authorized employee who uses the procedure.

Note: Periodic reviews of authorized employees using energy control procedures involving only lockout devices can be done in a group meeting if desired.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-70010, filed 7/20/04, effective 11/1/04.]

WAC 296-803-70015 Do periodic reviews of procedures using tagout devices.**You must:**

- Make sure, if a periodic review involves tagout devices, the reviewing employee reviews with each authorized and affected employee the:
 - Employee's responsibilities under the procedure;

AND

- Limitations of tagout devices.

Note: Periodic reviews of authorized and affected employees using energy control procedures involving tagout devices have to be done with each employee individually.

Reference: See WAC 296-803-60010, Provide additional training if you use tagout devices, in this chapter for the limitations of tagout devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-15-105, § 296-803-70015, 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.

Energyized. 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.

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, 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. 04-15-105, § 296-803-800, filed 7/20/04, effective 11/1/04.]

Chapter 296-806 WAC MACHINE SAFETY

WAC

296-806-100	Scope.
REQUIREMENTS FOR ALL MACHINES	
296-806-200	Summary.
WORKPLACE	
296-806-20002	Secure machines designed to stay in one place.
296-806-20004	Protect employees from slipping hazards around machinery.
296-806-20006	Arrange work areas to avoid creating hazards.
MACHINE CONTROLS AND OPERATIONS	
296-806-20008	Make sure operating controls meet these requirements.
296-806-20010	Protect employees from unintentional machine operation.
296-806-20012	Make sure emergency stop controls meet these requirements.
296-806-20014	Control machine vibration.
296-806-20016	Prevent overspeed conditions.
296-806-20018	Make sure hand feeding and retrieval tools meet these requirements.
296-806-20020	Protect employees who are adjusting or repairing machinery.
POWER TRANSMISSION PARTS	
296-806-20022	Keep power transmission equipment in good working condition.
296-806-20024	Inspect power transmission parts.
296-806-20026	Protect employees lubricating moving machinery.
SAFEGUARDING REQUIREMENTS	
296-806-20028	Safeguard employees from the point of operation.
296-806-20030	Safeguard employees from nip or shear point hazards.
296-806-20032	Safeguard employees from rotating or revolving parts.
296-806-20034	Safeguard employees from reciprocating or other moving parts.
296-806-20036	Safeguard employees from flying objects.
296-806-20038	Safeguard employees from falling objects.
296-806-20040	Safeguard employees from moving surfaces with hazards.
SAFEGUARDING METHODS	
Guards	
296-806-20042	Make sure guards meet these requirements.

[Title 296 WAC—p. 2802]

DEVICES

296-806-20044	Make sure devices meet these requirements.
296-806-20046	Make sure light curtains meet these requirements.
296-806-20048	Make sure pressure-sensitive mats meet these requirements.
296-806-20050	Make sure restraint or pullback devices meet these requirements.
296-806-20052	Make sure two-hand devices meet these requirements.
296-806-20054	Make sure devices used with barrier guards meet these requirements.

DISTANCE

296-806-20056	Make sure safeguarding by distance meets these requirements.
296-806-20058	Make sure guardrails used for safeguarding meet these requirements.

REQUIREMENTS FOR SPECIFIC MACHINE HAZARDS

296-806-30002	Fit arbors and mandrels to the machine.
296-806-30004	Safeguard belt and rope drives.
296-806-30006	Make sure belt or rope drives meet these requirements.
296-806-30008	Protect employees while shifting belts on belt and pulley drives.
296-806-30010	Make sure belt tighteners meet these requirements.
296-806-30012	Safeguard cams, connecting rods, tail rods, and extension piston rods.
296-806-30014	Safeguard chain and sprocket drives.
296-806-30016	Safeguard fan blades.

FLYWHEELS

296-806-30018	Safeguard flywheels.
296-806-30020	Safeguard gears.
296-806-30022	Safeguard projections on moving parts.
296-806-30024	Safeguard pulleys.
296-806-30026	Make sure pulleys meet these requirements.
296-806-30028	Safeguard revolving drums, barrels, and containers.
296-806-30030	Safeguard shafting.
296-806-30032	Make sure shafting meets these requirements.
296-806-30034	Safeguard unused keyways.
296-806-30036	Make sure revolving collars meet these requirements.
296-806-30038	Safeguard counterweights.

ADDITIONAL REQUIREMENTS FOR SOME MACHINES AND MACHINE OPERATIONS

296-806-400	Summary.
ABRASIVE WHEELS	
296-806-405	Summary.
296-806-40502	Make sure abrasive wheels and machines are properly designed and constructed.
296-806-40504	Make sure machines have safety guards.
296-806-40506	Make sure safety guards meet specific requirements.
296-806-40508	Provide a tongue guard on bench, pedestal, floorstand, and cylindrical grinders.
296-806-40510	Use a work rest for off-hand grinding.
296-806-40512	Make sure abrasive wheels are safe to use.
296-806-40514	Mount wheels properly.
296-806-40516	Use proper flanges.
296-806-40518	Make sure flanges are in good condition.
296-806-40520	Use specific flanges for Type 1 cutting-off wheels.
296-806-40522	Use specific flanges for Type 27A cutting-off wheels.
296-806-40524	Use blotters when required.
296-806-40526	Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo).

Calenders

296-806-410	Summary.
296-806-41002	Provide calender safety controls.
296-806-41004	Follow these stopping limit requirements for calenders.

COMPACTORS

296-806-415	Summary.
296-806-41502	Safeguard hazardous moving parts of stationary compactors.
296-806-41504	Follow these requirements for compactor controls.
296-806-41506	Follow these requirements for compactor access doors and covers.
296-806-41508	Follow these requirements for compactors that cycle automatically.

(2009 Ed.)

	CONVEYORS		
296-806-420	Summary.	296-806-42508	Cover exposed hot pipes.
	GENERAL REQUIREMENTS FOR CONVEYORS	296-806-42510	Provide extension piping on stationary lubrication fittings.
296-806-42002	Follow these requirements for conveyors.	296-806-42512	Provide hoods for pan-washing tanks.
296-806-42004	Provide emergency stops on conveyors.	296-806-42514	Safeguard proof boxes.
296-806-42006	Label conveyor controls.	296-806-42516	Safeguard storage bins.
296-806-42008	Prohibit riding on conveyors.		MATERIAL HANDLING
296-806-42010	Provide safe access to conveyors.	296-806-42518	Follow these design requirements for bag lifts (bag arm elevators) and chutes.
296-806-42012	Provide backstop or antirunaway devices on incline, decline, or vertical conveyors.	296-806-42520	Follow these requirements for chain tackle.
296-806-42014	Make only safe alterations to conveyors.	296-806-42522	Safeguard conveyors.
296-806-42016	Inspect and replace worn conveyor parts.	296-806-42524	Use properly designed covers for screw conveyors (augers).
296-806-42018	Follow these requirements for replacing conveyor parts.	296-806-42526	Safeguard pallet jacks and hand trucks.
296-806-42020	Follow these requirements for spill guards.		SPECIFIC FOOD PROCESSING EQUIPMENT
296-806-42022	Provide pedestrian overpasses for conveyors.	296-806-42528	Safeguard bakery slicers.
296-806-42024	Guard openings to hoppers and chutes.	296-806-42530	Safeguard bakery wrapping machines.
296-806-42026	Install guideposts.	296-806-42532	Provide troughs with antifriction-bearing casters.
	BELT CONVEYORS	296-806-42534	Follow these requirements for trough hoists and similar equipment.
296-806-42028	Guard nip points on belt conveyors.	296-806-42536	Follow these requirements for dividers.
296-806-42030	Install emergency stop controllers on overland belt conveyors.	296-806-42538	Safeguard manually-fed dough and cross-roll brakes.
296-806-42032	Install belt conveyor overpasses.	296-806-42540	Provide a guard or tripping device on reversible dough brakes.
	CHAIN CONVEYORS	296-806-42542	Follow these requirements for doughnut machines.
296-806-42034	Safeguard chain conveyors.	296-806-42544	Follow these requirements for dumpbins and blenders.
296-806-42036	Guard return strands on chain conveyors.	296-806-42546	Follow these requirements for flour-handling machines.
296-806-42038	Guard chain conveyors that are used as a transfer mechanism.	296-806-42548	Follow these requirements for traveling or track-type flour scales.
	ELEVATOR CONVEYORS	296-806-42550	Follow these requirements for food grinders and cutters.
296-806-42040	Prevent material from falling off of elevator conveyors.	296-806-42552	Provide covers with interlocks on ingredient premixers, emulsifiers, and similar machines.
	INCLINED RECIPROCATING CONVEYORS (SHAKERS)	296-806-42554	Follow these requirements for open fat kettles.
296-806-42042	Provide protection where employees must load shakers.	296-806-42556	Follow these requirements for steam kettles.
296-806-42044	Provide grating over silo and bunker openings for shuttle conveyors.	296-806-42558	Follow these requirements for chocolate melting, refining, and mixing kettles.
	MOBILE CONVEYORS	296-806-42560	Safeguard meat-processing equipment (circular meat-cutting saws).
296-806-42046	Guard wheels and rails on mobile conveyors.	296-806-42562	Follow these requirements for horizontal dough mixers.
296-806-42048	Prevent hazardous motion on mobile conveyors.	296-806-42564	Follow these requirements for vertical mixers.
296-806-42050	Provide a detector for mobile conveyors.	296-806-42566	Follow these requirements for mechanical-feed moulders.
296-806-42052	Provide safe access on mobile conveyors.	296-806-42568	Follow these requirements for hand-fed moulders.
	PUSHER-BAR CONVEYORS	296-806-42570	Design, install, and construct your ovens according to these requirements.
296-806-42054	Guard pusher-bar conveyors.	296-806-42572	Properly locate emergency "stop" buttons and main shut off valves for ovens.
	ROLLER CONVEYORS	296-806-42574	Inspect and test safety devices on ovens.
296-806-42056	Prohibit walking on roller-type conveyors.	296-806-42576	Follow these requirements for peanut-cooling trucks.
296-806-42058	Use speed controls for roller and wheel conveyors.	296-806-42578	Follow these requirements for pretzel-rolling, pretzel stick extruding, rotary, and die machines.
296-806-42060	Safeguard belt-driven live roller conveyors.	296-806-42580	Safeguard box and roll-type dough sheeters.
	SCREW CONVEYORS	296-806-42582	Provide proper enclosures for sifters.
296-806-42062	Guard screw conveyors.	296-806-42584	Follow these requirements for sugar and spice pulverizers.
	SKIP HOISTS		FORGING MACHINES
296-806-42064	Provide slack-cable switches on hoists.	296-806-430	Summary.
296-806-42066	Block the skip bucket and counterweight guides.		GENERAL REQUIREMENTS FOR FORGING
296-806-42068	Protect against wire rope coming off sheaves.	296-806-43002	Follow these safety requirements when using lead and lead casts.
	SLAT AND ROLLER-SLAT CONVEYORS	296-806-43004	Properly inspect and maintain forging equipment.
296-806-42070	Safeguard slat and roller-slat conveyors.	296-806-43006	Use safety blocks on hammers and presses.
	TOWED CONVEYORS	296-806-43008	Make sure tongs meet these requirements.
296-806-42072	Provide a safe method for disengaging the tow pin.	296-806-43010	Protect employees when removing scale.
296-806-42074	Protect employees from moving carts on towed conveyors.	296-806-43012	Provide adequate foundations for hammers and presses.
296-806-42076	Provide clearances and warnings for carts on towed conveyors.	296-806-43014	Follow these requirements for manually operated valves and switches.
296-806-42078	Mark projections above the floor.		HAMMERS
	FOOD PROCESSING EQUIPMENT	296-806-43016	Use die keys and shims made of proper-grade material.
296-806-425	Summary.	296-806-43018	Provide a safety cylinder head.
	FACILITIES	296-806-43020	Provide a shutoff valve.
296-806-42502	Provide locks on chamber doors of large air conditioning units.	296-806-43022	Provide a means for cylinder draining.
296-806-42504	Use proper door locks on rack-type bread coolers.	296-806-43024	Follow these requirements for pressure pipes.
296-806-42506	Provide see-through panels on fermentation room doors.	296-806-43026	Follow these requirements when using board hammers.
			OTHER FORGE FACILITY EQUIPMENT
		296-806-43028	Protect against sparks from saws.

GARBAGE (WASTE) DISPOSALS		PRESS BRAKES	
296-806-435	Summary.	296-806-465	Summary.
296-806-43502	Safeguard garbage (waste) disposal equipment.	GENERAL REQUIREMENTS FOR PRESS BRAKES	
GLUE SPREADERS		296-806-46502	Provide auxiliary safety aids on press brakes.
296-806-440	Summary.	296-806-46504	Safeguard the point of operation on press brakes.
296-806-44002	Provide guards and automatic shutoffs on glue spreaders.	SAFE DISTANCE SAFEGUARDING	
IRONWORKERS		296-806-46506	Follow this requirement when using safe distance safeguarding.
296-806-445	Summary.	296-806-46508	Develop a safe distance safeguarding program for press brakes.
296-806-44502	Safeguard ironworkers point of operation.	296-806-46510	Follow these requirements for safe distance training for press brakes.
296-806-44504	Follow these requirements for adjustable restrictors when safeguarding ironworkers.	296-806-46512	Require safe distance retraining for press brake operations.
LATHES		296-806-46514	Conduct periodic safe distance inspections on press brakes.
296-806-450	Summary.	296-806-46516	Supervise the safe distance program for press brakes.
METAL LATHES		ROLL-FORMING AND BENDING MACHINES	
296-806-45002	Provide shields or guards on metal lathes for chip or coolant hazards.	296-806-470	Summary.
296-806-45004	Safeguard work-holding devices (chucks).	296-806-47002	Follow these requirements for machine initiation.
296-806-45006	Follow these requirements for chip control and handling.	296-806-47004	Safeguard nip points of roll-forming and bending machines.
296-806-45008	Safeguard power-clamping devices.	SANDING MACHINES	
296-806-45010	Restrain extended workpieces on horizontal lathes.	296-806-475	Summary.
WOODWORKING LATHES		296-806-47502	Guard drum sanders.
296-806-45012	Guard cutting heads on profile lathes and swing-head lathes.	296-806-47504	Guard disk sanders.
296-806-45014	Guard cutting heads on turning lathes.	296-806-47506	Guard belt sanders.
296-806-45016	Guard automatic turning lathes.	296-806-47508	Follow these requirements for feed roll guarding.
296-806-45018	Guard wood lathes used for turning long pieces of stock.	SAWS AND CUTTING HEADS	
MECHANICAL POWER PRESSES		296-806-480	Summary.
296-806-455	Summary.	GENERAL REQUIREMENTS FOR ALL SAWS AND CUTTING HEADS	
DESIGN AND CONSTRUCTION		296-806-48002	Protect employees using saws and cutting heads.
296-806-45502	Make sure mechanical power presses are properly designed and constructed.	296-806-48004	Make sure saws and cutting heads are sharpened and tensioned by qualified people.
SAFEGUARDING		SAWS	
296-806-45504	Safeguard presses that use unitized tooling.	General Requirements for All Saws	
296-806-45506	Protect operators from guidepost hazards.	296-806-48006	Make sure saws are safe to use.
296-806-45508	Safeguard the point of operation.	Requirements for All Circular Saws	
296-806-45510	Make sure point-of-operation guards are properly designed and constructed.	296-806-48008	Make sure all circular saws meet these requirements.
296-806-45512	Make sure barrier guards meet these requirements.	296-806-48010	Make sure circular saw gages meet these requirements.
296-806-45514	Make sure point-of-operation devices are effective.	296-806-48012	Safeguard hand-fed circular table saws.
296-806-45516	Make sure presence-sensing devices used to safeguard the point of operation meet these requirements.	296-806-48014	Provide kickback protection for employees using hand-fed circular table rip-saws when ripping wood products.
296-806-45518	Make sure pull-back devices used to safeguard the point of operation meet these requirements.	296-806-48016	Safeguard self-feed circular saws.
296-806-45520	Make sure restraint (holdout) devices used to safeguard the point of operation meet these requirements.	296-806-48018	Provide kickback protection for self-feed circular rip-saws when ripping wood products.
296-806-45522	Make sure two-hand control devices used to safeguard the point of operation meet these requirements.	296-806-48020	Guard circular resaws.
296-806-45524	Make sure two-hand trip devices used to safeguard the point of operation meet these requirements.	296-806-48022	Provide spreaders for circular resaws.
296-806-45526	Provide additional safeguards when the operator puts one or both hands into the point of operation.	Requirements for Specific Circular Saws	
OPERATIONS		296-806-48024	Protect employees from automatic saw hazards.
296-806-45528	Establish die setting procedures.	296-806-48026	Guard inverted swing (jump) saws.
296-806-45530	Handle dies safely.	296-806-48028	Guard miter saws.
296-806-45532	Protect die setters during setup and tryout.	296-806-48030	Guard radial saws.
296-806-45534	Train press operators.	296-806-48032	Limit the travel of radial saws.
296-806-45536	Operate mechanical power presses safely.	296-806-48034	Provide kickback protection for radial saws used for ripping wood products.
296-806-45538	Provide tools and other means to protect press operators.	296-806-48036	Guard revolving double arbor saws.
296-806-45540	Inspect and maintain presses.	296-806-48038	Guard swing saws.
296-806-45542	Make sure presses and operating practices used in the PSDI (presence sensing device initiation) mode of operation meet these requirements.	296-806-48040	Limit the travel of swing saws.
MILLS		Requirements for Band Saws and Drag Saws	
296-806-460	Summary.	296-806-48042	Make sure band saws meet these requirements.
296-806-46002	Meet height requirements for mill rolls.	296-806-48044	Protect employees from drag saw hazards.
296-806-46004	Provide mill safety controls.	CUTTING HEADS	
296-806-46006	Follow these stopping limit requirements for mills.	General Requirements for All Cutting Heads	
		296-806-48046	Maintain and balance knives and cutting heads.

BORING AND MORTISING MACHINES

296-806-48048 Make sure boring and mortising machines meet these requirements.

CHIPPER AND HOG MILLS

296-806-48050 Follow these requirements for chipper mills.
 296-806-48052 Follow these requirements for hog mills.
 296-806-48054 Protect employees from falling into chipper and hog mills.

JOINTERS

296-806-48056 Make sure jointers with horizontal cutting heads meet these requirements.
 296-806-48058 Guard horizontal cutting heads on hand-fed jointers.
 296-806-48060 Guard vertical cutting heads on jointers.

MOLDING, STICKING AND MATCHING MACHINES

296-806-48062 Make sure molding, sticking and matching machines meet these requirements.

PANEL RAISERS AND OTHER SIMILAR MACHINES

296-806-48064 Guard hand-fed panel raisers and other similar machines.

PLANERS

296-806-48066 Make sure planers with a horizontal cutting head meet these requirements.
 296-806-48068 Guard planers.
 296-806-48070 Guard planer feed rolls.
 296-806-48072 Provide kickback protection on planers running stock of varied thicknesses.

SHAPERS

296-806-48074 Make sure shapers meet these requirements.

TENONING MACHINES

296-806-48076 Guard tenoning machine feed chains and sprockets.
 296-806-48078 Guard tenoning machines.

VENEER MACHINES

296-806-48080 Guard veneer cutters and wringer knives.
 296-806-48082 Guard veneer clippers.
 296-806-48084 Follow these requirements for guarding guillotine cutters.
 296-806-48086 Provide mechanisms to stop power-driven guillotine cutters.
 296-806-48088 Prohibit riders on veneer slicer carriages.

SEWING MACHINES

296-806-485 Summary.
 296-806-48502 Guard sewing machine needles.
 296-806-500 Definitions.

WAC 296-806-100 Scope. Machines and their moving parts create the potential for workplace injuries. Installed and used properly safeguards can protect workers by helping to reduce or control machine hazards.

This chapter applies if you have machines or machine operations in your workplace. For requirements on hand-held tools go to Portable power tools, chapter 296-807 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-100, filed 6/29/04, effective 1/1/05.]

REQUIREMENTS FOR ALL MACHINES

WAC 296-806-200 Summary. This section applies to all machines in your workplace. It is organized into the following four categories:

- General requirements.
- Safeguarding requirements.
- Safeguarding methods.
- Requirements for specific machine hazards.

Reference:

- In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to determine if additional requirements are listed for machines or operations in your workplace:
 - Additional requirements for some machines and machine operations, WAC 296-806-400.
 - For requirements that apply to hand-held tools, see Portable power tools, chapter 296-807 WAC.

Your responsibility:

To protect employees from machine hazards in your workplace.

You must:**GENERAL REQUIREMENTS****WORKPLACE**

Secure machines designed to stay in one place
 WAC 296-806-20002.

Protect employees from slipping hazards around machinery

WAC 296-806-20004.

Arrange work areas to avoid creating hazards

WAC 296-806-20006.

MACHINE CONTROLS AND OPERATION

Make sure operating controls meet these requirements

WAC 296-806-20008.

Protect employees from unintentional machine operation
 WAC 296-806-20010.

Make sure emergency stop controls meet these requirements

WAC 296-806-20012.

Control machine vibration

WAC 296-806-20014.

Prevent overspeed conditions

WAC 296-806-20016.

Make sure hand feeding and retrieval tools meet these requirements

WAC 296-806-20018.

Protect employees who are adjusting or repairing machinery

WAC 296-806-20020.

POWER TRANSMISSION PARTS

Keep power transmission parts in good working condition

WAC 296-806-20022.

Inspect power transmission parts

WAC 296-806-20024.

Protect employees lubricating moving machinery

WAC 296-806-20026.

SAFEGUARDING REQUIREMENTS**SAFEGUARD MACHINERY**

Safeguard employees from the point of operation

WAC 296-806-20028.

Safeguard employees from nip or shear point hazards

WAC 296-806-20030.

Safeguard employees from rotating or revolving parts

WAC 296-806-20032.

Safeguard employees from reciprocating or other moving parts

WAC 296-806-20034.

Safeguard employees from flying objects

WAC 296-806-20036.

Safeguard employees from falling objects

WAC 296-806-20038.

Safeguard employees from hazards created by moving surfaces with hazards such as sharp edges, burrs, and protruding nails and bolts

WAC 296-806-20040.

SAFEGUARDING METHODS

Guards

Make sure guards meet these requirements

WAC 296-806-20042.

Devices

Make sure devices meet these requirements

WAC 296-806-20044.

Make sure light curtains meet these requirements

WAC 296-806-20046.

Make sure pressure-sensitive mats meet these requirements

WAC 296-806-20048.

Make sure restraint or pullback devices meet these requirements

WAC 296-806-20050.

Make sure two-hand devices meet these requirements

WAC 296-806-20052.

Make sure devices used with barrier guards meet these requirements

WAC 296-806-20054.

Distance

Make sure safeguarding by distance meets these requirements

WAC 296-806-20056.

Make sure guardrails used for safeguarding meet these requirements

WAC 296-806-20058.

REQUIREMENTS FOR SPECIFIC MACHINE HAZARDS

Fit arbors and mandrels to the machine

WAC 296-806-30002.

Safeguard belt and rope drives

WAC 296-806-30004.

Make sure belt or rope drives meet these requirements

WAC 296-806-30006.

Protect employees while shifting belts on belt and pulley drives

WAC 296-806-30008.

Make sure belt tighteners meet these requirements

WAC 296-806-30010.

Safeguard cams, connecting rods, tail rods, and extension piston rods

WAC 296-806-30012.

Safeguard chain and sprocket drives

WAC 296-806-30014.

Safeguard fan blades

WAC 296-806-30016.

Safeguard flywheels

WAC 296-806-30018.

Safeguard gears

WAC 296-806-30020.

Safeguard projections on moving parts

WAC 296-806-30022.

Safeguard pulleys

WAC 296-806-30024.

Make sure pulleys meet these requirements

WAC 296-806-30026.

Safeguard revolving drums, barrels, and containers

WAC 296-806-30028.

Safeguard shafting

WAC 296-806-30030.

Make sure shafting meets these requirements

WAC 296-806-30032.

Safeguard unused keyways

WAC 296-806-30034.

Make sure revolving collars meet these requirements

WAC 296-806-30036.

Safeguard counterweights

WAC 296-806-30038.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-200, filed 6/29/04, effective 1/1/05.]

WORKPLACE

WAC 296-806-20002 Secure machines designed to stay in one place.

You must:

- Make sure machines designed to stay in one place are secured so they will not move or change position during use.

Exemption: Machines that have either rubber feet or foot pads made of nonskid (high coefficient of friction) or similar vibration dampening materials do not have to be secured as long as the machine will not tip, fall over, or walk (move).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20004 Protect employees from slipping hazards around machinery.

You must:

- Make sure employees working around dangerous machines are protected from slipping on smooth, oily, or otherwise slippery floors by providing one of the following types of floor covering:

- Nonslip matting.
- Grating.
- Nonslip composition flooring.
- Some other effective floor treatment.

Reference: For additional requirements about housekeeping, personal protective equipment (PPE), and work practices, see the Safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20004, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20006 Arrange work areas to avoid creating hazards.

You must:

- Make sure work areas around machinery are designed with enough space so each operator:

- Can clean and handle material without interference from other workers or machines.
- Does **not** have to stand in the way of passing traffic.
- Provide enough space so employees can bring in and remove materials safely.

Reference: For requirements that apply to Aisles and passageways, see WAC 296-24-73505.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20006, filed 6/29/04, effective 1/1/05.]

MACHINE CONTROLS AND OPERATIONS**WAC 296-806-20008 Make sure operating controls meet these requirements.**

Exemption: This rule does not apply to constant pressure controls used only for setup.

You must:

(1) Make sure each machine has a control that both:

- Stops the machine;

AND

• Can be reached by the operator without leaving the operator's position.

(2) Make sure the operator can easily reach all machine controls without reaching into a hazard area of the machine.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20008, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20010 Protect employees from unintentional machine operation.**You must:**

(1) Make sure foot-operated controls are located or guarded so that unintentional movement to the "ON" position is unlikely.

(2) Make sure machines will **not** automatically restart when power is restored after a power failure, if restarting would create a hazard for employees.

Note: Operating controls can be protected from unintentional movement by methods such as covers on foot treadles and collars around machinery start buttons.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20010, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20012 Make sure emergency stop controls meet these requirements.**You must:**

• Make sure emergency stop controls, if required, meet all the following:

- Are red in color.
- Are easily reached from the operator's normal work position.
- Are kept in a good working condition.
- Have to be manually reset before a machine can be restarted.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20012, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20014 Control machine vibration.**You must:**

• Prevent excessive machine vibration that could create a hazard to employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20014, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20016 Prevent overspeed conditions.**You must:**

• Operate tools and equipment within their rated speed.

Note: Actions that could cause an overspeed condition include:

- Installing a more powerful motor.
- Changing or increasing the power source.
- Changing attachment size or type, such as a blade or wheel.

– The attachment speed (rpm) and motor speed (rpm) should match.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20016, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20018 Make sure hand feeding and retrieval tools meet these requirements.**You must:**

• Make sure hand feeding and retrieval tools:

- Are suitable for the work to be done.
- Do not create a hazard when used.
- Are of a size and shape that will keep the operator's hands outside the hazardous area.
- Are constructed so they will not shatter if they come in contact with the machine tool or tooling.

Note: Hand feeding and retrieval tools, such as push sticks or push blocks, can **not** be used instead of required safeguarding, unless a specific machine requirement allows it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20018, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20020 Protect employees who are adjusting or repairing machinery.

Exemption: This rule does not apply if the machine has to be in motion to properly adjust it.

You must:

• Make sure power-driven machinery is completely stopped before **either**:

- Making adjustments or repairs;

OR

- Removing material or refuse from the machine.

Reference: For requirements about maintaining and servicing machinery where the unexpected start-up, energization, or release of stored energy could injure an employee are in Lockout/tagout (control of hazardous energy), chapter 296-803 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20020, filed 6/29/04, effective 1/1/05.]

POWER TRANSMISSION PARTS**WAC 296-806-20022 Keep power transmission equipment in good working condition.****Definition:**

A power transmission part is a mechanical component of a system that provides motion to a part of a machine or piece of equipment.

You must:

- Make sure power transmission parts are kept in good working condition at **all** times.
- Keep bearings free from lost motion and well lubricated.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20022, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20024 Inspect power transmission parts.**You must:**

- Inspect power transmission parts **at least** once every sixty days to make sure that all:
 - Safeguarding meets the requirements of this chapter.
 - Parts are in proper alignment.

– Bolts and screws that hold power transmission parts together or support the system are tight.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20024, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20026 Protect employees lubricating moving machinery.

You must:

(1) Protect employees who lubricate moving machinery by:

- Providing tools, such as oil cans or grease guns, that have spouts or necks that are long enough to keep the employees' hands out of hazardous areas.

- Requiring employees to wear closely fitted clothing.

Note: Things such as clothing, hair, and jewelry can get caught in machinery and be a hazard on the job.

You must:

(2) Make sure drip cups and pans are securely fastened to the machinery.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20026, filed 6/29/04, effective 1/1/05.]

SAFEGUARDING REQUIREMENTS

WAC 296-806-20028 Safeguard employees from the point of operation.

IMPORTANT:

If a specific safeguarding method in this chapter is required for machinery or machine parts found in your workplace, follow the specific requirement.

In the absence of a specific safeguarding method required by this or some other chapter, you need to choose a method or combination of methods from the safeguarding requirements found in Safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

You must:

- Protect employees from hazards created by the point of operation by using one or more safeguarding methods.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20028, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20030 Safeguard employees from nip or shear point hazards.

You must:

- Protect employees from hazards created by nip or shear points by using one or more safeguarding methods.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20030, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20032 Safeguard employees from rotating or revolving parts.

You must:

- Protect employees from hazards created by rotating or revolving parts by using one or more safeguarding methods.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20032, filed 6/29/04, effective 1/1/05.]

[Title 296 WAC—p. 2808]

WAC 296-806-20034 Safeguard employees from reciprocating or other moving parts.

You must:

- Protect employees from hazards created by reciprocating or other moving parts by using one or more safeguarding methods.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20034, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20036 Safeguard employees from flying objects.

You must:

- Protect employees from hazards created by flying objects, including chips, sparks, and fluids by using one or more safeguarding methods.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20036, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20038 Safeguard employees from falling objects.

You must:

- Protect employees from hazards created by falling objects by using one or more safeguarding methods.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20038, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20040 Safeguard employees from moving surfaces with hazards.

You must:

- Safeguard employees from hazards created by moving surfaces with hazards such as sharp edges, burrs, and protruding nails and bolts.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20040, filed 6/29/04, effective 1/1/05.]

SAFEGUARDING METHODS

Guards

WAC 296-806-20042 Make sure guards meet these requirements.

You must:

- Make sure guards do **not** create additional hazards such as sharp edges or pinch points between the guard and moving machine parts.

- Make sure guards are:

- Made of durable materials.

- Strong enough to withstand the forces to which they are exposed.

- Securely fastened to the machine, if possible, or to the building structure if they cannot be attached to the machine.

- Make sure guards protect employees by doing **both** of the following:

- Preventing hands or other body parts from reaching through, over, under, or around the guard into the hazard area;

AND

- Preventing objects or debris from falling onto or being thrown towards an employee.

- Make sure barrier guards:

- Are properly installed, adjusted, and maintained.

(2009 Ed.)

– Have no opening at any point larger than shown in Table 200-1, Largest Allowable Guard Opening.

Reference: Metal cutting shears are allowed to be guarded with properly applied awareness barrier safeguarding as described in ANSI B11.4-1993, Sections 6.3.3.

**Table 200-1
Largest Allowable Guard Opening (inches)**

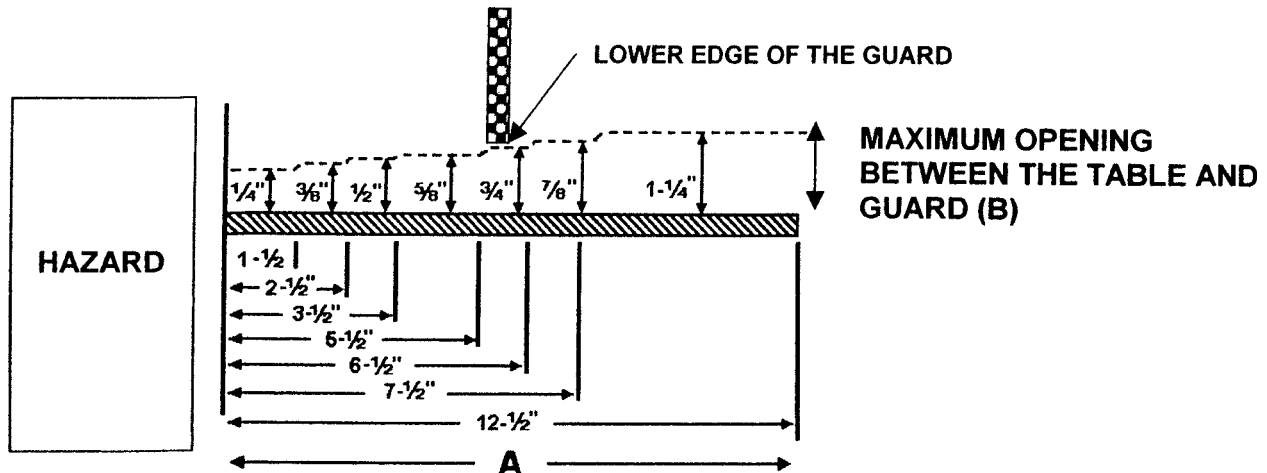
If the distance (A) from hazard to the guard is:	Then the opening (B) in the guard or between the table and the guard can NOT be greater than:
1/2 to 1 1/2	1/4
1 1/2 to 2 1/2	3/8
2 1/2 to 3 1/2	1/2
3 1/2 to 5 1/2	5/8

**Table 200-1
Largest Allowable Guard Opening (inches)**

5 1/2 to 6 1/2	3/4
6 1/2 to 7 1/2	7/8
7 1/2 to 12 1/2	1 1/4
12 1/2 to 15 1/2	1 1/2
15 1/2 to 17 1/2	1 7/8
17 1/2 to 31 1/2	2 1/8
Over 31 1/2	6

This diagram illustrates the information found in Table 200-1. The size of the opening in the guard, or between the bottom edge of the guard and the feed table is small enough to prevent any part of the operator's body from reaching the hazardous area.

Illustration #1 - Distance from hazard to Guard (A)



[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20042, filed 6/29/04, effective 1/1/05.]

DEVICES

WAC 296-806-20044 Make sure devices meet these requirements.

You must:

- Make sure devices used to safeguard employees do either of the following:
 - Stop the motion of a moving part before an employee comes in contact with it and has to be manually reset before machines can be restarted;

OR

- Be designed and constructed to prevent the operator from having any part of their body in the danger zone during the hazardous part of the operating cycle.

Reference: For more information on installation of safety devices, see Performance criteria for safeguarding, ANSI B11.19-2003.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20044, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20046 Make sure light curtains meet these requirements.

IMPORTANT:

(2009 Ed.)

All devices must meet the general requirements for devices found in, Make sure devices meet these requirements, WAC 296-806-20044.

You must:

- Make sure light curtains, when used:
 - Respond to the presence of an operator's hand, other body part, or a work piece.
 - Have indicators that are easily seen by the operator showing when the device is functioning or has been bypassed.

Note: Even if a shiny reflective object or work piece is used with a light curtain or other electro-optical device, it should still respond to the operator's hand or other body part.

You must:

- Make sure only authorized persons can make the following adjustments to light curtains:
 - Variations in operating conditions.
 - Fixed or channel blanking.
 - Floating blanking (sometimes referred to as floating channel or floating window features).
- Safeguard access to the point of operation that is **not** protected by light curtains.

[Title 296 WAC—p. 2809]

Reference: For more information on light curtains and their requirements, see Performance criteria for safeguarding, ANSI B11.19-2003

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20046, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20048 Make sure pressure-sensitive mats meet these requirements.

IMPORTANT:

All devices must meet the general requirements for devices found in, Make sure devices meet these requirements, WAC 296-806-2004.

You must:

- Make sure pressure-sensitive mats:
 - Detect the presence or absence of the operator or others.
 - Send the stop command and prevent successive machine cycles if any single component fails.
 - Are connected with the machine control system so the device's stop signal immediately stops action of the machine tool and requires use of the start control before the machine can begin another cycle.
 - Are located so that the operator can **not** reach the recognized hazard before hazardous motion has stopped.
 - Have an indicator easily seen by the operator that shows the mat is operating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20048, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20050 Make sure restraint or pullback devices meet these requirements.

IMPORTANT:

All devices must meet the general requirements for devices found in, Make sure devices meet these requirements, WAC 296-806-20044.

You must:

- Make sure restraint or pullback devices:
 - Prevent the operator from reaching into the point of operation or withdraw the operator's hands from the point of operation before motion of the machine creates a hazard.
 - Have fasteners, pins, and other items used to secure and maintain the setting of the device applied in a way that minimizes loosening, slipping, or failure during use.
 - Are worn inside gloves, if used, so if a glove becomes trapped inside a machine or tool, the device can still remove the operator's hand from the hazard area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20050, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20052 Make sure two-hand devices meet these requirements.

IMPORTANT:

All devices must meet the general requirements for devices found in, Make sure devices meet these requirements, WAC 296-806-20044.

You must:

- Make sure two-hand devices:
 - Protect each hand device against accidental operation.
 - Require simultaneous operation of both hand devices to begin the cycle, including the first cycle (automatic mode).

[Title 296 WAC—p. 2810]

– Are provided with an antirepeat feature when used in single cycle mode.

– Have a set of devices for each operator if more than one needs to be safeguarded.

– Are located far enough from the nearest hazard so the operator can **not** reach the hazard before hazardous motion stops.

Reference: For more information on proper installation of safety devices, see Performance criteria for safeguarding, ANSI B11.19-2003.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20052, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20054 Make sure devices used with barrier guards meet these requirements.

IMPORTANT:

All devices must meet the general requirements for devices found in, Make sure devices meet these requirements, WAC 296-806-20044.

You must:

- Make sure movable barrier devices:
 - Return to the open position if they encounter an obstruction while enclosing the hazardous area.
 - Are designed so the operator or others cannot reach the hazard by reaching over, under, around or through the device when it is in the closed position.
 - Make sure interlocks used with barrier guards do **all** of the following:
 - Stop hazardous motion of machines when interlocks are open.
 - Are **not** easily bypassed.
 - Are designed and installed so that closing the interlocks will not cause a hazard to employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-20054, filed 6/29/04, effective 1/1/05.]

DISTANCE

WAC 296-806-20056 Make sure safeguarding by distance meets these requirements.

You must:

- Make sure means used to safeguard by distance do both of the following:
 - Prevent parts or material from falling on employees below;

AND

– Separate employees on fixed ladders, stairs, floors, or other walking or working surfaces from the hazard by:

- More than seven feet vertically;

OR

■ A horizontal distance that prevents employees from contacting or being injured by the hazard according to the distances in Table 200-2.

TABLE 200-2

SAFE DISTANCES FROM FIXED BARRIERS TO HAZARDS

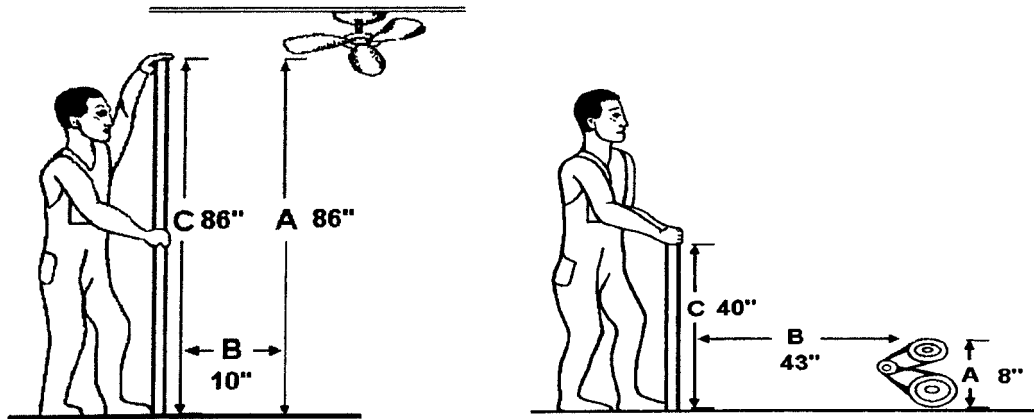
Table 200-2 helps you identify either the required horizontal distance from the hazard to the barricade (B), or the required height of the barricade (C), as long as you know A and either variable, B or C.

Table 200-2
Safe Distances for Fixed Barricades (B)

Height of the Hazard (A)	Height of the Barricade (C)							
	96	86	78	71	63	55	48	40
96	0	4	4	4	4	4	4	4
86	10	14	16	20	20	24	24
78	14	20	24	28	36	43
71	24	36	36	40	43
63	20	36	36	40	51
55	4	32	36	40	51
48	20	36	40	55
40	12	36	40	55
32	24	36	51
24	20	48
16	12	48
8	8	43

Note: The height and distance requirements of Table 200-2 are designed to safeguard workers from a fixed hazard. If a hazard involves flying chips, fluids, parts or materials, the barrier height, distance, and construction may need to be adjusted to provide adequate protection.

Illustration 2 - How to measure variables for Table 2



Examples:

- If the height of the hazard (A) is seventy-eight inches, and the horizontal distance from the hazard to the barricade (B) is fourteen inches, the required height of the barricade (C) is seventy-eight inches.

- If the height of the hazard (A) is eighty-six inches, and the height of the barricade (C) is fifty-five inches, then the required horizontal distance from the hazard to the barricade (B) is twenty inches.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-20056, filed 6/29/04, effective 1/1/05.]

WAC 296-806-20058 Make sure guardrails used for safeguarding meet these requirements.

- Note:** Guardrails may be used to safeguard:
- Flywheels.
 - Cranks and connecting rods.
 - Tail rods and extension piston rods.
 - Horizontal belts in a power generating room.
 - Clutches, cutoff couplings, or clutch pulleys in an engine room occupied only by an attendant.
 - Power transmission parts on a runway used only for oiling, maintenance, running adjustment, or repair work.

You must:

- Make sure top rails are:
 - Smooth-surfaced.
 - Strong enough to withstand a force of at least two hundred pounds.
 - Between thirty-nine and forty-five inches above the floor, platform, runway, or ramp.
- Make sure guardrails have an intermediate rail (mid-rail) installed approximately halfway between the top rail and the floor, platform, runway, or ramp.
- Make sure rails do not extend beyond the end posts of the guardrail and create a projection hazard.
- Make sure toe boards, if required by this chapter to safeguard a machinery hazard, are:
 - At least four inches high.
 - Securely fastened in place with no more than one-fourth inch between the bottom of the toe board and the floor, platform, runway, or ramp.
 - Made of substantial material that is either solid or that has openings in the material no larger than one inch.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-20058, filed 6/29/04, effective 1/1/05.]

REQUIREMENTS FOR SPECIFIC MACHINE HAZARDS

WAC 296-806-30002 Fit arbors and mandrels to the machine.

You must:

- Make sure that arbors and mandrels:
 - Have firm and secure bearing.
 - Are free from play.
- Only place or mount attachments on a machine arbor that have been accurately machined to the correct size and shape.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30004 Safeguard belt and rope drives.

Exemption:

- You do not need to safeguard the following types of belts when they are operating at two hundred and fifty linear feet per minute or less:
 - Flat belts that are:
 - One inch wide or less.
 - Two inches wide or less and have no metal lacings or fasteners.
 - Round belts one-half inch or less in diameter.
 - Single-strand v-belts 13/32 inch wide or less.
- You do not need to safeguard belts that are in a room, vault, or similar space that contains only power transmission parts or equipment if the space:
 - Is controlled by lock and key or has similarly restricted access that allows only authorized persons to enter.
 - Is well lit.
 - Has a dry, level, and firm floor.
 - Has a well-marked route with a vertical clearance of at least five feet six inches for authorized employees to follow to perform their duties.
- You do not need to safeguard belt drives of light or medium duty sewing machines if **all** of the following apply:
 - It uses either a flat or a round belt without metal lacings and fasteners.
 - The belt is located above the table top.
 - The table top is designed so that employees near the machine are not exposed to motion hazards while they work or as they pass by.
 - The machine is not used to sew heavy materials such as leather, canvas, denim, or vinyl.
 - The operators' hands are not in, near, or on the wheel, nip point, belt area, or other motion hazard when the machine is operating.

Reference:

You may need to follow additional requirements for sewing machines. See, Sewing machines, WAC 296-806-485, later in this chapter for more information.

You must:

- Safeguard belt or rope drives that are seven feet or less above the floor or working surface.

Reference: In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

Note:

- You may use a nip point and pulley guard on a vertical or inclined belt if it meets **all** of the following requirements:
- Two and one-half inches wide or less.
 - Running at a speed of less than one thousand feet per minute.
 - Free from metal lacings or fastenings.

You must:

- Safeguard overhead belts located more than seven feet above the floor or working surface if **any of the following** apply:

- The belt is located over a passageway or work space and travels at a speed of eighteen hundred feet per minute or more.

- The distance between the centers of its pulleys is ten feet or more.

- The belt is wider than eight inches.

- Safeguard the space between the upper and lower runs of a horizontal belt if there is enough room for an employee to pass between them by providing both:

- A guard along the upper run to keep the belt from contacting the worker or anything they may be carrying;

AND

- A platform over the lower run that has a railing that is completely filled in with wire mesh or other filler or by a solid barrier.

Note:

The passage between the two belts is considered safeguarded if you completely block it with a guardrail or other barrier.

Exemption:

In a power generating room, only the lower run of a horizontal belt has to be safeguarded.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30004, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30006 Make sure belt or rope drives meet these requirements.

You must:

(1) Use an idler when your machine uses a quarter-twist belt that can run in either direction.

(2) Make sure, when it is necessary to apply dressing to moving belts or ropes, that you apply the dressing at a point where the belts or ropes leave the pulley.

(3) Make sure that a belt shifted by hand is **not** fastened with metal or other material that creates a hazard.

(4) Make sure a bearing support that is next to a friction clutch or cutoff coupling has self-lubricating bearings that do not need frequent attention.

(5) Use a substantial belt perch, such as a bracket or roller, when it is not practical to use a loose pulley or idler to keep idle belts away from shafts.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30006, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30008 Protect employees while shifting belts on belt and pulley drives.

Exemption:

A belt shifter is not required on a belt and pulley system if:

- It was installed on or before August 17, 1971;

OR

- The belt and pulley drive meets **all** of these requirements:

- The belt is endless or laced with rawhide.
- A nip point guard in front of the cone safeguards the nip point of the belt and pulley.
- The nip point guard extends at least to the top of the largest step of the cone and is formed to show the contour of the cone.

Definition:

A nip point belt and pulley guard is a guard that encloses the pulley and has rounded or rolled edge slots for the belt to pass through.

You must:

(1) Provide a permanent mechanical belt shifter on belt drives that use either:

- Tight and loose (drive and idler) pulleys;

OR

- A cone pulley.

(2) Protect employees from the nip point of the belt and pulley by either:

- The belt shifter or clutch handle;

OR

• A vertical guard in front of the pulley that extends at least to the top of the largest step of the cone.

(3) Make sure a belt shifter or clutch handle is:

- Rounded to keep the operator from being injured.
- Easy to reach.

• Positioned to reduce the chance of being accidentally moved.

- Located either:

– Over the machine;

OR

– Not higher than six feet six inches above the floor.

(4) Make sure each belt shifter or clutch handle of the same type in your workplace moves in the same direction to stop a machine, that is, either all right or all left.

Exemption: A friction clutch handle on a countershaft carrying two clutch pulleys with open and crossed belts is not required to move in the same direction as all other clutch handles or belt shifters if:

- The clutch handle has three positions;

AND

- The machine is at rest when the clutch handle is in the center position.

You must:

(5) Use a belt shifter to shift a belt on and off a fixed pulley.

• When a belt shifter cannot be used, you may use a belt pole if it is both:

– Smooth;

AND

– Large enough to grasp securely.

Note: A belt pole is also known as a "belt shipper" or "shipper pole."

You must:

(6) Provide a locking-type belt shifter or other positive securing device on woodworking machines driven by belts and shafting.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30008, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30010 Make sure belt tighteners meet these requirements.

You must:

- Make sure belt tighteners:

– Are substantially constructed and securely fastened.

– Have bearings that are securely capped.

– Have a mechanism to prevent them from falling.

• Make sure belt tighteners used to activate machinery are securely held in the "OFF" position by either:

– Gravity;

OR

– An automatic mechanism that must be released by hand.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30010, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30012 Safeguard cams, connecting rods, tail rods, and extension piston rods.

You must:

- Safeguard cams, connecting rods, tail rods, or extension piston rods that could be contacted by employees.

Reference:

In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

You must:

- Make sure guardrails used to safeguard the side or ends of rods are at least fifteen inches away from the rod when it is fully extended.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30012, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30014 Safeguard chain and sprocket drives.

Exemption:

This section does not apply to hand-operated sprockets.

You must:

- Enclose chains and sprocket wheels that are seven feet or less above the floor or working surface.

• Make sure chain and sprocket drive enclosures that extend over machine or other working areas protect workers from falling drive parts.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30014, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30016 Safeguard fan blades.

Reference:

In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

Exemption:

A fan is considered guarded if it meets all of the following requirements:

– It is in a basement, tower, or room locked against unauthorized entrance.

– The vertical clearance in passageways between the floor and power transmission beams, ceiling, or any other objects, is not less than five feet six inches.

– The intensity of illumination must be a minimum of ten foot candles when the area is occupied.

– The footing is dry, firm, and level.

– The route followed by the oiler or authorized personnel is protected in such a manner as to prevent accident.

– The periphery of the fan blade is covered by a shroud.

You must:

- Protect employees from exposure to the blades of any fan less than seven feet above the floor or working surface.

• Prevent rods, pipes, or other material being handled by workers, from contacting moving fan blades.

Reference:

For guard opening requirements, see Table 200-1, Largest Allowable Guard Opening in, Make sure guards meet these requirements, WAC 296-806-20042.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30016, filed 6/29/04, effective 1/1/05.]

FLYWHEELS**WAC 296-806-30018 Safeguard flywheels.****You must:**

• Safeguard flywheels that have any part of the wheel seven feet or less above the floor or working surface with either:

– An enclosure;

OR

– A guardrail, at least fifteen inches but no more than twenty inches from the rim.

• Make sure enclosures that safeguard flywheels located above a working area are strong enough to hold the weight of the wheel, if a shaft or wheel mounting fails.

• Provide a toeboard on guardrails used to safeguard flywheels that have any part of the wheel within twelve inches of the floor or working surface.

• Do both of the following to safeguard spoked flywheels that are five feet or less in diameter with smooth rims, when enclosures or guardrails cannot be used:

– Cover the spokes on the exposed side of the wheel with a disk guard that creates a smooth surface and edge;

AND

– Remove or cover keys or other dangerous projections on the wheel that are not covered by the disk guard.

Exemption:

- You may leave an open space of four inches or less between the outside edge of the disk guard and the rim of the spoked flywheel to make it easier to turn the wheel over.
- You may use an adjustable guard for the flywheel of a gasoline or diesel engine for starting the engine or for making running adjustments. A slot opening for a jack bar is permitted.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30018, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30020 Safeguard gears.**You must:**

• Safeguard gears that are seven feet or less above the floor or working surface.

Reference: In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

Exemption: You do not need to guard hand-operated gears that are used only to adjust machine parts that stop when the gears are not being turned by hand.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30020, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30022 Safeguard projections on moving parts.**You must:**

• Safeguard projections on moving parts such as keys, setscrews, bolts, and nuts, by:

– Removing them.

– Making them flush.

– Guarding with metal covers.

Exemption: This requirement does not apply to keys or setscrews that are:

- Within an enclosure.

- Below the plane of the rim of a pulley that is less than twenty inches in diameter.
- Located where employee contact is not possible.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30022, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30024 Safeguard pulleys.**You must:**

• Safeguard pulleys that have any part of the pulley seven feet or less above the floor or working surface.

Reference: In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

Exemption: You do not need to safeguard pulleys that are in a room, vault, or similar space that contain only power transmission parts or equipment if the space:

- Is controlled by lock and key or has similarly restricted access that allows only authorized persons to enter.
- Is well lit.
- Has a dry, level, and firm floor.
- Has a well-marked route with a vertical clearance of at least five feet six inches for authorized employees to follow to perform their duties.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30024, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30026 Make sure pulleys meet these requirements.**You must:**

(1) Make sure pulleys are designed and balanced for the speed at which they operate.

(2) Make sure **not** to use pulleys that are cracked or have a piece broken out of the rim.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30026, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30028 Safeguard revolving drums, barrels, and containers.**You must:**

• Safeguard revolving drums, barrels, or containers by an enclosure that is interlocked with the drive mechanism so that they cannot revolve unless the enclosure is in place.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30028, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30030 Safeguard shafting.

Exemption: You do not need to safeguard shafting that is in a room, vault, or similar space that contains only power transmission parts or equipment if the space:

- Is controlled by lock and key or has similarly restricted access that allows only authorized persons to enter.
- Is well lit.
- Has a dry, level, and firm floor.
- Has a well-marked route with a vertical clearance of at least five feet six inches for authorized employees to follow to perform their duties.

You must:

• Enclose shafting that is seven feet or less above the floor or working surface.

• Make sure projecting shaft ends either:

– Have a smooth edge, smooth end, and project no more than one-half the diameter of the shaft;

OR

– Are guarded by a nonrotating cap or safety sleeve.

• Safeguard shafting under a bench or table by enclosing it in a stationary casing or by using a trough with sides that both:

– Cover the shafting to within six inches of the bottom of the table or to within six inches of the floor or working surface, whichever is appropriate;

AND

– Extend two inches beyond the end of the shafting.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30030, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30032 Make sure shafting meets these requirements.

You must:

(1) Keep shafting free of:

- Excessive oil or grease.
- Rust or pitting from corrosion.

(2) Secure shafting against excessive endwise movement.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30032, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30034 Safeguard unused keyways.

You must:

- Fill, cover, or otherwise safeguard all unused keyways.

Reference: In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30034, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30036 Make sure revolving collars meet these requirements.

You must:

- Make sure revolving collars are cylindrical.
- Make sure screws or bolts used in the collar do **not** project beyond the outside of the collar.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30036, filed 6/29/04, effective 1/1/05.]

WAC 296-806-30038 Safeguard counterweights.

You must:

- Provide safeguarding for all counterweights where employees are exposed to contact.

Reference: In the absence of a specific safeguarding method, follow the safeguarding requirements found in safeguarding methods, WAC 296-806-20042 through 296-806-20058. Examples of safeguarding methods include:

- Guards.
- Devices.
- Safeguarding by distance.
- Safeguarding by location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-30038, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

ADDITIONAL REQUIREMENTS FOR SOME MACHINES AND MACHINE OPERATIONS

WAC 296-806-400 Summary. If your specific machine or operation is not listed here, then follow the "Requirements for all machines" found in this chapter, WAC 296-806-200 and 296-806-300.

Your responsibility:

To protect employees from hazards associated with specific machines and their operations in your workplace.

You must:

Abrasive wheels and machines

WAC 296-806-405.

Calenders

WAC 296-806-410.

Compactors

WAC 296-806-415.

Conveyors

WAC 296-806-420.

Food processing equipment

WAC 296-806-425.

Forging machines

WAC 296-806-430.

Garbage (waste) disposals

WAC 296-806-435.

Glue spreaders

WAC 296-806-440.

Ironworkers

WAC 296-806-445.

Lathes

WAC 296-806-450.

Mechanical power presses

WAC 296-806-455.

Mills

WAC 296-806-460.

Press brakes

WAC 296-806-465.

Roll-forming and bending machines

WAC 296-806-470.

Sanding machines

WAC 296-806-475.

Saws and cutting heads

WAC 296-806-480.

Sewing machines

WAC 296-806-485.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-400, filed 6/29/04, effective 1/1/05.]

ABRASIVE WHEELS

WAC 296-806-405 Summary.

• In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards.

• Requirements for all machines, WAC 296-806-200 and 296-806-300.

• You need to refer to Portable power tools, chapter 296-807 WAC for requirements relating to hand-held abrasive wheel tools.

This section applies to machines that are not hand held and that use an abrasive wheel.

Exemption: This rule does not apply to natural sandstone wheels and metal, wooden, cloth or paper discs having a layer of abrasive on the surface.

Definition:

An *abrasive wheel* is a grinding tool consisting of bonded abrasive grains. This includes diamond and reinforced wheels.

Your responsibility:

To make sure abrasive wheel machines and wheels are safe to use.

You must:

GENERAL REQUIREMENTS FOR ABRASIVE WHEELS

Make sure abrasive wheels and machines are properly designed and constructed

WAC 296-806-40502.

Make sure machines have safety guards

WAC 296-806-40504.

Make sure safety guards meet specific requirements

WAC 296-806-40506.

Provide a tongue guard on bench, pedestal, floorstand, and cylindrical grinders

WAC 296-806-40508.

Use a work rest for off-hand grinding

WAC 296-806-40510.

MOUNTING ABRASIVE WHEELS

Make sure abrasive wheels are safe to use

WAC 296-806-40512.

Mount wheels properly

WAC 296-806-40514.

Use proper flanges

WAC 296-806-40516.

Make sure flanges are in good condition

WAC 296-806-40518.

Use specific flanges for Type 1 cutting-off wheels

WAC 296-806-40520.

Use specific flanges for Type 27A cutting-off wheels

WAC 296-806-40522.

Use blotters when required

WAC 296-806-40524.

Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo)

WAC 296-806-40526.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-806-405, filed 1/24/07, effective 4/1/07; 04-14-028, § 296-806-405, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40502 Make sure abrasive wheels and machines are properly designed and constructed.

You must:

- Make sure abrasive wheels and machines, including safety guards and flanges, manufactured on or after January 1, 2005, meet the design and construction requirements of American National Standards Institute (ANSI) B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels.

- Make sure abrasive wheels and machines, including safety guards and flanges, manufactured before January 1, 2005, meet the design and construction requirements of American National Standards Institute (ANSI) B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels.

[Title 296 WAC—p. 2816]

Note: There may be a statement on the machine or in the instruction manual that the machine meets the appropriate ANSI standard. If in doubt, check with the manufacturer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-40502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40504 Make sure machines have safety guards.

You must:

- Use abrasive wheels only on machines that have safety guards.

- Make sure the safety guard:
 - Is mounted so it maintains proper alignment with the wheel.
 - Is mounted with fasteners strong enough to keep the guard in position if a wheel breaks.
 - Covers the spindle end, nut, and flange projections.

Exemption: Safety guards are not required on machines that use:

- Wheels for internal grinding while advancing, retracting or within the work.

- Types 16, 17, 18, 18R, and 19 cones and plugs and threaded hole pot balls where either:
 - The work offers protection;

OR

- The size does not exceed three inches in diameter by five inches long.

- Notched, segmented, or continuous rim metal centered diamond lapidary wheels that are:
 - Used with a coolant deflector;

AND

- Operated at 3,500 SFPM or less.

- Type 1 reinforced wheels that are:
 - Three inches or less in diameter.
 - One-fourth inch or less thick.
 - Operating at peripheral speeds of 9,500 SFPM or less.
 - Used by operators wearing safety glasses and face shields.

- Valve seating grinding wheels.
- Remotely operated machines in an enclosure that will retain the pieces of a broken wheel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-40504, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40506 Make sure safety guards meet specific requirements.

You must:

- Make sure the machine safety guards meet the requirements of Table 405-1, Guard Requirements.

Definition:

Maximum exposure angle is the largest part of a wheel that does not need to be covered by a safety guard.

Note:

- The maximum exposure angle is measured by lines starting at the center of the spindle and extending to the ends of the guard at the wheel periphery.

- Visors and other accessory equipment are used in determining the size of the guard opening only if they are at least as strong as the safety guard.

(2009 Ed.)

Table 405-1
Guard Requirements

Machine	Maximum exposure angle and other guard restrictions
Bench, pedestal, or floorstand grinders	<ul style="list-style-type: none"> • Not higher than sixty-five degrees above the horizontal centerline of the wheel • One-fourth (ninety degrees) of the wheel for grinding done at or above the horizontal centerline of the wheel • One hundred twenty-five degrees if the work has to contact the wheel below the horizontal centerline of the wheel
Cylindrical grinders	<ul style="list-style-type: none"> • One-half (one hundred eighty degrees) of the wheel • Not higher than sixty-five degrees above the horizontal centerline of the wheel
Surface grinders	<ul style="list-style-type: none"> • One hundred fifty degrees of the wheel • Not higher than fifteen degrees below the horizontal
Cutting-off machines	<ul style="list-style-type: none"> • One-half (one hundred eighty degrees) of the wheel
Swing frame grinders	<ul style="list-style-type: none"> • One-half (one hundred eighty degrees) of the wheel • Encloses the top one-half of the wheel
Swing frame grinders using cup wheels	<ul style="list-style-type: none"> • One-half (one hundred eighty degrees) of the wheel • Covers the wheel on the side towards the operator
Semiautomatic snagging machines	<ul style="list-style-type: none"> • One-half (one hundred eighty degrees) of the wheel • Covers the wheel on the side towards the operator
Machines used for top grinding	<ul style="list-style-type: none"> • As small as possible up to one-sixth (sixty degrees) of the wheel

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40506, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40508 Provide a tongue guard on bench, pedestal, floorstand, and cylindrical grinders.

You must:

- Make sure, if the operator stands in front of the opening in the safety guard, that the safety guard (tongue guard) at the top of the opening is adjusted to within one-fourth inch of the wheel.

Definition:

The tongue guard is an integral part of a safety guard that is located where the upper exposed part of the abrasive wheel meets the safety guard. It can be adjusted as necessary to maintain a set distance from the constantly decreasing diameter of the wheel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40508, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

WAC 296-806-40510 Use a work rest for off-hand grinding.

Exemption: You do not need to use a work rest if:

- The size, shape, weight or finishing area of the workpiece prevents its use;

OR

- Contact with the grinding wheel below the horizontal plane of the spindle is necessary.

You must:

- Use a work rest to support the work.
- Make sure the work rest is:
 - Rigidly constructed.
 - Adjustable to compensate for wheel wear.
 - Adjusted only when the wheel is stopped.
 - Securely clamped after each adjustment.
 - Kept within one-eighth inch of the wheel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40510, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40512 Make sure abrasive wheels are safe to use.

You must:

- Do the following before mounting a wheel:
 - Visually inspect the wheel for cracks or damage.
 - Perform a ring test for cracks if the size and shape of the wheel permits testing.
 - Make sure the spindle speed of the machine is not greater than the operating speed of the wheel.
- Make sure a damaged or cracked wheel is not mounted or used.

Note: Wheels that have gouges, grooves, other damage, or material buildup on the grinding surface need to be dressed or trued to correct the problem. Wheels that cannot be trued are considered damaged and cannot be used.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40512, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40514 Mount wheels properly.

You must:

(1) Make sure wheels fit freely on the spindle, wheel sleeves, or adaptors, and remain free under all grinding conditions.

(2) Make sure wheel, blotter and flange surfaces that contact each other are flat and free of foreign particles.

(3) Make sure any reducing bushing used in the wheel hole:

- Fits freely on the spindle and maintains proper clearance;

AND

- Does not exceed the width of the wheel or contact the flanges.

(4) Make sure that multiple wheels mounted between a single set of flanges are either:

- Cemented together;

OR

- Separated by spacers that have a diameter and bearing surface that is the same as the mounting flanges.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40514, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40516 Use proper flanges.**You must:**

- Mount all abrasive wheels between flanges that have a diameter at least one-third the diameter of the wheel.

Exemption: This flange requirement does not apply to the following wheels:

- Mounted wheels (wheels permanently bonded to a shaft or mandrel).
- Abrasive disc wheels (inserted nut, inserted washer and projecting stud type).
- Plate mounted wheels.
- Cylinder, cup, or segmental wheels mounted in chucks.
- Types 27, 28, and 29 wheels.
- Internal wheels less than two inches in diameter.
- Modified Type 6 and 11 wheels (terrazzo).
- Types 1 and 27A cutting-off wheels.

You must:

- Make sure flanges are:
 - Dimensionally accurate.
 - Properly balanced.
 - Flat.
 - Free of rough surfaces or sharp edges.
- Make sure the driving flange is:
 - Part of the spindle;

OR

- Securely fastened to the spindle.
- Make sure, if a wheel is mounted between two flanges, that both flanges:
 - Are the same diameter;

AND

- Have equal bearing surfaces.

Exemption: The following wheels do not require same diameter, equal bearing surface flanges:

- Types 27, 28, and 29 wheels with adaptors.
- Modified Types 6 and 11 wheels with tapered K dimension.
- Internal wheels less than two inches in diameter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40516, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40518 Make sure flanges are in good condition.**You must:**

- Make sure flange bearing surfaces are in good condition.
- Replace or remachine a flange with a mounting surface that has any of the following problems:
 - Warped.
 - Burred on the bearing surface.
 - Excessively worn (thickness or diameter).
 - Out of true.

Reference: Flanges that are refaced or trued need to satisfy minimum dimension requirements specified in Safety Requirements for the Use, Care and Protection of Abrasive Wheels, ANSI B7.1-2000.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40518, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40520 Use specific flanges for Type 1 cutting-off wheels.**You must:**

- Mount Type 1 cutting-off wheels between flanges that are:
 - Properly relieved with matching bearing surfaces.
 - At least one-fourth the wheel diameter.

[Title 296 WAC—p. 2818]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40520, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40522 Use specific flanges for Type 27A cutting-off wheels.**You must:**

- Mount Type 27A cutting-off wheels between flanges that are:
 - Flat (unrelieved) with matching bearing surfaces;
- AND**
- At least one-fourth the wheel diameter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40522, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40524 Use blotters when required.

Exemption: You do not need to use a blotter with any of the following:

- Mounted wheels (wheels permanently bonded to a shaft or mandrel).
- Abrasive disc and Type 2 wheels which are mounted by inserted nuts, inserted washers, or projecting studs.
- Plate mounted wheels.
- Wheels mounted in chucks (such as cylinders and segmental wheels).
- Types 27, 28, and 29 wheels.
- Type 1 and Type 27A cutting-off wheels.
- Internal wheels less than two inches in diameter.
- Diamond and cubic boron nitride wheels with metal or carbon fiber cores.

You must:

- Use a blotter between each flange and the abrasive wheel surface to uniformly distribute flange pressure.
- Make sure the blotter covers the entire flange contact area.
- Use a new blotter each time a wheel is mounted unless the wheel has a blotter already attached to it by the manufacturer.
- Make sure scuffed or damaged blotters are not used.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40524, filed 6/29/04, effective 1/1/05.]

WAC 296-806-40526 Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo).**You must:**

- Apply the blotter to the flat side only when mounting Modified Types 6 and 11 wheels (terrazzo).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-40526, filed 6/29/04, effective 1/1/05.]

Calenders

WAC 296-806-410 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies only to hazards associated with calenders in the rubber and plastics industry where two or more metal rolls are set vertically and revolving in opposite directions.

(2009 Ed.)

Your responsibility:

To protect employees from hazards associated with calenders.

You must:

Provide calender safety controls

WAC 296-806-41002.

Follow these stopping limit requirements for calenders

WAC 296-806-41004.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-410, filed 6/29/04, effective 1/1/05.]

WAC 296-806-41002 Provide calender safety controls.

Exemption: These rules do not apply to calenders if the machinery is permanently set up so employees:

- Cannot reach through, over, under, or around to come in contact with the roll bite;

OR

- Cannot be caught between a roll and nearby objects.

You must:

(1) Provide a safety trip control for the face of the calender that meets **all** of the following:

- Provided in front and back of each calender.
- Is accessible.
- Operates readily upon contact.

(2) Provide **at least one** of the following safety trip controls for the face of the calender:

- Safety trip rods, tripwire cables or wire center cords that:
 - Are within reach of the operator and the bite (nip point).
 - Operate whether pushed or pulled.
 - Are located across each pair of in-running rolls extending the length of the face of the rolls.

- Pressure sensitive body bars that:
 - Are approximately forty inches vertically above the working level.
 - Are horizontally at thirty-four inches from the in-running nip point.
 - Operate readily by pressure of the mill operator's body.

(3) Include safety trip rods, cables or cords, in addition to the pressure sensitive body bars, if **both** of these apply:

- In-running rolls are located below the bar;

AND

- The operator needs to duck under the bar.

(4) Provide a safety cable or wire center cord on both sides of the calender that:

- Operates readily when pushed or pulled.
- Is connected to the safety trip.

Note: • The center cord should be **all** of the following:

- Twelve inches or less from the faces of the individual rolls.
- At least two inches from the calender frame.
- Anchored to the frame not more than six inches from the floor or operator's platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-41002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-41004 Follow these stopping limit requirements for calenders.**You must:**

(2009 Ed.)

- Make sure that calenders are stopped within one and three-quarters percent of the fastest speed at which they operate when empty.

– When calenders operate at more than two hundred fifty feet per minute, stopping distances above one and three-quarters percent of their fastest speed are allowed, but must have engineering support.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-41004, filed 6/29/04, effective 1/1/05.]

COMPACTORS

WAC 296-806-415 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to all stationary compactors in your workplace.

Your responsibility:

To protect employees from hazards associated with stationary compactors.

You must:

Safeguard hazardous moving parts of stationary compactors

WAC 296-806-41502.

Follow these requirements for compactor controls

WAC 296-806-41504.

Follow these requirements for compactor access doors and covers

WAC 296-806-41506.

Follow these requirements for compactors that cycle automatically

WAC 296-806-41508.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-415, filed 6/29/04, effective 1/1/05.]

WAC 296-806-41502 Safeguard hazardous moving parts of stationary compactors.**You must:**

- Prevent the compactor from operating while employees have any body parts in the compactor or hazard area.

- Provide a safeguarding method that prevents employees from putting hands, fingers, or any body part into the compactor during operation.

Note: Examples of safeguarding methods include:

- Making sure the compactor will not compact material while the gate or door is open.

- Installing a guard, loading hopper, or enclosure at least forty-two inches high that prevents:

- Entry of hands, fingers, or any body part into the loading chamber during operation.
- An operator from being caught between moving parts of the equipment and material.
- The creation of any hazard between the guard and moving parts.

- You may also provide sustained manual pressure controls located so the operator cannot reach, but can still see, the point of operation if a guard is not used.

Reference: For additional requirements when adjusting or clearing jams from compactors, see Lockout/tagout (control of hazardous energy), chapter 296-803 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-41502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-41504 Follow these requirements for compactor controls.**You must:**

- Follow these requirements for compactor controls:
 - Each control must have its function clearly labeled.
 - Controls must be designed and located to prevent them from unintentionally activating.

- Electric stop buttons, including emergency stop buttons, must be:
 - Red in color, distinguishable from all other controls by size, and not recessed.

- Emergency stop controls must be either:
 - Readily accessible to the operator;

- OR

- Located within three feet (91.4 cm) of the point of operation or feed area or if chute fed, within three feet (91.4 cm) of the access door.

- An electrical disconnect must be located within sight, no more than fifty feet (1,524 cm), from the operating control panel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-41504, filed 6/29/04, effective 1/1/05.]

WAC 296-806-41506 Follow these requirements for compactor access doors and covers.**You must:**

- Make sure access covers meet at least one of the following:
 - Interlocked.
 - Secured by a lockable device.
 - Removable by hand tools only.

- Make sure any loading chamber access door has an interlock system that prevents cycling motion when the door is open.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-41506, filed 6/29/04, effective 1/1/05.]

WAC 296-806-41508 Follow these requirements for compactors that cycle automatically.**You must:**

- Use automatic cycling controls only on compactors where the loading chamber is located so that it cannot be accessed during operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-41508, filed 6/29/04, effective 1/1/05.]

CONVEYORS

WAC 296-806-420 Summary. If your specific conveyor or operation is not listed here, then follow any general requirements in this section along with the "Requirements for all machines" found in this chapter, WAC 296-806-200 and 296-806-300.

This section applies to hazards related to conveyors and conveying systems, including bulk material, package, or unit handling types. These requirements are designed to protect employees operating, maintaining, cleaning, and working around conveyors.

Exemption: This section does not apply to conveyor systems used primarily for moving people.

Your responsibility:

To make sure all conveyors in your workplace are constructed, operated, and maintained in a safe manner.

You must:**GENERAL REQUIREMENTS FOR CONVEYORS**

Follow these requirements for conveyors

WAC 296-806-42002.

Provide emergency stops on conveyors

WAC 296-806-42004.

Label conveyor controls

WAC 296-806-42006.

Prohibit riding on conveyors

WAC 296-806-42008.

Provide safe access to conveyors

WAC 296-806-42010.

Provide backstop or antirunaway devices to incline, decline, or vertical conveyors

WAC 296-806-42012.

Make only safe alterations to conveyors

WAC 296-806-42014.

Inspect and replace worn conveyor parts

WAC 296-806-42016.

Follow these requirements for replacing conveyor parts

WAC 296-806-42018.

Follow these requirements for spill guards

WAC 296-806-42020.

Provide pedestrian overpasses for conveyors

WAC 296-806-42022.

Guard openings to hoppers and chutes

WAC 296-806-42024.

Install guideposts

WAC 296-806-42026.

BELT CONVEYORS

Guard nip points on belt conveyors

WAC 296-806-42028.

Install emergency stop controllers on overland belt conveyors

WAC 296-806-42030.

Install belt conveyor overpasses

WAC 296-806-42032.

CHAIN CONVEYORS

Safeguard chain conveyors

WAC 296-806-42034.

Guard return strands on chain conveyors

WAC 296-806-42036.

Guard chain conveyors that are used as a transfer mechanism

WAC 296-806-42038.

ELEVATOR CONVEYORS

Prevent material from falling off of elevator conveyors

WAC 296-806-42040.

INCLINED RECIPROCATING CONVEYORS (SHAKERS)

Provide protection where employees must load shakers

WAC 296-806-42042.

Provide grating over silo and bunker openings for shuttle conveyors

WAC 296-806-42044.

MOBILE CONVEYORS

Guard wheels and rails on mobile conveyors

WAC 296-806-42046.

Prevent hazardous motion on mobile conveyors

WAC 296-806-42048.

Provide a detector for mobile conveyors

WAC 296-806-42050.

Provide safe access on mobile conveyors

WAC 296-806-42052.

PUSHER-BAR CONVEYORS

Guard pusher-bar conveyors

WAC 296-806-42054.

ROLLER CONVEYORS

Prohibit walking on roller-type conveyors

WAC 296-806-42056.

Use speed controls for roller and wheel conveyors

WAC 296-806-42058.

Safeguard belt-driven live roller conveyors

WAC 296-806-42060.

SCREW CONVEYORS

Guard screw conveyors

WAC 296-806-42062.

SKIP HOISTS

Provide slack-cable switches on hoists

WAC 296-806-42064.

Block the skip bucket and counterweight guides

WAC 296-806-42066.

Protect against wire rope coming off sheaves

WAC 296-806-42068.

SLAT AND ROLLER-SLAT CONVEYORS

Safeguard slat and roller-slat conveyors

WAC 296-806-42070.

TOWED CONVEYORS

Provide a safe method for disengaging the tow pin

WAC 296-806-42072.

Protect employees from moving carts on towed conveyors

WAC 296-806-42074.

Provide clearances and warnings for carts on towed conveyors

WAC 296-806-42076.

Mark projections above the floor

WAC 296-806-42078.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-420, filed 6/29/04, effective 1/1/05.]

GENERAL REQUIREMENTS FOR CONVEYORS

WAC 296-806-42002 Follow these requirements for conveyors.

You must:

- Construct, operate, and maintain all conveyors according to this chapter and the American National Standards Institute (ANSI) B20.1-1957.

- Make sure all new conveyors constructed after January 1, 2005, meet the requirements of the American Society of Mechanical Engineers (ASME) B20.1-1996.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42004 Provide emergency stops on conveyors.

You must:

(2009 Ed.)

- Make sure each conveyor has an emergency stopping device such as an emergency stop button, pull cord, or similar device.

- Make sure each emergency stopping device meets **all** of the following requirements. They must:

- Stop the conveyor a safe distance from the hazard.

- Be easily identified.

- Directly control that conveyor.

- Require a manual reset.

- NOT be overridden from another location.

- NOT require other equipment to be stopped in order to stop the conveyor.

- Make sure where there is the possibility of an employee falling onto a conveyor, that the emergency stopping device for conveyors feeding or dumping into a hazardous machine such as a barker, saw, hog, or chipper is **at least one** of the following:

- Under the continuous control of an operator who cannot fall onto the conveyor and has full view of the material entrance;

OR

- Located where it can be reached from a sitting position on the conveyor where it feeds or dumps into the hazardous machine.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42004, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42006 Label conveyor controls.

You must:

- Clearly label the function of each conveyor control.

Note: Controls and wiring that are no longer used should be removed from control stations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42006, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42008 Prohibit riding on conveyors.

You must:

- Prohibit employees from riding on conveyors.

Exemption: You do not need to prohibit riding on an assembly conveyor moving eighty feet or less per minute or a conveyor with a station specifically designed for operating personnel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42008, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42010 Provide safe access to conveyors.

You must:

- Provide a way to safely inspect and maintain conveyors located more than seven feet from the floor.

Reference: Some additional requirements for protecting employees inspecting and maintaining conveyors can be found in:

- Lockout/tagout (control of hazardous energy), chapter 296-803 WAC.

- Personal fall arrest systems, WAC 296-24-88050.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42010, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42012 Provide backstop or antirun-away devices on incline, decline, or vertical conveyors.

You must:

[Title 296 WAC—p. 2821]

- Make sure all incline, decline, or vertical conveyors use backstop or antirunaway devices when there is a danger of conveyor reversal or runaway.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42012, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42014 Make only safe alterations to conveyors.

You must:

- Make sure, when making conveyor alterations, that you do not affect safety characteristics such as emergency stop controls, guards, or the incline of the conveyor, if such changes would create a danger to workers.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42014, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42016 Inspect and replace worn conveyor parts.

You must:

- Carefully inspect and replace any conveyor part that shows signs of significant wear before it becomes a hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42016, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42018 Follow these requirements for replacing conveyor parts.

You must:

- Make sure replacement conveyor parts are equal to or exceed the manufacturer's specifications.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42018, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42020 Follow these requirements for spill guards.

You must:

- Install protective or spill guards wherever conveyors pass next to or over working areas or passageways.
 - These guards must be designed to catch and hold any materials that may become dislodged or fall off.

Reference: For specific requirements when conveyors pass over emergency exit routes, see Exit routes, WAC 296-800-310.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42020, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42022 Provide pedestrian overpasses for conveyors.

You must:

- Provide a pedestrian overpass covering the full width of a passageway if **one** of these conditions exists:
 - The working strand of a conveyor crosses within three feet of floor level.
 - Workers must step over the strand and trough at or below floor level.
- Provide a pedestrian overpass where workers cannot pass under the conveyor safely.
 - The sides of the crossing platform must have standard railings if **one** of the following exists:
 - The overpass is more than four feet high.
 - The conveyor feeds a dangerous machine such as saws, chippers, hogs, or galvanizing tanks.

[Title 296 WAC—p. 2822]

Reference: For guardrail requirements see, Railing, toeboards, and cover specifications, WAC 296-24-75011.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42022, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42024 Guard openings to hoppers and chutes.

You must:

- Guard all openings to hoppers, chutes, and elevator-type conveyors to prevent workers from:
 - Falling or stepping into them.
 - Making any kind of bodily contact with conveyors.

Note: Grating provided at floor level with no openings larger than two inches (50 mm) that is strong enough to withstand any load of personnel or trucks that may be imposed upon it is acceptable guarding.

You must:

- Do **all** of the following when dumping operations use chutes or hoppers that are flush with the floor and their use cannot be guarded:
 - Place a temporary guardrail around ground or floor-level hoppers when dumping operations are **not** in progress.
 - Post warning signs in a conspicuous location alerting personnel to the presence of an open pit in order to protect employees when dumping operations are in progress.

Reference: For guardrail requirements see, Railing, toeboards, and cover specifications, WAC 296-24-75011.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42024, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42026 Install guideposts.

You must:

- Install guideposts to direct employees driving trucks, loaders, or other equipment to the pit, hopper, or chute.

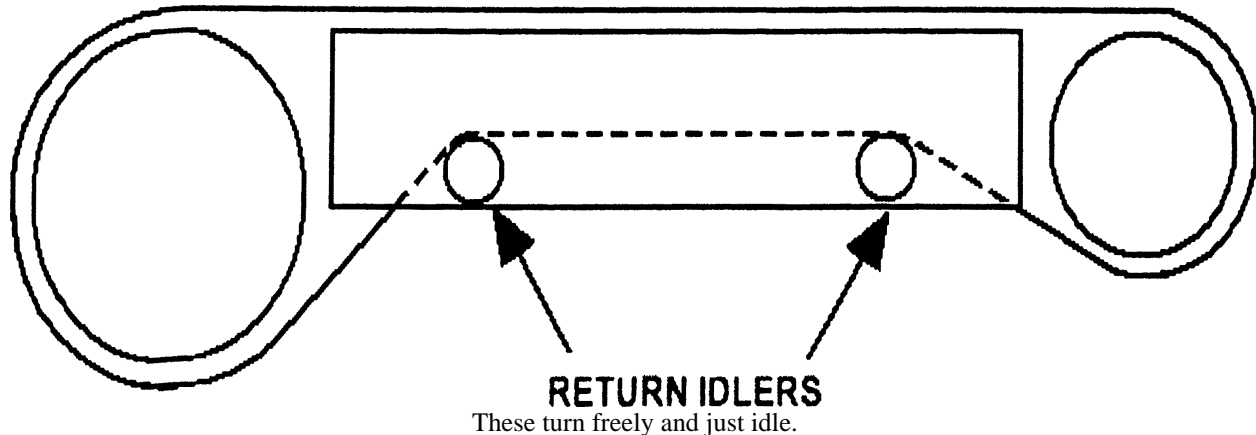
[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42026, filed 6/29/04, effective 1/1/05.]

BELT CONVEYORS

WAC 296-806-42028 Guard nip points on belt conveyors.

Exemption: This rule does not normally require guards along the conveyor at the point where the belt rides on return rollers, such as return-belt idlers, unless hazardous conditions such as long, tight heavy belts exist.

Return-belt idlers



You must:

- Place nip point guards at **all** of these points:
 - Where the belt wraps around the pulley.
 - At terminals, take-ups, and snub rollers where the belt changes directions at transfers and deflectors.
 - At the discharge end.
 - At other points where workers may be injured by nip or shear points.

Note: The practice of applying a belt dressing or other foreign material to a rotating drive pulley or a conveyor belt is hazardous and should be avoided.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42028, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42030 Install emergency stop controllers on overland belt conveyors.

You must:

- Install permanent emergency pull cords or similar emergency stop controllers at points where workers are normally stationed along overland belt conveyors.

Note: Personnel that patrol overland belt conveyors may use portable emergency stop controllers instead of permanently installed pull cords and push-button stations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42030, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42032 Install belt conveyor overpasses.

You must:

- Install a pedestrian overpass or underpass along the sides of long overland belt conveyors, where there is the most foot traffic.
 - The distance between overpasses should not exceed three hundred meters or one thousand feet.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42032, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

CHAIN CONVEYORS

WAC 296-806-42034 Safeguard chain conveyors.

You must:

- Provide safeguards for drive, tail, and idler sprocket pulleys where the chain creates a nip or shear point.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42034, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42036 Guard return strands on chain conveyors.

You must:

- Provide a way to catch and support the ends of a chain that break over a passageway.
- Provide a strong enough trough to carry the weight from a broken chain on conveyors when return strands operate within seven feet of the floor.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42036, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42038 Guard chain conveyors that are used as a transfer mechanism.

You must:

- Guard chain conveyors whose moving chains cannot be enclosed without impairing their function by **one** of the following methods:
 - Distance as required in, Make sure safeguarding by distance meets these requirements, WAC 296-806-20056.
 - Personnel barriers.
 - Warning signs where personnel barriers are not practical.

Note: Chain conveyors with moving chains that cannot be enclosed include those:

- Mounted within another conveyor.
- Raised and lowered as a transfer mechanism.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42038, filed 6/29/04, effective 1/1/05.]

[Title 296 WAC—p. 2823]

ELEVATOR CONVEYORS**WAC 296-806-42040 Prevent material from falling off of elevator conveyors.****You must:**

- Install strong guards, screens, or barricades to prevent material from falling in any direction into the shaft way of elevator-type conveyors, except at loading and unloading areas.

- Install automatic shaft way gates or suitable barriers at each floor level where material is loaded or unloaded.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42040, filed 6/29/04, effective 1/1/05.]

INCLINED RECIPROCATING CONVEYORS (SHAKERS)**WAC 296-806-42042 Provide protection where employees must load shakers.****You must:**

- Provide standard guardrails or snap chains along loading sides of the shaker where personnel must load or unload material.

- Snap chains must be at least thirty-nine inches high at their lowest point.

- Make sure controls are located so the conveyor cannot be started by an employee on the moving part of the conveyor.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42042, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42044 Provide grating over silo and bunker openings for shuttle conveyors.**You must:**

- Provide grating with openings to match the size of the material being discharged into silos or bunkers. Make sure openings are:

- Small enough so that workers cannot fall through.

- Protected by other effective means if the material size requires openings large enough for a worker to fall through.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42044, filed 6/29/04, effective 1/1/05.]

MOBILE CONVEYORS**WAC 296-806-42046 Guard wheels and rails on mobile conveyors.****You must:**

- Install sweeps in front of the nip points created by the wheels and rails to deflect objects that could derail the conveyor.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42046, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42048 Prevent hazardous motion on mobile conveyors.**You must:**

- Make sure mobile conveyors have **at least one** of the following to prevent hazardous motion:

- Brakes.

[Title 296 WAC—p. 2824]

- Rail clamps.
- Other position-locking devices.
- Provide limit switches that will stop travel when exceeding the design limits of rail-mounted mobile conveyors.
- Provide rail stops to keep the conveyor from traveling past its designed end location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42048, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42050 Provide a detector for mobile conveyors.**You must:**

- Provide a detector to stop conveyor movement when the operation creates a danger of running into a stockpile or other obstacle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42050, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42052 Provide safe access on mobile conveyors.**You must:**

- Make sure that access stairways, ladders, and platforms are designed and located to avoid the shear or nip point hazards of the conveyor and moving machinery.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42052, filed 6/29/04, effective 1/1/05.]

PUSHER-BAR CONVEYORS**WAC 296-806-42054 Guard pusher-bar conveyors.****You must:**

- Provide a guard when hazards exist at each of these points:

- At the discharge point where the bar passes through the bed.

- Where there is a shear point between the return pusher bar and a frame member.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42054, filed 6/29/04, effective 1/1/05.]

ROLLER CONVEYORS**WAC 296-806-42056 Prohibit walking on roller-type conveyors.****You must:**

- Prohibit employees from walking on the rolls of roller-type conveyors.

- Tread plates or other types of walkways can be used between the rollers as a walking surface for operators when performing their duties.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42056, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42058 Use speed controls for roller and wheel conveyors.**You must:**

- Avoid safety hazards created by unit or package speeds by **one** of the following methods:

- Limiting the length of the sloped run.

- Using speed retarders or brakes.

(2009 Ed.)

- Other means of providing speed control.
- Make sure rollers and wheels are free running to prevent locked wheels from steering or pulling materials to one side or off the conveyor.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42058, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42060 Safeguard belt-driven live roller conveyors.

You must:

- Guard belt and roller nip points by **one** of the following methods:
 - Space load-carrying rollers to prevent access to the belt and roller nip points.
 - Insert rods or plates between the rollers to prevent access to the belt and roller nip points.
 - Use rollers that pop out when something contacts the nip point.
 - Distance safeguarding found in:
 - Make sure safeguarding by distance meets these requirements, WAC 296-806-20056.

Reference: For nip points and sheer hazards on power-driven (live) roller conveyors see, Guard nip points on belt conveyors, WAC 296-806-42028.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42060, filed 6/29/04, effective 1/1/05.]

SCREW CONVEYORS

WAC 296-806-42062 Guard screw conveyors.

You must:

- Enclose the rotating screw to prevent contact with the shear points where it passes the sides of the trough or casing.
- Guard screw conveyors requiring an open housing by using **one** of the following:
 - Make sure safeguarding by distance meets these requirements, WAC 296-806-20056.
 - Make sure guardrails used for safeguarding meet these requirements, WAC 296-806-20058.
 - Construct feed openings for shovel, front-end loader, or other manual or mechanical equipment so that the conveyor screw is covered by a grating.
 - If the nature of the material is such that a grating cannot be used, then the exposed section of the conveyor must be guarded by a railing and warning signs.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42062, filed 6/29/04, effective 1/1/05.]

SKIP HOISTS

WAC 296-806-42064 Provide slack-cable switches on hoists.

You must:

- Provide and arrange slack cable switches to cut power to the drive and set the brake when the skip or counterweight hoisting ropes either:
 - Develop slack;
- OR**
- Lose tension due to sticking in the guides, over travel, or for any other reason.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42064, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

WAC 296-806-42066 Block the skip bucket and counterweight guides.

You must:

- Make sure the skip bucket and counterweight are blocked in their guides when the brake or any part of the drive train between the brake and the drum shaft are being repaired or replaced.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42066, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42068 Protect against wire rope coming off sheaves.

You must:

- Fit all sheaves with sheave guards to prevent the wire rope from coming off under slack cable or similar conditions.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42068, filed 6/29/04, effective 1/1/05.]

SLAT AND ROLLER-SLAT CONVEYORS

WAC 296-806-42070 Safeguard slat and roller-slat conveyors.

You must:

- Provide **either** of these safeguards at the tail end of a slat conveyor if the slats are above the centerline of the chain:
 - A guard over the hazardous tail end;

OR

- Warning signs if guards are impractical because of material flowing over the tail sprocket.

- Provide **either** of these safeguards when there is a gap between the slats wide enough to permit access to cross members below the slats:

- A continuous pan under the slats;

OR

- Keep all cross members a safe distance from the slats.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42070, filed 6/29/04, effective 1/1/05.]

TOWED CONVEYORS

WAC 296-806-42072 Provide a safe method for disengaging the tow pin.

You must:

- Provide a method for the operator to disengage the tow pin from a conveyor pusher without being in front of the cart.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42072, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42074 Protect employees from moving carts on towed conveyors.

You must:

- Make sure runaway carts are unable to exit ramps and enter work areas.
 - Have a barrier of sufficient strength and height on ramps with pedestrian or traffic aisles to prevent a runaway cart from entering the aisle.
 - Have signs warning employees not to enter ramps that do not have pedestrian or traffic aisles.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42074, filed 6/29/04, effective 1/1/05.]

[Title 296 WAC—p. 2825]

WAC 296-806-42076 Provide clearances and warnings for carts on towed conveyors.**You must:**

• Provide clearance space for personnel in **all** of the following:

- Between the sides of carts.
- Between any load overhanging the side of a cart.
- Any fixed or moving object.
- Identify the cart path with floor stripes that are:
 - Parallel to the cart path.
 - Arranged so one line is on each side of the path.
 - Located a safe distance from the edge of the cart or overhanging load.

• Mark reduced clearance areas with appropriate warning signs.

Note: An example of a reduced clearance area is an area where a cart goes through a wall opening.

You must:

• Place an appropriate warning on those areas where a cart may unexpectedly change direction, such as switching off the main line into a transfer conveyor or a spur.

Note: An example of an appropriate warning would be to use diagonal stripes on the floor between clearance lines.

You must:

• Install a sign, signal, or other warning where carts start automatically.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42076, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42078 Mark projections above the floor.**You must:**

• Mark the area around projections above the floor with appropriate diagonal stripes, warning signs, or both.

Note: This is especially important if projections above the floor are unpredictable or occur intermittently.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42078, filed 6/29/04, effective 1/1/05.]

FOOD PROCESSING EQUIPMENT

WAC 296-806-425 Summary. If your specific food processing machine or operation is not listed here, then follow any facilities requirements in this section along with the "Requirements for all machines" found in this chapter, WAC 296-806-200 and 296-806-300.

This section applies to:

• All businesses that manufacture or process food, whether or not they are contained inside food stores;

AND

• The design, installation, operations, and maintenance of machinery and equipment used in the food processing industry.

Your responsibility:

To protect employees from hazards associated with food processing facilities and machines.

You must:**FACILITIES**

Provide locks on chamber doors of large air conditioning units

WAC 296-806-42502.

Use proper door locks on rack-type bread coolers

WAC 296-806-42504.

Provide see-through panels on fermentation room doors

WAC 296-806-42506.

Cover exposed hot pipes

WAC 296-806-42508.

Provide extension piping on stationary lubrication fittings

WAC 296-806-42510.

Provide hoods for pan-washing tanks

WAC 296-806-42512.

Safeguard proof boxes

WAC 296-806-42514.

Safeguard storage bins

WAC 296-806-42516.

MATERIAL HANDLING

Follow these design requirements for bag lifts (bag arm elevators) and chutes

WAC 296-806-42518.

Follow these requirements for chain tackle

WAC 296-806-42520.

Safeguard conveyors

WAC 296-806-42522.

Use properly designed covers for screw conveyors (augers)

WAC 296-806-42524.

Safeguard pallet jacks and hand trucks

WAC 296-806-42526.

SPECIFIC FOOD PROCESSING EQUIPMENT

Safeguard bakery slicers

WAC 296-806-42528.

Safeguard bakery wrapping machines

WAC 296-806-42530.

Provide troughs with antifriction-bearing casters

WAC 296-806-42532.

Follow these requirements for trough hoists and similar equipment

WAC 296-806-42534.

Follow these requirements for dividers

WAC 296-806-42536.

Safeguard manually-fed dough and cross-roll brakes

WAC 296-806-42538.

Provide a guard or tripping device on reversible dough brakes

WAC 296-806-42540.

Follow these requirements for doughnut machines

WAC 296-806-42542.

Follow these requirements for dumpbins and blenders

WAC 296-806-42544.

Follow these requirements for flour-handling machines

WAC 296-806-42546.

Follow these requirements for traveling or track-type flour scales

WAC 296-806-42548.

Follow these requirements for food grinders and cutters

WAC 296-806-42550.

Provide covers with interlocks on ingredient premixers, emulsifiers, and similar machines

WAC 296-806-42552.

Follow these requirements for open fat kettles

WAC 296-806-42554.

Follow these requirements for steam kettles

WAC 296-806-42556.

Follow these requirements for chocolate melting, refining, and mixing kettles

WAC 296-806-42558.

Safeguard meat-processing equipment (circular meat-cutting saws)

WAC 296-806-42560.

Follow these requirements for horizontal dough mixers

WAC 296-806-42562.

Follow these requirements for vertical mixers

WAC 296-806-42564.

Follow these requirements for mechanical-feed moulders

WAC 296-806-42566.

Follow these requirements for hand-fed moulders

WAC 296-806-42568.

Design, install, and construct your ovens according to these requirements

WAC 296-806-42570.

Properly locate emergency "stop" buttons and main shut off valves for ovens

WAC 296-806-42572.

Inspect and test safety devices on ovens

WAC 296-806-42574.

Follow these requirements for peanut-cooling trucks

WAC 296-806-42576.

Follow these requirements for pretzel-rolling, pretzel-stick extruding, rotary, and die machines

WAC 296-806-42578.

Safeguard box and roll-type dough sheeters

WAC 296-806-42580.

Provide proper enclosures for sifters

WAC 296-806-42582.

Follow these requirements for sugar and spice pulverizers

WAC 296-806-42584.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-425, filed 6/29/04, effective 1/1/05.]

FACILITIES

WAC 296-806-42502 Provide locks on chamber doors of large air conditioning units.

You must:

- Make sure all door locks on air conditioning unit chambers, that are large enough for employees to enter, can be operated from both inside and outside the chamber.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42504 Use proper door locks on rack-type bread coolers.

You must:

- Make sure all door locks can be operated from both inside and outside the bread cooler.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42504, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42506 Provide see-through panels on fermentation room doors.

You must:

- Provide shatterproof, see-through panels, made of wire glass or plastic, on fermentation room doors.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42506, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42508 Cover exposed hot pipes.

You must:

- Cover exposed hot (160°F or more) water and steam pipes with insulating material wherever necessary to prevent employee contact.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42508, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42510 Provide extension piping on stationary lubrication fittings.

You must:

- Provide extension piping on stationary lubrication fittings to prevent workers from reaching into the hazardous area when lubricating moving machinery.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42510, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42512 Provide hoods for pan-washing tanks.

Exemption: This requirement does not apply to dishwashers or sanitizers used in restaurants or retail establishments.

You must:

- Provide power-ventilated exhaust hoods over the tank.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42512, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42514 Safeguard proof boxes.

You must:

- (1) Make sure all door locks can be operated from both inside and outside the proof box.

- (2) Provide guide rails to center the racks as they enter, pass through, and leave the proof box if pans, boards, or trays may be easily dislodged.

Note: Guide rails are not required in proof boxes unless there are two doors with a pass through or pull through design.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-42514, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42516 Safeguard storage bins.

Exemption: This requirement does not apply to under-the-counter ingredient bins found in retail stores.

You must:

- (1) Provide locks or latches to keep storage bin covers closed, and gaskets or other equivalent devices, to make sure covers are dust tight.

- (2) Make sure employees lock covers in the open position when entering bins.

- Covers for bins that employees may enter must have a metal fastener (hasp) and lock that can be locked in the "open" position.

- (3) Provide a standard stationary safety ladder on the inside and outside of storage bins with sides more than five feet deep.

- The ends of ladders must be kept away from moving screw conveyors.
 - Outside ladders must reach from floor level to the top of the bin.
 - Inside ladders must reach from the top of the bin to the bottom of the bin.
- (4) Provide an electric interlock on the main entrance cover of large storage bins near the interior exit ladder.
- The interlock needs to prevent feed and unloading screw motors from operating while the cover is open.

Reference: You may need to follow other requirements found in chapter 296-809 WAC, Confined spaces.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-806-42516, filed 1/24/07, effective 4/1/07; 04-14-028, § 296-806-42516, filed 6/29/04, effective 1/1/05.]

MATERIAL HANDLING

WAC 296-806-42518 Follow these design requirements for bag lifts (bag arm elevators) and chutes.

You must:

- (1) Make sure bag arm elevators with manual takeoff are designed to include:
- Maximum operating capacity of seven bags per minute.
 - Spacing of arms on the conveyor chain to obtain the full capacity of the elevator with the lowest possible chain speed.
 - An electric limit switch at the unloading end that automatically stops the conveyor chain if any bag does not clear the conveyor arms.
- (2) Make sure bag chutes (gravity chutes for handling flour bags) that incline more than thirty degrees from horizontal:
- Are designed to keep the speed of flour bags as low as possible.
 - Provide an upturn at the lower end of the chute to slow down the bags.
- (3) Prohibit the use of bag or barrel lifts as personnel lifts.
- (4) Prohibit manlifts in bakeries.

Definition:

Manlift

A device consisting of a power driven endless belt moving in one direction only, and provided with steps or platforms and handholds attached to it for the transportation of personnel from floor to floor.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42518, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42520 Follow these requirements for chain tackle.

You must:

- (1) Mark all chain tackle with the maximum load capacity so the marking is:
- Prominently displayed.
 - Legible.
 - Permanent.
- (2) Mark all chain tackle with minimum support specifications so the marking is legible and permanent.
- (3) Use safety hooks with chain tackle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42520, filed 6/29/04, effective 1/1/05.]

[Title 296 WAC—p. 2828]

WAC 296-806-42522 Safeguard conveyors.

You must:

- (1) Install stop bumpers on all delivery ends of conveyors when products are manually removed.
- (2) Make sure all conveyors have "stop" buttons at all operating stations.
- (3) Provide emergency stop bars or switches at any point where both of these exist:

- The conveyor feeds into a machine;

AND

- Pinch points or catching hazards exist.

Reference: Additional requirements for conveyors are found in WAC 296-806-420.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42522, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42524 Use properly designed covers for screw conveyors (augers).

Exemption: This requirement does not apply to screw conveyors where there are drop or hinged bottom sections that cannot remain airtight.

You must:

- Design covers for screw conveyors that are:
 - Removable in convenient sections.
 - Held in place with stationary clamps.
- Locate stationary clamps at intervals that will keep all covers dust tight.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42524, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42526 Safeguard pallet jacks and hand trucks.

You must:

- (1) Make sure motorized and nonmotorized pallet jacks have a lock or other device that holds the handle in the vertical position when the hand truck is not in use.
- (2) Make sure hand truck casters are set back from corners:
- Locate them back from corners so they do not present a hazard to employee's toes and heels, but not close enough to cause the hand truck to become unstable.

Reference: Motorized hand trucks (pallet jacks) are classified as powered industrial trucks. Additional requirements for powered industrial trucks are found in chapter 296-863 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42526, filed 6/29/04, effective 1/1/05.]

SPECIFIC FOOD PROCESSING EQUIPMENT

WAC 296-806-42528 Safeguard bakery slicers.

You must:

- (1) Provide all slicers with a mechanical device to push the last loaf through the slicer knives.
- (2) Equip all slicers with an interlock to deenergize the motor whenever a door, panel, or other point of access to the cutting blades is open.
- (3) Protect employees sharpening blades by installing a barrier guard that provides an opening large enough for the sharpening stone to reach and sharpen slicer blades.
- (4) Provide automatic braking to stop slicers with endless band knives when the motor is not energized.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42528, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42530 Safeguard bakery wrapping machines.

You must:

(1) Extend or locate mechanical control levers that start and stop slicing machine conveyors and wrapping machines so an operator can control both machines from either location.

- Note:
- The levers should be provided wherever necessary, but arranged so only one station can start the wrapping machine and conveyor assembly.
 - Set up or guard controls to prevent accidental starting.
 - The electronic control station for starting and stopping the electric motor that drives the wrapping machine and conveyor should be near the clutch-starting lever.

You must:

(2) Provide a protective cover plate over electric heaters on bakery wrapping machines.

- The cover plate must be properly separated or insulated from heaters so the plate itself is not a burn hazard to operators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42530, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42532 Provide troughs with antifriction-bearing casters.

You must:

• Provide antifriction-bearing casters on troughs so operators can move and direct them with minimal effort.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42532, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42534 Follow these requirements for trough hoists and similar equipment.

You must:

(1) Mark all hoists and similar equipment with the maximum loading capacity so the marking is:

- Prominently displayed.
- Legible.
- Permanent.

(2) Mark all hoists with minimum support specifications so that the marking is legible and permanent.

(3) Provide safety catches for the chain so that it will hold the load in any position.

(4) Use safety hooks with hoists.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42534, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42536 Follow these requirements for dividers.

You must:

• Enclose or safeguard the moving parts in the back of the divider with **all** of the following:

– A complete cover to enclose **all** moving parts OR an enclosure or guard for each individual part to remove separate hazards.

– A limit switch to shut off the machine when the rear cover is open.

– A hinged guard on the back that cannot be completely removed.

(2009 Ed.)

■ If a catch or brace is provided for holding the cover open, make sure it will not release due to vibrations or minor bumping, causing the cover to drop on an employee.

Note: Dividers as discussed in this section utilize pistons, knives and blades to cut and divide large quantities of dough. This does not apply to small vibrating or oscillating rounders.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42536, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42538 Safeguard manually-fed dough and cross-roll brakes.

You must:

(1) Guard the top roll with a heavy-gage metal shield that extends over the roll to within six inches of the hopper bottom board.

Note: The shield may be perforated to allow observation of the dough entering the rolls.

You must:

(2) Provide an emergency "stop" bar that includes a self-engaging brake.

• Locate it so that if the operator falls forward or gets their hands caught in the rolls, their body will press against the bar, causing the rolls to stop instantly by opening the circuit to:

– Deenergize the drive motor.

– Activate a spring-set magnetic brake.

• Activate the emergency "stop" bar before each shift to make sure it is functioning properly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42538, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42540 Provide a guard or tripping device on reversible dough brakes.

You must:

• Provide a guard or tripping device on each side of the rolls of reversible dough brakes.

– The guard or device must be designed so that it stops the machine or reverses the direction of the rolls, if moved by the operator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42540, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42542 Follow these requirements for doughnut machines.

You must:

• Provide separate flues for venting both of the following:

– Vapors from the frying section;

AND

– Products of combustion from the combustion chamber used to heat the fat.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42542, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42544 Follow these requirements for dumpbins and blenders.

Definition:

Dumpbin and blender

The part of the flour handling system where the containers of flour are emptied.

You must:

(1) Make sure dumpbin and blender hoods are large enough to prevent circulation of flour dust outside the hoods.

(2) Provide a stop control device for dumpbins and blenders located close to the operator's work station.

(3) Position dumpbins at an appropriate height from the floor so that operators can dump flour from bags without excessive strain or fatigue.

(4) Provide a bag rest stop, when the edge of a dumpbin is more than twenty-four inches above the floor.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42544, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42546 Follow these requirements for flour-handling machines.

You must:

- Make sure the following safeguards are used when flour-handling systems are run in electrical unity with one another:

- When the beginning of the system is located far from its final delivery end, make sure:

- All electric motors operating the system have one control at each end;

AND

- Either control will stop all motors.
 - Arrange control circuits for magnetic controllers so opening **any** limit switch on an individual unit will deenergize **all** motors on that unit.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42546, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42548 Follow these requirements for traveling or track-type flour scales.

You must:

- Provide bar handles for the moving of traveling or track-type flour scales.

Note: For easier grip, the bar should be at least one inch in diameter.

You must:

- Guard trolley track wheels.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42548, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42550 Follow these requirements for food grinders and cutters.

You must:

- Make sure that food grinders and cutters:
 - Have an interlock so machines with removeable hoppers cannot be operated when the hopper is removed:
 - Limit access to hoppers where grid guards cannot be used by providing feed conveyors or baffle-type hoppers. Hoppers must be both:

- Enclosed and provided with hinged covers;

AND

- Equipped with an electric interlock so the machine will not operate with the cover open.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42550, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42552 Provide covers with interlocks on ingredient premixers, emulsifiers, and similar machines.

You must:

- Provide covers that attach to machines that have top openings.

Note: The covers should be arranged and interlocked so that power to the machine is shut off when the cover is opened far enough for the operator's fingers to come in contact with the beaters.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42552, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42554 Follow these requirements for open fat kettles.

You must:

- (1) Keep the floor around kettles in nonslip condition.
- (2) Make sure the top of the kettle is at least thirty-six inches above the floor or working level.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42554, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42556 Follow these requirements for steam kettles.

You must:

- (1) Provide positive locking devices to hold kettles in the desired position.

- (2) Provide safety devices for steam kettles according to:
 - The American Society of Mechanical Engineers (ASME) Pressure Vessel Code, section VIII, division I, Unfired Pressure Vessels, 2001, Kettles with Steam Jackets.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42556, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42558 Follow these requirements for chocolate melting, refining, and mixing kettles.

You must:

- (1) Provide a cover to enclose the top of the kettle.
- (2) Make sure the bottom outlet of each kettle is designed so the operator cannot:

- Reach in to touch the revolving paddle.
 - Come in contact with the shear point between the paddle and the side of the kettle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42558, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42560 Safeguard meat-processing equipment (circular meat-cutting saws).

Exemption: These requirements do not apply to table-top slicers such as those used in delis and restaurants.

Reference: When bandsaws are used to cut meat, follow the requirements in, Make sure bandsaws meet these requirements, WAC 296-806-48042.

You must:

- (1) Make sure all circular meat-cutting saws have both:

- Constant pressure controls;

AND

- A brake that automatically begins to stop the blade when the switch is released.

- (2) Make sure each circular meat-cutting saw has a protective guard between the operator and the blade.

- (3) Provide suspended, counterbalanced circular meat-cutting saws with guards that cover at least **one** of the following:

- Twenty-five degrees of the blade if the saw has two-hand controls;

OR

- Ninety degrees of the blade if the saw can be operated with one hand.

(4) Provide saws that are not suspended with a guard that covers ninety degrees of the blade.

Note: The size of the guard depends on whether it is suspended or has one- or two-handed controls.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42560, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42562 Follow these requirements for horizontal dough mixers.

You must:

(1) Make sure mixers are equipped with both of the following:

- An individual motor and control;

AND

- A conveniently located manual switch that prevents the mixer from being started during servicing or cleaning.

(2) Locate electrical control stations so control operators have a full view of bowls in the "open" position.

- These controls, other than a "stop" switch, must not be duplicated.

(3) Provide mixers with a full enclosure over the bowl that remains closed whenever the agitator is in motion.

- Minor openings in the enclosure during operation, such as ingredient doors and flour inlets, must each be less than one and one-half square feet in area.

Exemption: The full enclosure does not have to remain closed if the mixer has a dumping arrangement that provides safety devices where operators must use both hands in either of these situations:

- When the agitator is in motion under power and the bowl is open more than one-fifth of its total opening;

OR

- When starting the agitator, if the bowl is open more than one-fifth of its total opening.

You must:

(4) Make sure overhead covers or doors that can accidentally close are either:

- Counterbalanced to remain in the "open" position;

OR

- Provided with a catch, brace, or other positive means to hold them open until the operator releases them.

(5) Locate valves and controls that regulate the coolant in mixer jackets so they can be accessed without creating hazards to the operator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42562, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42564 Follow these requirements for vertical mixers.

You must:

(1) Provide a safeguarding device to protect employees from the point of operation, if the nature of the work exposes them to contact with:

- The pinch point where the mixing tool meets the bowl.
- The catching hazard of the mixing tool.

Note: • When evaluating exposure, the following conditions need to be considered:

- How the mixer functions such as visibility of the agitator or ability to accidentally switch the mixer on.
- How the worker performs operations such as adding ingredients without scraping the bowl or reaching into the bowl when the mixer is in motion.
- How close the worker gets to the hazard during operation.
- The worker's tools, clothing, jewelry, or hair that might get caught or fall into mixer.
- Type of guarding, if any.
- Slipping or tripping hazards in the area.

You must:

(2) Make sure mixers are equipped with both of the following:

- An individual motor and control;

AND

- A conveniently located manual switch that prevents the mixer from being started during servicing or cleaning.

(3) Make sure overhead panels or doors on mixers that can accidentally close are either:

- Counterbalanced to remain in an open position;

OR

- Provided with catches, braces, or other positive means to hold them open until the operator releases them.

(4) Make sure bowl-locking devices are the type that must be intentionally unlocked by the operator.

(5) Provide devices for moving filled bowls that weigh more than eighty pounds in and out of the mixing position on the machine.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42564, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42566 Follow these requirements for mechanical-feed moulders.

You must:

- Make sure hoppers for mechanical-feed moulders are designed and connected to the proofer so employee's hands cannot contact the in-running rolls.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42566, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42568 Follow these requirements for hand-fed moulders.

You must:

(1) Provide hand-fed moulders with **either** of the following, so employee's hands cannot enter the hopper and contact in-running rolls:

- A hopper that can be extended high enough to protect the employee;

- The top edge of the hopper needs to be well rounded to prevent injury when struck or bumped by an employee's hand;

OR

- A belt feed device.

(2) Provide **each** of these workers with a stopping device that can be easily reached:

- The operator feeding the moulder.

- The employee taking the dough away from the moulder.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42568, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42570 Design, install, and construct your ovens according to these requirements.

You must:

- Make sure all ovens manufactured or installed **before** August 13, 1999 meet or exceed ANSI Z50.1-1947 design, manufacturing, and installation requirements.
- Make sure all ovens manufactured or installed on or **after** August 13, 1999 meet the design, manufacturing, and installation requirements in ANSI/NFPA 86-1999.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42570, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42572 Properly locate emergency "stop" buttons and main shut off valves for ovens.**You must:**

- (1) Locate emergency stop buttons on mechanical ovens close to where operators are stationed.
- (2) Locate main shutoff valves where they can be accessed in case of an emergency.
 - Main shutoff valves that permit turning off the fuel or steam in case of an emergency must operate independently of any automatic valves.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42572, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42574 Inspect and test safety devices on ovens.**You must:**

- (1) Inspect ovens at least twice a month by a formally appointed, properly trained, bakery employee.
 - Include the following in your inspection:
 - All safety devices.
 - Testing of all safety shutoff valves, making sure they are positively tight.
- (2) Make sure a representative of the oven manufacturer performs an annual inspection.
- (3) Test all piping on ovens to make sure they are gas tight.
- (4) Test oven systems as follows:
 - Test duct systems on indirect recirculating ovens that operate under pressure for tightness at the following intervals:
 - When the oven is first started.
 - At least every six months after that.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42574, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42576 Follow these requirements for peanut-cooling trucks.**You must:**

- Make sure the entire top of the peanut-cooling truck has a grid-type cover.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42576, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42578 Follow these requirements for pretzel-rolling, pretzel stick extruding, rotary, and die machines.**You must:**

- Protect the operator's hands from getting caught in moving parts by doing **at least one** of the following:

[Title 296 WAC—p. 2832]

- Cover the entire opening of dough hoppers with grid-type guards.
- Extend the hopper higher.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42578, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42580 Safeguard box and roll-type dough sheeters.**You must:**

- (1) Guard exposed rolls with **either** of these methods:
 - Guard the nip point of exposed sheeting rolls at the point where the dough enters the rolls;
- OR**
- Provide an emergency "stop" bar that extends the length of unguarded rolls that will stop the rolls on contact with the operator, if a barrier guard interferes with machine operation.
- (2) Provide a stopping device for hoppers.
 - Provide an automatic "stop" bar or stopping device along the back edge of the hopper.
 - If machine construction does not allow for this, place the bar or device where it will be most effective.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42580, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42582 Provide proper enclosures for sifters.**You must:**

- Make sure enclosures on flour sifters:
 - Are dust tight.
 - Allow for ease of interior inspection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42582, filed 6/29/04, effective 1/1/05.]

WAC 296-806-42584 Follow these requirements for sugar and spice pulverizers.**You must:**

- (1) Remove static electricity by grounding all drive belts used in sugar and spice pulverizers by using metal combs.
- (2) Follow the National Fire Protection Association (NFPA) 61-1999, standard for pulverizing sugar and spice grinding in order to prevent fires and dust explosions in agricultural and food products facilities.
- (3) Provide magnetic separators to reduce fire and explosion hazards.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-42584, filed 6/29/04, effective 1/1/05.]

FORGING MACHINES

WAC 296-806-430 Summary. If your specific machine or operation is not listed here, then follow any general requirements in this section along with the "Requirements for all machines" found in this chapter, WAC 296-806-200 and 296-806-300.

The requirements in this section apply to machines used in the forming of hot metal, such as hot trimming presses, forging hammers, hot forging presses, upsetters, hot bending and hot metal presses, and equipment used in boltheaded and rivet making, as well as other forging equipment. For specific forging machine requirements, see Table 430-1.

Exemption: This section does not apply to cold forging operations.

Your responsibility:

To make sure all forging and associated equipment in your workplace are constructed, operated, and maintained in a safe manner.

You must:

GENERAL REQUIREMENTS FOR FORGING MACHINES

Follow these safety requirements when using lead and lead casts

WAC 296-806-43002.

Properly inspect and maintain forging equipment

WAC 296-806-43004.

Use safety blocks on hammers and presses

WAC 296-806-43006.

Make sure tongs meet these requirements

WAC 296-806-43008.

Protect employees when removing scale

WAC 296-806-43010.

Provide adequate foundations for hammers and presses

WAC 296-806-43012.

Follow these requirements for manually operated valves and switches

WAC 296-806-43014.

HAMMERS

Use die keys and shims made of proper-grade material

WAC 296-806-43016.

Provide a safety cylinder head

WAC 296-806-43018.

Provide a shutoff valve

WAC 296-806-43020.

Provide a means for cylinder draining

WAC 296-806-43022.

Follow these requirements for pressure pipes

WAC 296-806-43024.

Follow these requirements when using board hammers

WAC 296-806-43026.

OTHER FORGE FACILITY EQUIPMENT

Protect against sparks from saws

WAC 296-806-43028.

	Steam hammers	Airlift hammers	Board hammers	Saws
WAC 296-806-43022 Provide a means for cylinder draining	X	X		
WAC 296-806-43024 Follow these requirements for pressure pipes	X	X		
WAC 296-806-43026 Follow these requirements when using board hammers			X	
WAC 296-806-43028 Protect against sparks from saws				X

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-430, filed 6/29/04, effective 1/1/05.]

GENERAL REQUIREMENTS FOR FORGING

WAC 296-806-43002 Follow these safety requirements when using lead and lead casts.

You must:

- (1) Provide thermostats for heating elements to prevent overheating.
- (2) Provide a means of exhaust for fixed or permanent lead pot installations.
- (3) Provide a covered container to store dross skimings.
- (4) Keep equipment clean, especially from accumulations of yellow lead oxide.

Reference:

- For requirements about Personal protective equipment (PPE), see the Safety and health core rules, WAC 296-800-160.
- For ventilation requirements when using portable lead pot units, see the General occupational health standards, chapter 296-62 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-43002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43004 Properly inspect and maintain forging equipment.

You must:

- Keep all forge shop equipment in safe operating condition.
- Train personnel in proper inspection and maintenance procedures.
 - Establish periodic and regular safety inspections.
 - Schedule frequent and regular safety inspections of all guards and point-of-operation protection devices.
 - Keep written records of safety inspections that include all of the following:
 - Date of the inspection.
 - Signature of the person doing the inspection.
 - Serial number or other identification for the piece of equipment inspected.
 - Safeguard all overhead machinery parts so they do not fly off or fall, if the equipment breaks.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-43004, filed 6/29/04, effective 1/1/05.]

Table 430-1

Specific Requirements for Forging Machines

	Steam hammers	Airlift hammers	Board hammers	Saws
WACs needed in addition to those included under "General Requirements for Forging Machines"				
WAC 296-806-43016 Use die keys and shims made of proper-grade material	X	X		
WAC 296-806-43018 Provide a safety cylinder head	X	X		
WAC 296-806-43020 Provide a shutoff valve	X	X		

WAC 296-806-43006 Use safety blocks on hammers and presses.**You must:**

- Use safety blocks on hammers and presses when dies are being changed and maintenance or repair work is being done on the machine.
- Provide safety blocks or wedges that meet or exceed the specifications and dimensions shown in Table 430-2.

**Table 430-2
Strength and Dimensions for Wood Safety Blocks or Wedges**

Size of timber inches using actual dimensions	4x4	6x6	8x8	10x10	12x12	
Square inches in cross section	16	36	64	100	144	
Minimum allowable crushing strength parallel to grain, p.s.i.	5,000	5,000	5,000	5,000	5,000	Note: Adapted from U.S. Department of Agriculture Technical Bulletin 479. Hardwoods recommended are those whose ultimate crushing strengths in compression parallel to grain are 5,000 p.s.i. (pounds per square inch) or greater.
Maximum static load within short column range	80,000	180,000	320,000	500,000	720,000	Note: Slenderness ratio formula for short columns is $L/d = 11$, where L = length of timber in inches and d = least dimension in inches; this ratio should not exceed 11.
Safety factor	10	10	10	10	10	
Maximum recommended weight of forging hammer for timber used	8,000	18,000	32,000	50,000	72,000	
Maximum allowable length of timber in inches	44	66	88	100	132	

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43006, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43008 Make sure tongs meet these requirements.**You must:**

- Make sure tongs used with hammers, presses, upsetters, and forging equipment used in boltheaded and rivet making, meet the following requirements:
 - They are long enough so the worker can use the tongs without standing behind them, in order to avoid injury, in case of kickback.
 - The handle ends are not sharp.

- Note:**
- The worker should be instructed about proper body positions when using tongs.
 - Tongs should be checked periodically to see that they remain at the proper hardness level for the job.
 - Rings or equivalent devices that are used for locking tongs should be inspected periodically to make sure they are safe.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43008, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43010 Protect employees when removing scale.**You must:**

- Protect employees at every hammer and press by:

- Making sure they do not place a hand or arm between the dies by providing them with devices that reach the full length of the die when removing scale. Examples include:

- Oil swabs.
- Scale removers.
- Other devices that remove scale by reaching the full length of the die.
- Stopping flying scale through construction and arrangement of a scale guard that is *of substantial construction* at the back of every hammer and press.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43010, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43012 Provide adequate foundations for hammers and presses.**You must:**

- Provide foundations adequate to support the imposed weight and normal work stress for hammers and presses.
 - Hammers and presses must remain on their foundations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43012, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43014 Follow these requirements for manually operated valves and switches.**You must:**

• Make sure all manually operated valves and switches are clearly identified and readily accessible for all of the following:

- Presses.
- Upsetters.
- Forging equipment involved in boltheaded and rivet making.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43014, filed 6/29/04, effective 1/1/05.]

HAMMERS**WAC 296-806-43016 Use die keys and shims made of proper-grade material.****You must:**

• Make sure that die keys and shims are made from a grade of material that will not easily crack or splinter.

Note: Die keys and shims should not project more than two inches in front and four inches in back of the ram or die.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43016, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43018 Provide a safety cylinder head.**You must:**

• Make sure that every steam, airlift, or air hammer has a safety cylinder head that acts as a cushion if the rod breaks or pulls out of the ram.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43018, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43020 Provide a shutoff valve.**You must:**

• Provide each steam and airlift hammer with a quick-closing emergency valve in the admission pipeline that is distinctly marked and in a convenient location.

– This valve needs to be closed and locked in the "off" position when the hammer is being adjusted, repaired, or serviced, or the dies are being changed.

Reference: For requirements about Lockout/tagout (control of hazardous energy), see chapter 296-803 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43020, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43022 Provide a means for cylinder draining.**You must:**

- Provide a means for draining cylinders on steam hammers.
- Provide airlift hammers with both main head and clamp cylinder drains.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43022, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43024 Follow these requirements for pressure pipes.**You must:**

• Provide steam or air pressure piping on power-driven hammers that meets or exceeds the requirements in:

(2009 Ed.)

– ANSI B31.1.0-1967, Power Piping, with addenda ANSI B31.1.06-1971, for hammers constructed before January 1, 2005.

– ANSI B31.1.0-2001, Power Piping, with addenda ANSI B31.1.0A-2001, for hammers constructed on or after January 1, 2005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43024, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43026 Follow these requirements when using board hammers.**You must:**

• Securely fasten a suitable enclosure to gravity-dropped board hammers to prevent damaged or detached boards from falling.

• Properly secure all major assemblies and fittings that can loosen and fall.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43026, filed 6/29/04, effective 1/1/05.]

OTHER FORGE FACILITY EQUIPMENT**WAC 296-806-43028 Protect against sparks from saws.****You must:**

• Provide all saws with a sheet metal guard that is positioned to stop sparks.

– The guard must be constructed of at least one-eighth inch sheet metal.

Note: It is advisable to provide all saws with a means to trap sparks below the saw and to use a tank of water below the saw to reduce the fire hazard.

Reference: Other saw requirements may be found in, Saws and cutting heads, WAC 296-806-480.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43028, filed 6/29/04, effective 1/1/05.]

GARBAGE (WASTE) DISPOSALS

WAC 296-806-435 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

• Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to the hazards associated with garbage (waste) disposals found in the workplace. These requirements are designed to protect employees from hazards associated with the point of operation and flying materials.

Your responsibility:

To protect employees from hazards associated with garbage (waste) disposals.

You must:

Safeguard garbage waste disposal equipment

WAC 296-806-43502.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-435, filed 6/29/04, effective 1/1/05.]

WAC 296-806-43502 Safeguard garbage (waste) disposal equipment.**You must:**

(1) Protect employees exposed to the hazards of screw conveyor disposals with a properly designed and mounted trimboard cover that remains in place during operation.

(2) Provide guarding to protect employees from contact with knives or blades of disposal units.

- The guards need to be strong enough so that an employee's downward thrusting motion will not cause the guard material to open larger than two inches.

Reference: • You may need to follow additional requirements found in, Make sure guards meet these requirements, WAC 296-806-20042, to keep employees from contacting the knives or blades of disposals.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-43502, filed 6/29/04, effective 1/1/05.]

GLUE SPREADERS

WAC 296-806-440 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to safeguarding and emergency controls used to protect employees from the hazards associated with cleaning and operating glue spreaders.

Your responsibility:

To protect employees from hazards associated with glue spreaders.

You must:

Provide guards and automatic shutoffs on glue spreaders
WAC 296-806-44002.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-440, filed 6/29/04, effective 1/1/05.]

WAC 296-806-44002 Provide guards and automatic shutoffs on glue spreaders.

You must:

- Enclose the in-running side of glue spreaders, leaving enough space to insert stock.
- Provide an emergency stop control, such as a panic bar or similar device, that can be reached from the infeed and outfeed sides of the spreader to shut off the power in an emergency.

Note: You may need two controls to reach the emergency stop control from both the infeed and outfeed sides.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-44002, filed 6/29/04, effective 1/1/05.]

IRONWORKERS

WAC 296-806-445 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to the hazards associated with hydraulic and mechanical ironworkers.

Your responsibility:

To protect employees from hazards associated with ironworkers.

[Title 296 WAC—p. 2836]

You must:

Safeguard ironworkers point of operation
WAC 296-806-44502.

Follow these requirements for adjustable restrictors when safeguarding ironworkers

WAC 296-806-44504.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-445, filed 6/29/04, effective 1/1/05.]

WAC 296-806-44502 Safeguard ironworkers point of operation.

You must:

- Safeguard the different operating stations on ironworkers according to requirements for all machines, safeguarding methods, WAC 296-806-20042 through 296-806-20058.

Exemption: If the point-of-operation opening is one-fourth inch or less, safeguarding is not required.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-44502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-44504 Follow these requirements for adjustable restrictors when safeguarding ironworkers.

You must:

- Use adjustable restrictors for safeguarding only when guards, devices, or awareness barriers are not feasible.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-44504, filed 6/29/04, effective 1/1/05.]

LATHES

WAC 296-806-450 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to the hazards associated with metal and woodworking lathes.

Your responsibility:

To protect employees from hazards associated with metal and woodworking lathes.

METAL LATHES

You must:

Provide shields or guards on metal lathes for chip or coolant hazards

WAC 296-806-45002.

Safeguard work-holding devices (chucks)

WAC 296-806-45004.

Follow these requirements for chip control and handling
WAC 296-806-45006.

Safeguard power-clamping devices

WAC 296-806-45008.

Restrain extended workpieces on horizontal lathes

WAC 296-806-45010.

WOODWORKING LATHES

Guard cutting heads on profile lathes and swing-head lathes

WAC 296-806-45012.

Guard cutting heads on turning lathes

WAC 296-806-45014.

Guard automatic turning lathes

WAC 296-806-45016.

Guard wood lathes used for turning long pieces of stock
WAC 296-806-45018.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-450, filed 6/29/04, effective 1/1/05.]

METAL LATHES

WAC 296-806-45002 Provide shields or guards on metal lathes for chip or coolant hazards.

You must:

- Provide a shield or other equally effective guard to prevent chips or coolant from being thrown or splashed on the operator, aisle, or other assigned work area, when exposed to these hazards.

- Examples of guards include permanent chip and coolant shields.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45004 Safeguard work-holding devices (chucks).

You must:

- Provide a fixed or movable guard, device, awareness barrier, or peripheral cover over areas exposed to the operator on work-holding devices or chucks when:

- They are in the clamped mode and have parts that extend beyond the outside diameter of the holding device.

- They have an irregular shape to the periphery of their body.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-806-45004, filed 1/24/07, effective 4/1/07; 04-14-028, § 296-806-45004, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45006 Follow these requirements for chip control and handling.

You must:

- Make sure employees' hands do not contact chips that are being generated, such as long stringy chips.

Note: Chips may be removed by using things such as tools, pullers, brushes, and shovels.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45006, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45008 Safeguard power-clamping devices.

You must:

- Protect the operator from the hazards of thrown material when the clamping device does not have adequate pressure to hold the material.

Note:

- Examples of safeguarding methods include:
 - Interlocks.
 - Retaining covers:
 - That contain the workpiece if it falls or flies out from the clamped work-holding device.
 - Visual or audible warnings:
 - That are located so they can be seen or heard by the operator in the normal work area, making the operator aware that there is no pressure on the clamp side of the actuator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45008, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

WAC 296-806-45010 Restrain extended workpieces on horizontal lathes.

You must:

- Safeguard employees from the hazards of work pieces that extend beyond the edges of the horizontal lathe by:

- Restraining work pieces as needed to prevent whipping;

AND

- Isolating work pieces with an awareness barrier, fixed or movable guard, or railing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45010, filed 6/29/04, effective 1/1/05.]

WOODWORKING LATHES

WAC 296-806-45012 Guard cutting heads on profile lathes and swing-head lathes.

You must:

- Cover all cutting heads on profile lathes, swing-head lathes, and heel-turning machines with a metal guard.

- Make sure guards are made of:

- Sheet metal at least one-sixteenth inches thick.

- Cast iron at least three-sixteenth inches thick.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45012, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45014 Guard cutting heads on turning lathes.

You must:

- Install hoods or shields that cover as completely as possible all cutting heads, whether or not they rotate.

Note: The hood or shield should be hinged to the machine so it can be moved to make adjustments.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45014, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45016 Guard automatic turning lathes.

You must:

- Install hoods that completely enclose the cutter blades, except at contact points where stock is being cut, on the following types of machines:

- Shoe last and spoke lathes.

- Doweling machines.

- Heel-turning machines.

- Automatic turning lathes with rotating knives.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45016, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45018 Guard wood lathes used for turning long pieces of stock.

You must:

- Install long, curved guards extending over lathe tops where work pieces are held only between the two centers, to prevent stock from being thrown out of the machine.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45018, filed 6/29/04, effective 1/1/05.]

MECHANICAL POWER PRESSES

WAC 296-806-455 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to mechanically powered machines that transmit force to cut, form, or assemble metal or other materials through tools or dies attached to or operated by slides.

- Exemption:** This section does not apply to:
- Power press brakes.
 - Hydraulic power presses.
 - Pneumatic power presses.
 - Slow-acting horizontal mechanical presses with large beds (bulldozers).
 - Hot bending and hot metal presses.
 - Forging presses and hammers.
 - Riveting machines.
 - Cold headers and cold formers.
 - Eyelet machines.
 - High energy rate presses.
 - Ironworkers and detail punches.
 - Metal shears.
 - Powdered metal presses.
 - Press welders.
 - Turret and plate punching machines.
 - Wire termination machines.
 - Welding presses.
- Reference:**
- See, Forging machines, for forging press and hammer requirements, WAC 296-806-430.
 - See, Ironworkers, for requirements for ironworkers, WAC 296-806-445.
 - See, Press brakes, for power press brake requirements, WAC 296-806-465.

Your responsibility:

To make sure mechanical power presses meet the requirements of this section.

You must:**Design and construction**

Make sure mechanical power presses are properly designed and constructed
WAC 296-806-45502.

Safeguarding

Safeguard presses that use unitized tooling
WAC 296-806-45504.

Protect operators from guidepost hazards
WAC 296-806-45506.

Safeguard the point of operation
WAC 296-806-45508.

Make sure point-of-operation guards are properly designed and constructed
WAC 296-806-45510.

Make sure barrier guards used to safeguard the point of operation meet these requirements
WAC 296-806-45512.

Make sure point-of-operation devices are effective
WAC 296-806-45514.

Make sure presence-sensing devices used to safeguard the point of operation meet these requirements
WAC 296-806-45516.

Make sure pull-back devices used to safeguard the point of operation meet these requirements
WAC 296-806-45518.

Make sure restraint (holdout) devices used to safeguard the point of operation meet these requirements
WAC 296-806-45520.

Make sure two-hand control devices used to safeguard the point of operation meet these requirements
WAC 296-806-45522.

Make sure two-hand trip devices used to safeguard the point of operation meet these requirements
WAC 296-806-45524.

Provide additional safeguards when the operator puts one or both hands into the point of operation
WAC 296-806-45526.

Operations

Establish a die setting procedure
WAC 296-806-45528.

Handle dies safely
WAC 296-806-45530.

Protect die setters during setup and tryout
WAC 296-806-45532.

Train press operators
WAC 296-806-45534.

Operate mechanical power presses safely
WAC 296-806-45536.

Provide tools and other means to protect press operators
WAC 296-806-45538.

Inspect and maintain presses
WAC 296-806-45540.

Make sure presses and operating practices used in the PSDI mode of operation meet these requirements
WAC 296-806-45542.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-455, filed 6/29/04, effective 1/1/05.]

DESIGN AND CONSTRUCTION

WAC 296-806-45502 Make sure mechanical power presses are properly designed and constructed.

You must:

- Make sure mechanical power presses manufactured **before** January 1, 2005, meet the requirements of American National Standards Institute (ANSI) B11.1-1971, Safety Requirements for the Construction, Care, and Use of Mechanical Power Presses.

- Make sure mechanical power presses manufactured, reconstructed, or modified **on or after** January 1, 2005, meet the requirements of ANSI B11.1-2001, Safety Requirements for Mechanical Power Presses.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-45502, filed 6/29/04, effective 1/1/05.]

SAFEGUARDING

WAC 296-806-45504 Safeguard presses that use unitized tooling.

You must:

- Safeguard the opening between the top of the punch holder and the face of the slide or striking pad by using properly installed, adjusted, and maintained guards or devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-45504, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45506 Protect operators from guidepost hazards.

You must:

- Use properly installed, adjusted, and maintained guards or devices to protect operators from the hazards created by:
 - Guideposts separating from their bushings.
 - Similar pinch points between the slide (moving die) and fixed die or press attachments.

Exemption: This requirement does not apply if the opening is one-fourth inch or less, before use.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-45506, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45508 Safeguard the point of operation.

You must:

- Protect employees from point-of-operation hazards by using properly installed, adjusted, and maintained guards or devices.

Exemption: This requirement does not apply if the point-of-operation opening is one-fourth inch or less, before use.

Note:

- You may use a combination of guards and devices as long as employees are completely protected from point-of-operation hazards.
- Hand tools used for placing materials into the press, or removing them from the press, are not a substitute for point-of-operation guards or devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-45508, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45510 Make sure point-of-operation guards are properly designed and constructed.

You must:

- Make sure each guard:
 - Prevents the operator's hands or other body parts from reaching through, over, under, or around the guard into the point of operation.
 - Has no opening larger than the maximum permissible openings shown in Table 200-1, Largest Allowable Guard Openings, WAC 296-806-20042.
 - Does not create a pinch point between the guard and moving machine parts.
 - Uses fasteners that cannot be easily removed by the operator.
 - Is easy to inspect.
 - Provides the best view of the point of operation for the type of work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-45510, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45512 Make sure barrier guards meet these requirements.

You must:

- Make sure a fixed barrier guard is attached to a fixed surface such as the stripper, die shoe, press frame, or bolster plate.
- Make sure the interlocked barrier guard:
 - Is attached to a fixed surface such as the press frame or bolster plate.
 - Prevents cycling (stroking) of the press when the interlocked section of the guard is not in the protecting position.
 - Cannot open until hazardous motion of the slide has stopped.

(2009 Ed.)

- Not use the hinged or movable sections of an interlocked barrier guard for manual feeding.

- Make sure an adjustable barrier guard is:

- Attached to a fixed surface such as the press frame, bolster plate, or die shoe.
- Adjusted only by authorized persons who can apply Table 200-1, Largest Allowable Guard Openings, WAC 296-806-20042.

Reference: See, Provide additional safeguards when the operator puts one or both hands into the point of operation, WAC 296-806-45526, for additional safeguards that are required if the operator puts one or both hands into the point of operation to feed or remove parts, and the point of operation is protected by a Type B gate or movable barrier device.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-45512, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45514 Make sure point-of-operation devices are effective.

You must:

- Make sure point-of-operation devices protect the operator from hazards as shown in Table 455-1, Point-of-Operation Devices.
- Make sure the motor start button is protected against accidental contact.

**Table 455-1
Point-of-Operation Devices**

Type of device	Type of operator protection that must be provided:
Presence-sensing device (part-revolution clutch press)	If the operator's hands or other body part are in the point of operation: • Prevents initiating a press cycle (stroke); OR • Stops the press during the closing portion of the cycle (stroke)
Presence-sensing device (full-revolution clutch press)	Do NOT use for point-of-operation safeguarding
Pull-back device	As the die closes: • Withdraws the operator's hands if they are located in the point of operation; OR • Prevents the operator from reaching into the point of operation
Restraint (holdout) device	Prevents the operator from reaching into the point of operation at all times
Two-hand control device Two-hand trip device	• Requires operators to use both hands to activate controls that are far enough away from the point of operation so the slide completes the closing portion of the cycle (stroke) or stops before they can reach into the point of operation

Type of device	Type of operator protection that must be provided:
Type A gate or movable barrier device	Encloses the point of operation: <ul style="list-style-type: none"> • Before a press cycle (stroke) can be initiated; AND <ul style="list-style-type: none"> • Remains closed until slide motion has stopped
Type B gate or movable barrier device	Encloses the point of operation: <ul style="list-style-type: none"> • Before a press cycle (stroke) can be initiated; AND <ul style="list-style-type: none"> • Remains closed until slide motion has stopped during the closing portion of the cycle (stroke)
Sweep device	Do NOT use for point-of-operation safeguarding

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45514, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45516 Make sure presence-sensing devices used to safeguard the point of operation meet these requirements.

You must:

- Make sure the presence-sensing device is interlocked into the control circuit to prevent or stop slide motion if the operator's hand or other body part is within the sensing field of the device during the downstroke of the press slide.
- Make sure muting of the device is done only during the upstroke of the press slide.
- Make sure failure of **any** component of the device:
 - Does not prevent normal stopping action of the press.
 - Prevents initiation of another cycle (stroke) until corrected.
 - Is indicated by the system.
- Use guards to protect all areas of entry to the point of operation not protected by the presence-sensing device.
- Make sure the sensing field of the device is located farther from the point of operation than the minimum safety distance as determined by the following formula:

$$D = 63 \times T$$

Where:

D = minimum safety distance (in inches)

T = stopping time of the press measured at approximately the 90 degree position of crankshaft rotation (in seconds)

Example: The number in the formula represents the hand speed of the operator (sixty-three inches per second). If your press has a stopping time of one-half second (.5 second), the calculations would be:
 $D = 63 \times .5 = 31.5$
The sensing field would need to be at least thirty-one and one-half inches from the point of operation.

Reference: See, Provide additional safeguards when the operator puts one or both hands into the point of operation, WAC 296-806-45526, while feeding or removing parts, for additional safeguards that are required if the operator puts one or both hands into the point of operation to feed or remove parts, and the point of operation is protected by a presence-sensing device.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45516, filed 6/29/04, effective 1/1/05.]

[Title 296 WAC—p. 2840]

WAC 296-806-45518 Make sure pull-back devices used to safeguard the point of operation meet these requirements.

You must:

- Make sure presses requiring more than one operator have a separate pull-back device for each operator.
- Make sure each pull-back device has attachments:
 - For each of the operator's hands.
 - That are connected to and operated only by the press slide or its attached die.
 - That are adjusted to either:
 - Prevent the operator from reaching into the point of operation;
 - OR**
 - Withdraw the operator's hands from the point of operation before the dies close.
- Check each pull-back device that is being used for proper adjustment at these times:
 - At the start of each operator shift.
 - After a new die set-up.
 - When operators are changed.
- Complete necessary maintenance or repair work before operating the press.

Reference: For recordkeeping requirements for maintenance or repair work, see Inspect and maintain presses, WAC 296-806-45540.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45518, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45520 Make sure restraint (holdout) devices used to safeguard the point of operation meet these requirements.

You must:

- Make sure presses requiring more than one operator have separate restraint devices for each operator.
- Make sure each restraint device has attachments:
 - For each of the operator's hands.
 - That are securely anchored.
 - That are adjusted so the operator cannot reach into the point of operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45520, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45522 Make sure two-hand control devices used to safeguard the point of operation meet these requirements.

You must:

- Make sure presses that require more than one operator:
 - Have separate two-hand controls for each operator.
 - Need concurrent application of all operators' controls to activate the slide.
- Make sure the slide stops if any operator's hand is removed from a control button.
- Make sure two-hand controls are fixed in position and can be moved only by authorized persons.
- Make sure the controls are located farther from the point of operation than the minimum safety distance as determined by the following formula:

$$D = 63 \times T$$

Where:

D = minimum safety distance (in inches)

(2009 Ed.)

T = stopping time of the press measured at approximately the 90 degree position of crankshaft rotation (in seconds)

Example: The number in the formula represents the hand speed of the operator (63 inches per second). If your press has a stopping time of one-half second (.5 second), the calculations would be:
 $D = 63 \times .5 = 31.5$
 The controls would need to be at least 31 1/2 inches from the point of operation.

Reference: See, Provide additional safeguards when the operator puts one or both hands into the point of operation, WAC 296-806-45526, for additional required safeguards.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45522, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45524 Make sure two-hand trip devices used to safeguard the point of operation meet these requirements.

You must:

- Make sure presses requiring more than one operator:
 - Have separate two-hand trips for each operator.
 - Need concurrent application of all operators' controls to activate the slide.
- Make sure the two-hand trips are fixed in position and can be moved only by authorized persons.
- Make sure the controls are located farther from the point of operation than the minimum safety distance as determined by the following formula:

$D = 63 \times T$

Where:

D = minimum safety distance (in inches)

T = the maximum time the press takes for the die to close after the press has been tripped (in seconds)

Example: The number in the formula represents the hand speed of the operator (63 inches per second). If your press has a die closing time of one-half second (.5 second), the calculations would be:
 $D = 63 \times .5 = 31.5$
 The trip devices would need to be at least 31 1/2 inches from the point of operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45524, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45526 Provide additional safeguards when the operator puts one or both hands into the point of operation.

IMPORTANT:

This rule applies when the operator puts one or both hands into the point of operation to feed or remove parts, and the point of operation is protected by **any** of the following:

- Presence-sensing device.
- Two-hand control.
- Type B gate or movable barrier device.

You must:

- Make sure the press has both a:
 - Stopping-performance monitor (previously called brake-system monitor);

AND

– Control system that monitors the performance of safety-related functions (previously called control reliability).

- Make sure the stopping-performance monitor meets the requirements of:

(2009 Ed.)

– American National Standards Institute (ANSI) B11.1-1982, Mechanical Power Presses - Safety Requirements for Construction, Care, and Use for presses manufactured **before** January 1, 2005.

– ANSI B11.1-2001, Safety Requirements for Mechanical Power Presses for presses manufactured **on or after** January 1, 2005.

• Make sure the control system monitors the performance of safety-related functions so that failure of any component in the control system:

- Does not prevent normal stopping action of the press.
- Prevents initiation of another cycle (stroke) until the failure is corrected.
- Can be detected by a simple test or is indicated by the control system.

Exemption: This requirement does not apply to control system components that do not affect protection from point-of-operation hazards.

Definition:

The control system includes the sensors, manual input and mode selection elements, interlocking and decision-making circuitry, and output elements of the press-operating devices and mechanisms.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45526, filed 6/29/04, effective 1/1/05.]

OPERATIONS

WAC 296-806-45528 Establish die setting procedures.

You must:

- Develop and use procedures to protect employees from the hazards of die setting.
- Make sure die setters are provided with at least the following information:
 - Rated press capacity requirements for the die.
 - Weight of the upper die and other slide attachments required for job setup and setting counterbalance air pressure.
 - Total die weight.

Note: This information may be stamped on the die or kept in a file that is readily available to the die setters.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45528, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45530 Handle dies safely.

You must:

- Make sure dies requiring mechanical handling have handling equipment attachment points.
- Use die stops or other means to prevent losing control of the die while setting or removing dies from presses that are inclined.
 - Make sure the upper and lower shoes will securely mount the die to the bolster and slide.
 - Use additional means of securing the upper shoe to the slide where clamp caps or set screws are used in conjunction with punch stems.
 - Make sure spring-loaded turnover bars are provided for presses designed to accept them.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45530, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45532 Protect die setters during setup and tryout.**You must:**

(1) Use safety blocks when an employee has to put their hands or other body part into the point of operation to adjust or repair dies.

(2) Protect die setters doing die tryout from point-of-operation hazards by **at least one** of the following:

- Properly installed, adjusted, and maintained guards or devices.
- Proper use of INCH mode (part-revolution clutch press).
- Proper use of JOG mode (full-revolution clutch press).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45532, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45534 Train press operators.**You must:**

(1) Train operators to safely operate the press.

(2) Make sure modified or reconstructed presses have instructions to establish new or changed guidelines for use and care of the press.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45534, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45536 Operate mechanical power presses safely.**You must:**

- Operate the press within the manufacturer's rated capacities.

Note: Rated capacities include, but are not limited to:

- Structural capacity.
- Torque capacity.
- Energy capacity.
- Thermal capacity.
- Attachment weight.
- Die shutheight.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45536, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45538 Provide tools and other means to protect press operators.**You must:**

• Make sure hand tools are provided and used to free and remove workpieces or scrap stuck in the die.

• Provide means for handling scrap from roll feed or random length stock operations.

• Provide and use means to keep operators and die setters from reaching into the point of operation or other hazard area to lubricate material or die components.

Note: • Means for lubricating include, but are not limited to:

- Brushes.
- Swabs.
- Lubricating rolls.
- Manual spray systems.
- Automatic spray systems.
- Handles on brushes or swabs should be long enough to keep persons using them clear of the point of operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45538, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45540 Inspect and maintain presses.**You must:**

(1) Make sure maintenance personnel are trained and competent to inspect and maintain power presses.

(2) Keep records of all maintenance or repair work.

(3) Inspect and test the following press systems **at least weekly**:

- Clutch/brake mechanism.
- Antirepeat feature.
- Single stroke mechanism.
- Keep records of inspections and tests.

Exemption: You do not have to do weekly inspections if your press has both:

- Performance of safety-related functions monitoring (previously called control reliability);

AND

- A stopping-performance monitor (previously called brake-system monitor) does not require weekly inspections.

Reference: For requirements for these monitoring devices, see Provide additional safeguards when the operator puts one or both hands into the point of operation, WAC 296-806-45526.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45540, filed 6/29/04, effective 1/1/05.]

WAC 296-806-45542 Make sure presses and operating practices used in the PSDI (presence sensing device initiation) mode of operation meet these requirements.**You must:**

• Make sure presses and operating practices used in the PSDI mode meet the requirements of 29 CFR 1910.217(h), Presence Sensing Device Initiation (PSDI).

Note: 29 CFR 1910.217(h) contains requirements for certification and validation of mechanical power presses used in the PSDI mode of operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-45542, filed 6/29/04, effective 1/1/05.]

MILLS

WAC 296-806-460 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

• Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies only to mills in the rubber and plastics industry that have in-running metal rolls that are set horizontally and run toward each other.

Your responsibility:

To protect employees from hazards associated with mills.

You must:

Meet height requirements for mill rolls

WAC 296-806-46002.

Provide mill safety controls

WAC 296-806-46004.

Follow these stopping limit requirements for mills

WAC 296-806-46006.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-460, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46002 Meet height requirements for mill rolls.**You must:**

- Make sure that the tops of mill rolls installed after August 27, 1971, are at least fifty inches above the working level where the operator stands.

- This distance applies to the actual working level, which could be:

- The general floor level.
- In a pit.
- On a platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46004 Provide mill safety controls.

Exemption: These rules do not apply to mills if the machinery is permanently set up so employees:

- Cannot reach through, over, under, or around to come in contact with the roll bite;

OR

- Cannot be caught between a roll and nearby objects.

You must:

(1) Provide a safety trip control that is easy to reach, operates readily on contact, and is located in front and back of each mill. Each safety trip control must include at least one of the following:

- Pressure-sensitive body bars that:
 - Are installed at the front and back of mills having a forty-six inch roll height or over.
 - Operate readily on contact from the pressure of the mill operator's body.
- Safety trip rods that are:
 - Installed in the front and back of each mill and located within two inches of the front and rear rolls.
 - Installed so the top rods are no more than seventy-two inches above the level where the operator stands.
 - Easy to reach and operate when the rods are pushed or pulled.
- Safety tripwire cables or wire center cords that are:
 - Installed in the front and back of each mill.
 - Located within two inches of the face of the rolls.
 - Installed so that cables are no more than seventy-two inches above the level where the operator stands.
 - Easy to operate whether pushed or pulled.

(2) Make sure that all auxiliary equipment such as mill dividers, support bars, spray pipes, feed conveyors, and strip knives do not interfere with safety devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46004, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46006 Follow these stopping limit requirements for mills.

You must:

- Make sure that mills are stopped within one and one-half percent of the fastest speed at which they operate when empty.
 - When mills operate at more than two hundred fifty feet per minute, stopping distances above one and one-half percent of their fastest speed are allowed, but must have engineering support.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46006, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

PRESS BRAKES

WAC 296-806-465 Summary. If your specific machine or operation is not listed here, then follow any general requirements in this section along with the "Requirements for all machines" in this chapter, WAC 296-806-200 and 296-806-300.

This section applies to all machines classified as power press brakes. Power press brakes use a ram and bed to bend material.

Your responsibility:

To protect employees from hazards associated with power press brakes.

You must:

General requirements for press brakes

Provide auxiliary safety aids

WAC 296-806-46502.

Safeguard the point of operation on press brakes

WAC 296-806-46504.

Safe distance safeguarding

Follow this requirement when using safe distance safeguarding

WAC 296-806-46506.

Develop a safe distance safeguarding program

WAC 296-806-46508.

Follow these requirements for safe distance training

WAC 296-806-46510.

Require safe distance retraining

WAC 296-806-46512.

Conduct periodic safe distance inspections

WAC 296-806-46514.

Supervise the safe distance program

WAC 296-806-46516.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-465, filed 6/29/04, effective 1/1/05.]

GENERAL REQUIREMENTS FOR PRESS BRAKES

WAC 296-806-46502 Provide auxiliary safety aids on press brakes.

IMPORTANT:

This rule applies if the safeguarding method prevents the operator from holding the work piece during the closing of the stroke.

You must:

- Provide one of the following auxiliary safety aids that will allow operators to remove their hands from the work during the closing of the stroke:

- Work supporting devices.

- Magnetic material-position gages.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46504 Safeguard the point of operation on press brakes.

You must:

- Safeguard the point of operation on press brakes by at least one of the following:

- Physical guards.

- Devices.

- One-quarter inch maximum die opening.

– Safe distance safeguarding if **all** of the following apply:

■ Physical barriers and devices such as two-hand controls, holdouts, restraints, and presence sensors, are demonstrated to not be feasible.

■ This safeguarding method is only for one-time fabrication, custom made parts, or small quantity runs of no more than four hours per month.

■ A safety program is provided that includes safe work procedures, training, and supervision to make sure work is performed using safe distance measures.

■ There is no workplace record of injuries from failing to maintain a safe distance.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46504, filed 6/29/04, effective 1/1/05.]

SAFE DISTANCE SAFEGUARDING

WAC 296-806-46506 Follow this requirement when using safe distance safeguarding.

You must:

- Make sure employees position themselves no closer than necessary and never closer than four inches from the power press brake point of operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46506, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46508 Develop a safe distance safeguarding program for press brakes.

You must:

- Develop, document, and use an effective safe distance safeguarding program.

- Include methods for maintaining the minimum safe distance requirements in, Follow this requirement when using safe distance safeguarding, WAC 296-806-46506.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46508, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46510 Follow these requirements for safe distance training for press brakes.

You must:

(1) Train your employees in the safe distance safeguarding program and include **all** of the following:

- The need for safety awareness between the power press brake operator and, when required, the helper.

- The purpose and function of operating controls, operating mode controls, die space height adjustment positions, and other brake controls.

- The hazards of placing any parts of the body into the point of operation.

- The hazards related to each specific work piece bending operation.

- The purpose and function of hand-feeding tools.

- The dangers of unsafe work practices, inattention, horseplay, and misuse of equipment.

- The importance of reporting unsafe conditions immediately to the supervisor.

(2) Make sure employees are proficient in safe distance safeguarding after training, and follow both:

- Safe-operating instructions and recommendations of power press brake manufacturers;

[Title 296 WAC—p. 2844]

AND

- Industry-recognized safe working practices for power press brakes.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46510, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46512 Require safe distance retraining for press brake operations.

You must:

(1) Require safe distance retraining when employees either:

- Are seen operating the power press brake in an unsafe manner;

OR

- Fail to use safe distance procedures.

(2) Require safe distance retraining when conditions in the workplace change that can affect safe operation of the power press brakes, such as introducing new or revised control methods and procedures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46512, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46514 Conduct periodic safe distance inspections on press brakes.

You must:

(1) Conduct periodic inspections of safe distance procedures at least annually to make sure that established procedures are being followed.

(2) Make sure inspections are performed by a trained person who is **not** the person using the safe distance procedure.

(3) You must identify **all** of the following during safe distance procedure inspections:

- The date of the inspection.

- The person performing the inspection.

- The power press brake for which you are using the procedures.

- Any deviations or inadequacies with procedures and requirements.

- Joint reviews with each trained employee about their responsibilities under the safe distance program.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-46514, filed 6/29/04, effective 1/1/05.]

WAC 296-806-46516 Supervise the safe distance program for press brakes.

You must:

- Provide adequate supervision to make sure that:

- Only trained employees operate power press brakes.

- Employees use work practices learned in your training program.

- Periodic safe distance inspections are conducted as outlined in, Conduct periodic safe distance inspections on press brakes, WAC 296-806-46514.

- Any deviations from, or inadequacies in, program procedures or work practices are promptly corrected.

- Designated safeguarding means are used, installed, and functioning properly.

- Recommended hand-feeding tools are used, when needed.

– To require retraining and other appropriate corrective action when necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-46516, filed 6/29/04, effective 1/1/05.]

ROLL-FORMING AND BENDING MACHINES

WAC 296-806-470 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to power driven roll-forming and bending machines that change the shape or the direction of materials by using rolls, rotary forming dies, and associated tooling.

Your responsibility:

To protect employees from hazards associated with roll-forming and bending machines.

You must:

Follow these requirements for machine initiation
WAC 296-806-47002.

Safeguard nip points on roll-forming and bending machines

WAC 296-806-47004.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-470, filed 6/29/04, effective 1/1/05.]

WAC 296-806-47002 Follow these requirements for machine initiation.

You must:

- Make sure all of the following occur before starting machines:

- Select "normal" operation mode.
- Safeguards are in place and functioning.
- No workers are within the hazard zones.
- Other proper work practices are followed.

- Make sure in the "jog mode," the machine function is initiated by the operator either:

- During set-up;

OR

- By threading the material through the forming rolls.

- Make sure only assigned test employees perform machine testing and start-up.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-47002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-47004 Safeguard nip points of roll-forming and bending machines.

You must:

- Safeguard in-running nip points on roll-forming and bending machines with **at least one** of the following:

- A point-of-operation guard or device.
- An emergency stop device.

- An emergency stop device must be used when a point-of-operation guard or device is not feasible.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-47004, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

SANDING MACHINES

WAC 296-806-475 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to sanding machines that remove material from stock with an abrasive sanding surface such as a belt, disk, or drum.

Exemption: This section does not apply to hand-held sanders. See, Portable power tools, chapter 296-807 WAC, for requirements that apply to hand-held tools.

Reference: • If you have multiple specific machines and operations in your workplace, you need to follow all requirements in WAC 296-806-400 that apply.

- For example, if you use sanding machines and saws and cutting heads, you need to refer to both of these sections.

- In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- WAC 296-806-200, Requirements for all machines.
- WAC 296-806-300, Requirements for machine parts.

- See chapter 296-807 WAC, Portable power tools, for requirements that apply to hand-held sanders.

Your responsibility:

To protect employees from hazards associated with drum, disk, and belt sanders.

You must:

Guard drum sanders
WAC 296-806-47502.

Guard disk sanders
WAC 296-806-47504.

Guard belt sanders
WAC 296-806-47506.

Follow these requirements for feed roll guarding
WAC 296-806-47508.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-475, filed 6/29/04, effective 1/1/05.]

WAC 296-806-47502 Guard drum sanders.

You must:

- Make sure drum sanders have one of the following to enclose that part of the drum not used to work on the material:

- Guard.
- Exhaust hood.

Reference: Exhaust hoods are required on sanders when dust levels exceed exposure limits. See chapter 296-841 WAC, Airborne contaminants.

Exemption: When a table is used for the application of material to be finished, you do not need to enclose the portion of the drum above the table that is necessary to do the work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-05-062, § 296-806-47502, filed 2/20/07, effective 4/1/07; 04-14-028, § 296-806-47502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-47504 Guard disk sanders.

You must:

- Make sure disk sanders have an exhaust hood, when required, or a guard that encloses the part of the disk not used to work on the material.

Exemption: When a table is used for the application of material to be finished, you do not need to enclose the portion of the disk above the table that is necessary to do the work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-47504, filed 6/29/04, effective 1/1/05.]

WAC 296-806-47506 Guard belt sanders.

You must:

- Protect the operator by guarding:
 - Nip points where the sanding belt runs on the pulleys.
 - The unused run of the sanding belt.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-47506, filed 6/29/04, effective 1/1/05.]

WAC 296-806-47508 Follow these requirements for feed roll guarding.

You must:

- Make sure that feed rolls have a hood or guard to prevent the operator's hands from coming in contact with the in-running rolls at any point.
 - Make sure that the guard meets ALL of the following:
 - Is constructed of heavy material, preferably metal.
 - The bottom of the guard comes down to within three-eighths inch of the plane formed by the bottom or working surfaces of the feed rolls.

■ When the three-eighths inch distance is increased to three-quarter inch, the lead edge of the hood must be extended to five and one-half inches or more in front of the nip point between the front roll and the work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-47508, filed 6/29/04, effective 1/1/05.]

SAWS AND CUTTING HEADS

WAC 296-806-480 Summary. If your specific machine or operation is not listed here, then be sure to follow any of the following requirements that apply:

- General requirements for all saws and cutting heads in this section.
- General requirements for all saws in this section.
- General requirements for all cutting heads in this section.
- "Requirements for all machines" found in this chapter, WAC 296-806-200 and 296-806-300.

Reference: For requirements on hand-held tools, see Portable power tools, chapter 296-807 WAC.

This section applies to fixed machines using saws or cutting heads that are used on any material.

Your responsibility:

To make sure machines using saws and cutting heads meet these requirements.

You must:

GENERAL REQUIREMENTS FOR ALL SAWS AND CUTTING HEADS

Protect employees using saws and cutting heads

WAC 296-806-48002.

Make sure saws and cutting heads are sharpened and tensioned by qualified people

WAC 296-806-48004.

SAWS

General Requirements for All Saws

Make sure saws are safe to use

WAC 296-806-48006.

Requirements for All Circular Saws

Make sure all circular saws meet these requirements

WAC 296-806-48008.

Make sure circular saw gages meet these requirements

WAC 296-806-48010.

Guard hand-fed circular table saws

WAC 296-806-48012.

Provide kickback protection for employees using hand-fed circular table rip-saws when ripping wood

WAC 296-806-48014.

Safeguard self-feed circular saws

WAC 296-806-48016.

Provide kickback protection for self-feed circular rip-saws when ripping wood

WAC 296-806-48018.

Guard circular resaws

WAC 296-806-48020.

Provide spreaders for circular resaws

WAC 296-806-48022.

Requirements for Specific Circular Saws

Protect employees from automatic saw hazards

WAC 296-806-48024.

Guard inverted swing (jump) saws

WAC 296-806-48026.

Guard miter saws

WAC 296-806-48028.

Guard radial saws

WAC 296-806-48030.

Limit the travel of radial saws

WAC 296-806-48032.

Provide kickback protection for radial saws used for ripping wood

WAC 296-806-48034.

Guard revolving double arbor saws

WAC 296-806-48036.

Guard swing saws

WAC 296-806-48038.

Limit the travel of swing saws

WAC 296-806-48040.

Requirements for Band Saws and Drag Saws

Make sure bandsaws meet these requirements

WAC 296-806-48042.

Protect employees from drag saw hazards

WAC 296-806-48044.

CUTTING HEADS

General Requirements for All Cutting Heads

Maintain and balance knives and cutting heads

WAC 296-806-48046.

BORING AND MORTISING MACHINES

Make sure boring and mortising machines meet these requirements

WAC 296-806-48048.

CHIPPER AND HOG MILLS

Follow these requirements for chipper mills

WAC 296-806-48050.

Follow these requirements for hog mills

WAC 296-806-48052.

Protect employees from falling into chipper and hog mills

WAC 296-806-48054.

JOINTERS

Make sure jointers with horizontal cutting heads meet these requirements

WAC 296-806-48056.

Guard horizontal cutting heads on hand-fed jointers

WAC 296-806-48058.

Guard vertical cutting heads on jointers

WAC 296-806-48060.

MOLDING, STICKING AND MATCHING MACHINES

Make sure molding, sticking and matching machines meet these requirements

WAC 296-806-48062.

PANEL RAISERS AND OTHER SIMILAR MACHINES

Guard hand-fed panel raisers and other similar machines

WAC 296-806-48064.

PLANERS

Make sure planers with a horizontal cutting head meet these requirements

WAC 296-806-48066.

Guard planers

WAC 296-806-48068.

Guard planer feed rolls

WAC 296-806-48070.

Provide kickback protection on planers running stock of varied thicknesses

WAC 296-806-48072.

SHAPERS

Make sure shapers meet these requirements

WAC 296-806-48074.

TENONING MACHINES

Guard tenoning machines feed chains and sprockets

WAC 296-806-48076.

Guard tenoning machines

WAC 296-806-48078.

VENEER MACHINERY

Guard veneer cutters and wringer knives

WAC 296-806-48080.

Guard veneer clippers

WAC 296-806-48082.

Follow these requirements for guarding guillotine cutters

WAC 296-806-48084.

Provide mechanisms to stop power-driven guillotine cutters

WAC 296-806-48086.

Prohibit riders on veneer slicer carriages

WAC 296-806-48088.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-480, filed 6/29/04, effective 1/1/05.]

GENERAL REQUIREMENTS FOR ALL SAWS AND CUTTING HEADS

WAC 296-806-48002 Protect employees using saws and cutting heads.

You must:

- Provide safeguarding to protect employees from the hazards of feed rolls.
- Provide types and sizes of push sticks or push blocks that are suitable for the work being done.

(2009 Ed.)

- Use a comb (featherboard) or a suitable jig to protect employees when a standard guard cannot be used.

Note: Operations where you may need a comb or jig include:

- Dadoing.
- Grooving.
- Jointing.
- Moulding.
- Rabbeting.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48002, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48004 Make sure saws and cutting heads are sharpened and tensioned by qualified people.

You must:

- Make sure people who sharpen or tension saw blades or cutters have demonstrated skill in this area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48004, filed 6/29/04, effective 1/1/05.]

SAWS

General Requirements for All Saws

WAC 296-806-48006 Make sure saws are safe to use.

You must:

- Immediately remove from service a saw that has **any of the following** problems:

- Cracked.
- Dull.
- Badly set.
- Improperly filed.
- Improperly tensioned.

- Immediately clean any saw where gum has begun to stick on the sides.

- Eliminate unintended fence and table movement during operation.

- Keep hinged tables and fences firmly secured and in true alignment for all positions.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48006, filed 6/29/04, effective 1/1/05.]

Requirements for All Circular Saws

WAC 296-806-48008 Make sure all circular saws meet these requirements.

You must:

- Protect employees from contacting the portion of the saw beneath or behind the table by covering it with either:

- An exhaust hood, if one is required;

OR

- A guard.

- Prohibit workers from inserting wedges between the saw disk and the collar to form a wobble saw.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48008, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48010 Make sure circular saw gages meet these requirements.

You must:

- Make sure circular saw gages slide in grooves or tracks that are accurately machined to maintain exact alignment with the saw for all positions of the guide.

[Title 296 WAC—p. 2847]

Note: Circular saw gages are also referred to as miter or positioning gages.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48010, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48012 Safeguard hand-fed circular table saws.

You must:

- Guard each hand-fed circular saw with a hood that completely encloses both the portion of the saw that is above both:

- The table;

AND

- The material being cut.

- Make sure the hood is designed and constructed to do **all** of the following:

- Protect the operator from flying splinters and broken saw teeth.

- Strong enough to resist damage from reasonable operation, adjustments, and handling.

- Made of material soft enough to not break saw teeth.

Note: Hoods should be made of material that:

- Does not shatter when broken.
- Is not explosive.
- Is less combustible than wood.

You must:

- Mount the hood so it does **all** of the following:

- Operates positively and reliably.

- Maintains true alignment with the saw.

- Resists any side thrust or force that could throw it out of line.

- Make sure the hood:

- Allows the material to be inserted or sawed without any considerable resistance;

AND

- Does one of the following:

- Automatically remains in contact with the material being cut;

OR

- Is manually adjusted to within one-quarter inch of the material being cut.

Exemption: Saws may be guarded with a fixed enclosure, fixed barrier guard, or a manually adjusted guard when specific conditions prevent using a standard automatic adjusting guard. Alternative guards have to both:

- Provide protection equivalent to a standard automatic adjusting guard;

AND

- Be used according to the manufacturer's instructions with sufficient supervision to comply with this requirement.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48012, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48014 Provide kickback protection for employees using hand-fed circular table rip saws when ripping wood products.

Definition:

Ripping is a sawing operation made:

- Through the thickness of the work piece with the grain of natural wood;

- Along the long dimension of a rectangular work piece;

AND

[Title 296 WAC—p. 2848]

- Usually parallel to that edge on reconstituted wood products.

This can also be described as cutting stock to width. Two or more pieces result from the operation.

You must:

- Provide a spreader or riving knife that is:

- Made of hard-tempered steel or its equivalent.

- Thinner than the saw kerf.

- Wide enough to provide sufficient stiffness and rigidity to resist any reasonable side thrust or blow that could bend or throw it out of position.

- Attached so it remains in true alignment with the saw when the saw or table is tilted.

Note: • The spreader or riving knife should:

- Prevent material from either squeezing the saw or being thrown back at the operator.

- Be placed so there is one-half inch or less space between it and the back of the saw when the largest saw is mounted in the machine.

Exemption: You do not have to provide a spreader or riving knife when grooving, dadoing, or rabbeting. When you finish these operations, replace the spreader immediately.

You must:

- Provide nonkickback fingers or dogs that are:

- Located so they prevent the saw from either picking up the material or throwing the material back towards the operator.

- Designed to hold any thickness of material being cut.

Note: Kickbacks occur when a saw seizes the stock and hurls it back at the operator. This can happen when the stock twists and binds against the side of the blades or is caught in the teeth. Kickbacks occur more often when cutting parallel to the wood grain (ripping) than when cross cutting. Common contributors to kickbacks include:

- A blade that is not sharpened.
- A blade set at an incorrect height.
- Poor quality lumber, such as frozen lumber, lumber with many knots, or foreign objects, such as nails.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48014, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48016 Safeguard self-feed circular saws.

You must:

- Provide saws and feed rolls with a hood or guard to protect the operator from contacting the in-running rolls.

- Make sure the guard is constructed of heavy material, preferably metal.

- Make sure the distance between the bottom of the guard and the plane formed by the bottom or working surface of the feed rolls meets the requirements of Table 200-1, Largest Allowable Guard Opening, in WAC 296-806-20042.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48016, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48018 Provide kickback protection for self-feed circular rip saws when ripping wood products.

You must:

- Provide saws with sectional nonkickback fingers that meet **all** of the following requirements:

- They cover the full width of the feed roll.

- They are located in front of the saw.

– They are arranged so they keep continuous contact with the material being fed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48018, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48020 Guard circular resaws.

You must:

• Provide each circular resaw with a metal hood or shield that is:

- Located above the saw.
- Designed to protect the operator from flying splinters or broken saw teeth.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48020, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48022 Provide spreaders for circular resaws.

Exemption: This requirement does not apply to self-feed saws with a roller or wheel at the back of the saw.

You must:

- Provide a spreader that is **all** of the following:
 - Securely fastened behind the saw.
 - Slightly thinner than the saw kerf.
 - Slightly thicker than the saw disk.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48022, filed 6/29/04, effective 1/1/05.]

Requirements for Specific Circular Saws

WAC 296-806-48024 Protect employees from automatic saw hazards.

You must:

• Make sure automatic saws that stroke continuously without the operator controlling each stroke are **not** used where employees could be exposed to:

- Saw hazards during operations such as loading, clamping, cutting, or unloading.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48024, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48026 Guard inverted swing (jump) saws.

You must:

(1) Guard jump saws with a hood that both:

- Covers the part of the saw that is exposed above the top of the table or above the material being cut;

AND

• Automatically adjusts to the thickness of the material being cut and remains in contact with it.

(2) Provide a holding device that will prevent stock from moving while cutting materials.

(3) Provide warning signs, stickers, or placards when the pinching hazard created by the holding device cannot be eliminated by design.

(4) Provide the following for automatically fed jump saws.

- Place guards over the roller conveyor to prevent persons from walking into or over the saw.
- Enclose jump saws when below the table or roller conveyor and not in actual use.

(2009 Ed.)

• Install a positive stop to prevent the saw from passing the front edge of the roller conveyor or table.

• Make sure the throat in the table or roller conveyor is only wide enough to permit unobstructed operation of the saw.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48026, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48028 Guard miter saws.

IMPORTANT:

Miter saws include:

- Miter.
- Compound miter.
- Slide miter.
- Compound slide miter.

You must:

(1) Guard miter saws with an upper hood that completely encloses the upper half of the blade.

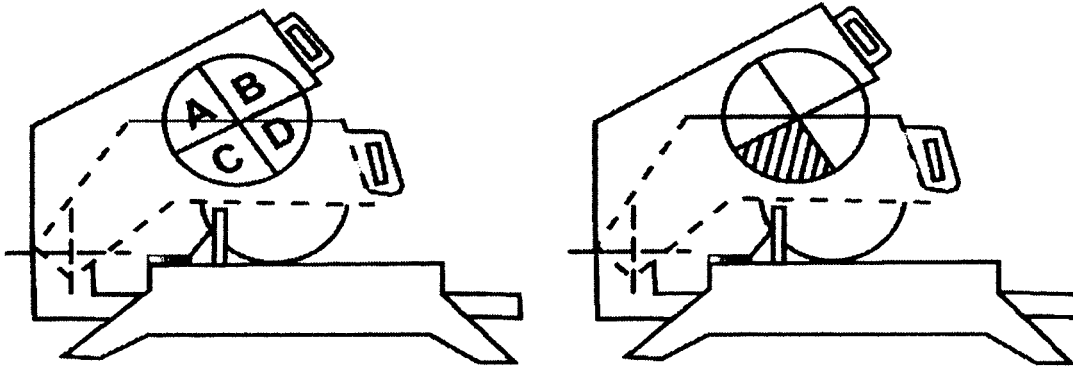
(2) Provide a method to protect employees from contacting the blade underneath the table while in its recommended carrying position.

(3) Guard the lower blade:

• By making sure the teeth are guarded at least three-quarters of an inch beyond the root of the teeth, toward the center of the blade, except for a maximum forty-five degree exposure of quadrant C when in the full retract position. See Illustration 480-1, Miter Saw Guarding.

• With a retractable guard that cannot be locked in any position.

Illustration 480-1
Miter Saw Guarding



This illustration shows miter saws in full retract position, and quadrant C, where 45 degrees, or half of quadrant C may be exposed when in the full retract position.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48028, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48030 Guard radial saws.

You must:

• Make sure the radial saw has a hood that does **all** of the following:

- Completely encloses the upper portion of the blade down to a point that includes the end of the saw arbor.
- Protects the operator from flying splinters and broken saw teeth.

- Deflects sawdust away from the operator.

• Provide a lower blade guard that does **all** of the following (see Guard radial saws, illustration 480-2):

- Guards the sides of the lower exposed portion of the blade to its full diameter.
- Automatically adjusts to the thickness of the stock being cut.
- Remains in contact with the stock to provide the maximum protection possible for the operation being performed;

OR

– Is manually adjusted (wing) guard that:

- Is made of material strong enough to withstand the forces put on it.

- Suggested materials include polycarbonates or expanded metal.

- Has edges that are smooth so no hazards from the guard exist.

- Extends a minimum of eight inches to both the front and arbor-end sides.

- Is adjustable in a vertical plane to the different thicknesses of stock so the gap is three-eighths inch or less between the bottom of the guard and the top of the stock.

Exemption: Saws may be guarded with a fixed enclosure, fixed barrier guard, or a manually adjusted guard when specific conditions prevent using a standard, automatic adjusting guard. Alternative guards have to both:

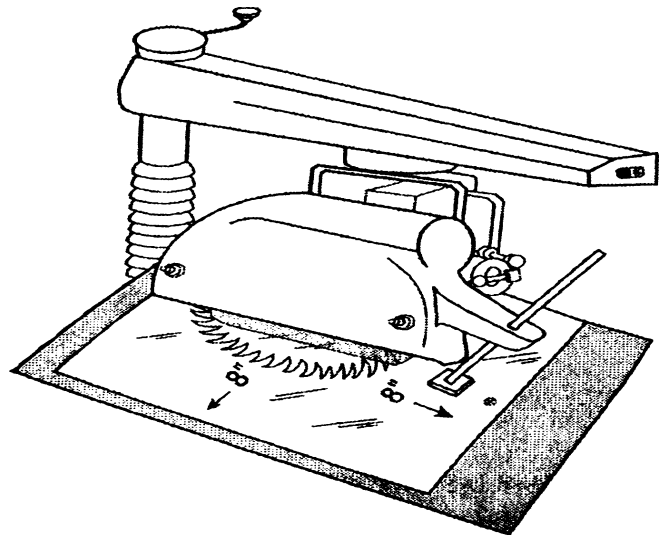
- Provide protection equivalent to a standard automatic adjusting guard;

AND

- Be used according to the manufacturer's instructions with sufficient supervision to meet this requirement.

Illustration 480-2 Guard radial saws

A manually adjusted awareness barrier guard that extends 8 inches to the front and sides of the blade



[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48030, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48032 Limit the travel of radial saws.

You must:

- Provide an adjustable stop that prevents:
 - Forward travel of the blade beyond the position necessary to complete the cut;

AND

- Any part of the saw blade from extending beyond the front edge of the work support table.

- Install the saw so that the front end is slightly higher than the rear in order to cause the cutting head to return to the starting position when released by the operator.

- Make sure the cutting head or carriage does **all** of the following:

- Returns gently to the rest or starting position when released by the operator.
- Does not bounce or recoil when reaching the rest or starting position.
- Remains in the rest or starting position.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48032, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48034 Provide kickback protection for radial saws used for ripping wood products.

You must:

- Provide nonkickback fingers or dogs that are both:
 - Located on both sides of the saw to resist the tendency of the saw to pick up material or throw it back toward the operator;

AND

- Designed to hold any thickness of material being cut.
- Make sure when ripping or ploughing that you feed the material from the end where the blade teeth enter the upper guard, which is against the direction in which the saw turns. See, Ripping with a radial arm saw, illustration 480-3.
- Make sure the direction of saw rotation is clearly marked on the hood.
- Fasten a permanent label at the rear of the guard hood, at about the level of the arbor, where the blade teeth exit the upper hood during saw operation that:
 - Reads, "**DANGER: DO NOT RIP OR PLOUGH FROM THIS END.**"
 - Is colored standard danger red.
 - Is not less than one and one-half inches by three-quarters inch with standard proportional lettering.

RIPPING WITH A RADIAL ARM SAW

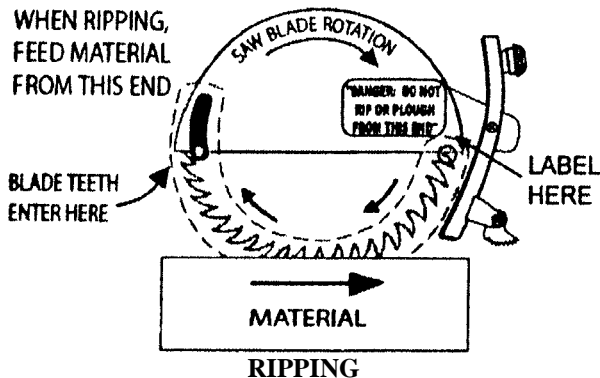


Illustration 480-3

Important requirements for ripping with a radial arm saw.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48034, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48036 Guard revolving double arbor saws.

You must:

- Guard each revolving double arbor saw with a hood that completely encloses the portion of the saw that is above both:
 - The table;
- AND**

(2009 Ed.)

- The material being cut.

Note: Hoods should be made of material that:

- Does not shatter when broken.
- Is not explosive.
- Is less combustible than wood.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48036, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48038 Guard swing saws.

IMPORTANT:

This section applies to swing saws mounted above the table.

You must:

- Provide saws with a hood that encloses **all** of the following:
 - Upper half of the saw.
 - Arbor end.
 - Point of operation in all positions of the saw.
- Make sure the hood protects operators from flying splinters and broken saw teeth.
- Make sure the lower blade guard will automatically cover the lower portion of the blade by dropping on top of and remaining in contact with the table or the material being cut.

Exemption: Saws may be guarded with a fixed enclosure, fixed barrier guard, or a manually adjusted guard when specific conditions prevent using a standard, automatic adjusting guard. Alternative guards have to:

- Provide protection equivalent to a standard automatic adjusting guard;
- AND**
- Be used according to the manufacturer's instructions with sufficient supervision to meet this requirement.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48038, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48040 Limit the travel of swing saws.

IMPORTANT:

This section applies to swing saws that are mounted above the table.

You must:

- Provide saws with a device that:
 - Automatically returns the saw to the back of the table when the saw is released at any point in its travel.
 - Does not depend on a rope, cord, or spring to function properly.
 - Make sure devices that use a counterweight meets these requirements:
 - The bolts supporting the bar and the counterweight use cotter pins.
 - The counterweight is prevented from dropping by **one** of these methods:
 - A bolt passing through both the bar and the counterweight.
 - A bolt through the extreme end of the bar.
 - A safety chain to hold it to the bar if the counterweight does not completely encircle the bar.
 - Provide limit chains or another equally effective device to prevent the saw from swinging either:
 - Beyond the front or back edge of the table;
- OR**
- Forward to a position where the gullets of the lowest saw teeth will rise above the table top.

[Title 296 WAC—p. 2851]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48040, filed 6/29/04, effective 1/1/05.]

Requirements for Band Saws and Drag Saws

WAC 296-806-48042 Make sure band saws meet these requirements.

You must:

- Enclose or guard all portions of the blade except for the working portion of the blade between the guide rolls and the table.
- Make sure the guard for the portion of the blade between the sliding guide and the wheel guard meets these requirements:
 - Protects the front and outer side of the blade.
 - Is self-adjusting to move with the guide.
 - Adjusts so the gap between the guide rolls and stock is as small as is practical.
- Fully enclose band saw wheels with wheel guards that meet **both** of the following requirements:
 - The outside periphery of the wheel enclosure is solid; **AND**
 - The front and back of the wheels are enclosed by solid material, wire mesh, or perforated metal.
- Make sure the material used for wheel guards meets these requirements:
 - Wire mesh and perforated metal guards:
 - Are at least 0.037 inch (U.S. Gage No. 20) thick.
 - Have openings in them that are three-eighths inch or less.
 - Solid material has strength and firmness equivalent to a wire mesh or perforated steel guard.
- Make sure band saws have a tension control device to indicate the proper tension for standard saws used on the machine.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48042, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48044 Protect employees from drag saw hazards.

You must:

- Protect employees passing near a drag saw by either:
 - Providing a four-foot clearance when the saw is at the extreme end of the stroke;
- OR**
- Enclosing the saw and its driving mechanism, if you cannot provide a four-foot clearance.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48044, filed 6/29/04, effective 1/1/05.]

CUTTING HEADS

General Requirements for All Cutting Heads

WAC 296-806-48046 Maintain and balance knives and cutting heads.

You must:

- Make sure knives and cutting heads are kept:
 - Sharp.
 - Properly adjusted.
 - Firmly secured.

[Title 296 WAC—p. 2852]

- Make sure knives are properly balanced when two or more are used in one cutting head.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48046, filed 6/29/04, effective 1/1/05.]

BORING AND MORTISING MACHINES

WAC 296-806-48048 Make sure boring and mortising machines meet these requirements.

- Exemption:** This section does not apply to drill presses, boring machines, or mortising machines if both of the following apply:
- The downward stroke of the chuck and bit is controlled manually by the operator;
- AND**
- The chuck and bit automatically rises to the start position when control is released.

You must:

- Completely enclose universal joints on spindles of boring machines to prevent accidental contact by the operator.
 - Make sure you do not use safety bit chucks that have projecting set screws.
 - Enclose the top of the cutting chain and driving mechanism.
 - Prevent a counterweight, when used, from dropping by one of the following, or an equivalent method:
 - Securing it to a bar by one of the following:
 - A bolt passing through both the bar and the counterweight.
 - A bolt through the extreme end of the bar.
 - A safety chain to hold it to the bar if the counterweight does not completely encircle the bar;
- OR**
- Suspending it by a chain or wire rope and having it travel in a pipe or other suitable enclosure if it could fall and injure an employee.

- Note:** Boring bits should be provided with a guard that will enclose all portions of the bit and chuck above the material being worked.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48048, filed 6/29/04, effective 1/1/05.]

CHIPPER AND HOG MILLS

WAC 296-806-48050 Follow these requirements for chipper mills.

- Exemption:** This section does not apply to mobile chippers.
- Reference:** Safety requirements for mobile chippers can be found in, Pruning, Repairing, Maintaining and Removing Trees and Cutting Brush, section 9.6, ANSI Z133.1-2000.

You must:

- (1) Arrange the feed system so the operator does not stand in direct line with the chipper blades or spout (hopper).
- (2) Protect the operator from chips or chunks being thrown out while feeding the machine.
- (3) Enclose the chipper spout to a height or distance of at least forty inches from the floor or the operator's station, whichever is higher.
- (4) Provide a mirror or other device to allow monitoring of material when the operator cannot readily observe the material being fed into the chipper.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48050, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

WAC 296-806-48052 Follow these requirements for hog mills.**You must:**

- (1) Make sure that feed chutes are at least forty inches from the knives or feed roll.
- (2) Provide baffles or other suitable safeguards to prevent material from being thrown from the hog mill.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48052, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48054 Protect employees from falling into chipper and hog mills.**You must:**

- Protect employees working near the feed openings of chipper and hog mills from falling into the openings by providing **at least one** of the following:
 - A safety belt (or harness) and a lifeline short enough to prevent workers from falling into the mill.
 - Barriers or other types of protective guarding.

Reference: See, Railing, toeboards and cover specifications for requirements on guardrails used as barriers, WAC 296-24-75011.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48054, filed 6/29/04, effective 1/1/05.]

JOINTERS**WAC 296-806-48056 Make sure jointers with horizontal cutting heads meet these requirements.****You must:**

- Make sure the cutting head on hand-fed jointers is cylindrical:
 - Install and adjust the knife blade so it does not protrude more than one-eighth inch beyond the body of the head.
 - Make sure the opening in the table meets **all** of the following:
 - Is kept as small as possible.
 - The clearance between the edge of the rear table and the cutting head is not more than one-eighth inch.
 - The table throat opening is not more than two and one-half inches when the tables are set or aligned with each other for zero cut.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48056, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48058 Guard horizontal cutting heads on hand-fed jointers.**You must:**

- Provide jointers with an automatic guard on the work side of the fence or gage that does **all** of the following:
 - Covers all sections of the head.
 - Effectively keeps the operator's hand from contacting the revolving knives.
 - Automatically adjusts to cover the unused portion of the head.
 - Remains in contact with the material at all times.
- Provide jointers with a guard that covers the section of the head behind the gage or fence.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48058, filed 6/29/04, effective 1/1/05.]

(2009 Ed.)

WAC 296-806-48060 Guard vertical cutting heads on jointers.**You must:**

- Provide each jointer that has a vertical cutting head with an exhaust hood or other type of guard that completely encloses the revolving head except for a slot that is wide enough for the material being jointed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48060, filed 6/29/04, effective 1/1/05.]

MOLDING, STICKING AND MATCHING MACHINES**WAC 296-806-48062 Make sure molding, sticking and matching machines meet these requirements.****You must:**

- Make sure all cutting heads, and saws if used, are covered by a guard that:
 - Is metal.
 - Forms all or part of the exhaust hood if an exhaust system is used.
 - Make sure a guard constructed from:
 - Sheet metal is at least one-sixteenth inch thick.
 - Cast iron is at least three-sixteenths inch thick.
 - Make sure feed rolls are guarded by a hood or other suitable guard that both:
 - Prevents the operator's hand from contacting the in-running rolls at any point;

AND

- Is attached to the frame carrying the rolls so it adjusts for any thickness of stock.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48062, filed 6/29/04, effective 1/1/05.]

PANEL RAISERS AND OTHER SIMILAR MACHINES**WAC 296-806-48064 Guard hand-fed panel raisers and other similar machines.****You must:**

- Guard the cutting heads of hand-fed panel raisers and other similar machines by enclosing the cutting head with either:
 - A fixed guard such as a cage;
- OR**
- An adjustable guard designed to keep the operator's hand away from the cutting edge.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48064, filed 6/29/04, effective 1/1/05.]

PLANERS**WAC 296-806-48066 Make sure planers with a horizontal cutting head meet these requirements.****You must:**

- Make sure the cutting head on hand-fed planers is cylindrical.
 - Install and adjust the knife blade so it does not extend more than one-eighth inch beyond the body of the head.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-48066, filed 6/29/04, effective 1/1/05.]

[Title 296 WAC—p. 2853]

WAC 296-806-48068 Guard planers.**You must:**

- Make sure all cutting heads, and saws if used, are covered by a guard that:
 - Is metal.
 - Forms all or part of the exhaust hood if an exhaust system is used.
- Make sure a guard constructed from:
 - Sheet metal is at least one-sixteenth inch thick.
 - Cast iron is at least three-sixteenths inch thick.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48068, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48070 Guard planer feed rolls.**You must:**

- Make sure feed rolls are guarded by a hood or other suitable guard that:
 - Prevents the operator's hand from contacting the in-running rolls at any point.
 - Is attached to the frame carrying the rolls so it remains in adjustment for any thickness of stock.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48070, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48072 Provide kickback protection on planers running stock of varied thicknesses.**You must:**

- Provide kickback protection on planers running stock of varied thicknesses at the same time by providing either:
 - Sectional feed rolls that provide feeding contact pressure on the stock;
- OR**
- Suitable nonkickback fingers at the infeed end of each section.

Note: The sectional feed rolls need to have sufficient yield in their construction to provide contact pressure on:
– Any thickness of stock the machine is capable of processing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48072, filed 6/29/04, effective 1/1/05.]

SHAPERS**WAC 296-806-48074 Make sure shapers meet these requirements.****You must:**

- Guard the cutting head of the shaper by enclosing it with either:
 - A fixed guard, such as a cage;
- OR**
- An adjustable guard designed to keep the operator's hand away from the cutting edge.
- Make sure the diameter of a circular shaper guard is at least as large as the greatest diameter of the cutter.

Note: A warning device of leather or other material attached to the spindle is NOT an acceptable substitute for a guard.

You must:

- Guard all sections of the cutting tool except for an opening to allow access to the work piece by the cutting tool.

Note: A ring guard is one means of satisfying the guarding requirement for cutting tools when involved in free hand or template shaping.

[Title 296 WAC—p. 2854]

You must:

- Make sure all double-spindle shapers have a spindle starting and stopping device for each spindle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48074, filed 6/29/04, effective 1/1/05.]

TENONING MACHINES**WAC 296-806-48076 Guard tenoning machine feed chains and sprockets.****You must:**

- Guard feed chains and sprockets of all double-end tenoning machines by completely enclosing both of the following:
 - All sprockets;
- AND**
- Portions of the chain that are not used for conveying stock.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48076, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48078 Guard tenoning machines.**You must:**

- Make sure all cutting heads, and saws if used, are covered by a metal guard that:
 - Covers at least the unused part of the periphery of the cutting head.
 - Forms all or part of the exhaust hood if an exhaust system is used.
- Make sure a guard constructed from:
 - Sheet metal is at least one-sixteenth inch thick.
 - Cast iron is at least three-sixteenths inch thick.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48078, filed 6/29/04, effective 1/1/05.]

VENEER MACHINES**WAC 296-806-48080 Guard veneer cutters and wringer knives.****You must:**

- Provide guards to prevent accidental contact with the front or rear knife edge.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48080, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48082 Guard veneer clippers.**You must:**

- Make sure employees do not accidentally contact the knife edge of veneer clippers by providing either:
 - An automatic feed;
- OR**
- Guarding at both the front and rear of the clippers.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48082, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48084 Follow these requirements for guarding guillotine cutters.

Exemption: These requirements do not apply to continuous-feed trimmers.

You must:

(2009 Ed.)

(1) Provide **one** of the following to hand and foot powered guillotine cutters, so employees' hands cannot reach the cutting edge of the knife:

- Rods.
- Plates.
- Other satisfactory means of protection such as those outlined in, Safeguarding methods, WAC 296-806-20042 through 296-806-20058.

(2) Provide power-driven guillotine veneer cutters with either of the following:

- Starting devices for each operator that require all of the following:
 - Both hands activating controls at the same time to start the cutting motion;
 - At least one hand on a control during the complete stroke of the knife;
- OR**
- An automatic guard that does all of the following:
 - Keeps the hands of the operator away from the danger zone every time the blade comes down.
 - Is used in combination with one-handed starting devices that require two separate movements of the device to start the cutting motion.
 - Is designed to return positively to the nonstarting position after each complete cycle of the knife.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48084, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48086 Provide mechanisms to stop power-driven guillotine cutters.

Exemption: This requirement does not apply to continuous-feed trimmers.

You must:

- Provide power-driven guillotine cutters with both:
 - Brakes or other stopping mechanism;

AND

- An emergency device that will prevent the machine from operating if the brake fails when the starting mechanism is in the nonstarting position.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48086, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48088 Prohibit riders on veneer slicer carriages.

You must:

- Prohibit employees from riding on veneer slicer carriages.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48088, filed 6/29/04, effective 1/1/05.]

SEWING MACHINES

WAC 296-806-485 Summary. In addition to the requirements in this section, you need to refer to the following sections of this chapter in order to fully protect your employees from machine hazards:

- Requirements for all machines, WAC 296-806-200 and 296-806-300.

This section applies to the hazards of needle injuries from domestic or light duty sewing machines.

Your responsibility:

To protect employees from hazards associated with sewing machines.

You must:

- Guard sewing machine needles
- WAC 296-806-48502.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-485, filed 6/29/04, effective 1/1/05.]

WAC 296-806-48502 Guard sewing machine needles.

Exemption: This section does not apply to domestic-type sewing machines having a presser-foot that is in the "down" position during operation of the machine.

You must:

- Provide a permanently attached guard on each sewing machine that:
 - Prevents the operator's fingers from passing under the needle.
 - Allows the needle to be conveniently threaded without removing the guard.

Reference: For specific requirements about safeguarding sewing machine belts can be found in, Safeguard belt and rope drives, WAC 296-806-30004.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-028, § 296-806-48502, filed 6/29/04, effective 1/1/05.]

WAC 296-806-500 Definitions.

Abrasive wheel

A grinding tool consisting of bonded abrasive grains. This includes diamond and reinforced wheels.

Adjustable barrier guard

A barrier guard with provisions for adjustment to accommodate various jobs or tooling set-ups.

Air-lift hammer

A type of gravity drop hammer in which the ram is raised for each stroke by an air cylinder. Because the length of stroke can be controlled, ram velocity, and therefore the energy delivered to the work piece, can be varied.

Antirepeat

A device that limits the machine to a single stroke if the activating means is held in the operative position.

Arbor

A rotating shaft used for mounting and transmitting torque to a cutting tool.

Authorized person

Someone the employer has given the authority and responsibility to perform a specific assignment.

Awareness barrier

A barrier device that allows more access to the hazard area, but still restricts access enough to warn of an approaching hazard.

Barricade

A barrier such as a guardrail, fence, or other framework designed to prevent employee access and exposure to a hazard.

Barrier guard

A barrier that provides a physical restriction from a hazard.

Belt conveyors

An endless belt of any material, operating over suitable pulleys to move materials placed on the belt.

Belt pole

A device used in shifting belts on and off fixed pulleys on line or countershaft where there are no loose pulleys. Belt poles are sometimes called "belt shippers" or "shipper poles."

Belt shifter

A device for mechanically shifting belts from tight to loose idler pulleys or vice versa, or for shifting belts on cones of speed pulleys.

Bench grinder

A bench mounted off-hand grinding machine with either one or two wheels mounted on a horizontal spindle.

Bending

The application of stress concentrated at specific points to permanently turn, press or force from a straight, level or flat condition to a curved or angular configuration.

Blade

A replaceable tool having one or more cutting edges for shearing, notching or coping.

Blanking

To bypass a portion of the sensing field of a presence-sensing device. The purpose is to allow objects such as tooling, feed stock, and work pieces to pass through the sensing field without sending a stop signal to the controlled machine. There are two blanking modes: Fixed and floating.

Blind hole

A hole drilled in an object, such as an abrasive wheel, that does not go all the way through the object.

Blotter

A compressible disc or washer, usually of blotting paper, plastic, cardboard, or gasket material, that is used between the wheel and the flanges to evenly distribute flange pressure on the wheel.

Board hammer

A type of gravity drop hammer where wood boards attached to the ram are raised vertically by action of contrarotating rolls, and then released. Energy for forging is obtained by the mass and velocity of the freely falling ram and the attached upper die.

Bolster plate

Plate attached to the press bed having holes, T-slots, or other means for attaching the lower die or die shoe.

Brake

Mechanism for stopping or preventing motion.

Chain conveyor

A conveyor in which one or more chains (including those with paddles or bars attached to them) move the conveyor. Specific examples of chain conveyors include drag, rolling, pusher bar, pusher chain and sliding chain conveyors.

Channel blanking

A feature that allows a safety light curtain system to be programmed to ignore objects. Also called "fixed blanking."

Chipper

A machine that cuts material into chips.

Chuck

A revolving clamp-like device used for holding and driving the work piece.

Clutch

A mechanism to couple the flywheel to the crankshaft. When engaged, it allows the driving force to be transmitted to the press slide.

Comb

See feather board.

Concurrent

Occurring at the same time.

Cone pulley

A pulley having two or more steps in a conical shape for driving machinery.

Cone and plug wheels (Types 16, 17, 18, 18R, and 19)

Abrasive wheels manufactured with blind hole threaded bushings. They may be used on all surfaces except the flat mounting surface. Specific characteristics of the different cone and plug wheels are:

- Type 16 cones have a curved side with a nose radius.
- Type 17 cones have straight sides with or without a nose radius.
- Type 18 and 18R plug wheels are cylindrical in shape with either a square or curved grinding end.
- Type 19 cone wheels are a combination of cone and plug shapes.

Control system

Sensors, manual input and mode selection elements, interlocking and decision-making circuitry, and output elements of the press-operating devices and mechanisms.

Coping-notching

Where the edge or periphery of the work piece is sheared.

Counterbalance

Mechanism used to balance or support the weight of the connecting rods, slide, and slide attachments.

Cutting-off wheels

Abrasive wheels used to cut material such as masonry, pipe, etc.

Cutting tool or saw blade

A tool used on a metal sawing machine.

Cycle

The complete movement of the ram from its starting position and return to that same starting position.

Dado

A straight-sided groove, perpendicular to the face of the work piece, having a width greater than the thickness of a single saw blade.

Device

A control or attachment that is any of the following:

- Restrains the operator from inadvertently reaching into the hazardous area.
- Prevents normal or hazardous operation if any part of an individual's body is inadvertently within the hazardous area.
- Automatically withdraws the operator's hands, if the operator's hands are inadvertently within the hazardous area during the hazardous portion of the machine cycle.
- Maintains the operator or the operator's hands during the hazardous portion of the machine cycle at a safe distance from the hazardous area.

Die or dies

Tooling used in a press for shearing, punching, forming, drawing, or assembling metal or other material.

Die enclosure guard

Guard attached to the die shoe or stripper in a fixed position.

Die setter

A person who installs or removes dies from the press, and makes the necessary adjustments so the tooling functions properly and safely.

Die setting

Process of installing or removing dies, and adjusting the dies, other tooling and the safeguarding guards or devices.

Die shoe

Plate or block that a die holder is mounted on. It functions primarily as a base for the complete die assembly and, if used, is bolted or clamped to the bolster plate or the face of the slide.

Die shutheight

Actual or design dimension between the mounting surfaces of a die.

Divider

A machine that mechanically divides the dough into pieces of predetermined volume or weight.

Dough sheeter

See **sheeter**.

Dressed

When material is removed from the cutting surfaces of an abrasive wheel to expose new sharp cutting surfaces.

Drilling/boring machine

A single or multiple spindle machine that uses a rotating cylindrical tool such as a drill, a counterboring tool, and similar tools to produce a hole, blind hole, counterbore, countersink, and similar cavities in work pieces. A work support means is provided to feed the tool into the work piece or the work piece into the tool.

Dross

Waste product or impurities formed on the surface of molten metal.

Dump bin and blender

That part of the flour handling system where the containers of flour are emptied.

Face of the slide

Surface of the slide to which the punch or upper die is generally attached.

Feather board/comb

A work-guiding and hold-down device consisting of stock with a series of spring-like fingers along the edge, set and positioned at an angle to the work piece.

Feeding

Placing material in or removing it from the point of operation.

Fence

A device used to locate and guide a work piece relative to the cutting tool.

Fixed barricade

A guard attached to a fixed surface used to enclose a hazardous area and prevent employees from placing any part of their body into the point of operation.

Fixed barrier guard

A guard attached to the frame, bolster, or other surface to enclose all or part of the point of operation or other hazard area.

Fixed blade

A stationary blade having one or more cutting edges.

Fixed blanking

A feature that allows a safety light curtain system to be programmed to ignore objects. Also called "channel blanking."

Fixture/jig

A device used to locate, hold, or clamp one or more work pieces in a desired position.

Flanges

Collars, discs, or plates between or against which wheels are mounted. There are four types of flanges:

- Adaptor.
- Sleeve.
- Straight relieved.
- Straight unrelieved.

Floating blanking (floating window)

A feature that allows a safety light curtain system to be programmed to ignore the interruption of one or two beams within the light curtain. This allows the feeding of an object through the defined area at any point along the length of the curtain without causing it to produce a stop signal.

Floorstand grinder

A floor mounted, off-hand grinding machine with one or two wheels mounted on a horizontal spindle. The wheels are normally twenty-four inches or thirty inches in diameter and used for snagging operations.

Forging

Metal formed to a desired shape by impact or pressure in hammers, forging machines (upsetters), presses, rolls, and related forming equipment. Forging hammers, counterblow equipment, and high-energy-rate forging machines impart impact to the work piece, while most other types of forging equipment impart squeeze pressure in shaping the stock. Some metals can be forged at room temperature, but the majority of metals are made more plastic for forging with heat. Forged or drop forged parts are much stronger than poured or cast parts from foundries.

Forging presses

A class of forging equipment where the shaping of metal between dies is performed by mechanical or hydraulic pressure and usually is accomplished with a single workstroke of the press for each die station.

Full revolution clutch

Type of clutch that, when engaged, cannot be disengaged until the press has completed a single cycle (stroke).

Gage

See **miter gage**.

Gap (throat)

An opening or recess in the frame of the machine to permit positioning of material or work pieces.

Gate or movable barrier device

Safeguarding device that encloses the point of operation before press motion can be initiated.

Guard (abrasive wheels)

An enclosure designed to restrain the pieces of an abrasive wheel and furnish protection to the operator if the wheel is broken during operation.

Guard

A barrier that does at least one of the following:

- Prevents the hands or other body part from reaching through, over, under, or around the guard into the hazard area.

- Prevents objects or debris from falling onto or being ejected towards an employee.

Guidepost

The pin attached to the upper or lower die shoe. It operates within the bushing on the opposing die shoe to maintain the alignment of the upper and lower dies.

Hazard

A condition that could cause physical harm to a person.

Hazard area

An area or space that poses an immediate or impending physical hazard.

Hog

A machine used for cutting or grinding slabs and other coarse residue from the mill.

Horizontal lathe

A turning machine in which the work piece revolves about a horizontal axis. While the work is revolving, it is being shaped by cutting tools working either parallel to the axis of the work or at an angle to the axis of the work.

Idler (pulley)

A pulley or roller on a shaft that presses against or rests on a drive belt to guide it or take up slack.

Inch

Die setting mode that engages the driving clutch so a small portion of one cycle (stroke) occurs, depending upon the length of time the operator control is held actuated.

Indirect recirculating ovens

Ovens that are equipped with a gas-tight duct system, a furnace, and a circulating fan. Combustion gases are circulated through this enclosed system and mixed with fresh combustion gases generated by the burner in the combustion chamber. A vent or overflow removes a portion of the gases to make room for the fresh gases added by the burner. No unburned gases or products of combustion enter the baking chamber.

Interlocked barrier guard

Barrier attached to the press frame and interlocked with the press control system so the press stroke cannot be started normally unless the guard, or its hinged or movable sections, enclose the point of operation.

Inverted swing and jump saws

Saws with a saw blade starting position below the table, where the blade must travel through the horizontal plane of the tabletop to make the cut on the stock.

Ironworker

A machine with multiple workstations at which various operations may be performed singly or simultaneously, including but not limited to:

- Punching;
- Shearing;
- Notching;
- Coping; and
- Forming.

Jig

See **fixture**.

Jog

Die setting mode where intermittent motion is imparted to the slide by momentary operation of the drive motor after the flywheel is at rest and the clutch is engaged.

Jointer

A machine that has a cylindrical cutter head with more than one knife or cutting edge. It has an adjustable in-feed means of work support, or an adjustable cutter head or knives, as well as a fence or other work piece guide.

Jump saw

A machine that utilizes a means of work support and hold down, and has a powered arbor on an arm that pivots about a point located behind the saw arbor at approximately the same height. At rest position the saw blade is below the work piece. See **inverted swing and jump saws**.

Kerf

The slot made by a saw blade as it saws through a work piece.

Kickback

The uncontrolled propulsion or self-feed type action of a work piece in the direction of the rotation or travel of the working portion of the saw, cutting tool, sanding belt, or sanding head.

Live roller conveyor

A series of rollers with objects moving over them through power to all or some of the rollers. The power is usually transmitted by a belt or chain.

Mandrel

Tooling or a machine component used to provide internal support. It can be a spindle or shaft on which a tool is mounted, such as a drill bit.

Manlift

A device consisting of a power-driven endless belt moving in one direction only, and provided with steps or platforms and handholds attached to it for the transportation of personnel from floor to floor.

Manual feeding

The operator puts material or the part being processed into the press for each cycle (stroke).

Maximum exposure angle

The largest part of a wheel that does not need to be covered by a safety guard.

Miter gage

A device used as a work piece pusher, guided by a table groove.

Miter saw

A cutoff saw with a means of work support. It utilizes a powered arbor on an arm that pivots about a point located behind the saw arbor at approximately the same height. The saw arbor may also slide vertically. In the at-rest position, the saw blade is above the maximum capacity work piece.

Mode

The state or condition of the control system that allows specific operations of the machine.

Modified Types 6 and 11 wheels (terrazzo)

Similar to Type 6 "straight cup" wheels and Type 11 "flaring cup" wheels except for the bottom of the cup. The bottom of the cup is flat in Type 6 and 11 wheels. The modified wheels have bottoms that are sloped downwards towards the mounting hole. These modified wheels need to be mounted using a special tapered flange furnished by the tool manufacturer. These wheels are used in the terrazzo trade.

Molding machine

A machine that uses more than one arbor-mounted cylindrical, rotating cutting tool. It also uses power feeding, where

once a work piece is engaged, it carries the work piece linearly through the balance of the intended operations, without further operator action. Operations can be performed on all surfaces of a work piece. Work pieces can be hopper- or hand-loaded and are fed ribbon-style into the machine.

Mortiser

A machine designed to produce a square or rectangular cavity through use of a moving, forming, or reciprocating tool. Means are provided to clamp and support the stock, and either move the stock into the tool or the tool into the stock.

Moulder

A machine in which the dough pieces are shaped and formed prior to final proofing.

Mounted wheels

Bonded abrasive wheels of various shapes, usually two inches diameter or smaller, that are secured to plain or threaded steel shafts or mandrels.

Movable barrier device

See **gate or movable barrier device**.

Nip-point belt and pulley guard

A guard that encloses the pulley and has rounded or rolled edge slots for the belt to pass through.

Off-hand grinding

Grinding of a work piece that is held in the operator's hand.

Overland conveyor

A single or series of belt conveyors designed to carry bulk material long distances, usually following the general contour of the land.

Part revolution clutch

Type of clutch that can be disengaged before the press slide completes a full stroke.

Pedestal grinder

An off-hand grinding machine similar to a bench grinder mounted on or otherwise attached to a floor-mounted pedestal.

Pinch point

Any point, other than the point of operation, where it is possible for a part of the body to be caught between moving parts or between a moving part and stationary one.

Planer

A machine with at least one cylindrical cutter head, that includes one or more inserted knife or cutting edge. A planer has a cutter head mounted over a means of work support. It also uses either an adjustable work support or cutter head to size the stock. The work piece is usually power-fed.

Point of operation

The area on a machine where work is actually performed upon the material being processed.

Power-driven hammers

Types of drop hammers in which the ram is raised for each stroke by a double-action steam, air, or hydraulic cylinder, and the energy delivered to the work piece is supplied by the velocity and weight of the ram and attached upper die driven downward by steam, air, or hydraulic pressure. Energy delivered during each stroke may be varied.

Power transmission parts

The mechanical components of a piece of equipment that, together with a source of power (sometimes referred to as a prime mover), provide the motion to a part of a machine or piece of equipment.

Presence-sensing device

A device that creates a sensing field, area, or plane to detect the presence of an individual or object.

Presence-sensing device initiation (PSDI)

Operating mode of a mechanical power press where a single cycle (stroke) is initiated by a presence-sensing device when it senses that the operator has finished feeding or removing parts and all parts of the operator's body are withdrawn from the sensing field of the device.

Pull-back device

A device attached to the operator's hands and connected to the upper die or slide of the press that will pull the operator's hands out of the point of operation as the dies close.

Push block

A nonmetallic device with one or more handles. A push block also has a flat bottom surface with either a heel or friction material on it, used as a hold-down and feed device. The purpose of this is to provide a safe distance between the hands and the cutting tool.

Pusher-bar conveyor

Two endless chains cross-connected at intervals by bars or pushers that propel the load along the bed or trough.

Push stick

A nonmetallic stick shaped device designed to provide a safe distance between the hands and the cutting tool. It has, as part of its design, a notched end with a heel and toe to hold down and feed the work piece past the cutting tool.

Racks

Carriers of pans, panned dough and bakery products. They are usually constructed of metal and mounted on casters or provided with trolleys for use on a monorail system.

Reinforced wheels

Organic bonded abrasive wheels which have webbing, fabric or filament to provide resistance to complete breaking of the wheel should it become cracked or damaged.

Repeat

An unintended or unexpected successive stroke of the press resulting from a malfunction.

Restraint device

A device with attachments for the operator's hands and wrists that prevent the operator from reaching into the hazardous area.

Return-belt idlers

A roller that supports the return run of the conveyor belt.

Ripping

A sawing operation made through the thickness of the work piece with the grain of natural wood, along the long dimension of a rectangular work piece, and usually parallel to that edge on reconstituted wood products. Two or more pieces result from the operation.

Rivet-making machines

The same as upsetters and bolt-headers when producing rivets with stock diameter of one inch or more.

Riving knife

See **spreader**.

SFPM

See **surface feet per minute**.

Safeguarding by location

Because of its location, no employee can inadvertently come in contact with a hazard during operation, maintenance, or servicing.

Safeguarding by distance

Employees are kept far enough from a hazard that they will not contact or be injured by the hazard.

Safeguarding device

See **device**.

Safety block

A prop inserted between the upper and lower dies or between the bolster plate and the face of the slide to prevent the slide from falling of its own weight.

Safety cylinder

This safety device may be of the direct cushion type integral with the main cylinder or it may be of the separate cushion type whereby a constant supply of live steam or air is applied behind a separate piston adjacent to the main cylinder. A spring, suitably constrained, may also be employed.

Safety cylinder head

An air cushion at the top of the hammer, just below the head, to protect the head from damage by the piston.

Scale

Any layer or leaf of metal resembling the scale of a fish in size and thinness; such as a scale of iron.

Screw conveyor

A screw or auger that revolves in a suitably shaped trough or casing, used to move material in one specific direction.

Shaper

A machine that uses one or more vertical spindles that are either fixed or able to be tilted, usually with an arbor mounted rotating cylindrical cutter, to form decorative or functional forms on a manually or power-fed work piece. The work piece is supported on a stationary or moving table. A guide, fixture, or template is used to control the operation. The spindle can be mounted above or below the work support means.

Sheeter

A machine that forms dough into a sheet by compression through one or more sets of driven rolls.

Sifter

A device that sifts flour. Sifter types are brush, oscillating, or vibrating.

Single stroke mechanism

Used on a full revolution clutch to limit the travel of the slide to one complete stroke at each engagement of the clutch.

Slat and roller slat conveyor

A conveyor employing one or more endless chains to which nonoverlapping, noninterlocking, spaced slats are attached.

Slide

Part of the press that moves back and forth in a straight line. Also called a ram, plunger, or platen.

Snagging

Grinding which removes relatively large amounts of material without regard to close tolerances or surface finish.

Spreader

A flat metal device slightly narrower than the saw kerf. It is designed to prevent the saw blade kerf in the work piece from closing on the sides of the blade during a sawing operation.

Steam hammers

A type of drop hammer where the ram is raised for each stroke by a double-action steam cylinder and the energy delivered to the work piece is supplied by the velocity and weight of the ram and attached upper die driven downward by steam pressure. Energy delivered during each stroke may be varied.

Stripper

A mechanism or die part for removing parts or material from the punch.

Surface feet per minute (SFPM)

A measure of the speed of a point on the periphery (outer edge) of an abrasive wheel. It is calculated using the formula:
SFPM = .262 x diameter of the wheel (in inches) x RPM (revolutions per minute)

Example:

Wheel diameter = 24 inches

Spindle speed = 1000 RPM

SFPM = .262 x 24 x 1000 = 3,144 SFPM

Sweep device

A single or double arm (rod) attached to the upper die or slide of the press that is designed to move the operator's hands to a safe position as the dies close. Sweep devices are not allowed for point-of-operation safeguarding.

Swing saw/overhead swing cutoff saw

A machine with a means of work support using a powered arbor and circular saw blade that pivots about a point located above the saw arbor.

Tenoning machine

A machine designed to use two or more cylindrical cutters, or one or two circular saws, to size or prepare (or both) the ends of a work piece. The work piece is supported on a table or conveying means. A means for clamping the work piece is provided.

Terrazzo

A material of stone chips, such as marble, set in mortar and polished.

Threaded hole wheels

Abrasive wheels that have one central threaded bushing, securely anchored in place. They are mounted by being screwed onto a threaded machine spindle so that the wheel back seats firmly against an unrelieved flat back flange.

Tongs

Metal holder used to handle hot or cold forgings.

Tongue guard

An integral part of a safety guard that is located where the upper exposed part of the abrasive wheel meets the safety guard. It can be adjusted as necessary to maintain a set distance from the constantly decreasing diameter of the wheel.

Tooling

Elements for guiding or imparting a desired configuration to the material.

Top grinding

Grinding done above the horizontal centerline of the wheel.

Towed conveyor

An endless chain supported by trolleys from an overhead track or running in a track on the floor with means for towing floor-supported trucks, dollies, or carts.

Trimming presses

A class of auxiliary forging equipment that removes flash (metal splash) or excess metal from a forging. This trimming operation can also be done cold, as in can coining, a product-sizing operation.

Trip (or tripping)

Momentary actuation of the activating control to initiate the cycle (stroke).

Trued

When the cutting surfaces of an abrasive wheel have been reshaped to expose new sharp cutting surfaces.

Turnover bar

A bar used in die setting to manually turn the crankshaft of the press.

Two-hand device

A device that requires the concurrent use of both of the operator's hands to both initiate and continue the machine cycle during the hazardous portion of the machine cycle.

Two-hand trip device

A device that requires concurrent operation of the trip controls or levers by the operator's hands to initiate the machine cycle.

Type A movable gate

A device that encloses the hazardous area when the machine cycles and does not open until the end of the cycle.

Type B movable gate

A device that encloses the hazardous area when the machine cycles and opens when hazardous motion of the cycle is over. Type B devices are not allowed on full revolution type machinery.

Type 1 wheel

An abrasive wheel shaped like a disc with a mounting hole in the middle. Sometimes called a "straight wheel." It has diameter (D), thickness (T), and hole size (H) dimensions. Grinding is normally done on the periphery (outside curve) of the wheel (T dimension). Can be used for grinding, cutting-off, and tuck pointing.

Type 2 wheel

An abrasive wheel shaped like an open-ended, hollow cylinder. Sometimes called a cylinder wheel. It has diameter (measured from the outer wall of the cylinder), wheel thickness (height of the cylinder), and rim thickness (thickness of the cylinder wall). Grinding is done on the end of the cylinder (rim thickness dimension).

Type 6 wheel

An abrasive wheel shaped like a straight-sided cup or bowl with a mounting hole in the bottom of the cup. Sometimes called a "cup wheel." It has diameter (D), thickness (T), hole size (H), rim thickness (W), and back thickness (E) dimensions. Grinding is normally done on the cup rim (W dimension).

Type 11 wheel

An abrasive wheel shaped like a cup or bowl with a mounting hole in the bottom of the cup. The sides of the cup are not straight-sided but are angled outward. Sometimes called a "flaring cup wheel" since the sides are "flared" out. It has double diameter dimensions (top D and bottom J). It also has thickness (T), hole size (H), rim thickness (W) and back thickness (E) dimensions. Grinding is normally done on the cup rim (W dimension).

Type 16, 17, 18, 18R, and 19 wheels

See cone and plug wheels.

Type 27 wheel

An abrasive wheel similar to a Type 1 wheel, but the center of the wheel around the mounting hole is pushed back (depressed). Sometimes called a "depressed center" wheel. It has diameter (D), thickness (U) and hole size (H) dimensions. The depressed center allows grinding on the flat surface of the wheel without interference from the flange or mounting hardware.

Type 27A cutting-off wheel

Similar to a Type 27 wheel. Specifically designed for use on cutting-off machines.

Type 28 wheel

An abrasive wheel similar to a Type 27 wheel, but the face of the wheel is angled upward and away from the mounting hole. The face of a Type 27 wheel is flat and perpendicular to the mounting hole. A Type 28 wheel is also called a "depressed center" wheel. It has diameter (D), thickness (U) and hole size (H) dimensions. The depressed center allows grinding without interference from the mounting. A Type 28 wheel has a saucer-shaped grinding rim and is designed for corner grinding and side grinding.

Type 29 wheel

An abrasive wheel that has reversed, saucer-shaped grinding rims (similar to a partially opened umbrella).

Unitized tooling

A die that has the upper and lower members incorporated into a self-contained unit that holds the die members in alignment.

Upsetters (or forging machines, or headers)

A type of forging equipment, related to the mechanical press, in which the main forming energy is applied horizontally to the work piece that is gripped and held by prior action of the dies.

Wood products

Wood products include wood and reconstituted wood products that generate chips or dust in the processing of a wood piece.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-028, § 296-806-500, filed 6/29/04, effective 1/1/05.]

**Chapter 296-807 WAC
PORTABLE POWER TOOLS**

WAC

- 296-807-100 Scope.
- 296-807-110 Switches (controls).
- 296-807-11005 Make sure switches are safe.
- 296-807-120 Portable circular saws.
- 296-807-12005 Make sure portable circular saws are safe to use.
- 296-807-130 Portable belt sanding machines.
- 296-807-13005 Guard portable belt sanding machines.
- 296-807-140 Compressed air tools.
- 296-807-14005 Follow the manufacturer's instructions.
- 296-807-14010 Prevent air tools from ejecting attachments.
- 296-807-14015 Protect employees from contact with compressed air.
- 296-807-14020 Make sure safeguards are used when cleaning with compressed air.
- 296-807-14025 Make sure air hose and plastic pipe supplying compressed air to portable air tools are safe.
- 296-807-14030 Make sure air tools are adequately designed and constructed.
- 296-807-14035 Use air tools safely.
- 296-807-14040 Make sure fastener driving air tools (nailers and staplers) are safe.
- 296-807-150 Powder actuated fastening systems.
- 296-807-15005 Make sure tool operators are qualified.

296-807-15010	Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE).
296-807-15015	Make sure tools are adequately designed and constructed.
296-807-15020	Make sure tools and containers are properly labeled.
296-807-15025	Make sure powder loads and power levels are properly identified.
296-807-15030	Use proper powder loads.
296-807-15035	Make sure the tool is appropriate to the job.
296-807-15040	Make sure the operator uses the tool safely.
296-807-15045	Use fasteners safely.
296-807-15050	Inspect and maintain tools properly.
296-807-15055	Make sure tools are stored properly.
296-807-160	Power lawnmowers.
296-807-16005	Make sure equipment meets minimum design and construction requirements.
296-807-16010	Make sure the equipment has the appropriate labels and decals.
296-807-16015	Make sure the operator understands and follows instructions before starting the mower.
296-807-16020	Use the equipment safely.
296-807-16025	Protect employees from fuel and exhaust.
296-807-16030	Use walk-behind mowers safely.
296-807-16035	Use ride-on mowers safely.
296-807-170	Jacks.
296-807-17005	Make sure jacks are labeled with their rated load(s).
296-807-17010	Make sure the jack is safe to lift the load.
296-807-17015	Lift the load safely.
296-807-17020	Visually inspect jacks and keep them in good working order.
296-807-180	Portable tools using abrasive wheels.
296-807-18005	Make sure abrasive wheels and tools are properly designed and constructed.
296-807-18010	Make sure machines have safety guards.
296-807-18015	Keep safety guards in good functional condition.
296-807-18020	Use specific safety guards for machines using Type 1 grinding wheels, cutting-off wheels, and tuck pointing wheels.
296-807-18025	Use specific safety guards for vertical and angle grinders using Type 6 or Type 11 wheels.
296-807-18030	Use specific safety guards for vertical and angle grinders using Type 27, 28 and 29 wheels.
296-807-18035	Use side handles on vertical and angle grinders.
296-807-18040	Make sure abrasive wheels are safe to use.
296-807-18045	Mount wheels properly.
296-807-18050	Use proper flanges.
296-807-18055	Make sure flanges are in good condition.
296-807-18060	Use specific flanges for Type 1 cutting-off wheels.
296-807-18065	Use specific flanges for Type 27A cutting-off wheels.
296-807-18070	Use specific flanges for threaded hole wheels.
296-807-18075	Use specific flanges for cup, cone or plug wheels with threaded inserts or projecting studs.
296-807-18080	Use blotters when required.
296-807-18085	Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo).
296-807-190	Definitions.

WAC 296-807-100 Scope. This chapter applies to the tools and equipment shown in Table 1, Scope of this chapter.

**Table 1
Scope of this Chapter**

Section:	Applies to:
110 Switches (controls)	Hand-held portable power tools.
120 Portable circular saws	Hand-held portable circular saws.
130 Portable belt sanding machines	Hand-held portable belt sanding machines.
140 Compressed air tools	Hand-held portable compressed air powered tools. It also applies to airhose and plastic pipe used to supply compressed air to these tools.

Section:	Applies to:
150 Powder actuating fastening systems	Powder actuated fastening systems designed to use the expanding gases from a powder load to propel a stud, pin, fastener, or other object into hard structural material.
160 Power lawnmowers	Consumer and commercial power lawnmowers.
170 Jacks	Portable hand- or power-operated: <ul style="list-style-type: none"> • Hydraulic jacks • Mechanical ratchet jacks • Mechanical screw jacks.
180 Portable tools using abrasive wheels	Portable tools using abrasive wheels.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-807-100, filed 1/24/07, effective 4/1/07; 03-09-009, § 296-807-100, filed 4/4/03, effective 8/1/03.]

WAC 296-807-110 Switches (controls). Summary.

Your responsibility:

Make sure hand-held portable power tools have safe switches (controls).

Exemption:

WAC 296-807-110 does not apply to:

- Concrete vibrators
- Concrete breakers
- Powered tampers
- Jack hammers
- Rock drills
- Garden appliances
- Household and kitchen appliances
- Personal care appliances
- Medical or dental equipment
- Fixed machinery.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-110, filed 4/4/03, effective 8/1/03.]

WAC 296-807-11005 Make sure switches are safe.

You must:

(1) Make sure the operating switch is located in a position that makes it difficult to accidentally operate the tool.

(2) Use the correct operating switch.

• Make sure hand-held gasoline-powered chain saws have a constant pressure throttle control that will shut off power to the chain when the pressure is released.

• Use a constant pressure switch that will shut off the power when the switch is released to turn on or operate any hand-held power tool.

Exemptions:

• Some tools can use a lock-on feature with the constant pressure switch if the lock-on feature can be turned off with a single motion of the same finger(s) that turned it on. You can use a lock-on feature with these hand-held tools:

- Drills
- Tappers
- Fastener drivers
- Grinders using a wheel greater than two inches in diameter

- Disc sanders
- Belt sanders
- Reciprocating saws
- Saber, scroll and jig saws using a blade with a shank width greater than one-quarter inch
- Other similarly operating powered tools.
- You can use a positive "on-off" switch with these hand-held tools:
 - Platen sanders
 - Grinders using a wheel two inches or less in diameter
 - Routers
 - Planers
 - Laminate trimmers
 - Nibblers
 - Shears
 - Saber, scroll and jig saws using a blade with a shank width of one-quarter inch (± .05 inch) or less.

Note: The shank width of saber, scroll and jig saw blades is measured at the narrowest point on the blade shank.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-11005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-120 Portable circular saws.

Your responsibility:

Make sure portable circular saws are safe.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-120, filed 4/4/03, effective 8/1/03.]

WAC 296-807-12005 Make sure portable circular saws are safe to use.

You must:

- (1) Use a constant pressure switch to turn on or operate any circular saw using a blade that has a diameter greater than two inches.
- (2) Remove cracked saws and saw blades from service.
- (3) Make sure power driven circular saws that have a blade diameter larger than two inches have guards above and below the base plate (shoe) as listed in Table 2, Portable circular saw guarding requirements.

Table 2

Portable Circular Saw Guarding Requirements

Upper Guard	Lower Guard
Covers the blade to the depth of the teeth, except for the minimum arc necessary to allow the base to tilt for bevel cuts.	Covers the blade to the depth of the teeth, except for the minimum arc necessary to allow proper: <ul style="list-style-type: none"> • Retraction of the guard • Contact with the work. Automatically and instantly returns to the position covering the blade when the saw is withdrawn from contact with the work.

Exemption: Guarding requirements in subsection (3) of this section do not apply to saws used in the meat cutting industry to cut meat.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-12005, filed 4/4/03, effective 8/1/03.]

(2009 Ed.)

WAC 296-807-130 Portable belt sanding machines.

Your responsibility:

Make sure portable belt sanding machines are safe.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-130, filed 4/4/03, effective 8/1/03.]

WAC 296-807-13005 Guard portable belt sanding machines.

You must:

- Guard:
 - Nip points where the sanding belt runs onto a pulley
 - The unused run of the sanding belt.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-13005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-140 Compressed air tools. Summary.

This section applies to portable, hand-held compressed air powered tools. It also applies to air hose and plastic pipe used to supply compressed air to these tools.

Your responsibility:

Make sure compressed air and compressed air tools are used safely.

You must:

GENERAL TOOL REQUIREMENTS

Follow the manufacturer's instructions

WAC 296-807-14005

Prevent air tools from ejecting attachments

WAC 296-807-14010

CONTACT WITH COMPRESSED AIR

Protect employees from contact with compressed air

WAC 296-807-14015

CLEANING

Make sure safeguards are used when cleaning with compressed air

WAC 296-807-14020

AIRHOSE AND PLASTIC PIPE

Make sure air hose and plastic pipe supplying compressed air to portable air tools are safe

WAC 296-807-14025

TOOL DESIGN AND CONSTRUCTION

Make sure air tools are adequately designed and constructed

WAC 296-807-14030

TOOL USE

Use air tools safely

WAC 296-807-14035

FASTENER DRIVING TOOLS

Make sure fastener driving air tools (nailers and staplers) are safe

WAC 296-807-14040.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-140, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14005 Follow the manufacturer's instructions.

You must:

- Follow the manufacturer's instructions for safe use of the tool.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14010 Prevent air tools from ejecting attachments.**You must:**

- **Make sure the tool cannot accidentally eject an attachment.**

Note: A retainer is needed if the tool does not have a positive method of keeping the attachment in the tool.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14010, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14015 Protect employees from contact with compressed air.**You must:**

- **Make sure a tool nozzle or an airhose opening is not:**
 - Pointed at anyone
 - Allowed to contact a person's body.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14015, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14020 Make sure safeguards are used when cleaning with compressed air.**You must:**

- **Use the following when cleaning with compressed air:**
 - Air pressure that has been reduced to less than 30 p.s.i. static pressure at the nozzle
 - Effective chip guarding.

Note: ■ You may use air pressure greater than 30 p.s.i. if you use a nozzle with vents, holes, flaps or slots that will direct the air flow away from the tip of the nozzle and will reduce the air flow to less than 30 p.s.i. if the nozzle becomes blocked.
 ■ Effective chip guarding means any method or equipment that protects the eyes and skin of the cleaner and other workers from flying chips or particles. Examples include:
 – A protective cone around the nozzle to protect the cleaner
 – Barriers, baffles or screens to protect other workers.

Reference: Appropriate personal protective equipment (PPE) needs to be worn when cleaning with compressed air. See WAC 296-800-160 in the safety and health core rules.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14020, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14025 Make sure airhose and plastic pipe supplying compressed air to portable air tools are safe.**You must:**

- (1) Make sure the airhose and hose connections are suitable for the:
 - Air pressure
 - Use.
- (2) Make sure any plastic pipe used to supply compressed air for portable air tools has been specifically identified by the manufacturer as being suitable for compressed air use.

Note: Existing unapproved pipe that is buried underground or enclosed in shatter-resistant material is acceptable only if it completely eliminates the hazards created by the brittle nature of the pipe.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14025, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14030 Make sure air tools are adequately designed and constructed.**Exemption:**

[Title 296 WAC—p. 2864]

This section does not apply to:

- Tools specifically for medical or dental use
- Tools specifically for use in the food processing industry
- Tools mounted in stationary installations
- Air hoists
- Construction and mining tools such as paving breakers, diggers, tampers, and rock drills.

You must:

- Make sure portable, hand-held air tools meet the requirements of:
 - ANSI B186.1-1984, Safety Code for Portable Air Tools.

OR

- ANSI/ISANTA SNT-101-1993, Portable, Compressed-Air-Actuated, Fastener Driving Tools-Safety Requirements for.

Note: There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14030, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14035 Use air tools safely.**Exemption:**

This section does not apply to:

- Tools specifically for medical or dental use
- Tools specifically for use in the food processing industry
- Tools mounted in stationary installations
- Air hoists
- Construction and mining tools such as paving breakers, diggers, tampers, and rock drills.

You must:

(1) Relieve the pressure in the air line before disconnecting a compressed air tool from the line or disconnecting a hose joint unless there is automatic valve closing protection at the joint being separated.

(2) Disconnect the tool from the compressed air supply before repairs are done.

(3) Make sure that eye protection is worn at all times by:

- The person operating the tool
- Other persons in the area where tools are being used.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-807-14035, filed 1/24/07, effective 4/1/07; 03-09-009, § 296-807-14035, filed 4/4/03, effective 8/1/03.]

WAC 296-807-14040 Make sure fastener driving air tools (nailers and staplers) are safe.**You must:**

(1) Make sure any fastener driving air tool discharges all air in the tool when disconnected from the compressed air supply.

(2) Make sure that all pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

- Note:** Pneumatic nailers or staplers do not need this safety device if:
- The overall weight of the fastening device does not exceed the weight of one and one-half inches of standard 18-gauge wire. The normal maximum diameter tolerance for manufacturing standard 18-gauge wire is .045 inches.
 - The operator and any other person within twelve feet of the point of operation wear approved eye protection.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-14040, filed 4/4/03, effective 8/1/03.]

WAC 296-807-150 Powder actuated fastening systems. Summary.

IMPORTANT:

This section applies to any powder actuated fastening system designed to use the expanding gases from a powder load to propel a stud, pin, fastener, or other object into hard structural material.

Exemption:

This section does not apply to:

- Devices designed to attach objects to soft construction material such as wood, plaster, tar, and dry wallboard
- Stud welding equipment.

Your responsibility:

Make sure powder actuated fastening systems are used safely.

You must:

TOOL OPERATORS

Make sure tool operators are qualified

WAC 296-807-15005

PERSONAL PROTECTIVE EQUIPMENT

Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)

WAC 296-807-15010

TOOL DESIGN AND CONSTRUCTION

Make sure tools are adequately designed and constructed

WAC 296-807-15015

LABELING

Make sure tools and containers are properly labeled

WAC 296-807-15020

POWDER LOADS

Make sure powder loads and power levels are properly identified

WAC 296-807-15025

Use proper powder loads

WAC 296-807-15030

TOOL USE

Make sure the tool is appropriate to the job

WAC 296-807-15035

Make sure the operator uses the tool safely

WAC 296-807-15040

FASTENERS

Use fasteners safely

WAC 296-807-15045

INSPECTION AND MAINTENANCE

Inspect and maintain tools properly

WAC 296-807-15050

STORAGE

Make sure tools are stored properly

WAC 296-807-15055

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-150, filed 4/4/03, effective 8/1/03.]

(2009 Ed.)

WAC 296-807-15005 Make sure tool operators are qualified.

You must:

- Make sure tools are used only by qualified operators
- Make sure operators have been trained by an authorized instructor.

Note: Authorized instructors have to meet the instructor qualifications of ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.

You must:

- Make sure all tool operators can:
 - Understand the manufacturer's instructions
 - Clean the tool properly
 - Recognize any visibly worn or damaged parts
 - Identify power load levels
 - Operate the tool correctly.
- Make sure tool operators have a valid qualified operator's card in their possession when they are using the tool.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15010 Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE).

You must:

(1) Make sure eye or face protection is worn by:

- Tool operators
- Assistants
- Persons close to where the tool is being used.

You must:

(2) Post signs where tools are being used and in adjacent areas where tool use could pose a hazard. Signs must:

- Be easily seen
- Be at least 8 x 10 inches (20 x 25 cm)
- Use letters in boldface type at least one inch (2.5 cm) high

• Read "POWDER ACTUATED TOOL IN USE" or similar wording.

Note: Tool use could create a hazard in adjacent areas by allowing a fastener to penetrate one or more of the following:

- Wall
- Floor
- Other working surface.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-807-15010, filed 1/24/07, effective 4/1/07; 03-09-009, § 296-807-15010, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15015 Make sure tools are adequately designed and constructed.

You must:

(1) Make sure the tool meets the design and construction requirements of the American National Standards Institute (ANSI) standard ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.

Note: There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

You must:

- (2) Make sure each tool has:
- Operator instructions and a tool service manual
 - Powder load and fastener chart
 - Service tools and accessories.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15015, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15020 Make sure tools and containers are properly labeled.

You must:

- (1) Make sure tools are properly labeled.
 - Make sure each tool has a readable, permanent label that shows the manufacturer's:
 - Model number
 - Unique serial number.
 - Make sure there is a durable warning label on each tool that:
 - Reads "WARNING - FOR USE ONLY BY QUALIFIED OPERATORS ACCORDING TO MANUFACTURER'S INSTRUCTION MANUAL"

OR

- Uses words with the same meaning.
- (2) Make sure the tool storage container has these labels:
 - "POWDER ACTUATED TOOL" on the outside of the container in an easily seen position
 - "WARNING - POWDER ACTUATED TOOL. TO BE USED ONLY BY A QUALIFIED OPERATOR AND KEPT UNDER LOCK AND KEY WHEN NOT IN USE" on the inside cover.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15020, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15025 Make sure powder loads and power levels are properly identified.

You must:

- Make sure powder loads and power levels are identified as specified in Table 3, Powder-Load Identification

**Table 3
Powder-Load Identification**

	Power Level	Color Identification	
		Case Color	Load Color
Lowest Level	1	Brass	Gray
	2	Brass	Brown
	3	Brass	Green
	4	Brass	Yellow
	5	Brass	Red
	6	Brass	Purple
	7	Nickel	Gray
	8	Nickel	Brown
	9	Nickel	Green
	10	Nickel	Yellow
Highest power level	11	Nickel	Red
	12	Nickel	Purple

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15025, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15030 Use proper powder loads.

You must:

- Use only a powder load that is:
 - Recommended by the tool manufacturer for the particular tool
- OR**
- One that provides the same level of safety and performance.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15030, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15035 Make sure the tool is appropriate to the job.

You must:

- (1) Use the lowest velocity class of tool and load that will properly set the fastener.
- (2) Use the proper shield, fixture, adaptor, or accessory that is:
 - Suitable for the job
 - Recommended and supplied by the manufacturer.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15035, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15040 Make sure the operator uses the tool safely.

You must:

- (1) Make sure the operator:
 - Inspects the tool before using it, as recommended by the tool manufacturer
 - Uses the tool according to the manufacturer's instructions
 - Keeps the tool unloaded until just before using it
 - Unloads the tool at once if work is interrupted after the tool has been loaded
 - Does not leave a tool or powder load unattended where it would be available to an unauthorized person
 - Never points a tool (loaded or unloaded) at any part of a person's body.

Note: A magazine or clip fed tool is not considered loaded until a powder load is actually in the ram (firing chamber).

You must:

- (2) Make sure tools are not used in an explosive or flammable atmosphere.
- (3) Do this if the tool misfires:
 - Hold it firmly against the work surface for thirty seconds

Then

- Follow the instructions in the tool manufacturer's instruction manual.
- (4) Hold the tool perpendicular to the work surface when fastening to any material.

Exemption:

This does not apply if the tool manufacturer recommends a different technique for a specific job.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15040, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15045 Use fasteners safely.

You must:

- (1) Use fasteners:
 - Recommended by the tool manufacturer for the particular tool
- OR**
- Fasteners that provide the same level of safety and performance.
- (2) Keep the fastener from passing completely through the structural material by using a backing material when driving a fastener into any material that is any of the following:
 - Easily penetrated

- Thin
- Of questionable resistance.

(3) Make sure the material is suitable for fastening. Do not drive fasteners into very hard or brittle material such as:

- Cast iron
- Glazed tile
- Hardened steel
- Glass block
- Natural rock
- Hollow tile
- Most brick.

(4) Make sure positive alignment with an existing hole is maintained by using a guide or other means supplied or recommended by the tool manufacturer before driving a fastener into the hole.

(5) Make sure fasteners are not driven into any spalled (chipped or crumbled) area.

(6) Drive fasteners into concrete only if the fastener shank will penetrate no more than one-third the thickness of the concrete.

(7) Make sure fasteners are driven at least:

- One-half inch (13 mm) from the edge of steel
- Three inches (75 mm) from the unsupported edge of masonry material.

Exemption:

This does not apply if an application is specifically required or recommended by the tool manufacturer.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15045, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15050 Inspect and maintain tools properly.

You must:

- Make sure any tool that is not in proper working condition is:
 - Immediately removed from service
 - Tagged
 - Properly repaired as specified in the manufacturer's instructions before being used again.
- Regularly service the tool and inspect it for worn or damaged parts at intervals recommended by the tool manufacturer.
- Replace worn or damaged parts before the tool is used.

This must be done:

- By a qualified person
- Using only parts supplied by the tool manufacturer.
- Keep a written record of inspection dates.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15050, filed 4/4/03, effective 8/1/03.]

WAC 296-807-15055 Make sure tools are stored properly.

You must:

- (1) Make sure there is a container that can be locked for each tool.
- (2) Make sure tools and powder loads that are not being used are:
 - Locked in a container
 - Stored in a safe place
 - Only available to authorized persons.

(3) Store all manuals, maintenance tools, and accessories in the tool container when they are not being used.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-15055, filed 4/4/03, effective 8/1/03.]

WAC 296-807-160 Power lawnmowers. Summary. Exemption:

This section does not apply to commercial equipment that is:

- Designed primarily for agricultural purposes
- OR**
- Designed primarily to be operated with tractors having at least twenty horsepower for cutting grass or other growth on highways.

Your responsibility:

Make sure power lawnmowers are used safely.

You must:

DESIGN AND CONSTRUCTION

Make sure equipment meets minimum design and construction requirements

WAC 296-807-16005

LABELS

Make sure the equipment has the appropriate labels and decals

WAC 296-807-16010

BEFORE STARTING

Make sure the operator understands and follows instructions before starting the mower

WAC 296-807-16015

USE

Use the equipment safely

WAC 296-807-16020

NONELECTRIC MOWERS

Protect employees from fuel and exhaust

WAC 296-807-16025

WALK-BEHIND MOWERS

Use walk-behind mowers safely

WAC 296-807-16030

RIDE-ON MOWERS

Use ride-on mowers safely

WAC 296-807-16035.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-160, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16005 Make sure equipment meets minimum design and construction requirements.

You must:

(1) Make sure equipment meets ANSI design and construction requirements.

- Make sure power lawnmowers manufactured on or after August 1, 2003, meet the requirements of the appropriate ANSI standard:

- ANSI B71.1-1998, American National Standard for Consumer Turf Care Equipment - Walk-Behind Mowers and Ride-On Machines with Mowers - Safety Specifications

OR

- ANSI B71.4-1999, American National Standard for Commercial Turf Care Equipment - Safety Specifications.

- Make sure noncommercial power lawnmowers manufactured before the effective date of this chapter meet the requirements in chapter 296-806 WAC, Machine safety.

Note: There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

You must:

(2) Position, guard or shield all power-driven shafts, chains, belts, gears, friction drive components, nip and pinch points, and any exposed components hot enough to cause burns while:

- Starting
- Mounting
- Operating the machine.

(3) Have a shutoff device that:

- Will stop the motor or engine

AND

• Has to be intentionally and manually activated before the motor or engine can be restarted.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-05-027, § 296-807-16005, filed 2/7/06, effective 4/1/06; 03-09-009, § 296-807-16005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16010 Make sure the equipment has the appropriate labels and decals.

You must:

(1) Make sure all positions of the operating controls are clearly identified.

(2) Make sure warning and caution labels or decals on the mower are readable and replace them if necessary.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-16010, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16015 Make sure the operator understands and follows instructions before starting the mower.

You must:

(1) Make sure the operator understands all instructions for operating the mower that are in the manufacturer's instructions and on the machine.

• Make sure the operator is thoroughly familiar with the controls and proper use of the mower before starting it.

(2) Make sure the proper guards, plates, grass catcher or other safety devices are in place before starting the mower.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-16015, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16020 Use the equipment safely.

You must:

(1) Follow the manufacturer's instructions for safe use of the equipment.

(2) Keep people clear of discharge opening(s).

(3) Keep people's hands and feet clear of rotating parts.

(4) Clear the area of objects such as rocks, toys, wire, bones, sticks, etc., which could be picked up and thrown by the blade and create a hazard for the operator or other persons.

(5) Make sure the operator stops the engine before:

- Leaving the equipment
- Unclogging the grass discharge chute
- Cleaning the mower.

(6) Make sure the operator wears safety goggles or safety glasses with side shields when operating the mower.

Note: Use the personal protective equipment (PPE) hazard assessment to determine the type of footwear and other PPE the employees need to wear. See WAC 296-800-160, PPE, in the safety and health core rules.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-16020, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16025 Protect employees from fuel and exhaust.

Exemption:

This section does not apply to electric engines.

You must:

(1) Make sure to:

- Keep the gas cap on whenever the engine is running.
- Shut off the engine before and during refueling.

(2) Make sure not to refuel the machine indoors.

(3) Make sure not to run the engine in a closed area.

Exemption:

You can refuel the machine indoors or run the engine in a closed area if the area was specifically designed for such use.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-16025, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16030 Use walk-behind mowers safely.

You must:

(1) Make sure the operator wears substantial footwear when operating a walk-behind mower.

Note: Use the personal protective equipment (PPE) hazard assessment to determine the type of footwear and other PPE the employees need to wear. See WAC 296-800-160, PPE, in the safety and health core rules.

You must:

(2) Mow across the face of a slope.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-16030, filed 4/4/03, effective 8/1/03.]

WAC 296-807-16035 Use ride-on mowers safely.

You must:

(1) Make sure not to carry passengers.

(2) Make sure the operator looks down and behind before and while moving backwards.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-16035, filed 4/4/03, effective 8/1/03.]

WAC 296-807-170 Jacks. Summary.

IMPORTANT:

This section applies to portable hand- or power-operated:

- Hydraulic jacks
- Mechanical ratchet jacks
- Mechanical screw jacks.

Your responsibility:

Make sure jacks are safe to use.

You must:

LABELING

Make sure jacks are labeled with their rated load(s)

WAC 296-807-17005

BEFORE USE

Make sure the jack is safe to lift the load

WAC 296-807-17010

LIFTING THE LOAD

Lift the load safely

WAC 296-807-17015

INSPECTION AND MAINTENANCE

Visually inspect jacks and keep them in good working order

WAC 296-807-17020.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-170, filed 4/4/03, effective 8/1/03.]

WAC 296-807-17005 Make sure jacks are labeled with their rated load(s).

You must:

- Make sure the rated load(s) of the jack is:
 - Readable
 - Durably marked in an easily seen location on the jack.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-17005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-17010 Make sure the jack is safe to lift the load.

You must:

(1) Visually examine the general condition of the jack before each use.

Note: If a jack is to be used more than once on a shift, the visual examination is only required before the jack is used for the first time that shift.

You must:

- (2) Make sure the weight to be lifted or supported is within the rated load of the jack.
- (3) Make sure the base of the jack is on a firm foundation or blocked before lifting the load.
- (4) Make sure hydraulic jacks exposed to freezing temperatures function properly at the temperature they will be used.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-17010, filed 4/4/03, effective 8/1/03.]

WAC 296-807-17015 Lift the load safely.

You must:

- (1) Place a block between the load cap and the load if the load could slip off the jack.
- (2) Secure the load from falling or slipping immediately after it is raised by one or more of the following:
 - Cribbing
 - Blocking
 - Some other equally effective method.
- (3) Make sure you do not exceed the limit of travel of the jack.

Note: The limit of travel can be determined by one or more of the following:

- A positive stop
- A stop indicator
- Some other equally effective method.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-17015, filed 4/4/03, effective 8/1/03.]

WAC 296-807-17020 Visually inspect jacks and keep them in good working order.

Note: There are two types of inspection, frequent or periodic, depending on how often they are done.

You must:

- (1) Inspect jacks at appropriate intervals:
 - Make sure frequent inspections are done by the operator or other designated person as follows:
 - Before a jack is first placed in service.
 - Monthly for a jack used in normal service.
 - Daily or before each use for a jack used for other than normal service.
 - Before using a jack that has been altered, modified, or repaired.
 - Before using a jack that has not been used in one year or more.
 - Make sure a periodic inspection of the jack is done once a year.
 - Inspect the jack using Table 4, Jack Inspection Requirements, during any frequent or periodic inspection.
- (2) Make sure a jack that is out of order is:
 - Tagged
 - Not used until repaired.
- (3) Make sure a jack is properly lubricated at regular intervals.

Note: The jack should be lubricated following the manufacturer's instructions.

**Table 4
Jack Inspection Requirements**

Inspection Item	Frequent Inspection	Periodic Inspection
Check all of the following items that apply to the jack:		
Improper pawl engagement	X	X
Excessive pawl wear	X	X
Chipped, cracked, or worn rack teeth	X	X
Cracked or damaged housing	X	X
Damaged, bent, or worn threads	X	X
Leaking hydraulic fluid	X	X
Scored or damaged plunger	X	X
Improper functioning	X	X
Free movement of swivel, heads, and caps	X	X
Loose bolts or rivets	X	X
Damaged or improperly assembled accessory equipment	X	X
Rack wear or bending	X	X
Other items as specified in the manufacturer's instructions	X	X
Watch the jack during operation	X	X
More detailed inspection required if a designated person determines any condition discovered is a hazard	X	

Table 4
Jack Inspection Requirements

Inspection Item	Frequent Inspection	Periodic Inspection
Check all of the following items that apply to the jack: Clean and check internal parts for wear or damage if inspection indicates an internal problem		X
[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-807-17020, filed 1/24/07, effective 4/1/07; 03-09-009, § 296-807-17020, filed 4/4/03, effective 8/1/03.]		
WAC 296-807-180 Portable tools using abrasive wheels. Summary.		
IMPORTANT:		
This section applies to portable tools using abrasive wheels.		
Definition:		
Abrasive wheel. A grinding tool consisting of bonded abrasive grains. This includes diamond and reinforced wheels.		
Exemption: This section does not apply to machines using:		
<ul style="list-style-type: none"> • Natural sandstone wheels • Pulpstone wheels • Coated abrasive products • Loose abrasives. 		
Your responsibility:		
Make sure abrasive wheel tools and wheels are safe to use.		
You must:		
DESIGN AND CONSTRUCTION		
Make sure abrasive wheels and tools are properly designed and constructed		
WAC 296-807-18005		
GUARDS		
Make sure machines have safety guards		
WAC 296-807-18010		
Keep safety guards in good functional condition		
WAC 296-807-18015		
GUARDS - SPECIFIC WHEELS		
Use specific safety guards for machines using Type 1 grinding wheels, cutting-off wheels, and tuck pointing wheels		
WAC 296-807-18020		
Use specific safety guards for vertical and angle grinders using Type 6 or Type 11 wheels		
WAC 296-807-18025		
Use specific safety guards for vertical and angle grinders using Type 27, 28 and 29 wheels		
WAC 296-807-18030		
SIDE HANDLES		
Use side handles on vertical and angle grinders		
WAC 296-807-18035		
ABRASIVE WHEELS		
Make sure abrasive wheels are safe to use		
WAC 296-807-18040		
MOUNTING		
Mount wheels properly		

[Title 296 WAC—p. 2870]

WAC 296-807-18045
FLANGES
Use proper flanges
WAC 296-807-18050
Make sure flanges are in good condition
WAC 296-807-18055
FLANGES - SPECIFIC WHEELS
Use specific flanges for Type 1 cutting-off wheels
WAC 296-807-18060
Use specific flanges for Type 27A cutting-off wheels
WAC 296-807-18065
Use specific flanges for threaded hole wheels
WAC 296-807-18070
Use specific flanges for cup, cone or plug wheels with threaded inserts or projecting studs
WAC 296-807-18075
BLOTTERS
Use blotters when required
WAC 296-807-18080
BLOTTERS - TYPE 6 AND 11 WHEELS
Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo)
WAC 296-807-18085.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060, 03-09-009, § 296-807-180, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18005 Make sure abrasive wheels and tools are properly designed and constructed.

You must:

- Make sure abrasive wheels and tools meet the design and construction requirements of:
 - American National Standards Institute (ANSI) B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels
- OR**
- ANSI B186.1-1984, Safety Code for Portable Air Tools.

Note: Tools may have a statement on the tool or in the instruction manual that the tool meets the appropriate ANSI standard. If in doubt, check with the manufacturer.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060, 03-09-009, § 296-807-18005, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18010 Make sure machines have safety guards.

You must:

- Use abrasive wheels only on machines that have safety guards.
- Make sure the safety guard:
 - Is mounted so it maintains proper alignment with the wheel
 - Is mounted with fasteners strong enough to keep the guard in position if a wheel breaks
 - Is positioned to deflect pieces of an accidentally broken wheel away from the operator
 - Covers the spindle end, nut, and flange projections.

Exemption:

- Safety guards are not required on machines that use:
- Wheels for internal grinding while advancing, retracting or within the work
 - Mounted wheels two inches or less in diameter

(2009 Ed.)

- Types 16, 17, 18, 18R, and 19 cones and plugs and threaded hole pot balls where:

- The work offers protection

OR

- The size does not exceed three inches in diameter by five inches long.

- Notched, segmented, or continuous rim metal centered diamond lapidary wheels that are:

- Used with a coolant deflector

AND

- Operated at 3,500 SFPM or less.

- Type 1 wheels that are:

- Two inches or less in diameter

- One-half inch or less thick

- Operating at peripheral speeds less than 1,800 SFPM

- Mounted on mandrels and used in portable drills.

- Type 1 reinforced wheels that are:

- Three inches or less in diameter one-quarter inch or less thick

- Operating at peripheral speeds of 9,500 SFPM or less

- Used by operators wearing safety glasses and face shields.

- Valve seating grinding wheels.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18010, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18015 Keep safety guards in good functional condition.

You must:

- Make sure safety guards are in good functional condition.

- Replace any safety guard that:

- Is damaged, bent or severely worn

OR

- Has been hit by parts from a breaking wheel.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18015, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18020 Use specific safety guards for machines using Type 1 grinding wheels, cutting-off wheels, and tuck pointing wheels.

You must:

- Make sure the safety guard covers the top and sides of the wheel for at least one hundred eighty degrees.

Note: It is not required to cover the spindle end, nut and outer flange.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18020, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18025 Use specific safety guards for vertical and angle grinders using Type 6 or Type 11 wheels.

You must:

- Make sure the safety guard:

- Covers the wheel's plane of rotation toward the operator for at least one hundred eighty degrees

- Covers the side of the wheel toward the driving flange for at least one hundred eighty degrees

- Has a skirt which is adjustable to within one-eighth inch of the plane of the surface of the wheel.

- Make sure not to use a "revolving cup guard."

(2009 Ed.)

Note: "Cup back bushings" do not substitute for safety guards.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18025, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18030 Use specific safety guards for vertical and angle grinders using Type 27, 28 and 29 wheels.

You must:

- Make sure safety guards:

- Cover the wheel's plane of rotation toward the operator for at least one hundred eighty degrees

- Cover the side of the wheel toward the driving flange for at least one hundred eighty degrees

- Have a lip on the outer edge that:

- Extends beyond the surface of the wheel throughout the one hundred eighty degree coverage

AND

- Curls inward to deflect wheel fragments.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18030, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18035 Use side handles on vertical and angle grinders.

You must:

- Use a side handle on all four-inch and larger vertical and angle grinders.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18035, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18040 Make sure abrasive wheels are safe to use.

You must:

- Do the following before mounting a wheel:

- Visually inspect the wheel for cracks or damage

- Perform a ring test for cracks (size and shape of the wheel permitting)

- Make sure the spindle speed of the machine is not greater than the operating speed of the wheel.

- Make sure a damaged or cracked wheel is not mounted or used.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18040, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18045 Mount wheels properly.

You must:

- (1) Make sure wheels fit freely on the spindle, wheel sleeves, or adaptors, and remain free under all grinding conditions.

- (2) Make sure wheel, blotter and flange surfaces that contact each other are flat and free of foreign particles.

- (3) Make sure any reducing bushing used in the wheel hole:

- Fits freely on the spindle and maintains proper clearance

- Does not exceed the width of the wheel or contact the flanges.

- (4) Make sure that multiple wheels mounted between a single set of flanges are either:

- Cemented together

OR

- Separated by spacers that have a diameter and bearing surface that is the same as the mounting flanges.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18045, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18050 Use proper flanges.

You must:

- Mount all abrasive wheels between flanges that have a diameter at least one-third the diameter of the wheel.

Exemption:

This requirement does not apply to the following types of wheels:

- Mounted wheels
- Cup, cone or plug wheels with threaded inserts or projecting studs
- Abrasive disc wheels (inserted nut, inserted washer and projecting stud type)
 - Plate mounted wheels
 - Cylinder, cup, or segmental wheels mounted in chucks
 - Types 27, 28 and 29 wheels
 - Internal wheels less than two inches in diameter
 - Modified Type 6 and 11 wheels (terrazzo)
 - Types 1 and 27A cutting-off wheels.

You must:

- Make sure flanges are:
 - Dimensionally accurate
 - Properly balanced
 - Flat
 - Free of rough surfaces or sharp edges.
- Make sure, if a wheel is mounted between two flanges, that both flanges:
 - Are the same diameter
 - Have equal bearing surfaces.

Exemption:

The following wheels do not require same diameter, equal bearing surface flanges:

- Types 27, 28, and 29 wheels with adaptors
- Modified Types 6 and 11 wheels with tapered K dimension
- Internal wheels less than two inches in diameter.

You must:

- Make sure the driving flange is:
 - Part of the spindle

OR

- Securely fastened to the spindle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-807-18050, filed 1/24/07, effective 4/1/07; 03-09-009, § 296-807-18050, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18055 Make sure flanges are in good condition.

You must:

- Make sure flange bearing surfaces are in good condition.
- Replace or remachine any flange with a mounting surface that has any of the following problems:
 - Warped
 - Burred on the bearing surface
 - Excessively worn (thickness or diameter)
 - Out of true.

[Title 296 WAC—p. 2872]

Note: Flanges that are refaced or trued need to satisfy minimum dimension requirements specified in ANSI B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18055, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18060 Use specific flanges for Type 1 cutting-off wheels.

You must:

- Mount Type 1 cutting-off wheels between flanges that are:
 - Properly relieved with matching bearing surfaces
 - At least one-quarter the wheel diameter.

Note: American National Standards Institute (ANSI) B7.1-2000, Safety Requirements for the Use, Care and Protection of Abrasive Wheels, has specific exemptions for some reinforced, bonded abrasive cutting-off wheels and steel centered, diamond cutting-off wheels. These wheels are primarily used for masonry cutting and concrete sawing.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18060, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18065 Use specific flanges for Type 27A cutting-off wheels.

You must:

- Mount Type 27A cutting-off wheels between flanges that are:
 - Flat (unrelieved) with matching bearing surfaces
 - At least one-quarter the wheel diameter.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18065, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18070 Use specific flanges for threaded hole wheels.

You must:

- Use a back flange to mount threaded hole wheels that is:
 - Flat (unrelieved)
 - Securely fastened and square to the spindle axis
 - Able to properly support the wheel.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18070, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18075 Use specific flanges for cup, cone or plug wheels with threaded inserts or projecting studs.

You must:

- Mount cup, cone or plug wheels with threaded inserts or projecting studs against a straight, unrelieved flange.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18075, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18080 Use blotters when required.

You must:

- Use a blotter between each flange and the abrasive wheel surface to uniformly distribute flange pressure.
- Make sure the blotter covers the entire flange contact area.
- Use a new blotter each time a wheel is mounted unless the wheel has a blotter already attached to it by the manufacturer.
- Make sure scuffed or damaged blotters are not used.

(2009 Ed.)

Exemption:

You do not need to use a blotter with:

- Mounted wheels
- Abrasive disc and Type 2 wheels which are mounted by inserted nuts, inserted washers, or projecting studs
 - Plate mounted wheels
 - Wheels mounted in chucks (such as cylinders and segmental wheels)
 - Types 27, 28 and 29 wheels
 - Type 1 and Type 27A cutting-off wheels
 - Internal wheels less than two inches in diameter
 - Diamond and cubic boron nitride wheels with metal or carbon fiber cores.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18080, filed 4/4/03, effective 8/1/03.]

WAC 296-807-18085 Meet specific blotter requirements when using modified Types 6 and 11 wheels (terrazzo).

You must:

- Mount modified Types 6 and 11 wheels (terrazzo) with a blotter applied to the flat side of the wheel only.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-18085, filed 4/4/03, effective 8/1/03.]

WAC 296-807-190 Definitions.

Abrasive wheel. A grinding tool consisting of bonded abrasive grains. This includes diamond and reinforced wheels.

Blind hole. A hole drilled in an object, such as an abrasive wheel, that does not go all the way through.

Blotter. A compressible disc or washer, usually of blotting paper, plastic, cardboard, or gasket material, that is used between the wheel and the flanges to evenly distribute flange pressure on the wheel.

Cone and plug wheels (Types 16, 17, 18, 18R, and 19). Abrasive wheels manufactured with blind hole threaded bushings. They may be used on all surfaces except the flat mounting surface (D). Specific characteristics of the different cone and plug wheels are:

- Type 16 cones have a curved side with a nose radius
- Type 17 cones have straight sides with or without a nose radius
 - Type 18 and 18R plug wheels are cylindrical in shape with either a square or curved grinding end
 - Type 19 cone wheels are a combination of cone and plug shapes

Cutting-off wheels. Abrasive wheels used to cut material such as masonry, pipe, etc.

Designated person. A person selected or assigned by the employer or the employer's representative as competent to perform specific duties.

Discharge opening. An opening in a mower housing for discharging grass.

Flanges. Collars, discs or plates between or against which wheels are mounted. There are four types of flanges:

- Adaptor
- Sleeve
- Straight relieved
- Straight unrelieved.

Grass catcher. Parts or a combination of parts to collect grass clippings or debris.

Guard (abrasive wheels). An enclosure designed to restrain the pieces of an abrasive wheel and furnish protection to the operator if the wheel is broken during operation.

Guard. A part or assembly to prevent accidental contact with hazardous machine parts or to protect persons from other hazards created by the machinery.

Inorganic bonded wheel. Abrasive wheels that are bonded by means of inorganic material such as clay, glass, porcelain, sodium silicate, magnesium oxychloride, or metal.

Jack. A portable hand- or power-operated mechanism for lifting, lowering or moving horizontally a load by applying a pushing force.

Modified Types 6 and 11 wheels (terrazzo). Similar to Type 6 "straight cup" wheels and Type 11 "flaring cup" wheels except for the bottom of the cup. The bottom of the cup is flat in Type 6 and 11 wheels. The modified wheels have bottoms that are sloped downwards towards the mounting hole. These modified wheels need to be mounted using a special tapered flange furnished by the tool manufacturer. These wheels are used in the terrazzo trade.

Mounted wheels. Bonded abrasive wheels of various shapes, usually two inches diameter or smaller, that are secured to plain or threaded steel mandrels.

Normal service (jacks). Raising or lowering axial loads that are eighty-five percent or less of the rated load under controlled conditions.

Organic bonded wheels. Abrasive wheels that are bonded by means of organic material such as resin, rubber, shellac, or other similar bonding agent.

Rated load. The maximum load that the jack is designed to lift or support.

Reinforced wheels. Organic bonded abrasive wheels which have webbing, fabric or filament to provide resistance to complete breaking of the wheel should it become cracked or damaged.

Terrazzo. A material of stone chips, such as marble, set in mortar and polished.

Threaded hole wheels. Abrasive wheels that have one central threaded bushing, securely anchored in place. They are mounted by being screwed onto a threaded machine spindle so that the wheel back seats firmly against an unrelieved flat back flange.

Tuck pointing wheels. Tuck pointing abrasive wheels are Type 1 reinforced, organic bonded wheels and have diameter, thickness and hole size dimensions. They are used to remove cement, mortar, or other nonmetallic jointing material.

Type 1 wheel. An abrasive wheel shaped like a disc with a mounting hole in the middle. Sometimes called a "straight wheel." It has diameter (D), thickness (T), and hole size (H) dimensions. Grinding is normally done on the periphery (outside curve) of the wheel (T dimension). Can be used for grinding, cutting-off, and tuck pointing.

Type 2 wheel. An abrasive wheel shaped like an open-ended, hollow cylinder. Sometimes called a cylinder wheel. It has diameter (measured from the outer wall of the cylinder), wheel thickness (height of the cylinder), and rim thickness (thickness of the cylinder wall). Grinding is done on the end of the cylinder (rim thickness dimension).

Type 6 wheel. An abrasive wheel shaped like a straight-sided cup or bowl with a mounting hole in the bottom of the cup. Sometimes called a "cup wheel." It has diameter (D), thickness (T), hole size (H), rim thickness (W), and back thickness (E) dimensions. Grinding is normally done on the cup rim (W dimension).

Type 11 wheel. An abrasive wheel shaped like a cup or bowl with a mounting hole in the bottom of the cup. The sides of the cup are not straight-sided but are angled outward. Sometimes called a "flaring cup wheel" since the sides are "flared" out. It has double diameter dimensions (top D and bottom J). It also has thickness (T), hole size (H), rim thickness (W) and back thickness (E) dimensions. Grinding is normally done on the cup rim (W dimension).

Type 16, 17, 18, 18R, and 19 wheels. See cone and plug wheels.

Type 27 wheel. An abrasive wheel similar to a Type 1 wheel, but the center of the wheel around the mounting hole is pushed back (depressed). Sometimes called a "depressed center" wheel. It has diameter (D), thickness (U) and hole size (H) dimensions. The depressed center allows grinding on the flat surface of the wheel without interference from the flange or mounting hardware.

Type 27A cutting-off wheel. Similar to a Type 27 wheel. Specifically designed for use on cutting-off machines.

Type 28 wheel. An abrasive wheel similar to a Type 27 wheel, but the face of the wheel is angled upward and away from the mounting hole. The face of a Type 27 wheel is flat and perpendicular to the mounting hole. A Type 28 wheel is also called a "depressed center" wheel. It has diameter (D), thickness (U) and hole size (H) dimensions. The depressed center allows grinding without interference from the mounting. A Type 28 wheel has a saucer-shaped grinding rim and is designed for corner grinding and side grinding.

Type 29 wheel. An abrasive wheel that has reversed, saucer-shaped grinding rims (similar to a partially opened umbrella).

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 03-09-009, § 296-807-190, filed 4/4/03, effective 8/1/03.]

**Chapter 296-809 WAC
CONFINED SPACES**

WAC	
296-809-100	Scope.
296-809-200	Summary.
296-809-20002	Identify permit-required confined spaces.

296-809-20004	Inform employees and control entry to permit-required confined spaces.
296-809-20006	Follow these requirements when you contract with another employer to enter your confined space.

PERMIT-REQUIRED CONFINED SPACE PROGRAM

296-809-300	Summary.
296-809-30002	Develop a written permit-required confined space program.
296-809-30004	Meet these additional requirements if your employees enter another employer's confined space.

EMPLOYEE TRAINING

296-809-400	Summary.
296-809-40002	Provide employee training.
296-809-40004	Certify employee proficiency.

PERMIT ENTRY PROCEDURES

296-809-500	Summary.
296-809-50002	Implement procedures for entry permits.
296-809-50004	Use an entry permit that contains all required information.
296-809-50006	Keep and review your entry permits.
296-809-50008	Prevent unauthorized entry.
296-809-50010	Provide, maintain, and use proper equipment.
296-809-50012	Evaluate and control hazards for safe entry.
296-809-50014	Make sure you have adequate rescue and emergency services available.
296-809-50016	Use nonentry rescue systems or methods whenever possible.
296-809-50018	Make sure entry supervisors perform their responsibilities and duties.
296-809-50020	Provide an attendant outside the permit-required confined space.
296-809-50022	Make sure entrants know the hazardous conditions and their duties.
296-809-50024	Implement procedures for ending entry.
296-809-600	Alternate entry procedures.
296-809-60002	Make sure the following conditions are met if using alternate entry procedures.
296-809-60004	Follow these alternate entry procedures for permit-required confined spaces.
296-809-700	Nonpermit confined spaces requirements.
296-809-70002	Follow these requirements when classifying a confined space as a nonpermit confined space.
296-809-70004	Reevaluate nonpermit confined spaces if hazards develop.
296-809-800	Definitions.

WAC 296-809-100 Scope. This chapter applies to all confined spaces and provides requirements to protect employees from the hazards of entering and working in confined spaces. This chapter applies in any of the following circumstances:

- You have confined spaces in your workplace.
 - Your employees will enter another employer's confined spaces.
 - A contractor will enter your confined spaces.
 - You provide confined space rescue services.
- You can use Table 1 to help you decide which requirements to follow for confined spaces.

**Table 1
Requirements for Confined Spaces**

For confined spaces that are	The requirements in the following sections apply					
	200	300	400	500	600	700
Permit-required confined spaces	X	X	X	X	X	X
Entered by a contractor	X	X	X	X	X	X
Nonpermit confined spaces	X					X
Never entered	X					
If you only:						
Use alternate entry procedures	X	X	X		X	
Have a contractor enter your space	X					

For confined spaces that are	The requirements in the following sections apply					
	200	300	400	500	600	700
Are a rescue service provider		X	X	X		

Definition:

A **confined space** is a space that is ALL of the following:

- Large enough and arranged so an employee could fully enter the space and work.
- Has limited or restricted entry or exit. Examples of spaces with limited or restricted entry are tanks, vessels, silos, storage bins, hoppers, vaults, excavations, and pits.
- Not primarily designed for human occupancy.

Rules in other chapters that cover confined spaces may also apply to your work. You can find a list of these rules in the resources section of this chapter.

- Note:**
- Requirements in other chapters may apply to your work. You will find some safety and health requirements are addressed on a broad level in this chapter, while being addressed for a specific application in another rule. When this happens, both requirements apply and should not conflict. When a conflict does occur, you need to follow the more specific requirement.
 - If you are uncertain which requirements to follow, contact your local labor and industries (L&I) office.
 - For a complete list of local L&I offices, see the resources section of the safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-03-081, § 296-809-100, filed 1/20/04, effective 5/1/04.]

WAC 296-809-200 Summary. Identifying and controlling permit-required confined spaces.

Your responsibility:

To identify your permit-required confined spaces and control employee entry.

You must:

Identify permit-required confined spaces.

WAC 296-809-20002

Inform employees and control entry to permit-required confined spaces.

WAC 296-809-20004

Follow these requirements when you contract with another employer to enter your confined space.

WAC 296-809-20006

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-03-081, § 296-809-200, filed 1/20/04, effective 5/1/04.]

WAC 296-809-20002 Identify permit-required confined spaces.

IMPORTANT:

If your workplace contains only nonpermit confined spaces and your employees do not enter another employer's confined space, you may follow only the requirements in:

- WAC 296-809-200, Identifying and controlling permit-required confined spaces; and
- WAC 296-809-700, Nonpermit confined space requirements.

• See the resources section for other chapters covering confined spaces that may apply to your work.

You must:

- Identify all permit-required confined spaces in your workplace.

(2009 Ed.)

- Assume any confined space is a permit-required confined space, unless you determine the space to be a nonpermit confined space.

– If you enter the space to determine the hazards, follow the requirements in WAC 296-809-500, Permit entry procedures.

– If you evaluate the confined space and there are no potential or actual hazards, you can consider it to be a nonpermit confined space.

■ Document your determination that the space is nonpermit, as required by WAC 296-809-700.

Definitions:

A **permit-required confined space or permit space** is a confined space that has one or more of the following characteristics capable of causing death or serious physical harm:

- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material with the potential for engulfing someone who enters the space.
- Has an internal configuration that could allow someone entering to be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers to a smaller cross-section.
- Contains any physical hazard. This includes any recognized health or safety hazards including engulfment in solid or liquid material, electrical shock, or moving parts.
- Contains any other recognized safety or health hazard that could either:

- Impair the ability to self rescue;

OR

- Result in a situation that presents an immediate danger to life or health.

A **nonpermit confined space** is a confined space that does NOT contain actual hazards or potential hazards capable of causing death or serious physical harm.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-03-081, § 296-809-20002, filed 1/20/04, effective 5/1/04.]

WAC 296-809-20004 Inform employees and control entry to permit-required confined spaces.

You must:

(1) Provide information about confined spaces as follows:

- Make available to affected employees and their authorized representatives all information and documents required by this chapter.
- Inform affected employees about the existence, location, and danger of any permit-required confined spaces in your workplace by:
 - Posting danger signs; or
 - Using any other equally effective means to inform employees.

Note: A sign reading "Danger-Permit Required Confined Space, DO NOT ENTER" or using pictures or other similar wording employees can understand would satisfy the requirement for a sign.

You must:

(2) Take effective measures to prevent unauthorized employees from entering permit-required confined spaces.

Note: Examples of measures to prevent employee entry include padlocks, bolted covers, special tools to remove covers, and providing employee training.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-20004, filed 1/20/04, effective 5/1/04.]

WAC 296-809-20006 Follow these requirements when you contract with another employer to enter your confined space.

IMPORTANT:

The contractor is responsible for following all confined space requirements in this chapter and in other rules that apply. For a list of other rules that may apply, see the resources section of this chapter.

You must:

- Do all of the following if you arrange to have another employer (contractor) perform work that involves entry into your permit-required confined space:

- Inform the contractor:

- That the workplace contains permit-required confined spaces and entry is allowed only if the applicable requirements of this chapter are met.

- Of the identified hazards and your experience with each permit-required confined space.

- Of any precautions or procedures you require for the protection of employees in or near spaces where the contractor will be working.

- Coordinate entry operations with the contractor, when either employees or employers from the different companies will be working in or near permit-required confined spaces.

- Discuss entry operations with the contractor when they are complete. Include the following in your discussion:

- The program followed during confined space entry; and

- Any hazards confronted or created.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-20006, filed 1/20/04, effective 5/1/04.]

PERMIT-REQUIRED CONFINED SPACE PROGRAM

WAC 296-809-300 Summary.

Your responsibility:

To develop your permit-required confined space program and practices.

IMPORTANT:

This section applies if employees will enter a permit-required confined space.

You must:

Develop a written permit-required confined space program.

WAC 296-809-30002

Meet these additional requirements if your employees enter another employer's confined space.

WAC 296-809-30004

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-300, filed 1/20/04, effective 5/1/04.]

WAC 296-809-30002 Develop a written permit-required confined space program.

[Title 296 WAC—p. 2876]

IMPORTANT:

- Identify and evaluate the hazards of permit-required confined spaces and the work performed, to assist you in developing your entry program.

You must:

- Develop a written program, before employees enter, that describes the means, procedures, and practices you use for the safe entry of permit-required confined spaces as required by this chapter. Include the following when applicable to your confined space entry program:

- Documentation of permit entry procedures.

- Documentation used for alternate entry procedures.

- How to reclassify permit-required confined spaces to nonpermit spaces.

- Designation of employee roles, such as entrants, attendants, entry supervisors, rescuers, or those who test or monitor the atmosphere in a permit-required space.

- Identification of designated employee duties.

- Training employees on their designated roles.

- How to identify and evaluate hazards.

- Use and maintenance of equipment.

- How to prevent unauthorized entry.

- How to coordinate entry with another employer.

- How to rescue entrants.

Note: For alternate entry, your written program only needs to meet the requirements of WAC 296-809-400, Employee training, and WAC 296-809-600, Alternate entry procedures, of this chapter.

You must:

- Consult with affected employees and their authorized representatives when developing and implementing all aspects of your permit-required confined space program.

- Make the written program available to employees and their authorized representatives.

- Update your written program as necessary.

Link: You can find a sample permit-required confined space entry program in the user guide located in the resources section of this chapter or by visiting the labor and industries web site at <http://www.lni.wa.gov/wisha/publications/App>.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-30002, filed 1/20/04, effective 5/1/04.]

WAC 296-809-30004 Meet these additional requirements if your employees enter another employer's confined space.

You must:

- Obtain any available information about permit-required confined space hazards and entry operations from the host employer.

- Coordinate entry operations with any other employers whose employees will be working in or near the permit-required confined space.

- Inform the host employer, either through a debriefing or during entry operations, about:

- The entry program you will follow; and

- Any hazards you confronted or created in the space during entry operations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-30004, filed 1/20/04, effective 5/1/04.]

EMPLOYEE TRAINING**WAC 296-809-400 Summary.****Your responsibility:**

To make sure employees are trained to perform their designated roles safely.

You must:

Provide employee training.

WAC 296-809-40002

Certify employee proficiency.

WAC 296-809-40004

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-400, filed 1/20/04, effective 5/1/04.]

WAC 296-809-40002 Provide employee training.**You must:**

- Provide training to each employee involved in permit-required confined space activities, so they acquire the understanding, knowledge and skills necessary to safely perform assigned duties.

- Establish employee proficiency in their confined space duties.

- Introduce new or revised procedures as necessary.

Note: Employers can determine employee proficiency by:

- Observing employee performance during training exercises that simulate actual confined space conditions.
- A comprehensive written examination; or
- Any other method that is effective for the employer.

You must:

- Provide training at the following times:
 - Before an employee is first assigned to duties covered by this chapter.

- Before there is a change in an employee's assigned duties.

- When there is a permit-required confined space hazard for which the employee has not already been trained.

- If you have reason to believe that there are either:

- Deviations from your procedures for permit-required confined space entry; or

- Employee knowledge or use of your procedures is inadequate.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-40002, filed 1/20/04, effective 5/1/04.]

WAC 296-809-40004 Certify employee proficiency.**You must:**

- Certify employee proficiency in their assigned duties.

- Make sure the certification:

- Contains each employee's name, the trainer's written or electronic signature or initials, and the dates of training.

- Is available for inspection by employees and their authorized representatives.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-40004, filed 1/20/04, effective 5/1/04.]

PERMIT ENTRY PROCEDURES**WAC 296-809-500 Summary.****Your responsibility:**

To establish procedures for the safe permit-required entry of confined spaces.

(2009 Ed.)

Implement procedures for entry permits.

WAC 296-809-50002

Use an entry permit that contains all required information.

WAC 296-809-50004

Keep and review your entry permits.

WAC 296-809-50006

Prevent unauthorized entry.

WAC 296-809-50008

Provide, maintain, and use proper equipment.

WAC 296-809-50010

Evaluate and control hazards for safe entry.

WAC 296-809-50012

Make sure you have adequate rescue and emergency services available.

WAC 296-809-50014

Use nonentry rescue systems or methods whenever possible.

WAC 296-809-50016

Make sure entry supervisors perform their responsibilities and duties.

WAC 296-800-50018

Provide an attendant outside the permit-required confined space.

WAC 296-809-50020

Make sure entrants know the hazardous conditions and their duties.

WAC 296-809-50022

Implement procedures for ending entry.

WAC 296-809-50024

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-500, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50002 Implement procedures for entry permits.**You must:**

- Identify and evaluate, before employees enter, potential hazards from:

- The permit-required confined space; and

- The work to be performed.

- Complete an entry permit before entry is authorized, documenting that you have completed the means, procedures and practices necessary for safe entry and work.

- Make sure that entrants or their representatives have an opportunity to observe any monitoring or testing, or any actions to eliminate or control hazards, performed to complete the permit.

- Identify the entry supervisor.

- Make sure the entry supervisor signs the entry permit, authorizing entry, before the space is entered.

- Make the completed permit available to entrants or their authorized representatives at the time of entry.

- Do this by either posting the completed permit at the entry location, or by any other equally effective means.

- Make sure the duration of the permit does not exceed the time required to complete the assigned task or job identified on the permit.

- Note any problems encountered during an entry operation on the permit. Use the information to make appropriate revisions to your program, entry operations, means, systems, procedures and practices.

[Title 296 WAC—p. 2877]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-50002, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50004 Use an entry permit that contains all required information.

You must:

- Make sure your entry permit identifies **all** of the following that apply to your entry operation:
 - The space to be entered.
 - Purpose of the entry.
 - Date and the authorized duration of the entry permit.
 - Hazards of the space to be entered.
 - Acceptable entry conditions.
 - Results of initial and periodic tests performed to evaluate and identify the hazards and conditions of the space, accompanied by the names or initials of the testers and by an indication of when the tests were performed.
 - Appropriate measures used before entry to isolate the space, and eliminate or control hazards.
 - Examples of appropriate measures include the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit-required confined spaces.
 - Names of entrants and current attendants:
 - Other means include the use of rosters or tracking systems as long as the attendant can determine quickly and accurately, for the duration of the permit, which entrants are inside the space.
 - The current entry supervisor.
 - A space for the signature or initials of the original supervisor authorizing entry.
 - Communication procedures for entrants and attendants to maintain contact during the entry.
 - Equipment provided for safe entry, such as:
 - Personal protective equipment (PPE).
 - Testing equipment.
 - Communications equipment.
 - Alarm systems.
 - Rescue and emergency services available, and how to contact them. Include equipment to use, and names and contact information.
 - Other information needed for safety in the particular confined space.
 - Additional permits issued for work in the space, such as for hot work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-50004, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50006 Keep and review your entry permits.

You must:

- Keep entry permits for at least one year.
- Keep entry permits or other atmospheric monitoring records that show the actual atmosphere an employee entered or worked in, as employee exposure records.
 - Review your permit-required confined space entry program as follows:
 - Conduct a review when you have any reason to believe your entry program may not protect employees, and revise your program before allowing subsequent entries.

Note: Examples of circumstances requiring the review of your program include the following:

- There is unauthorized entry of a permit space.
- A permit space hazard not covered by the permit is found.
- A condition prohibited by the permit occurs.
- An injury or near-miss occurs during entry.
- There is a change in the use or configuration of a permit space.
- An employee complains about the effectiveness of the program.

You must:

- Review canceled entry permits within one year following each entry to evaluate:
 - Your permit-required confined space program.
 - The protection provided to employees entering permit-required confined spaces.
 - Update your written permit-required confined space entry program as necessary.

Note: Employers may perform a single annual review covering all entries performed during a twelve-month period. If no entry is performed during a twelve-month period, no review is necessary.

Reference: Keep employee exposure records according to chapter 296-62 WAC, Part B, Access to records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-50006, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50008 Prevent unauthorized entry.

You must:

- Implement measures necessary to prevent unauthorized entry into permit-required confined spaces, when conducting authorized entry.

Note:

- When removing entrance covers to open the confined space, protect entrants and those outside the confined space from hazards.
- Examples of measures to prevent unauthorized entry are signs, barricades, warning tape, and an attendant.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-50008, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50010 Provide, maintain, and use proper equipment.

You must:

- Provide the equipment in Table 2, when needed and at no cost to employees.
- Make sure that employees use provided equipment properly.
- Maintain the provided equipment.

**Table 2
Equipment Provided to Employees at No Cost**

Type of equipment	For
Testing and monitoring equipment	Evaluating permit-required confined space conditions
Ventilating equipment	Obtaining and maintaining acceptable entry conditions
Communication equipment	Effective communication between the attendant and the entrants and to initiate rescue when required
Personal protective equipment (PPE)	Protecting employees from hazards of the space or the work performed

Type of equipment	For
Lighting equipment	Employees to see well enough to work safely and to exit the space quickly in an emergency
Barriers or shields, such as pedestrian, vehicle or other barriers	Protecting employees from hazards outside of the space
Ladders	Safe entry and exit by entrants
Rescue and emergency equipment, except for equipment provided by the rescue service provider	Safe and effective rescue
Any other equipment	Safe entry into and rescue from permit-required confined spaces

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50010, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50012 Evaluate and control hazards for safe entry.

- Evaluate and control hazards for safe entry into permit-required confined spaces by doing all the following:
 - Test for atmospheric hazards, in this order:
 - Oxygen.
 - Combustible gases and vapors.
 - Toxic gases and vapors.
 - Provide each entrant or their authorized representative an opportunity to observe any of the following:
 - Preentry testing.
 - Subsequent testing.
 - Monitoring of permit-required spaces.
 - Reevaluate the permit-required space in the presence of any entrant, or their authorized representative, who requests this to be done because they have reason to believe that the evaluation of that space may not have been adequate.
 - Upon request, immediately provide each entrant or their authorized representative, with the results of any testing required by this rule.
 - Continuously monitor conditions in areas where entrants are working, when isolation of the space is not feasible.
 - Examples would be a large space or space that is part of a continuous system, such as a sewer.
 - Evaluate space conditions during entry as follows:

**Table 3
Evaluating Space Conditions**

You must:	In order to
Test conditions before entry	Determine that acceptable entry conditions exist before entry is authorized by the entry supervisor
Test or evaluate space conditions during entry	Determine that acceptable entry conditions are being maintained during entry operations
Evaluate entry operations	Make sure entrants of more than one employer working at the same time in or around a permit-required confined space, do not endanger each other

(2009 Ed.)

IMPORTANT:

- This section applies to both:
- Employers whose employees use permit entry procedures; and
 - Employers who provide rescue services.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50012, filed 1/20/04, effective 5/1/04.]

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.

You must:

(2) Provide employees, assigned to provide permit-required confined space rescue and emergency services, 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.

[Title 296 WAC—p. 2879]

- 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, and 49.17.060. 04-03-081, § 296-809-50014, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50016 Use nonentry rescue systems or methods whenever possible.

You must:

- Use nonentry retrieval systems or methods to rescue entrants in a permit-required confined space unless this:
 - Would increase the overall risk of injury to entrants; or
 - Would not contribute to the rescue of the entrant.
- Make sure each entrant uses a chest or full-body harness, with a retrieval line attached to the harness at one of the following locations:
 - At the center of the employee's back, near shoulder level.
 - Above the employee's head.
 - At another point which presents a profile small enough for the successful removal of the employee.
- Attach the retrieval line to a mechanical device or fixed point outside the space, so rescue can begin as soon as necessary.
- Make sure a mechanical device is available to retrieve entrants from vertical spaces more than five feet (1.52 m) deep.

Note: When you can demonstrate that the use of a chest or full-body harness is not feasible or creates a greater hazard, then you may use wristlets or another method shown to be the safest and most effective alternative.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50016, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50018 Make sure entry supervisors perform their responsibilities and duties.

You must:

- Make sure that an entry supervisor:
 - Authorizes the entry into a permit-required confined space by signing the entry permit.
 - Oversees entry operations.
 - Knows about the hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure.
 - Verifies and checks **all** of the following:
 - The appropriate entries have been made on the permit.
 - All tests specified by the permit have been conducted.
 - All procedures and equipment specified by the permit are in place before approving the permit and allowing entry to the space.
 - Terminates the entry and cancels the permit when:
 - The assigned task or job has been completed.
 - A condition in the space that is not covered by the entry permit is discovered.
 - Verifies that rescue services are available and that there is a way to contact them.

[Title 296 WAC—p. 2880]

- Removes unauthorized individuals who enter or attempt to enter the permit-required confined space during entry operations.

– Determines that entry operations remain consistent with the terms of the entry permit and acceptable entry conditions are maintained:

■ Whenever responsibility for a permit-required space entry operation is transferred; and

■ At regular intervals dictated by the hazards and operations performed within the space.

- Note:**
- Make sure entry supervisors have the required knowledge and proficiency to perform the job duties and responsibilities required by this chapter.
 - The entry supervisor may also perform other duties under this chapter, such as attendant or entrant, if they are trained and proficient in those duties.
 - The responsibility of the entry supervisor may be passed from one supervisor to another during an entry operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50018, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50020 Provide an attendant outside the permit-required confined space.

IMPORTANT:

- The number of attendants assigned should be tailored to the requirements of the space and the work performed.
- You need to assess if it is appropriate or possible to have multiple permit spaces monitored by a single attendant, or have an attendant stationed at a location outside each space. Video cameras and radios are examples of tools that may assist an attendant monitoring more than one space.
- Attendants may be stationed at any location outside the permit-required confined space if the duties described in this section can be effectively performed for each space that is monitored.

You must:

- Provide at least one attendant outside the permit-required confined space during entry operations.
- Make sure each permit-required confined space attendant:
 - Understands the hazards that may be faced during entry, including the mode, signs or symptoms, and results of exposure to the hazards.
 - Is aware of the behavioral effects of exposure to the hazard.
 - Continuously maintains an accurate count of entrants in the space.
 - Maintains an accurate record of who is in the permit-required confined space.
 - Communicates with entrants as necessary to monitor their status or alert them of the need to evacuate the space.
 - Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space.
 - Orders entrants to evacuate the space immediately if **any** of the following conditions occur:
 - A prohibited condition.
 - The behavioral effects of hazardous exposure in an entrant.
 - A situation outside the space that could endanger entrants.
 - The attendant cannot effectively and safely perform all the duties required in this chapter.

(2009 Ed.)

– Takes the following actions when unauthorized persons approach or enter a space:

- Warn unauthorized persons to stay away from the space.

- Tells the unauthorized persons to exit immediately if they have entered the space.

- Informs entrants and the entry supervisor if unauthorized persons have entered the space.

- Performs nonentry rescues as specified by your rescue procedure.

- Has the means to respond to an emergency affecting one or more of the permit spaces being monitored without preventing performance of the attendant's duties to the other spaces being monitored.

- Carries out no duties that might interfere with their primary duty to monitor and protect the entrants.

- Calls for rescue and other emergency services as soon as entrants may need assistance to escape from the space.

- Monitors entry operations until relieved by another attendant or all entrants are out of the space.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50020, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50022 Make sure entrants know the hazardous conditions and their duties.

You must:

- Make sure that all entrants:

- Know the hazards they may face during entry, including the mode, signs or symptoms, and results of exposure to the hazards.

- Use equipment properly.

- Communicate with the attendant as necessary so the attendant can:

- Monitor entrant status.

- Alert entrants of the need to evacuate.

- Alert the attendant whenever either of these situations exist:

- A warning sign or symptom of exposure to a dangerous situation such as, behavioral changes, euphoria, giddiness potentially from lack of oxygen or exposure to solvents.

- A prohibited condition.

- Exit from the permit-required confined space as quickly as possible when one of the following occurs:

- The attendant or entry supervisor gives an order to evacuate.

- The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

- The entrant detects a prohibited condition.

- An evacuation alarm is activated.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50022, filed 1/20/04, effective 5/1/04.]

WAC 296-809-50024 Implement procedures for ending entry.

You must:

- Make sure you terminate the entry when entry operations are completed, including securing an entrance cover and canceling the permit.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-50024, filed 1/20/04, effective 5/1/04.]

(2009 Ed.)

WAC 296-809-600 Alternate entry procedures.

Summary:

Your responsibility:

To choose alternate entry procedures for spaces where the only hazard is a hazardous atmosphere.

IMPORTANT:

In addition to this section, you also need to meet the requirements in the following sections of this chapter:

- WAC 296-809-200, Identifying and controlling permit-required confined spaces.

- WAC 296-809-300, Permit-required confined space program.

- WAC 296-809-400, Employee training.

You must:

Make sure the following conditions are met if using alternate entry procedures.

WAC 296-809-60002

Follow these alternate entry procedures for permit-required confined spaces.

WAC 296-809-60004

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-600, filed 1/20/04, effective 5/1/04.]

WAC 296-809-60002 Make sure the following conditions are met if using alternate entry procedures.

You must:

- Make sure, when using alternate entry procedures, instead of permit entry procedures, that you have monitoring and inspection data that supports the following:

- That the only hazard of the permit-required confined space is an actual or potentially hazardous atmosphere.

- That continuous forced air ventilation alone is all that is needed to maintain the permit-required confined space for safe entry.

- Make sure an entry to obtain monitoring and inspection data or to eliminate hazards is performed according to WAC 296-809-500, Permit entry procedures.

- Make sure all documentation produced is available to each affected employee and their authorized representative.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-03-081, § 296-809-60002, filed 1/20/04, effective 5/1/04.]

WAC 296-809-60004 Follow these alternate entry procedures for permit-required confined spaces.

You must:

- Use the following alternate entry procedures:

- Eliminate any unsafe conditions before removing an entrance cover.

- When entrance covers are removed, promptly guard the opening with a railing, temporary cover, or other temporary barrier to prevent accidental falls through the opening and protect entrants from objects falling into the space.

- Certify that preentry measures have been taken (such as safe removal of the cover and having protection needed to gather preentry data), with the date, location of the space, and signature of the person certifying.

- Make the preentry certification available before entry to each entrant.

- Before an employee enters the confined space, test the internal atmosphere with a calibrated, direct-reading instrument for all of the following, in this order:

- Oxygen content.
- Flammable gases and vapors.
- Potential toxic air contaminants.
 - Provide entrants, or their authorized representatives, with an opportunity to observe the preentry and periodic testing.
 - Make sure the atmosphere within the space is not hazardous when entrants are present.
 - Use continuous forced air ventilation, as follows:
 - Wait until the forced air ventilation has removed any hazardous atmosphere before allowing entrants into the space.
 - Direct forced air ventilation toward the immediate areas where employees are, or will be, and continue ventilation until all employees have left the space.
 - Provide the air supply from a clean source and make sure it does not increase hazards in the space.
 - Test the atmosphere within the space as needed to make sure hazards do not accumulate.
 - If a hazardous atmosphere is detected during entry, do all of the following:
 - Evacuate employees from the space immediately.
 - Evaluate the space to determine how the hazardous atmosphere developed.
 - Implement measures to protect employees from the hazardous atmosphere before continuing the entry operation.
 - Verify the space is safe for entry before continuing the entry operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-60004, filed 1/20/04, effective 5/1/04.]

WAC 296-809-700 Nonpermit confined spaces requirements.

Summary:

Your responsibility:

To make sure any space you classify as nonpermit, does not have the potential to contain serious health or safety hazards.

You must:

Follow these requirements when classifying a confined space as a nonpermit confined space.

WAC 296-809-70002

Reevaluate nonpermit confined spaces if hazards develop.

WAC 296-809-70004

IMPORTANT:

A confined space may be classified as a nonpermit confined space for as long as the hazards remain eliminated. Once a hazard is present, you must follow all requirements of this chapter that apply.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-700, filed 1/20/04, effective 5/1/04.]

WAC 296-809-70002 Follow these requirements when classifying a confined space as a nonpermit confined space.

You must:

- Make sure the confined space meets these conditions to be classified as nonpermit confined spaces:
 - The confined space does not contain an actual or potential hazardous atmosphere.

[Title 296 WAC—p. 2882]

- The confined space does not contain hazards capable of causing death or serious physical harm. This includes any recognized health or safety hazards including engulfment in solid or liquid material, electrical shock, or moving parts.
 - If you must enter to remove hazards, the space must be treated as a permit-required confined space until hazards have been eliminated.

- Note:**
- Controlling atmospheric hazards through forced air ventilation does not eliminate the hazards.
 - You should evaluate the use of lockout-tagout, as covered in chapter 296-803 WAC, to determine if using it fully eliminates the hazard.
 - You are allowed to use alternate entry procedures covered in WAC 296-809-600, if you can demonstrate that forced air ventilation alone will control all hazards in the space.

You must:

- Document how you determined the confined space contained no permit-required confined space hazards. Certify this documentation with the following:
 - Date.
 - Location of the space.
 - Signature of the person making the determination.
- Make the certification available to each entrant, or their authorized representative.

- Note:** This certification must be completed every time a permit-required confined space is reclassified as a nonpermit space.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-809-70002, filed 1/24/07, effective 4/1/07; 04-03-081, § 296-809-70002, filed 1/20/04, effective 5/1/04.]

WAC 296-809-70004 Reevaluate nonpermit confined spaces if hazards develop.

You must:

- Reclassify a nonpermit confined space to a permit-required confined space, if necessary, when changes in the use or configuration of the space increase the hazards to entrants.
 - Make sure all employees exit the space if hazards develop. You must then reevaluate the space and determine whether it must be reclassified as a permit-required confined space.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-03-081, § 296-809-70004, filed 1/20/04, effective 5/1/04.]

WAC 296-809-800 Definitions.

Acceptable entry conditions:

The conditions that must exist in a permit-required confined space to allow safe entry and work.

Attendant:

An individual stationed outside one or more permit-required confined spaces to monitor the entrants.

Blanking or blinding:

The absolute closure of a pipe, line, or duct by fastening a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore. It is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Confined space:

A space that is **all** of the following:

- Large enough and arranged so an employee could fully enter the space and work.

- Has limited or restricted entry or exit. Examples of spaces with limited or restricted entry are tanks, vessels, silos, storage bins, hoppers, vaults, excavations, and pits.

- Not primarily designed for human occupancy.

Double block and bleed:

The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Emergency:

Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit-required confined space that could endanger authorized entrants.

Engulfment:

The surrounding capture of a person by a liquid or finely divided (flowable) solid substance that can be inhaled to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Enter (entry):

The action by which a person passes through an opening into a permit-required confined space and includes work activities in that space. Entry is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Note: If the opening is large enough for the worker to fully enter the space, a permit is required even for partial body entry. Permits are not required for partial body entry where the opening is not large enough for full entry, although other rules such as chapter 296-803 WAC, lockout-tagout, and chapter 296-841 WAC, Airborne contaminants, may apply.

Entrant:

An employee who is authorized by the employer to enter a permit-required confined space.

Entry permit (permit):

The written or printed document that is provided by you to allow and control entry into a permit-required confined space and that contains the information required in WAC 296-809-500, Permit entry procedures.

Entry supervisor:

The person (such as the employer, crew leader, or crew chief) responsible for:

- Determining if acceptable entry conditions are present at a permit-required confined space where entry is planned;
- Authorizing entry and overseeing entry operations; and
- Terminating entry as required.

Hazardous atmosphere:

An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit-required confined space), injury, or acute illness caused by one or more of the following:

- Flammable gas, vapor, or mist in excess of ten percent of its lower flammable limit (LFL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL.

Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of five feet (1.52 m) or less.

- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.

- Atmospheric concentration of any substance which may exceed a permissible exposure limit. For additional information about atmospheric concentration, see chapter 296-62 WAC, Parts F, G, and I, General occupational health standards and chapter 296-841 WAC, Airborne contaminants.

Note: An airborne concentration of a substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this definition.

- Any other atmospheric condition that is immediately dangerous to life or health.

Note: You can find guidance on establishing acceptable atmospheric conditions for air contaminants, which have no WISHA-determined doses or permissible exposure limits using other sources of information, such as:

- Material safety data sheets required by WAC 296-800-170, Employer chemical hazard communication.
- Published information.
- Internal documents.

Hot work permit:

A written authorization to perform operations, for example, riveting, welding, cutting, burning, and heating, that can provide a source of ignition.

Immediately dangerous to life or health (IDLH):

Any of the following conditions:

- An immediate or delayed threat to life.
- Anything that would cause irreversible adverse health effects.
- Anything that would interfere with an individual's ability to escape unaided from a permit-required confined space.

Note: Some materials - hydrogen fluoride gas and cadmium vapor, for example - may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse twelve to seventy-two hours after exposure. The victim "feels normal" after recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health (IDLH).

Inerting:

The displacement of the atmosphere in a permit-required confined space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

Note: This procedure produces an IDLH oxygen-deficient atmosphere.

Isolation:

The process by which a permit-required confined space is removed from service and completely protected against the release of energy and material into the space by such means as: Blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line breaking:

The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Nonpermit confined space:

A confined space that does NOT contain actual hazards or potential hazards capable of causing death or serious physical harm.

Oxygen deficient atmosphere:

An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere:

An atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space or permit space:

A confined space that has one or more of the following characteristics capable of causing death or serious physical harm:

- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material with the potential for engulfing someone who enters.
- Has an internal configuration that could allow someone entering to be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers to a smaller cross section.
- Contains any physical hazard. This includes any recognized health or safety hazards including engulfment in solid or liquid material, electrical shock, or moving parts.

– Contains any other recognized serious safety or health hazard that could either:

- Impair the ability to self-rescue; or
- Result in a situation that presents an immediate danger to life or health.

Permit-required confined space program:

An overall program for:

- Controlling and appropriately protecting employees from permit-required confined space hazards; and
- Regulating employee entry into permit-required confined spaces.

Prohibited condition:

Any condition in a permit-required confined space that is not allowed by the permit during the authorized entry period.

Rescue service:

The personnel designated to rescue employees from permit-required confined spaces.

Retrieval system:

The equipment used for nonentry rescue of persons from permit-required confined spaces, such as a retrieval line, full-body harness or wristlets, and a lifting device or anchor.

Testing:

The process of identifying and evaluating the hazards that entrants may be exposed to in a permit-required confined space. Testing includes specifying the tests that are to be performed in the permit-required confined space.

Note: Testing allows employers to devise and implement adequate controls to protect entrants during entry, and to determine if acceptable entry conditions are present.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-809-800, filed 2/20/07, effective 4/1/07; 04-03-081, § 296-809-800, filed 1/20/04, effective 5/1/04.]

Chapter 296-811 WAC

FIRE BRIGADES

WAC

296-811-100	Scope.
296-811-200	Establishing a fire brigade—Section contents.
296-811-20005	Organizing statement.
296-811-20010	Physical capability of brigade members.
296-811-300	Training—Section contents.
296-811-30005	Special hazards.
296-811-30010	Fire fighting training.
296-811-400	Equipment—Section contents.
296-811-40005	Fire fighting equipment.
296-811-40010	Protective clothing.
296-811-40015	Self-contained breathing apparatus' (SCBAs).
296-811-500	Requirements during fire fighting—Section contents.
296-811-50005	Brigade members in interior structural fires.
296-811-600	Definitions.

WAC 296-811-100 Scope. This chapter applies if you choose to establish a fire brigade.

Definition:

A fire brigade is an organized group of employees whose primary employment is other than fire fighting but who are knowledgeable, trained, and skilled in specialized fire fighting operations based on site-specific hazards present at a single commercial facility or facilities under the same management.

Note: Nothing in this chapter requires you to establish an employee fire brigade.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-01-073, § 296-811-100, filed 12/20/05, effective 3/1/06.]

WAC 296-811-200 Establishing a fire brigade—Section contents.

Your responsibility:

To decide on brigade functions in the workplace and make sure brigade members are capable of doing them.

Organizing statement

WAC 296-811-20005.

Physical capability of brigade members

WAC 296-811-20010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-01-073, § 296-811-200, filed 12/20/05, effective 3/1/06.]

WAC 296-811-20005 Organizing statement.

You must:

• Develop a written fire brigade policy that is available for inspection by employees or their designated representatives, that covers all of the following:

- The role and responsibilities of the fire brigade in the workplace.
- The basic organizational structure of the fire brigade.
- The number of brigade members.
- Type, amount, and frequency of training for brigade members according to the section Fire fighting training, WAC 296-811-30010, in this chapter.

Note: You may also want to include:

- Descriptions of brigade member duties.
- Line authority of each brigade officer.
- Number of brigade officers.
- Number of training instructors.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-01-073, § 296-811-20005, filed 12/20/05, effective 3/1/06.]

WAC 296-811-20010 Physical capability of brigade members.

You must:

- Make sure brigade members who are assigned to fight interior structural fires are physically capable of doing this activity.
 - Do not permit employees with known physical limitations that can be reasonably identified, such as heart disease or seizure disorder, to participate in structural fire fighting activities unless the employee has been released by a physician to do so.

Note: Not all brigade members need to be physically capable of fighting interior structural fires. Brigade members who are not physically capable of fighting interior structural fires may be assigned to other brigade duties that match their physical capabilities, such as pump operation or fire prevention inspection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-20010, filed 12/20/05, effective 3/1/06.]

WAC 296-811-300 Training—Section contents.

Your responsibility:

To inform brigade members of special hazards in the workplace and train them for their brigade functions.

- Special hazards
- WAC 296-811-30005.
- Fire fighting training
- WAC 296-811-30010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-300, filed 12/20/05, effective 3/1/06.]

WAC 296-811-30005 Special hazards.

You must:

- Develop, include in training, and make available to brigade members, written procedures that describe the following:
 - The special hazards they may encounter in their workplace.
 - The actions they need to take in situations that involve these hazards.
 - Inform brigade members of any changes to those hazards, or the actions to take, when changes happen.
 - Examples of special hazards include storing and using flammable liquids and gases, toxic chemicals, and radioactive substances.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-30005, filed 12/20/05, effective 3/1/06.]

WAC 296-811-30010 Fire fighting training.

You must:

- Make sure training that a brigade member receives elsewhere that meets one or more requirements in Table 1, Training for brigade members, has been:
 - Received within the past year;
 - Documented as having been received, such as with a completion certificate.
- Provide training frequently enough to keep brigade members able to do their functions satisfactorily and safely.

Note: You may choose to train more often, monthly or even weekly, for some equipment or techniques. Consult fire training resources, such as the International Fire Service Training Association, the National Fire Protection Association (NFPA), or the International Society of Fire Service

Instructors, for recommendations about fire training schools or programs.

You must:

- Make sure brigade members are trained according to Table 1, Training for Brigade Members.

Table 1: Training for Brigade Members

For these brigade members	Provide training that is	At these times
All brigade members, including leaders, trainers, and incident commanders.	<ul style="list-style-type: none"> • Appropriate to their assigned duties and functions. • Appropriate to special hazards in the workplace. • Similar to that of reputable fire training schools. • A combination of hands-on and classroom experiences. • Suited to the industry you are part of, such as oil refining or chemical processing. 	<ul style="list-style-type: none"> • Initially before they do any fire brigade emergency activities; <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> • Every year after initial training.
Brigade members assigned to do interior structural fire fighting.	All of the above plus the following: <ul style="list-style-type: none"> • Specific training in interior structural fire fighting. 	At the above times plus the following: <ul style="list-style-type: none"> • Every quarter.
Brigade members assigned as leaders, training instructors, or both.	All of the above plus the following: <ul style="list-style-type: none"> • Additional training that is more comprehensive than that of other brigade members and appropriate to their assigned duties and functions. 	As needed to maintain their expertise at a higher level than that of other brigade members.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-30010, filed 12/20/05, effective 3/1/06.]

WAC 296-811-400 Equipment—Section contents.

Your responsibility:

To provide brigade members with equipment and protective clothing appropriate for their brigade functions.

- Fire fighting equipment
- WAC 296-811-40005.
- Protective clothing
- WAC 296-811-40010.
- Respiratory protective devices
- WAC 296-811-40015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-400, filed 12/20/05, effective 3/1/06.]

WAC 296-811-40005 Fire fighting equipment.

You must:

- Provide appropriate fire fighting equipment for the fire brigade.
 - Inspect and maintain brigade fire fighting equipment according to Table 2, Fire Brigade Equipment Inspection and Maintenance.

Table 2: Fire Brigade Equipment Inspection and Maintenance

For this equipment	Do the following
All brigade fire fighting equipment.	<ul style="list-style-type: none"> Inspect at least every year. Maintain in safe operating condition. Replace if damaged or in unsafe condition.
Brigade respirators and portable fire extinguishers.	Inspect at least every month and after each use.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-40005, filed 12/20/05, effective 3/1/06.]

WAC 296-811-40010 Protective clothing.

You must:

• Provide appropriate protective clothing for fire brigade members who do interior structural fire fighting. Make sure protective clothing is:

- Provided at no cost.
- Meets the requirements for foot, body, hand, eye, face, and head protection found in another chapter, Safety standards for fire fighters, chapter 296-305 WAC.

Exemption: • Protective clothing requirements do not apply to the following fire brigade members:

- Those who don't perform interior structural fire fighting.
- Those who use only standpipe systems or portable fire extinguishers to control or put out fires that are in the incipient stage only.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-40010, filed 12/20/05, effective 3/1/06.]

WAC 296-811-40015 Self-contained breathing apparatus' (SCBAs).

You must:

• Provide SCBAs, other than escape self-contained breathing apparatus' (ESCBAs), and make sure they are used by fire brigade members who do interior structural fire fighting.

- Make sure SCBAs do the following:
 - Meet the requirements found in another chapter, Respirators, chapter 296-842 WAC.
 - 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. 06-01-073, § 296-811-40015, filed 12/20/05, effective 3/1/06.]

WAC 296-811-500 Requirements during fire fighting—Section contents.

Your responsibility:

[Title 296 WAC—p. 2886]

To make sure brigade members use safe practices during interior structural fire fighting.

Brigade members in interior structural fires
WAC 296-811-50005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-500, filed 12/20/05, effective 3/1/06.]

WAC 296-811-50005 Brigade members in interior structural fires.

IMPORTANT:

Nothing in this section is meant to prevent fire brigade members assigned to respond to fires from rescue activities in an immediately dangerous to life and health (IDLH) atmosphere before the whole team assigned to respond to fires has arrived.

You must:

• Make sure at least two qualified fire brigade members go together into an IDLH atmosphere and remain in visual or voice contact with each other at all times.

• Maintain standby assistance, with two people, as required by another section, Standby requirements for immediately dangerous to life or health (IDLH) conditions, WAC 296-842-19005.

Note: One of the two brigade members providing standby assistance can be assigned another role, such as safety officer, as long as the safety or health of any fire fighter working the incident will not be jeopardized if the brigade member becomes unavailable through giving assistance or rescue.

Reference: More information on interior structural fires is located in another section, WAC 296-305-05001, Emergency fire-ground operations—Structural.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-50005, filed 12/20/05, effective 3/1/06.]

WAC 296-811-600 Definitions.

Buddy-breathing device

An equipment accessory for self-contained breathing apparatus (SCBA) that permits a second person (a "buddy") to share the air supply used by the SCBA wearer.

Extinguisher classification

The letter classification given an extinguisher to designate the class or classes of fires on which that extinguisher will be effective. For example, use a Class A extinguisher on a Class A fire. See also fire classifications.

Portable fire extinguishers are classified for use on certain classes of fires and are rated within that class for relative extinguishing effectiveness at a temperature of plus 70°F by nationally recognized testing laboratories. This is based upon fire classifications and fire extinguishment potentials as determined by fire tests.

Note: The classification and rating system described in this section is used by Underwriters' Laboratories, Inc., and Underwriters' Laboratories of Canada, and is based on extinguishing preplanned fires of determined size and description as follows:

Extinguisher Class	Fire Test for Classification and Rating
Class A	Wood and excelsior fires excluding deep-seated conditions.
Class B	Two-inch depth gasoline fires in square pans.
Class C	No fire test. Agent must be a nonconductor of electricity.

Extinguisher Class	Fire Test for Classification and Rating
Class D	Special tests on specific combustible metal fires.

Extinguisher rating (see also "extinguisher classification")

The numerical rating, such as 2A, given to an extinguisher that indicates the extinguishing potential of the unit based on standardized tests developed by Underwriters' Laboratories, Inc.

Fire brigade

An organized group of employees whose primary employment is other than fire fighting but who are knowledgeable, trained, and skilled in specialized fire fighting operations based on site-specific hazards present at a single commercial facility or facilities under the same management.

Fire classifications

Fires are classified based on the types of burning materials:

Fire Class	Types of Burning Materials
Class A	Fires involving ordinary combustible materials such as paper, wood, cloth, and some rubber and plastic materials.
Class B	Fires involving flammable or combustible liquids, flammable gases, greases, and similar materials, and some rubber and plastic materials.
Class C	Fires involving energized (live) electrical equipment where it is important that the extinguishing agent not conduct electricity. (When electrical equipment is de-energized, it is safe to use an extinguisher for Class A or B fires on it, since electricity is not an issue then.)
Class D	Fire involving combustible metals such as magnesium, titanium, zirconium, sodium, lithium, and potassium.

Incipient fire stage

A fire in the beginning stage that can be controlled or put out by portable fire extinguishers, or small hose systems, without the need for protective clothing or breathing apparatus.

Inspection

A visual check of fire protection systems and equipment to ensure they are in place, charged, and ready for use if there is a fire.

Interior structural fire fighting

The physical activity of suppressing fire, rescuing people, or both, inside buildings or enclosed structures involved in a fire that is past the incipient stage.

Maintenance

Servicing fire protection equipment and systems to ensure they will perform as expected if there is a fire. Maintenance differs from inspection in that maintenance requires checking internal fittings, devices, and agent supplies, as well as correcting deficiencies found.

Self-contained breathing apparatus (SCBA)

Self-contained breathing apparatus (SCBA) in which the air pressure in the breathing zone is higher than that of the immediate environment during both inhaling and exhaling.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-01-073, § 296-811-600, filed 12/20/05, effective 3/1/06.]

Chapter 296-816 WAC

PROTECTING TRADE SECRETS

WAC

296-816-100	Scope.
296-816-200	Protecting trade secrets.
296-816-20005	Indicate when trade secret information has been withheld.
296-816-20010	Provide trade secret information in a medical emergency.
296-816-20015	Respond to requests for trade secret information in non-emergency situations.
296-816-20020	Provide trade secret information when requested by WISHA.
296-816-300	Definitions.

WAC 296-816-100 Scope. This chapter applies to both:

- Withholding trade secret information from material safety data sheets (MSDSs) and employee exposure records; **AND**
- Providing trade secret information in medical emergencies and nonemergency situations.

Definition:

Trade secrets: Any confidential information that is used in an employer's business and gives an opportunity to gain an advantage over competitors who do not know or use it. It can be a:

- Formula.
- Pattern.
- Process.
- Device.
- Information.
- Collection of information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-026, § 296-816-100, filed 6/29/04, effective 9/1/04.]

WAC 296-816-200 Protecting trade secrets.

Your responsibility:

To meet requirements that apply to your workplace when withholding or providing trade secret information.

You must:

WAC 296-816-20005

Indicate when trade secret information has been withheld.

WAC 296-816-20010

Provide trade secret information in a medical emergency.

WAC 296-816-20015

Provide trade secret information in nonemergency situations.

WAC 296-816-20020

Provide trade secret information when requested by WISHA.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-14-026, § 296-816-200, filed 6/29/04, effective 9/1/04.]

WAC 296-816-20005 Indicate when trade secret information has been withheld.**You must:**

- Indicate clearly in the MSDS or employee exposure records that trade secret information has been withheld.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-026, § 296-816-20005, filed 6/29/04, effective 9/1/04.]

WAC 296-816-20010 Provide trade secret information in a medical emergency.**You must:**

- Immediately provide the specific chemical identity to the treating physician or nurse when **they determine**:
 - That a medical emergency exists;

AND

- The specific chemical identity is necessary to treat the employee involved in the medical emergency.

- Note:**
- You may require a written statement of need and confidentiality agreement from the treating physician or nurse receiving the trade secret information as soon as circumstances of the medical emergency permit.
 - If the health care professional receiving the trade secret information decides that there is a need to disclose it to WISHA, they need to inform you prior to, or at the same time as, disclosure being made to WISHA.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-026, § 296-816-20010, filed 6/29/04, effective 9/1/04.]

WAC 296-816-20015 Respond to requests for trade secret information in nonemergency situations.**You must:**

- Provide specific chemical identity information in non-emergency situations when a written request by a health professional, employee, or designated representative, includes the following:

- Details showing that the specific chemical identity is needed for one or more of the following occupational health reasons:

- Assessing the hazards of the chemicals employees will be exposed to.

- Conducting or assessing sampling of the workplace atmosphere to determine employee exposure levels.

- Conducting medical surveillance of exposed employees.

- Providing medical treatment to exposed employees.

- Selecting or assessing personal protective equipment for exposed employees.

- Designing or assessing engineering controls or other protective measures.

- Conducting studies to determine the health effects of exposure.

- Details showing why the following alternative information **does not** meet the needs of the requestor:

- The properties and effects of the chemical.

- Measures for controlling employees' exposure to the chemical.

- Methods of monitoring and analyzing employee exposure to the chemical.

- Methods of diagnosing and treating harmful exposures to the chemical.

- The procedures that will be used to keep the information confidential.

- A written confidentiality agreement that says:

- The information will not be used for anything other than the stated health needs.

- The information will not be released to anyone else, except according to the terms of the agreement or to WISHA.

- Note:**
- If the health care professional, employee, or designated representative receiving the trade secret information decides that there is a need to disclose it to WISHA, they need to inform you prior to, or at the same time as, disclosure being made to WISHA.

You must:

- Meet all the following requirements if you decide not to provide the requested trade secret information:

- Provide a written denial within thirty days that includes the following information:

- The reasons for denying the request.

- Evidence that the requested information is a trade secret.

- A detailed explanation of how alternative information may satisfy the requesting party's needs without revealing any specific chemical identity.

- Provide alternative information that allows the requesting party to identify where and when an exposure occurred, if trade secret information was deleted.

- Make available all other information about the properties and effects of the specific chemical.

- Note:**
- If you deny a request for trade secret information, the requestor may refer the written denial, along with the original request, to WISHA for consideration. WISHA will review the denial and determine if it meets the requirements of this chapter, such as whether:
 - It is a bona fide trade secret.
 - There is a medical or occupational health need for the information.
 - Adequate means are in place to protect the confidentiality of the information.
 - WISHA may issue orders or impose additional limitations or conditions on the release of the information to make sure that the occupational health needs are met without risk to you when you show WISHA that a confidentiality agreement will not provide enough protection against harm that could be caused to your business by disclosing a specific chemical identity.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-026, § 296-816-20015, filed 6/29/04, effective 9/1/04.]

WAC 296-816-20020 Provide trade secret information when requested by WISHA.**You must:**

- Provide trade secret information to WISHA when requested.

- Make any trade secret claim, including supporting documentation, by the time you provide WISHA with the information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-026, § 296-816-20020, filed 6/29/04, effective 9/1/04.]

WAC 296-816-300 Definitions.**Designated representative:**

- Any individual or organization to which an employee gives written authorization.

- A recognized or certified collective bargaining agent without regard to written employee authorization.

- The legal representative of a deceased or legally incapacitated employee.

Employee exposure record:

A record containing any of the following information:

- Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained.

- Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems, such as the level of a chemical in the blood, urine, breath, hair, or fingernails, but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs.

- Material safety data sheets (MSDSs) indicating that the material may pose a hazard to human health;

OR

- In the absence of the above:

- A chemical inventory or any other record that reveals where and when used and the identity (e.g., chemical, common or trade name) of a toxic substance or harmful physical agent.

- Exposure records of other employees with past or present job duties or related working conditions.

Exposure or exposed:

The contact an employee has with a toxic substance, harmful physical agent, or oxygen deficient condition. Exposure can occur through various routes, such as inhalation, ingestion, skin contact, or skin absorption.

Health professional:

A physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist, providing medical or other occupational health services to exposed employees.

Record:

Any item, collection, or grouping of information. Examples include:

- Paper document.
- Microfiche.
- Microfilm.
- X-ray film.
- Computer record.

Specific chemical identity:

Any information that reveals the precise chemical designation of the substance, such as:

- Chemical name;

OR

- Chemical abstracts service (CAS) registry number.

Trade secret: Any confidential information that is used in an employer's business and gives an opportunity to gain an advantage over competitors who do not know or use it. It can be a:

- Formula.
- Pattern.
- Process.
- Device.
- Information.
- Collection of information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-14-026, § 296-816-300, filed 6/29/04, effective 9/1/04.]

(2009 Ed.)

Chapter 296-817 WAC**HEARING LOSS PREVENTION (NOISE)****WAC**

296-817-100 Scope.

HEARING LOSS PREVENTION PROGRAM

296-817-200 Summary.
 296-817-20005 Conduct employee noise exposure monitoring.
 296-817-20010 Control employee noise exposures that equal or exceed 90 dBA TWA₈.
 296-817-20015 Make sure employees use hearing protection when their noise exposure equals or exceeds 85 dBA TWA₈.
 296-817-20020 Make sure exposed employees receive training about noise and hearing protection.
 296-817-20025 Make sure warning signs are posted for areas where noise levels equal or exceed 115 dBA.
 296-817-20030 Arrange for oversight of audiometric testing.
 296-817-20035 Identify and correct deficiencies in your hearing loss prevention program.
 296-817-20040 Document your hearing loss prevention activities.

NOISE MEASUREMENT AND COMPUTATION

296-817-300 Summary.
 296-817-30005 Make sure that noise-measuring equipment meets recognized standards.
 296-817-30010 Measure employee noise exposure.
 296-817-30015 Use these equations when estimating full-day noise exposure from sound level measurements.

AUDIOMETRIC TESTING

296-817-400 Summary.
 296-817-40005 Provide audiometric testing at no cost to employees.
 296-817-40010 Establish a baseline audiogram for each exposed employee.
 296-817-40015 Conduct annual audiograms.
 296-817-40020 Review audiograms that indicate a standard threshold shift.
 296-817-40025 Keep the baseline audiogram without revision, unless annual audiograms indicate a persistent threshold shift or a significant improvement in hearing.
 296-817-40030 Make sure a record is kept of audiometric tests.
 296-817-40035 Make sure audiometric testing equipment meets these requirements.

OPTIONS TO AUDIOMETRIC TESTING

296-817-500 Summary.
 296-817-50005 Conduct hearing protection audits at least quarterly.
 296-817-50010 Make sure staff conducting audits are properly trained.
 296-817-50015 Assess the hearing protection used by each employee during audits.
 296-817-50020 Document your hearing protection audits.

THIRD-PARTY AUDIOMETRIC TESTS

296-817-50025 Make sure third-party hearing loss prevention programs meet the following requirements.
 296-817-600 Noise definitions.

WAC 296-817-100 Scope.

The purpose of this chapter is to:

- Prevent employee hearing loss by minimizing employee noise exposures

AND

- Make sure employees exposed to noise are protected.

These goals are accomplished by:

- Measuring and computing the employee noise exposure from all equipment and machinery in the workplace, as well as any other noise sources in the work area

- Protecting employees from noise exposure by using feasible noise controls

- Making sure employees use hearing protection, if you cannot feasibly control the noise

- Training employees about hearing loss prevention

- Evaluating your hearing loss prevention efforts by tracking employee hearing or periodically reviewing controls and protection
 - Making appropriate corrections to your program.
- Use Table 1 to help you determine the hearing loss prevention requirements for your workplace:

**Table 1
Noise Evaluation Criteria**

Criteria	Description	Requirements
85 dBA TWA ₈	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must have a hearing loss prevention program	<ul style="list-style-type: none"> – Hearing protection – Training – Audiometric testing
90 dBA TWA ₈	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must reduce employee noise exposures in the workplace	<ul style="list-style-type: none"> – Noise controls AND – Hearing protection – Training – Audiometric testing
115 dBA measured using slow response	Extreme noise level (greater than one second in duration)	<ul style="list-style-type: none"> – Hearing protection – Signs posted in work areas warning of exposure
140 dBC measured using fast response	Extreme impulse or impact noise (less than one second in duration)	Hearing protection

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-100, filed 5/19/03, effective 8/1/03.]

HEARING LOSS PREVENTION PROGRAM

WAC 296-817-200 Summary.

Your responsibility:

To prevent employee hearing loss by minimizing, and providing protection from, noise exposures.

You must:

Conduct employee noise exposure monitoring
WAC 296-817-20005

Control employee noise exposures that equal or exceed 90 dBA TWA₈

WAC 296-817-20010

Make sure employees use hearing protection when their noise exposure equals or exceed 85 dBA TWA₈

WAC 296-817-20015

Make sure exposed employees receive training about noise and hearing protection

WAC 296-817-20020

Make sure warning signs are posted for areas with noise levels that equal or exceed 115 dBA

WAC 296-817-20025

Arrange for oversight of audiometric testing

WAC 296-817-20030

Identify and correct deficiencies in your hearing loss prevention program

WAC 296-817-20035

Document your hearing loss prevention activities

WAC 296-817-20040.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-200, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20005 Conduct employee noise exposure monitoring.

You must:

• Conduct employee noise exposure monitoring to determine the employee's actual exposure when reasonable information indicates that any employee's exposure may equal or exceed 85 dBA TWA₈.

Note:

- Representative monitoring may be used where several employees perform the same tasks in substantially similar conditions
- Examples of information or situations that can indicate exposures which equal or exceed 85 dBA TWA₈, include:
 - Noise in the workplace that interferes with people speaking, even at close range
 - Information from the manufacturer of equipment you use in the workplace that indicates high noise levels for machines in use
 - Reports from employees of ringing in their ears or temporary hearing loss
 - Warning signals or alarms that are difficult to hear
 - Work near abrasive blasting or jack hammering operations
 - Use of tools and equipment such as the following:
 - Heavy equipment or machinery
 - Fuel-powered hand tools
 - Compressed air-driven tools or equipment in frequent use
 - Power saws, grinders or chippers
 - Powder-actuated tools.

You must:

• Follow applicable guidance in WAC 296-817-300 when conducting noise exposure monitoring

• Make sure your sampling for noise exposure monitoring identifies:

– All employees whose exposure equals or exceeds the following:

■ 85 dBA TWA₈ (noise dosimetry, providing an average exposure over an eight-hour time period)

■ 115 dBA (slow response sound level meter, identifying short-term noise exposures)

■ 140 dBC (fast response sound level meter, identifying almost instantaneous noise exposures).

– Exposure levels for selection of hearing protection.

• Provide exposed employees and their representatives with an opportunity to observe any measurements of employee noise exposure that are conducted

• Notify each employee whose exposure equals or exceeds 85 dBA TWA₈ of the monitoring results within five working days of when you receive the results

• Conduct additional noise monitoring whenever a change in production, process, equipment or controls, may reasonably be expected to result in:

– Additional employees whose exposure equals or exceeds 85 dBA TWA₈

– Employees exposed to higher level of noise requiring more effective hearing protection

- Note:** Conditions that may be expected to increase exposure include:
- Adding machinery to the work area
 - Increasing production rates
 - Removal or deterioration of noise control devices
 - Increased use of noisy equipment
 - Change in work schedule
 - Change of job duties.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-20005, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20010 Control employee noise exposures that equal or exceed 90 dBA TWA₈.

IMPORTANT:

Hearing protection provides a barrier to noise and protects employees but is not considered a control of the noise hazard. Separate requirements apply to hearing protection and are found in WAC 296-817-20015.

You must:

- Reduce employee noise exposure, using feasible controls, wherever exposure equals or exceeds 90 dBA TWA₈.

- Note:**
- Once noise exposures are brought below 90 dBA TWA₈, no further reduction is required. However, further reduction of noise may reduce the need for other hearing loss prevention requirements
 - Controls that eliminate noise at the source or establish a permanent barrier to noise are typically more reliable. For example:
 - Replacing noisy equipment with quiet equipment
 - Using silencers and mufflers
 - Installing enclosures
 - Damping noisy equipment and parts.
 - Other controls and work practices may also be useful for reducing noise exposures. Examples include:
 - Employee rotation
 - Limiting use of noisy equipment
 - Rescheduling work.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-20010, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20015 Make sure employees use hearing protection when their noise exposure equals or exceeds 85 dBA TWA₈.

You must:

- Make sure employees wear hearing protectors that will provide sufficient protection when exposure equals or exceeds:
 - 85 dBA TWA₈ (noise dosimetry, providing an average exposure over an eight-hour time period)
 - 115 dBA (slow response sound level meter, identifying short-term noise exposures)
 - 140 dBC (fast response sound level meter, identifying almost instantaneous noise exposures).
- Provide employees with an appropriate selection of hearing protectors:
 - The selection must include at least two distinct types (such as molded earplugs, foam earplugs, custom-molded earplugs, earcaps, or earmuffs) for each exposed employee and must be sufficient to cover:
 - Different levels of hearing protection needed in order to reduce all employee exposures to a level below 85 dBA TWA₈
 - Different sizes
 - Different working conditions.

– Consider requests of the employees regarding:

- Physical comfort
- Environmental conditions
- Medical needs
- Communication requirements.

Note: Hearing protector selection should include earplugs, earcaps and earmuffs.

You must:

- Provide hearing protection at no cost to employees
- Supervise employees to make sure that hearing protection is used correctly
 - Make sure hearing protectors are:
 - Properly chosen for fit
 - Replaced as necessary.
 - Make sure all hearing protection is sufficient to reduce the employee's equivalent eight-hour noise exposure to 85 dBA or less. When using the A-weighted exposure measurements, reported as "dBA TWA₈," the reduction in noise exposure by hearing protectors is given by Table 2:

**Table 2
Effective Protection of Hearing Protectors**

Type of hearing protection	Effective protection
Single hearing protection (earplugs, earcaps or earmuffs)	7 dB less than the manufacturer assigned noise reduction rating (NRR); for example, earplugs with an NRR of 20 dB are considered to reduce employee exposures of 95 dBA TWA ₈ to 82 dBA TWA ₈
Dual hearing protection (earplug and earmuff worn together)	2dB less than the higher NRR of the two protectors; for example, earplugs with an NRR of 20 dB and earmuffs with an NRR of 12 dB are considered to reduce employee exposures of 100 dBA TWA ₈ to 82 dBA TWA ₈

- In addition to protection based on daily noise dose, make sure hearing protection has an NRR of at least 20 dB when exposures involve noise that equals or exceeds 115 dBA (slow response sound level meter) or 140 dBC (fast response sound level meter).

Note: You may also evaluate hearing protection by using the other methods given in the NIOSH *Compendium of Hearing Protection* (NIOSH Publication No. 95-105). These methods require additional monitoring and are more complex, but provide a more thorough evaluation of protection. This may be useful in cases where communication is critical or for evaluating hearing protection for employees with hearing impairment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-20015, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20020 Make sure exposed employees receive training about noise and hearing protection.

You must:

- Train all employees 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, and 49.17.-060. 03-11-060, § 296-817-20020, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20025 Make sure warning signs are posted for areas where noise levels equal or exceed 115 dBA.

You must:

- Make sure warning signs are posted at the entrances or boundaries of all well-defined work areas where employees may be exposed to noise that equals or exceeds 115 dBA (measured using a sound level meter with slow response).

- Warning signs must clearly indicate that the area is a high noise area and that hearing protectors are required.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-20025, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20030 Arrange for oversight of audiometric testing.

You must:

- Make sure audiometric testing as described by WAC 296-817-400 is supervised and reviewed by one of the following licensed or certified individuals:

- An audiologist

- An otolaryngologist

- Another qualified physician.

- Make sure audiograms are conducted by one of the above individuals or by a technician certified by the Council of Accreditation in Occupational Hearing Conservation (CAOHC) and responsible to a qualified reviewer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-20030, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20035 Identify and correct deficiencies in your hearing loss prevention program.

You must:

- Use audiometric testing to identify hearing loss, which may indicate program deficiencies

[Title 296 WAC—p. 2892]

- Take appropriate actions when deficiencies are found with your program.

- A deficiency may be indicated when:

- Any employee experiences measurable hearing loss indicated by a standard threshold shift

OR

- Any employee is not wearing appropriate hearing protection during an audit when auditing is used in place of baseline audiograms for short term employees (see WAC 296-817-500, Option to audiometric testing).

Note: A standard threshold shift or audit deficiency does not necessarily indicate that a significant hearing loss has occurred. These criteria are intended to help identify where there may be flaws in your hearing loss prevention program that can be fixed before permanent hearing loss occurs.

There are additional statistical tools and tests that may be used to improve the effectiveness of your program. Staff conducting audiometric testing and auditing may be able to suggest additional ways to improve your hearing loss prevention program and tailor it to your worksite.

You must:

- Evaluate the following, at a minimum, when responding to a standard threshold shift:

- Employee noise exposure measurements

- Noise controls in the work area

- The selection of hearing protection available and refit employees as necessary

- Employee training on noise and the use of hearing protection and conduct additional training as necessary.

Reference: You may use the option of auditing hearing protection (see WAC 296-817-500) for employees hired or transferred to jobs with noise exposure for less than one year. You may also use audiograms provided by a third-party hearing loss prevention program in some circumstances. Details of these program options are found in WAC 296-817-500, Options to audiometric testing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-20035, filed 5/19/03, effective 8/1/03.]

WAC 296-817-20040 Document your hearing loss prevention activities.

You must:

- Create and retain records documenting noise exposures. Include, at a minimum:

- Exposure measurements required by this chapter for at least two years and for as long as you rely upon them to determine employee exposure

- Audiometric test records for the duration of employment for the affected employees

- Hearing protection audits, if you choose to rely upon them, for the duration of employment of the affected employees.

Note:

- You need to keep as complete a record as possible. Records developed under previous rules or in other jurisdictions need to be kept, even when they do not fulfill the full requirements of this chapter. Similarly, records found to have errors in collection or processing need to be kept if they provide an indication of employee exposure or medical condition not found in other records
- You may want to consider your other business needs, such as worker's compensation claims management, before discarding these records.

Reference: You need to follow additional requirements for records considered employee exposure or medical records. See chapter 296-62 WAC, Part B, Access to records for requirements for access to records, employee rights, and transfer of records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-11-060, § 296-817-20040, filed 5/19/03, effective 8/1/03.]

NOISE MEASUREMENT AND COMPUTATION

WAC 296-817-300 Summary.

Your responsibility:

Conduct noise monitoring or measurement to evaluate employee exposures in your workplace.

You must:

Make sure that noise-measuring equipment meets recognized standards

WAC 296-817-30005

Measure employee noise exposure

WAC 296-817-30010

Use these equations when estimating full-day noise exposure from sound level measurements

WAC 296-817-30015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-11-060, § 296-817-300, filed 5/19/03, effective 8/1/03.]

WAC 296-817-30005 Make sure that noise-measuring equipment meets recognized standards.

You must:

• Make sure that noise dosimetry equipment meets these specifications:

– Dosimeters must be equipment class 2AS-90/80-5 of the American National Rule Specification for Personal Noise Dosimeters, ANSI S1.25-1991, such dosimeters are normally marked "Type 2."

Note:

- Make sure any dosimeter you use is Type 2 equipment that:
- Uses slow integration and A-weighting of sound levels.
- Has the **criterion level** set to 90 dB, so the dosimeter will report a constant 8-hour exposure at 90 dBA as a 100% dose.
- Has the **threshold level** set at 80 dB, so the dosimeter will register all noise above 80 dB.
- Uses a 5 dB **exchange rate** for averaging of noise levels over the sample period.

You must:

• Make sure that sound level meters meet these specifications:

– American National Standard Specification for Sound Level Meters, S1.4-1984, Type 2 requirements for sound level meters, such sound level meters are normally marked "Type 2."

■ For continuous noise measurements, the meter must be capable of measuring A-weighted sound levels with slow response

■ For impulse or impact noise measurements, the meter must be capable of indicating maximum C-weighted sound level measurements with fast response.

• Calibrate dosimeters and sound level meters used to monitor employee noise exposure:

– Before and after each day's use

AND

– Following the instrument manufacturer's calibration instructions.

Note:

- You may conduct dosimetry using an exchange rate less than 5 dB and compare the results directly to the noise evaluation criteria in Table 1
- For measuring impulse and impact noise you may also use a sound level meter set to measure maximum impulse C-weighted sound levels or peak C-weighted sound levels.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-11-060, § 296-817-30005, filed 5/19/03, effective 8/1/03.]

WAC 296-817-30010 Measure employee noise exposure.

IMPORTANT:

A noise dosimeter is the basis for determining total daily noise exposure for employees. However, where you have constant noise levels, you may estimate employee noise exposure using measurements from a sound level meter. Calculation of the employee noise exposure must be consistent with WAC 296-817-30015.

You must:

• Include all:

– Workplace noise from equipment and machinery in use

– Other noise from sources necessary to perform the work

– Noise outside the control of the exposed employees.

• Use a noise dosimeter when necessary to measure employee noise dose

• Use a sound level meter to evaluate continuous and impulse noise levels

• Identify all employees whose exposures equal or exceed the Noise Evaluation Criteria in Table 1:

**Table 1
Noise Evaluation Criteria**

Criteria	Description	Requirements
85 dBA TWA ₈	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must have a hearing loss prevention program	– Hearing protection – Training – Audiometric testing
90 dBA TWA ₈	Full-day employee noise exposure dose. If you have one or more employees whose exposure equals or exceeds this level, you must reduce employee noise exposures in the workplace	Noise controls (in addition to the requirements for 85 dBA TWA ₈)
115 dBA measured using slow response	Extreme noise level (greater than one second in duration)	– Hearing protection – Signs posted in work areas warning of exposure
140 dBC measured using fast response	Extreme impulse or impact noise (less than one second in duration)	Hearing protection

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-11-060, § 296-817-30010, filed 5/19/03, effective 8/1/03.]

WAC 296-817-30015 Use these equations when estimating full-day noise exposure from sound level measurements.

You must:

- Compute employee's full-day noise exposure by using the appropriate equations from Table 3 "Noise Dose Computation" when using a sound level meter to estimate noise dose.

**Table 3
Noise Dose Computation**

Description	Equation
Compute the noise dose based on several time periods of constant noise during the shift	The total noise dose over the work day, as a percentage, is given by the following equation where C_n indicates the total time of exposure at a specific noise level, and T_n indicates the reference duration for that level. $D = 100 * ((C_1/T_1) + (C_2/T_2) + (C_3/T_3) + \dots + (C_n/T_n))$
The reference duration is equal to the time of exposure to continuous noise at a specific sound level that will result in a one hundred percent dose	The reference duration, T, for sound level, L, is given in hours by the equation: $T = 8 / (2^{(L - 90)/5})$
Given a noise dose as a percentage, compute the equivalent eight-hour time weighted average noise level	The equivalent eight-hour time weighted average, TWA_8 , is computed from the dose, D, by the equation: $TWA_8 = 16.61 * \text{Log}_{10}(D/100) + 90$

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-30015, filed 5/19/03, effective 8/1/03.]

AUDIOMETRIC TESTING

WAC 296-817-400 Summary.

Your responsibility:

To conduct audiometric testing of employees exposed to noise to make sure that their hearing protection is effective.

You must:

- Provide audiometric testing at no cost to employees
WAC 296-817-40005
- Establish a baseline audiogram for each exposed employee
WAC 296-817-40010
- Conduct annual audiograms
WAC 296-817-40015
- Review audiograms that indicate a standard threshold shift
WAC 296-817-40020
- Keep the baseline audiogram without revision, unless annual audiograms indicate a persistent threshold shift or a significant improvement in hearing
WAC 296-817-40025
- Make sure a record is kept of audiometric tests
WAC 296-817-40030

[Title 296 WAC—p. 2894]

Make sure audiometric testing equipment meets these requirements

WAC 296-817-40035.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-400, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40005 Provide audiometric testing at no cost to employees.

You must:

- Provide audiograms, including any required travel or necessary additional examinations or testing, at no cost to exposed employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-40005, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40010 Establish a baseline audiogram for each exposed employee.

You must:

- Conduct a baseline audiogram when an employee is first assigned to work involving noise exposures that equal or exceed 85 dBA TWA_8 .
 - Make sure this audiogram is completed no more than one hundred eighty days after the employee is first assigned
 - OR**
 - Make sure employee is covered by a hearing protection audit program (as described by WAC 296-817-500 and available as an alternative only for employees hired for less than one year).

Note: Employers who utilize mobile test units are allowed up to one year to obtain a valid baseline audiogram for each exposed employee. The employees must still be given training and hearing protection as required by this chapter.

You must:

- Make sure employees are not exposed to workplace noise at least fourteen hours before testing to establish a baseline audiogram.
 - Hearing protectors may be used to accomplish this.
- Notify employees of the need to avoid high levels of nonoccupational noise exposure (such as loud music, headphones, guns, power tools, motorcycles, etc.) during the fourteen-hour period immediately preceding the baseline audiometric examination.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-40010, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40015 Conduct annual audiograms.

You must:

- Conduct annual audiograms for employees as long as they continue to be exposed to noise that equals or exceeds 85 dBA TWA_8 .

Note: Annual audiometric testing may be conducted at any time during the work shift. By conducting the annual audiogram during the work shift with the employee exposed to typical noise for their job, the test may record a temporary threshold shift. This makes the test more sensitive to potential hearing loss and may help you improve employee protection before a permanent threshold shift occurs. A suspected temporary shift is one reason an employer may choose to retest employee hearing.

You must:

- Make sure each employee is informed of the results of his or her audiometric test.

(2009 Ed.)

- Include whether or not there has been a hearing level decrease or improvement since their previous test.

- Make sure each employee's annual audiogram is compared to his or her baseline audiogram by an audiologist, otolaryngologist, another qualified physician, or the technician conducting the test to determine if a standard threshold shift has occurred.

- If the annual audiogram indicates that an employee has suffered a standard threshold shift, you may obtain a retest within thirty days and consider the results of the retest as the annual audiogram.

- Make sure that an audiologist, otolaryngologist, or other qualified physician sees any annual audiogram that indicates a standard threshold shift.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-40015, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40020 Review audiograms that indicate a standard threshold shift.

You must:

- Make sure the health care professional supervising audiograms has:

- A copy of this chapter

- The baseline audiogram and most recent audiogram of the employee to be evaluated

- Background noise level records for the testing room

- Calibration records for the audiometer.

- Obtain an opinion from the health care professional supervising audiograms as to whether the audiograms indicate possible occupational hearing loss and any recommendations for changes in hearing protection

- Pay for any clinical audiological evaluation or otological examination required by the reviewer, if:

- Additional review is necessary to evaluate the cause of hearing loss

OR

- If there is indication of a medical condition of the ear caused or aggravated by the wearing of hearing protectors.

- Inform the employee in writing of the existence of a standard threshold shift within twenty-one calendar days of the determination.

- Make arrangements for the reviewer to communicate to the employee any suspected medical conditions that are found unrelated to your workplace. This information is confidential and must be handled appropriately.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-40020, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40025 Keep the baseline audiogram without revision, unless annual audiograms indicate a persistent threshold shift or a significant improvement in hearing.

You must:

- Keep the baseline audiogram without revision, unless a qualified reviewer determines:

- The standard threshold shift revealed by the audiogram is persistent

OR

- The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-40025, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40030 Make sure a record is kept of audiometric tests.

You must:

- Retain a legible copy of all employee audiograms conducted under this chapter.

- Make sure the record includes:

- Name and job classification of the employee

- Date of the audiogram

- The examiner's name

- Date of the last acoustic or exhaustive calibration of the audiometer

- Employee's most recent noise exposure assessment

- The background sound pressure levels in audiometric test rooms.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-11-060, § 296-817-40030, filed 5/19/03, effective 8/1/03.]

WAC 296-817-40035 Make sure audiometric testing equipment meets these requirements.

You must:

- Use pure tone, air conduction, hearing threshold examinations, with test frequencies including as a minimum 500, 1000, 2000, 3000, 4000, and 6000 Hz

- Tests at each frequency must be taken separately for each ear

- Supra-aural headphones must be used.

- Conduct audiometric tests with audiometers (including microprocessor audiometers) that meet the specifications of, and are maintained and used according to, American National Standard Specification for Audiometers, S3.6-1996

- Check the functional operation of the audiometer each day before use by doing all of the following:

- Make sure the audiometer's output is free from distorted or unwanted sound

- Test either a person with known, stable hearing thresholds or a bio-acoustic simulator

- Perform acoustic calibration for deviations of 10 dB or greater.

- Audiometer calibration must be checked acoustically at least annually to verify continued conformance with ANSI S3.6-1996. Test frequencies below 500 Hz and above 6000 Hz may be omitted from this check

- An exhaustive calibration must be performed at least every two years according to the American National Standard Specification for Audiometers, S3.6-1996. Test frequencies below 500 Hz and above 6000 Hz may be omitted from the calibration.

- Provide audiometric test rooms that meet the requirements of ANSI S3.1-1999 American National Standard Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms using the following table of maximum ambient sound pressure levels:

Table 4

Maximum Ambient Sound Pressure Levels

Frequency (Hz)	500	1000	2000	4000	8000

[Title 296 WAC—p. 2895]

Table 4
Maximum Ambient Sound Pressure Levels

Sound Pressure Level (dB)	40	40	47	57	62
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Note: The American Industrial Hygiene Association and National Hearing Conservation Association recommend conducting audiograms using the requirements of ANSI S3.1-1999 American National Standard Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms with adjustments at only 500 Hz and below.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-40035, filed 5/19/03, effective 8/1/03.]

OPTIONS TO AUDIOMETRIC TESTING

WAC 296-817-500 Summary.

Your responsibility:

This section provides options to baseline audiometric testing for employees assigned to duties with noise exposures for **less than one year**. These program options may also be used to provide added assessment of longer-term employees in addition to audiometric testing.

The requirements of this section apply only if you decide to use auditing or a third-party hearing loss prevention program and do not conduct baseline audiometric testing for those employees.

Hearing Protection Audits

You must:

Conduct hearing protection audits at least quarterly

WAC 296-817-50005

Make sure staff conducting audits are properly trained

WAC 296-817-50010

Assess the hearing protection used by each employee during audits

WAC 296-817-50015

Document your hearing protection audits

WAC 296-817-50020

Third-Party Audiometric Testing

You must:

Make sure third-party hearing loss prevention programs meet the following requirements

WAC 296-817-50025

IMPORTANT:

Hearing protection audits are a tool for use in evaluating your hearing loss prevention program in cases where audiometric testing does not provide a useful measure. For example, if most of your employees are hired on a temporary basis for a few months at a time, audiometric testing may not identify the small changes in hearing acuity that could occur. Auditing provides an alternative to audiometric testing in these cases.

Auditing is not required unless you use it in place of baseline audiometric testing for employees hired for a period of **less than one year** and is permitted as a substitute for audiometric testing only for these employees.

Third-party hearing loss prevention programs are full hearing loss prevention programs and are distinct from audiometric testing provided by third parties as part of your own hearing loss prevention program. These programs may

[Title 296 WAC—p. 2896]

be organized by labor groups, trade associations, labor-management cooperatives, or other organizations to:

- Cover a specific group of employees

OR

• Combine efforts for several employers with common employees.

Although you remain responsible for the program, third-party programs can have at least two benefits over running your own program:

• The audiometric testing is portable between the participating employers so new testing will not be needed when an employee changes employers

• Employees who only work for short periods for any one employer can be monitored under the group program over a longer period of time increasing the effectiveness of the audiometric testing in preventing hearing loss for these employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-500, filed 5/19/03, effective 8/1/03.]

WAC 296-817-50005 Conduct hearing protection audits at least quarterly.

You must:

• Conduct audits at least quarterly to provide a representative assessment of your workplace

– The assessment is representative if it:

■ Covers all processes and work activities in your business at full production levels

AND

■ Covers all employees present on the audit day.

– If your business is mobile or involves variable processes, auditing may need to be repeated more often than quarterly

– Auditing does not need to be repeated more than monthly as long as a reasonable effort is made to cover:

■ The activities with greatest exposure

AND

■ As many employees as possible.

• Assess exposures and hearing protection for the full shift for each employee covered at the time of the audit.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-50005, filed 5/19/03, effective 8/1/03.]

WAC 296-817-50010 Make sure staff conducting audits are properly trained.

You must:

• Make sure staff conducting hearing protection audits:

– Can demonstrate competence in:

■ Evaluating hearing protection attenuation

■ Evaluating hearing protector choices

■ Assessing the correct use of hearing protectors.

– Are certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC) or have training in the following areas:

■ Noise and hearing loss prevention

■ Washington state noise regulations

■ Hearing protectors

■ Fitting of hearing protectors

■ Basic noise measurement

■ Hearing loss prevention recordkeeping.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-50010, filed 5/19/03, effective 8/1/03.]

WAC 296-817-50015 Assess the hearing protection used by each employee during audits.

You must:

- Confirm that:
 - Current site conditions during audits are consistent with conditions existing during noise monitoring
 - The hearing protection used by the employee is sufficient and appropriate for the conditions
 - The hearing protection is worn properly
 - The employees are satisfied with the performance and comfort of the hearing protection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-50015, filed 5/19/03, effective 8/1/03.]

WAC 296-817-50020 Document your hearing protection audits.

You must:

- Keep a record of audit results for each employee assessed for the length of their employment and for the length of time you will rely upon the audit results
- Include the following information in the record:
 - The make and model of the hearing protectors
 - The size of the protectors
 - Average noise exposure of the employee
 - Any problems found with use of the hearing protection
 - Any comments or complaints from the employee regarding the hearing protection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-50020, filed 5/19/03, effective 8/1/03.]

THIRD-PARTY AUDIOMETRIC TESTS

WAC 296-817-50025 Make sure third-party hearing loss prevention programs meet the following requirements.

IMPORTANT:

Third-party hearing loss prevention programs are intended:

- For short-term employees hired or assigned to duties having noise exposures **for less than one year**

AND

• For seasonal employees.

However, other employees may be included as long as you meet all requirements for hearing loss follow-ups and recordkeeping.

You must:

- Make sure that the third-party program is:
 - Equivalent to an employer program as required by this chapter

AND

- Uses audiometric testing to evaluate hearing loss.
- Make sure a licensed or certified audiologist, otolaryngologist, or other qualified physician administers the third-party program
 - Make sure the third-party program has written procedures for:
 - Communicating with participating employers of program requirements

(2009 Ed.)

- Follow-up procedures for detected hearing loss
- Annual review of participating employer programs.
 - Make sure the following program elements are corrected by you or the third-party program when deficiencies are found:
 - Noise exposures
 - Hearing protection
 - Employee training
 - Noise controls.
 - Obtain a review of your hearing loss prevention program at least once per year, conducted by the third-party program administrator or their representative, in order to:
 - Identify any tasks needing a revised selection of hearing protection

AND

- Provide an overall assessment of the employers' hearing loss prevention activities.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-50025, filed 5/19/03, effective 8/1/03.]

WAC 296-817-600 Noise definitions.

A-weighted - An adjustment to sound level measurements that reflects the sensitivity of the human ear. Used for evaluating continuous or average noise levels.

Audiogram - A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Audiologist - A professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech, Hearing, and Language Association, or the American Academy of Audiology, and is licensed by the state board of examiners.

Baseline audiogram - The audiogram against which future audiograms are compared. The baseline audiogram is collected when an employee is first assigned to work with noise exposure. The baseline audiogram may be revised if persistent standard threshold shift (STS) of improvement is found.

Continuous noise - Noise with peaks spaced no more than one second apart. Continuous noise is measured using sound level meters and noise dosimeters with the slow response setting.

Criterion sound level - A sound level of ninety decibels. An eight-hour exposure to constant 90 dBA noise is a one hundred percent noise dose exposure.

C-weighted - An adjustment to sound level measurements that evenly represents frequencies within the range of human hearing. Used for evaluating impact or impulse noise.

Decibel (dB) - Unit of measurement of sound level. A-weighting, adjusting for the sensitivity of the human ear, is indicated as "dBA." C-weighting, an even reading across the frequencies of human hearing, is indicated as "dBC."

Fast response - A setting for a sound level meter that will allow the meter to respond to noise events of less than one second. Used for evaluating impulse and impact noise levels.

Hertz (Hz) - Unit of measurement of frequency, numerically equal to cycles per second.

Impulsive or impact noise - Noise levels which involve maxima at intervals greater than one second. Impulse and

impact noise are measured using the fast response setting on a sound level meter.

Noise dose - The total noise exposure received by an employee during their shift. It can be expressed as a percentage indicating the ratio of exposure received to the noise exposure received in an eight-hour exposure to constant noise at 90 dBA. It may also be expressed as the sound level that would produce the equivalent exposure during an eight-hour period (TWA_8).

Noise dosimeter - An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

Occupational hearing loss - A reduction in the ability of an individual to hear either caused or contributed to by exposure in the work environment.

Otolaryngologist - A physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.

Permanent threshold shift - A hearing level change that has become persistent and is not expected to improve.

Qualified reviewer - An audiologist, otolaryngologist, or other qualified physician who has experience and training in evaluating occupational audiograms.

Slow response - A setting for sound level meters and dosimeters in which the meter does not register events of less than about one second. Used for evaluating continuous and average noise levels.

Sound level - The intensity of noise as indicated by a sound level meter.

Sound level meter - An instrument that measures sound levels.

Standard threshold shift (STS) - A hearing level change, relative to the baseline audiogram, of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

Temporary threshold shift - A hearing level change that improves. A temporary threshold shift may occur with exposure to noise and hearing will return to normal within a few days. Temporary threshold shifts can be indicators of exposures that lead to permanent hearing loss.

TWA_8 - Equivalent eight-hour time-weighted average sound level - That sound level, which if constant over an eight-hour period, would result in the same noise dose measured in an environment where the noise level varies.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-11-060, § 296-817-600, filed 5/19/03, effective 8/1/03.]

Chapter 296-818 WAC ABRASIVE BLASTING

WAC

296-818-100	Scope.
296-818-200	General safety—Summary contents.
296-818-20005	Dust hazards.
296-818-20010	Personal protective equipment (PPE).
296-818-20015	Housekeeping.
296-818-300	Operations—Summary contents.
296-818-30005	Combustible organic abrasive.
296-818-30010	Blast cleaning enclosures.
296-818-30015	Blast cleaning nozzles.
296-818-400	Exhaust ventilation systems—Summary contents.
296-818-40005	Construction.
296-818-40010	Explosion venting and wiring.
296-818-40015	Inspection and maintenance.
296-818-500	Definitions.

[Title 296 WAC—p. 2898]

WAC 296-818-100 Scope. This chapter applies to all abrasive blasting operations where an abrasive is forcibly applied to a surface using any of the following:

- Pneumatic pressure
- Hydraulic pressure
- Centrifugal force

References: Depending on your work processes, here are examples of other chapters you may need:

Safety and health core rules, chapter 296-800 WAC
Machine safety, chapter 296-806 WAC
Respiratory hazards, chapter 296-841 WAC
Respirators, chapter 296-842 WAC
Lead, chapter 296-857 WAC
Scaffolds, chapter 296-874 WAC
Cadmium, chapter 296-62 WAC
Part L, Electrical, chapter 296-24 WAC

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-100, filed 6/6/06, effective 9/1/06.]

WAC 296-818-200 General safety—Summary contents.

Your responsibility:

To protect employees from hazards associated with their work environment

Dust hazards

WAC 296-818-20005

Personal protective equipment (PPE)

WAC 296-818-20010

Housekeeping

WAC 296-818-20015

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-200, filed 6/6/06, effective 9/1/06.]

WAC 296-818-20005 Dust hazards.

IMPORTANT:

• Abrasives and the surface coatings on materials blasted are shattered and pulverized during blasting operations. The dust formed will contain particles that could result in the following hazards:

- Respiratory
- Fire
- Explosion

• Wet blasting methods minimize dust exposure, but dispersed droplets, mists, and dried residues may become airborne and create potential exposures.

You must:

• Evaluate the potential health hazards from abrasive blasting operations by considering the composition and toxicity of the abrasive material and the surface being abraded.

References: • For additional hazard assessment requirements, go to these separate chapters:

– Respirators, chapter 296-842 WAC
– The Safety and health core rules, chapter 296-800 WAC
– Personal protective equipment, WAC 296-800-16005.
• For requirements on the use of Combustible organic abrasive, go to WAC 296-818-30005.

You must:

• Keep dust concentrations below the permissible exposure limits found in a separate chapter, Respiratory hazards, chapter 296-841 WAC.

Note: When sampling for dust concentrations, place the sample collection device:

– In the breathing zone of the operator;

AND

– Outside the respiratory protection worn.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-20005, filed 6/6/06, effective 9/1/06.]

WAC 296-818-20010 Personal protective equipment (PPE).

You must:

- Supply 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: 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: <ul style="list-style-type: none"> – Blasting operators – Personnel working near blasting operations 	Respirators worn during blasting operations do not provide eye and face protection
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. 06-12-074, § 296-818-20010, filed 6/6/06, effective 9/1/06.]

WAC 296-818-20015 Housekeeping.

You must:

- Keep aisles and walkways clear of steel shot or similar abrasives that may create a slipping hazard.
- Prohibit the accumulation of dust on the floors or ledges outside blasting enclosures.
- Clean up dust spills promptly.

Note:

- Removal of accumulated dust should be done:
- With a high efficiency particulate air filter (HEPA), vacuum cleaner when the plant is not in operation;
- AND**
- By a person wearing a respirator approved for the existing conditions

Reference:

- For additional housekeeping requirements, see the Safety and health core rules, chapter 296-800 WAC, Housekeeping, WAC 296-800-220.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-20015, filed 6/6/06, effective 9/1/06.]

WAC 296-818-300 Operations—Summary contents.

Your responsibility:

- To follow these operational requirements
- Combustible organic abrasives
WAC 296-818-30005
 - Blast cleaning enclosures
WAC 296-818-30010
 - Blast cleaning nozzles
WAC 296-818-30015

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-300, filed 6/6/06, effective 9/1/06.]

WAC 296-818-30005 Combustible organic abrasive.

IMPORTANT:

- This section applies to blasting operations where flammable or explosive dust mixtures may be present.

You must:

- Prohibit the use of combustible organic abrasives, except in automatic blast cleaning systems.
- Bond and ground the blast nozzle to prevent the buildup of static charges.

Note:

- Fine dust produced from combustible, organic abrasive is a fire and explosion hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-30005, filed 6/6/06, effective 9/1/06.]

WAC 296-818-30010 Blast cleaning enclosures.

You must:

- Install adequate ventilation systems in blast cleaning enclosures that are able to do all of the following:

- Control concentrations of airborne contaminants below the permissible exposure limits that apply
 - Provide a continuous inward flow of air at all openings in the enclosure during blasting operations
 - Minimize the escape of dust into adjacent work areas
 - Maintain visibility in blast cleaning rooms and cabinets
 - Rapidly clear dust from the air after blasting stops
 - Discharge exhaust so contaminated air does not do either of the following:
 - Present a health hazard to any worker; or
 - Reenter buildings in harmful amounts
 - Make sure ventilation systems are designed and operated so employees are not exposed to excessive air velocities
 - Make sure make-up air systems do not interfere with the effectiveness of the exhaust system, and are designed to do both of the following:
 - Replace exhausted air in ample quantities
 - Temper make-up (supply) air when necessary
 - Do both of the following before opening the blast cleaning enclosure:
 - Turn the blast off
 - Run the exhaust system for a sufficient period of time to clear the air of dust particles
 - Follow the requirements in Table-2, Blast Cleaning Enclosures.

Table-2: Blast Cleaning Enclosures

If you have	Then make sure
Air inlets and access openings	They are either baffled or arranged so the combination of inward airflow and baffles minimizes both of the following: <ul style="list-style-type: none"> - The escape of abrasive or dust particles into adjacent work areas. - Visible spurts of dust
Small access openings where dust might escape	Slit resistant baffles are installed in multiple sets at all small access openings, and do both of the following: <ul style="list-style-type: none"> - Regularly inspect them - Replace them when needed
An observation window in enclosures where hard, deep cutting abrasives are used	The window is made of safety glass protected by screening <p>Notes:</p> <ul style="list-style-type: none"> • Hard, deep cutting abrasives may shatter normal glass. • If the safety glass shatters, the protective screening will help contain the glass and protect employees from cuts and lacerations.
Small operator access doors	They are flanged and tight when closed, and open from both inside and outside the enclosure.

If you have	Then make sure
	Note: If you have a small operator access door and a large work access door, the large work access door may open or close from the outside only.

- References:** For more information on:
- Air velocities, refer to the following:
 - The latest edition of Recommended Industrial Ventilation Guidelines (ACGIH)
 - NIOSH 1976 Industrial Ventilation
 - Exit routes, go to the Safety and health core rules, WAC 296-800-310.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-30010, filed 6/6/06, effective 9/1/06.]

WAC 296-818-30015 Blast cleaning nozzles.

You must:

- Make sure nozzles are all of the following:
 - Mounted on a support when not in use
 - Equipped with operating valves that are manually held open.

- Note:**
- To help prevent the buildup of static charges, pressurized tanks used to supply abrasive should be:
 - Connected to the manual control of the nozzle;
- AND**
- Have the relief valve or opening located so it can safely vent.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-30015, filed 6/6/06, effective 9/1/06.]

**WAC 296-818-400 Exhaust ventilation systems—
Summary contents.**

Your responsibility:

To make sure exhaust ventilation systems meet these requirements

- Construction
 - WAC 296-818-40005
 - Explosion venting and wiring
 - WAC 296-818-40010
 - Inspection and maintenance
 - WAC 296-818-40015

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-400, filed 6/6/06, effective 9/1/06.]

WAC 296-818-40005 Construction.

You must:

- Make sure exhaust systems are constructed, installed, inspected, and maintained to meet both of the following:
 - The American National Standards Institute (ANSI), Z9.2-2001 for:
 - Fundamentals Governing the Design and Operation of Local Exhaust Systems
 - The National Fire Protection Association (NFPA) 91-2004 for:
 - Exhaust Systems for Air Conveying of Vapors, Gases and Noncombustible Particulate Solids.

- Reference:**
- Refer to the American National Standards Institute, ANSI Z9.4-1997 for information on the following:
 - Exhaust Systems for Abrasive-blasting Operations, Ventilation, and Safe Practices for Fixed Location Enclosures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-40005, filed 6/6/06, effective 9/1/06.]

WAC 296-818-40010 Explosion venting and wiring.

You must:

- Follow the requirements in Table-3 for flammable or combustible dust mixtures

Table-3: Explosion Venting and Wiring

If you have	Then
Flammable or explosive dust mixtures that may be present	<p>Make sure the construction of equipment, including the exhaust system and all electrical wiring, meets both of the following:</p> <ul style="list-style-type: none"> • The American National Standard Installation (ANSI) of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, NFPA 91. 2004. • The electrical requirements for Class II locations in WAC 296-24-95613, located in Part L of chapter 296-24 WAC. <p>Make sure blast cleaning enclosures, the ducts, and the dust collector are constructed with either loose panels or explosion venting areas that meet all of the following:</p> <ul style="list-style-type: none"> • Provides pressure relief in case of an explosion. • Are located away from occupied areas. • The Guide for Deflagations, NFPA 68. 2002.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-40010, filed 6/6/06, effective 9/1/06.]

WAC 296-818-40015 Inspection and maintenance.

You must:

- Make sure the exhaust ventilation system is fully operational by checking the static pressure drop at the exhaust ducts leading from the equipment at both of the following times:
 - When installation is completed
 - Annually after installation.
- Repair or clean exhaust systems when either of the following occur:
 - Dust leaks are found; or
 - The pressure drop gauge indicates a change exceeding 20 percent.
- Use an abrasive separator to separate larger particles for reuse on installations where abrasive is recirculated.
- Set up dust collecting equipment to do both of the following:
 - Empty and remove accumulated dust without contaminating work areas
 - Discharge the air used in blast cleaning equipment.

- Note:** Dispose fine dust from dry collectors by doing one of the following:
- Emptying and transporting the fine dust in enclosed containers
 - Using a sluice with a wetting process to contain the dust.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-12-074, § 296-818-40015, filed 6/6/06, effective 9/1/06.]

WAC 296-818-500 Definitions.

Abrasive:

A solid granular substance used in abrasive blasting operations.

Abrasive blasting:

The forcible application of an abrasive to a surface using either:

- Pneumatic or hydraulic pressure;

OR

- Centrifugal force

Abrasive-blasting respirator:

A supplied air or a continuous flow respirator constructed with a shroud that covers and protects the head, neck, and shoulders.

Automatic blast cleaning systems:

A unit that has a blast cleaning chamber which usually has both of the following to provide a timed cleaning cycle:

- An automatic timer;

AND

- An automatic shutoff control

Baffles:

Partial enclosures in and around the emission sources which improve or enhance airflow at the hood.

Blast cleaning barrel:

A complete enclosure that rotates on an axis or an internal tread to tumble parts in order to expose various surfaces of the parts to an automatic blast spray.

Blast cleaning room:

An enclosed room where blasting operations are performed by an operator who works from inside the room using a blasting nozzle to direct the flow of abrasive material.

Blasting cabinet:

An enclosure where the operator stands outside using a blasting nozzle through an opening, or openings in the enclosure.

Dust collector:

A device in an exhaust ventilation system used to remove dust from air.

Exhaust ventilation system:

A system that removes contaminated air using the following:

- Enclosure or hood
- Duct work
- Dust collecting equipment
- Exhauster
- Discharge stack

Local exhaust ventilation:

The mechanical removal of contaminated air from the point where the contaminant is being generated or liberated.

Make-up air systems:

A ventilation system that controls the volume of outdoor air supplied to a building to replace air being exhausted.

Rotary blast cleaning table:

An enclosure where the pieces to be cleaned are placed on a rotating table and passed automatically through a series of blast sprays.

Tempered make-up air:

Air which has been conditioned by changing its heat content to get a specific desired temperature.

Ventilation:

The provision, circulation or exhausting of air into or from an area or space.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-12-074, § 296-818-500, filed 6/6/06, effective 9/1/06.]

Chapter 296-823 WAC

OCCUPATIONAL EXPOSURE TO BLOODBORNE PATHOGENS

WAC

296-823-100	Scope.
296-823-110	Planning.
296-823-11005	Determine if you have employees with occupational exposure.
296-823-11010	Develop and implement a written exposure control plan.
296-823-120	Training.
296-823-12005	Provide training to your employees.
296-823-12010	Provide additional training.
296-823-12015	Maintain training records.
296-823-130	Hepatitis B virus (HBV) vaccinations.
296-823-13005	Make hepatitis B vaccination available to employees.
296-823-13010	Obtain a copy of the health care professional's written opinion for hepatitis B vaccination and provide it to the employee.
296-823-140	Control employee exposure.
296-823-14005	Use feasible controls, including appropriate equipment and safer medical devices, to eliminate or minimize occupational exposure.
296-823-14010	Handle contaminated sharps properly and safely.
296-823-14015	Handle reusable sharps properly and safely.
296-823-14020	Minimize splashing, spraying, splattering, and generation of droplets.
296-823-14025	Make sure items are appropriately labeled.
296-823-14030	Make sure employees clean their hands.
296-823-14035	Prohibit food, drink, and other personal activities in the work area.
296-823-14040	Prohibit pipetting or suctioning by mouth.
296-823-14045	Place specimens in an appropriate container.
296-823-14050	Examine and label contaminated equipment.
296-823-14055	Make sure your worksite is maintained in a clean and sanitary condition.
296-823-14060	Handle regulated waste properly and safely.
296-823-14065	Handle contaminated laundry properly and safely.
296-823-150	Personal protective equipment (PPE).
296-823-15005	Provide and make sure personal protective equipment is used when there is occupational exposure.
296-823-15010	Make sure gloves are worn.
296-823-15015	Make sure appropriate masks, eye protection, and face shields are worn.
296-823-15020	Wear appropriate protective clothing.
296-823-15025	Make resuscitator devices available.
296-823-15030	Maintain personal protective equipment.
296-823-160	Post-exposure requirements.
296-823-16005	Make a confidential medical evaluation and follow-up available to employees who experience an exposure incident.
296-823-16010	Test the blood of the source person.
296-823-16015	Provide the results of the source person's blood test to the exposed employee.
296-823-16020	Collect and test the blood of the exposed employee.
296-823-16025	Provide information to the health care professional evaluating the employee.
296-823-16030	Obtain and provide a copy of the health care professional's written opinion on post-exposure evaluation to the employee.
296-823-170	Records.
296-823-17005	Establish and maintain medical records.
296-823-17010	Maintain a sharps injury log.
296-823-180	Additional requirements for HIV and HBV research laboratories and production facilities.

296-823-18005	Prepare, review, and update a biosafety manual.
296-823-18010	Follow these special practices for the work area.
296-823-18015	Make sure these practices for contaminated material and waste are followed.
296-823-18020	Make sure these special practices for personal protective equipment (PPE) and other safe guards are followed.
296-823-18025	Protect vacuum lines.
296-823-18030	Use and handle hypodermic needles and syringes appropriately and safely.
296-823-18035	Handle all spills and accidents properly.
296-823-18040	Post signs.
296-823-18045	Provide additional training for facility employees.
296-823-18050	Furnish a sink for washing hands and a readily available eye wash facility.
296-823-18055	Make sure these additional criteria are followed for HIV and HBV production facilities.
296-823-200	Definitions.

WAC 296-823-100 Scope. This chapter provides requirements to protect employees from exposure to blood or other potentially infectious materials (OPIM) that may contain bloodborne pathogens. Examples of bloodborne pathogens are the human immunodeficiency virus (HIV) and hepatitis B virus (HBV).

This chapter applies to you if you have employees with occupational exposure to blood or OPIM, even if no actual exposure incidents have occurred.

Definitions:

Occupational exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.

Exposure incident means a specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties. Examples of nonintact skin include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.

Parenteral contact occurs when mucous membranes or skin is pierced by needlesticks, human bites, cuts, or abrasions.

Occupations that are typically covered by this chapter. The following list illustrates a number of jobs typically associated with tasks that involve occupational exposure to blood or OPIM. The absence of a particular job from the list does not suggest that it falls outside the scope of this chapter. At the same time, employees in jobs found on the list are covered only if they have occupational exposure.

• Health care.

- Physicians and physicians assistants
- Nurses, nurse practitioners, dental hygienists, and other health care employees in clinics and offices
- Employees of clinical, dental, and diagnostic laboratories
- Housekeepers in health care facilities
- Staff in laundries that provide service to health care facilities
- Tissue bank personnel
- Employees in blood banks and plasma centers who collect, transport, and test blood
- Freestanding clinic employees (for example, hemodialysis clinics, urgent care clinics, health maintenance organization (HMO) clinics, and family planning clinics)
- Employees in clinics in industrial, educational, and correctional facilities

- Staff of institutions for the developmentally disabled
- Hospice employees
- Home health care workers
- Staff of nursing homes and long-term care facilities
- HIV and HBV research laboratory and production facility workers
 - Medical equipment service and repair personnel
 - Emergency medical technicians, paramedics, and other emergency medical service providers
 - Nuclear medical technologists.
- **Occupations outside health care.**
 - Fire fighters, law enforcement personnel, and correctional officers
 - Workers in laundries that service public safety institutions
 - Employees assigned to provide emergency first aid by their employer (as either a primary or secondary duty)
 - Employees who handle or pick up regulated waste
 - Hotel/motel employees that clean up blood or OPIM
 - Employees of funeral homes and mortuaries.

Regulated waste.

Regulated waste is any of the following:

- Liquid or semiliquid blood or other potentially infectious materials (OPIM)
- Contaminated items that would release blood or OPIM in a liquid or semiliquid state, if compressed
- Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological wastes containing blood or OPIM.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-12-070, § 296-823-100, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-100, filed 4/22/03, effective 8/1/03.]

WAC 296-823-110 Planning. Summary.**Your responsibility:**

To plan ways to protect your employees from the risk of exposure to blood or other potentially infectious materials.

You must:

Determine if you have employees with occupational exposure

WAC 296-823-11005

Develop and implement a written exposure control plan

WAC 296-823-11010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-110, filed 4/22/03, effective 8/1/03.]

WAC 296-823-11005 Determine if you have employees with occupational exposure.**You must:**

- Prepare a written exposure determination if your employees have occupational exposure to blood or other potentially infectious materials (OPIM).
 - This determination must be made without considering the use of personal protective equipment (PPE).
 - Make sure the exposure determination contains:
 - A list of job classifications where all employees have occupational exposure;
 - A list of job classifications where some employees have occupational exposure and a description of all tasks and

(2009 Ed.)

procedures or groups of related tasks and procedures with occupational exposure for these employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-11005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-11010 Develop and implement a written exposure control plan.**You must:**

- Establish a written exposure control plan designed to eliminate or minimize employee exposure in your workplace.

Note: The elements of your exposure control plan may be located in other documents such as policies and procedures. Make sure to reference their location in your plan.

You must:

- Make sure the plan contains at least the following elements:
 - The exposure determination, WAC 296-823-11005
 - A procedure for evaluating the circumstances surrounding exposure incidents, including documentation of the routes of exposure, and the circumstances under which the exposure incident happened
 - How and when you will implement applicable requirements of this rule.

Note: The implementation dates need to be included only until your exposure control plan is fully implemented or when you are adding new requirements to your plan.

You must:

- Document the infection control system used in your workplace to protect employees from exposure to blood or OPIM.
 - Use universal precautions or other at least as effective infection control systems.

Note: Universal precautions is an infection control system that considers the blood and OPIM from all persons as containing a bloodborne disease, whether or not the person has been identified as having a bloodborne disease. Other effective infection control systems include standard precautions, universal blood-body fluid precautions, and body substance isolation. These methods define all body fluids and substances as infectious. They incorporate not only the fluids and materials covered by universal precautions and this chapter, but expand coverage to include all body fluids and substances.

- Solicit input in the identification, evaluation, and selection of effective safer medical devices. This input must be solicited from nonmanagerial employees responsible for direct patient care with potential exposure to contaminated sharps.

– Document the process you used to solicit input and include the identity of the employees or positions that were involved.

Note:

- You are not required to request input from every exposed employee; however, the employees selected must represent the range of exposure situations encountered in the workplace. Your safety committee may assist in identifying employees.
- Although you are required to include nonmanagerial employees, you are not prohibited from soliciting input from managerial and other employees.

You must:

- Make sure the exposure control plan is reviewed and updated:

– At least annually

AND

– Whenever necessary to:

- Reflect new or modified tasks and procedures which affect occupational exposure

- Reflect new or revised job classifications with occupational exposure.

- ◆ Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens

- ◆ Document consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

- Make sure a copy of the exposure control plan is accessible at the workplace, when exposed employees are present. For example, if the plan is stored only on a computer, all exposed employees must be trained to operate the computer.

- Make sure a copy of the plan is provided to the employee or their representative within fifteen days of their request for a copy.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-11010, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-11010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-120 Training. Summary.

Your responsibility:

To train your employees about their risk of exposure to bloodborne pathogens and ways to protect themselves.

You must:

Provide training to your employees

WAC 296-823-12005

Provide additional training

WAC 296-823-12010

Maintain training records

WAC 296-823-12015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-120, filed 4/22/03, effective 8/1/03.]

WAC 296-823-12005 Provide training to your employees.

You must:

- Make sure all employees with occupational exposure participate in a training program that is:

- Provided at no cost to them

- Conducted during compensated working hours.

- Provide training when any of the following occur:

- Before assigning tasks where occupational exposure might occur

- At least annually and within one year of the previous training.

- Make sure the content and vocabulary of your training materials are appropriate to the educational level, literacy, and language of your employees

- Make sure the person conducting the required training is knowledgeable about the subject matter as it relates to your workplace

- Make sure the training program contains at least the following elements:

- An accessible copy of this chapter and an explanation of the contents

- A general explanation of the epidemiology and symptoms of bloodborne diseases

- An explanation of how bloodborne pathogens are transmitted

[Title 296 WAC—p. 2904]

- An explanation of your exposure control plan and how the employee can obtain a copy of the written plan

- An explanation of how to recognize tasks and other activities that could involve exposure to blood and other potentially infectious materials (OPIM)

- An explanation of the use and limitations of methods that will prevent or reduce exposure including:

- Equipment and safer medical devices

- Work practices

- Personal protective equipment

- Information about personal protective equipment (PPE) including:

- The types

- Proper use and limitations

- Selection

- Location

- Putting it on and taking it off

- Handling

- Decontamination

- Disposal

- Information about the hepatitis B vaccine, including:

- Information about its effectiveness

- Safety

- Method of administration

- The benefits of being vaccinated

- Offered at no cost to the employee for the vaccine and vaccination

- Information about what actions to take and persons to contact when exposure to blood or OPIM occurs outside of the normal scope of work

- An explanation of the procedure to follow if an exposure incident occurs, including:

- The method of reporting the incident

- The medical evaluation and follow-up that will be available

- Information about the post-exposure evaluation and follow-up procedure following an exposure incident

- An explanation of the signs and labeling or color-coding required by this chapter

- An opportunity for interactive questions and answers with the trainer at the time of the training session.

Note: This may be person-to-person, by telephone, or by e-mail, as long as the employee can both ask and receive answers during the training session.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-12005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-12010 Provide additional training.

You must:

- Provide additional training when you add or change tasks or procedures that affect the employee's occupational exposure.

Note: This training may be limited to the changes in tasks and procedures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-12010, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-12010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-12015 Maintain training records.

- Maintain training records for three years from the date of the training

(2009 Ed.)

- Include the following information in your training records:
 - Dates of the training sessions
 - Contents or a summary of the training sessions
 - Names and qualifications of persons conducting the training
 - Names and job titles of all persons attending the training sessions.
- Provide these employee-training records upon request for examination and copying to any of the following:
 - Employees
 - Employee representatives.

Helpful tool:**Training documentation**

A training documentation form is provided for your use in the resource section of this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-12015, filed 4/22/03, effective 8/1/03.]

WAC 296-823-130 Hepatitis B virus (HBV) vaccinations. Summary.**Your responsibility:**

To make the vaccination available to your employees so they are protected from the hepatitis B virus (HBV).

You must:

Make hepatitis B vaccination available to employees

WAC 296-823-13005

Obtain a copy of the health care professional's written opinion for hepatitis B vaccination and provide it to the employee

WAC 296-823-13010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-130, filed 4/22/03, effective 8/1/03.]

WAC 296-823-13005 Make hepatitis B vaccination available to employees.**Exemption:**

- You are not required to provide the hepatitis B vaccination series to employees who meet any of the following:
 - The employee has previously received the complete hepatitis B vaccination series
 - An antibody test has revealed that the employee is immune to hepatitis B
 - There are medical reasons not to give the vaccine.
- You are not required to provide the hepatitis B vaccination series to employees assigned to provide first aid only as a secondary duty, when you do all of the following:
 - Make hepatitis B vaccination available to all unvaccinated first-aid providers who render assistance in any situation involving the presence of blood or OPIM.
 - Vaccination must be made available as soon as possible, but no later than twenty-four hours after the incident.
 - Provide a reporting procedure that ensures all first-aid incidents that involve the presence of blood or OPIM are reported before the end of the work shift
 - Document first-aid incidents that involve blood or OPIM, include at least:
 - The names of all first-aid providers who rendered assistance
 - The time and date of the first-aid incident
 - A description of the first-aid incident.

(2009 Ed.)

- Make sure that the hepatitis B vaccination series is available to all employees who have occupational exposure and that it is:
 - Available at no cost to the employee
 - Available to the employee at a reasonable time and location
 - Administered by or under the supervision of a licensed physician or by another licensed healthcare professional
 - Provided according to recommendations of the United States Public Health Service that are current at the time these evaluations and procedures take place
 - Available to any employee who initially declines the vaccination but later decides to accept it while they are still covered by this chapter
 - Made available after the employee has received training required by this chapter and within ten working days of initial assignment.

Link:

You can find more information about the United States Public Health Service recommendations for hepatitis B vaccination at <http://www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm>.

You must:

- Make sure participation in a prevaccination screening program for antibody status is not a condition for receiving hepatitis B vaccination.
- Make sure that all laboratory tests are conducted by a laboratory licensed by the state or Clinical Laboratory Improvement Amendments (Act) (CLIA).
- Make sure employees who decline the hepatitis B vaccination, offered by you, sign a form with this statement:

"I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me."

Helpful tool:**Sample declination form:**

The declination form can help you document employees who have declined the hepatitis B vaccine. You can find a copy of this form in the resource section of this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-13005, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-13005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-13010 Obtain a copy of the health care professional's written opinion for hepatitis B vaccination and provide it to the employee.**You must:**

- Obtain and provide the employee a copy of the evaluating health care professional's written opinion for hepatitis B vaccination within fifteen days of the employee's evaluation.

Note: • If the health care professional provides the written opinion directly to the employee, you do not need to do so.

[Title 296 WAC—p. 2905]

- If the employee's personal health care professional completes the evaluation, you are not required to obtain the health care professional's written opinion.

You must:

- Make sure the health care professional's written opinion is limited to whether a hepatitis B vaccination is indicated and if the employee has received this vaccination
- Make sure that all other findings or diagnoses remain confidential and are **not** included in the written report.

Reference: Requirements for the health care professional's written opinion on post-exposure evaluation can be found in WAC 296-823-16030.

Helpful tool:

Health care professional's written opinion for post-exposure evaluation and health care provider's written opinion for hepatitis B vaccination.

These forms are available for your use in the resource section of this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-13010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-140 Control employee exposure. Summary.

Your responsibility:

To use feasible controls to eliminate or minimize occupational exposure to blood or other potentially infectious materials (OPIM).

IMPORTANT:

If occupational exposure remains after implementing these controls, personal protective equipment must be used. See WAC 296-823-150, Personal protective equipment.

You must:

Use appropriate equipment and safer medical devices to eliminate or minimize occupational exposure

WAC 296-823-14005

Handle contaminated sharps properly and safely

WAC 296-823-14010

Handle reusable sharps properly and safely

WAC 296-823-14015

Minimize splashing, spraying, splattering and generation of droplets

WAC 296-823-14020

Make sure items are appropriately labeled

WAC 296-823-14025

Make sure employees clean their hands

WAC 296-823-14030

Prohibit food, drink, and other personal activities in the work area

WAC 296-823-14035

Prohibit pipetting or suctioning by mouth

WAC 296-823-14040

Place specimens in an appropriate container

WAC 296-823-14045

Examine and label contaminated equipment

WAC 296-823-14050

Make sure your worksite is maintained in a clean and sanitary condition

WAC 296-823-14055

Handle regulated waste properly and safely

WAC 296-823-14060

Handle contaminated laundry properly and safely

WAC 296-823-14065.

[Title 296 WAC—p. 2906]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-140, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14005 Use feasible controls, including appropriate equipment and safer medical devices, to eliminate or minimize occupational exposure.

You must:

- Use appropriate equipment and safer medical devices to eliminate or minimize employee exposure.
- Use work practices designed to eliminate or minimize employee exposure.
- Examine and maintain or replace equipment and safer medical devices on a regular schedule to make sure they remain effective.

Note:

• Examples of appropriate equipment include:

- Sharps containers
- Biosafety cabinets
- Splash guards
- Centrifuge cups
- Specimen storage and transport containers.

• Examples of safer medical devices include:

- Sharps with engineered sharps injury protections (SESIP)
- Needleless systems
- Blunt suture needles
- Plastic capillary tubes.

• Examples of work practices include:

- No-hands procedures in handling contaminated sharps
- No hand-to-hand instrument passing.

Definition:

Sharps with engineered sharps injury protections (SESIP) is

A nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-12-070, § 296-823-14005, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-14005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14010 Handle contaminated sharps properly and safely.

You must:

- Make sure that you don't bend, recap, or remove contaminated needles or other contaminated sharps **unless** you can demonstrate that there is no feasible alternative or that it's required by a specific medical or dental procedure.
 - Bending, recapping or needle removal must be done by using a mechanical device or a one-handed technique.

Note:

Demonstrating that no alternative to bending, recapping, or removing contaminated sharps is feasible, may be accomplished through written justification, supported by reliable evidence, in your exposure control plan.

You must:

- Make sure you don't shear or break contaminated needles.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-14010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14015 Handle reusable sharps properly and safely.

You must:

- Place contaminated reusable sharps immediately, or as soon as possible after use, in appropriate containers until properly decontaminated. Containers must be all of the following:
 - Puncture resistant
 - Labeled or color-coded as described in this chapter

(2009 Ed.)

- Leakproof on the sides and bottom
- Meet the same requirements as the container for disposable sharps, except they do not need to be closable.
 - Store or process contaminated reusable sharps so employees aren't required to reach into the container or sink by hand
 - Make sure reusable sharps containers aren't opened, emptied, or cleaned manually or in any other manner that would expose employees to contaminated sharps.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-12-070, § 296-823-14015, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-14015, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14020 Minimize splashing, spraying, splattering, and generation of droplets.

You must:

- Make sure all procedures involving blood or OPIM are performed so splashing, spraying, splattering, and generation of droplets are minimized.
 - Examples include:
 - Appropriate operation and use of recommended controls for surgical power tools, lasers and electrocautery devices
 - Use of personal protective equipment when contact with blood or OPIM is reasonably anticipated
 - Making sure cleaning procedures do not generate unnecessary splashes, spraying, splattering, or generation of droplets.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 03-09-110, § 296-823-14020, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14025 Make sure items are appropriately labeled.

- Exemptions:** The following are exempt from the labeling requirements of this chapter:
- Individual containers placed in an appropriately labeled secondary container.
 - Regulated waste that has been decontaminated.
 - Containers of blood, blood components, or blood products that are labeled with their contents and have been released for transfusion or other clinical use.
 - Extracted teeth, gallstones, kidney stones, or other tissues and body substances that are given to patients.

You must:

- Attach appropriate labels to:
 - Containers used to store, transport, or ship blood or other potentially infectious materials (OPIM) including:
 - Refrigerators
 - Freezers.
 - Sharps containers
 - Contaminated equipment
 - Laundry bags and containers
 - Specimen containers
 - Regulated waste containers.
 - Make sure that labels:
 - Include the following symbol:



- Are all or mostly fluorescent orange or orange-red with lettering and symbol in a contrasting color
- Are attached to the container by string, wire, adhesive, or other method so they can't become lost or accidentally removed.

- Note:** Red bags or red containers may be substituted for labels as long as they're:
- Covered in the exposure control plan
 - Communicated to all affected employees (including employees of laundry services, disposal services, and transport companies) whether they're your employees or not.
 - The label does not always need to be attached to each individual container.
 - For example, a cart carrying specimen containers could be labeled, rather than each individual container.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-12-070, § 296-823-14025, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-14025, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14030 Make sure employees clean their hands.

You must:

- (1) Provide handwashing facilities that are readily accessible to employees, wherever feasible. If handwashing facilities are not feasible, provide either one of the following:
 - Antiseptic towelettes
 - Antiseptic hand rub product along with clean cloth/paper towels.
 - (2) Make sure employees clean their hands as soon as feasible after removing gloves and whenever there is the potential for contact with blood or other potentially infectious materials (OPIM). Do one of the following:
 - Wash with soap and water
 - Use an appropriate waterless antiseptic hand rub product or towelettes, provided there are no signs of visible contamination
 - Use an appropriate waterless antiseptic hand rub product or towelettes followed by washing with soap and water as soon as possible, when hands are visibly contaminated and handwashing facilities are not immediately available.
- Note:** An appropriate waterless antiseptic hand rub product is one that contains a 60-95% alcohol solution (isopropanol or ethanol).
- You must:**
- (3) Make sure employees wash any skin with soap and water, or flush mucous membranes with water as soon as feasible following contact with blood or OPIM.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-14030, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14035 Prohibit food, drink, and other personal activities in the work area.

You must:

- Make sure eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is occupational exposure
- Make sure food and drink are not kept in refrigerators, freezers, shelves, cabinets, or on countertops or benchtops where there is a potential for exposure to blood or other potentially infectious materials (OPIM).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-14035, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14040 Prohibit pipetting or suctioning by mouth.

You must:

- Prohibit mouth pipetting or suctioning of blood or other potentially infectious materials (OPIM).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-14040, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14045 Place specimens in an appropriate container.

You must:

- Place specimens of blood or other potentially infectious materials (OPIM) in an appropriate container that prevents leakage during collection, handling, processing, storage, transport, or shipping
- Make sure the container is properly labeled or color-coded and closed before being stored, transported, or shipped.
 - If outside contamination of the container occurs, the container must be placed inside a second container that prevents leakage and is properly labeled or color-coded
 - If the specimen could puncture the container, the container must be placed inside a second container that:
 - Is puncture-resistant
 - Prevents leakage during handling, processing, storage, transport, or shipping
 - Is properly labeled or color-coded.

Exemption: When your facility handles all specimens using universal precautions or other equivalent infection control systems, you don't have to label/color-code specimens as long as the containers can be recognized as containing specimens.

This exemption only applies while these specimens/containers remain within the facility. Proper labeling or color-coding is required when specimens/containers leave the facility.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025.

Helpful tool:

Guidance on the handling and storage of criminal evidence

This tool contains information about the handling and storage of criminal evidence. Criminal evidence contaminated with blood or OPIM is considered a specimen under the scope of this chapter. You can find a copy of this tool in the resource section of this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-14045, filed 4/22/03, effective 8/1/03.]

[Title 296 WAC—p. 2908]

WAC 296-823-14050 Examine and label contaminated equipment.

You must:

- Examine equipment which could become contaminated with blood or other potentially infectious materials (OPIM) before servicing or shipping.
 - Decontaminate this equipment and its parts as necessary unless you can demonstrate that decontamination isn't feasible
 - Attach an easily seen biohazard label to the equipment stating which portions remain contaminated.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025.

You must:

- Make sure that information on contaminated equipment is communicated to all affected employees, the servicing representative, and the manufacturer as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-14050, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-14050, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14055 Make sure your worksite is maintained in a clean and sanitary condition.

You must:

- (1) Develop an appropriate written schedule for cleaning and decontamination based upon the following:
 - The location within the facility
 - Type of surface to be cleaned
 - Type of contamination present
 - Tasks or procedures being performed in the area.
- (2) Clean and decontaminate environmental and working surfaces and all equipment after contact with blood or other potentially infectious materials (OPIM).
 - Decontaminate work surfaces with an appropriate disinfectant at these times:
 - After completion of a procedure
 - Immediately or as soon as possible when surfaces are clearly contaminated or after any spill of blood or OPIM
 - At the end of the workshift if the surface could have become contaminated since the last cleaning.
 - Remove and replace protective coverings, such as plastic wrap, aluminum foil, or imperviously backed absorbent paper used to cover equipment and environmental surfaces, as soon as possible when they:
 - Clearly become contaminated
 - At the end of the workshift if they could have become contaminated during the shift.
 - Inspect and clean (on a regularly scheduled basis) all bins, pails, cans, and similar receptacles intended for reuse that have a reasonable likelihood for becoming contaminated with blood or OPIM.
 - Clean and decontaminate these types of receptacles immediately or as soon as possible when they are visibly contaminated.
 - Use a brush and dustpan, tongs, forceps, or other mechanical means to clean up broken glassware that may be contaminated.

Note: An appropriate disinfectant is one that is effective against tuberculosis or HBV and HIV such as:

- Diluted bleach solution (1:10 or 1:100).

– Use the 1:10 bleach solution for spills and the 1:100 bleach solution for routine cleaning
 – You can make your own bleach solution. Using household bleach (5.25% sodium hypochlorite) follow these directions:

- For a 1:100 solution add 2 teaspoons (10 ml) to a container, then add water to make a quart (946 ml). For a 1:10 solution, add 1/3 cup (79 ml) and 1 tablespoon (15 ml) in a container, then add water to make a quart (946 ml)
- EPA registered tuberculocidals (List B)
- Sterilants (List A)
- Products registered against HIV/HBV (List D).

Any of the above products are considered effective when used according to the manufacturers' instructions. Higher level disinfection may be required depending on the agent or level of decontamination.

Link:

These lists are available from the EPA Office of Pesticides, antimicrobial pesticides web site at <http://www.epa.gov/opad001/chemregindex.htm>.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-14055, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14060 Handle regulated waste properly and safely.

Definition:

Regulated waste is any of the following:

- Liquid or semiliquid blood or other potentially infectious materials (OPIM)
- Contaminated items that would release blood or OPIM in a liquid or semiliquid state, if compressed
- Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological wastes containing blood or OPIM.

You must:

- Discard contaminated sharps immediately, or as soon as possible, in containers that are all of the following:
 - Closable
 - Puncture resistant
 - Leakproof on sides and bottom
 - Appropriately labeled or color-coded
 - Easily accessible to personnel
 - Located as close as feasible to the immediate area where sharps are used or areas sharps can be reasonably anticipated to be found (for example, laundries)
 - Maintained upright throughout use
 - Replaced routinely and not allowed to overflow.

Exemption: Work areas such as correctional facilities, psychiatric units, pediatric units, or residential homes may have difficulty placing sharps containers in the immediate use area. In such situations, alternatives such as using lockable containers or bringing containers in and out of the work area may be used.

Note: For additional information on placement and use of sharps containers see *Selecting, Evaluating, and Using Sharps Disposal Containers*, NIOSH Publication 97-111, January 1998. You can obtain a copy of this publication by calling 1-800-35-NIOSH or get an electronic version in pdf at <http://www.cdc.gov/niosh/publistd.htm>.

You must:

- Make sure when you move containers of contaminated sharps, the containers are:
 - Closed prior to removal or replacement to prevent spilling or protrusion of contents during handling, storage, transport, or shipping; and

(2009 Ed.)

- Placed in a secondary container, if leaking is possible.

The second container must be:

■ Closable

■ Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping

■ Appropriately labeled or color-coded.

• Make sure regulated waste other than sharps is placed in containers that are all of the following:

– Closable

– Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping

– Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping

– Placed in a second container if outside contamination of the primary regulated waste container occurs.

■ The second container must meet these requirements.

– Appropriately labeled or color-coded.

• Dispose of all regulated waste according to applicable state and county regulations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-12-070, § 296-823-14060, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-14060, filed 4/22/03, effective 8/1/03.]

WAC 296-823-14065 Handle contaminated laundry properly and safely.

You must:

• Handle laundry contaminated with blood or other potentially infectious material (OPIM) as little as possible and with a minimum of agitation

• Bag contaminated laundry or put it into a container at the location where it was used

– Do not sort or rinse at the location of use

– Place and transport contaminated laundry in bags or containers that are properly labeled or color-coded

– If your facility ships contaminated laundry off-site to a second facility that doesn't use an infection control or isolation system when handling all of their soiled laundry, your facility must place the laundry in red bags or containers that are appropriately labeled.

Note: If your facility uses an infection control or isolation system in the handling of all soiled laundry, you can use alternative labeling or color-coding so employees recognize that the containers need to be handled using these precautions.

Reference: Requirements for appropriate labels and color-coding are found in WAC 296-823-14025 of this chapter.

You must:

• Place and transport wet contaminated laundry that is likely to soak through or leak to the outside, in bags or containers that will prevent such leakage.

Reference: You need to follow additional requirements to make sure that employees who have contact with contaminated laundry wear protective gloves and other personal protective equipment (PPE) as appropriate, see WAC 296-823-150, Personal protective equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-12-070, § 296-823-14065, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-14065, filed 4/22/03, effective 8/1/03.]

WAC 296-823-150 Personal protective equipment (PPE). Summary.

Your responsibility:

To provide and make sure personal protective equipment is used when work practices and controls will not fully pro-

tect your employees from the risk of exposure to blood or other potentially infectious materials.

You must:

Provide and make sure that personal protective equipment is used when there is occupational exposure

WAC 296-823-15005

Make sure gloves are worn

WAC 296-823-15010

Make sure masks, eye protection, and face shields are worn

WAC 296-823-15015

Wear appropriate protective clothing

WAC 296-823-15020

Make resuscitator devices available

WAC 296-823-15025

Maintain personal protective equipment

WAC 296-823-15030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-150, filed 4/22/03, effective 8/1/03.]

WAC 296-823-15005 Provide and make sure personal protective equipment is used when there is occupational exposure.

You must:

• Provide at no cost to employees, appropriate personal protective equipment such as:

– Gloves

– Gowns

– Laboratory coats

– Face shields or a combination of masks and eye protection

tion

– Mouthpieces

– Resuscitation bags

– Pocket masks

– Other ventilation devices.

Note: • PPE is considered "appropriate" only if it does NOT permit blood or other potentially infectious materials (OPIM) to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

You must:

• Make sure that employees use appropriate PPE.
– In rare and extraordinary circumstances, employees can briefly and temporarily choose not to use PPE. If in their professional judgment, they believe that using PPE would prevent the delivery of health care or public safety services OR pose an increased hazard to themselves or coworkers.

• If the employee makes this judgment, you must investigate and document to determine if changes can be made to prevent future occurrences of the same situation

• Make sure that appropriate PPE, in sizes to fit your employees, is readily accessible at the worksite or issued to employees

• Make sure employees remove all PPE before leaving the work area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-823-15005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-15010 Make sure gloves are worn.

You must:

• Make sure gloves appropriate to the situation are worn when:

– It can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials (OPIM), mucous membranes, or skin that is not intact

– Handling or touching contaminated items or surfaces
– Performing vascular access procedures, for example, drawing blood or inserting an IV.

You must:

• Do the following when you are an employer in a volunteer blood donation center and you make the judgment that employees do not require routine use of gloves when performing phlebotomies:

– Periodically reevaluate your decision not to require gloves

– Make gloves available to all employees who wish to use them for phlebotomy (blood drawing)

– Do not discourage the use of gloves for phlebotomy

– Require that gloves be used for phlebotomy in ANY of the following circumstances:

■ When the employee has a cut, scratch, or other break in the skin of his or her hand or wrist

■ When the employee judges that hand contamination with blood may occur; for example, when performing phlebotomy on an uncooperative individual

■ When the employee is receiving training in phlebotomy.

You must:

• Make sure employees who are allergic to the gloves that are normally provided have ready access to at least one of the following:

– Nonlatex gloves

– Glove liners

– Powderless gloves

– Other similar alternatives.

• Replace disposable (single use) gloves such as surgical or examination gloves:

– As soon as practical when contaminated

– As soon as practical if they are torn or punctured

– When their ability to function as a barrier is compromised.

• Make sure disposable (single use) gloves are used only once

• Discard utility gloves if they are cracked, peeling, torn, punctured, or show other signs of deterioration or when their ability to function as a barrier is compromised.

– You may decontaminate utility gloves for reuse if they can continue to function as a barrier.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-12-070, § 296-823-15010, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-15010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-15015 Make sure appropriate masks, eye protection, and face shields are worn.

You must:

• Make sure either chin-length face shields or a combination of masks and eye protection are used, whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials (OPIM) may be generated and

eyes, nose, or mouth contamination can be reasonably anticipated.

Note: Examples of eye protection devices include goggles and glasses with solid side shields.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-15015, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-15015, filed 4/22/03, effective 8/1/03.]

WAC 296-823-15020 Wear appropriate protective clothing.

You must:

- Make sure appropriate protective clothing is worn when splashes to skin or clothes are reasonably anticipated. The type and characteristics will depend upon the sort of work being done and how much exposure is anticipated.

Note: Examples of protective clothing include:

- Gowns
- Aprons
- Lab coats
- Clinic jackets
- Similar outer garments
- Surgical caps or hoods
- Shoe covers or boots.

You must:

- Remove a garment as soon as feasible if blood or other potentially infectious materials (OPIM) penetrate it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-15020, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-15020, filed 4/22/03, effective 8/1/03.]

WAC 296-823-15025 Make resuscitator devices available.

You must:

- Make resuscitator (emergency ventilation) devices readily available and accessible to employees who can reasonably be expected to perform resuscitation procedures.

Note: Examples of resuscitator devices include:

- Masks
- Mouthpieces
- Resuscitation bags
- Shields/overlay barriers.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-15025, filed 4/22/03, effective 8/1/03.]

WAC 296-823-15030 Maintain personal protective equipment.

You must:

- Clean, repair, replace, launder, and dispose of personal protective equipment required by this chapter, at no cost to the employee
- Make sure when PPE is removed, it is placed in an appropriately designated area or container for storage, washing, decontamination, or disposal.

Note: Contaminated personal clothing is considered PPE for the purposes of this section.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-15030, filed 4/22/03, effective 8/1/03.]

WAC 296-823-160 Post-exposure requirements. Summary.

Your responsibility:

To make sure employees who have been exposed to blood or other potentially infectious materials (OPIM) have

(2009 Ed.)

appropriate post-exposure evaluation and follow-up available.

You must:

Make a confidential medical evaluation and follow-up available to employees who experience an exposure incident
WAC 296-823-16005

Test the blood of the source person

WAC 296-823-16010

Provide the results of the source person's blood test to the exposed employee

WAC 296-823-16015

Collect and test the blood of the exposed employee

WAC 296-823-16020

Provide information to the health care professional evaluating the employee

WAC 296-823-16025

Obtain and provide a copy of the health care professional's written opinion on post-exposure evaluation to the employee

WAC 296-823-16030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-160, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-160, filed 4/22/03, effective 8/1/03.]

WAC 296-823-16005 Make a confidential medical evaluation and follow-up available to employees who experience an exposure incident.

You must:

- Make immediately available a confidential post-exposure evaluation and follow-up to all employees with occupational exposure to blood or OPIM who report an exposure incident.

Definition:

Exposure incident. Means a specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties. Examples of nonintact skin include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.

You must:

- Make sure that the post-exposure medical evaluation and follow-up are all of the following:

- Immediately available following an exposure incident
- Confidential
- At no cost to the employee
- At a reasonable time and place
- Administered by or under the supervision of a licensed physician or by another licensed healthcare professional
 - Provided according to recommendations of the United States Public Health Service current at the time these evaluations and procedures take place.

- Make sure that the evaluation and follow-up includes AT LEAST these elements:

- Documentation of the routes of exposure, and the circumstances under which the exposure incident happened
- Identification and documentation of the source individual, unless you can establish that identification is infeasible or prohibited by state or local law
 - Collection and testing of blood to detect the presence of HBV and HIV

- Post-exposure preventive treatment, when medically indicated, as recommended by the United States Public Health Service
- Counseling
- Evaluation of reported illnesses.
- Make sure that all laboratory tests are conducted by a laboratory licensed by the state or Clinical Laboratory Improvement Amendments Act (CLIA).

Note: The employer or a third-party healthcare provider identified by the employer may do the evaluation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-16005, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-16005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-16010 Test the blood of the source person.

Exemption: When the source individual is already known to be infected with HBV or HIV, you do not need to test their status.

You must:

- Arrange to test the source individual's blood for HBV and HIV as soon as feasible after getting their consent.
 - If you do not get consent, you must establish that legally required consent can not be obtained
 - When the law does not require the source individual's consent, their blood, if available, must be tested and the results documented.

Note: • Your local health authority enforces rules regarding HIV testing and consent which are found in WAC 246-100-206, Special diseases—Sexually transmitted diseases, and WAC 246-100-207, Human immunodeficiency virus (HIV) testing. These rules can be found at: <http://www.leg.wa.gov/wac> and click on Title 246 WAC.

• Source testing: According to the Centers for Disease Control and Prevention (CDC), hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States. The CDC recommends testing of the source person for the presence of anti-HCV antibody. (Updated *U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis*, MMWR, June 29, 2000/50(RR11); 1-42.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-16010, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-16010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-16015 Provide the results of the source person's blood test to the exposed employee.

You must:

- Make sure the results of the source person's blood test are provided to the exposed employee, if possible
- Make sure the exposed employee is informed of applicable laws and regulations regarding disclosure of the identity and infection status of the source person.

Note: Law and regulations that currently apply are:

- Chapter 70.02 RCW, Medical records—Healthcare information access and disclosure.
- Chapter 70.24 RCW, Control and treatment of sexually transmitted diseases.
- Both rules can be found at <http://www.leg.wa.gov/wac> and click on Title 70 WAC to find these rules.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-16015, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-16015, filed 4/22/03, effective 8/1/03.]

WAC 296-823-16020 Collect and test the blood of the exposed employee.

[Title 296 WAC—p. 2912]

You must:

- Arrange to have the exposed employee's blood collected and tested as soon as feasible after consent is obtained.
 - If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample must be preserved for at least ninety days. If, within ninety days of the exposure incident, the employee chooses to have the baseline sample tested, it must be done as soon as possible.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-16020, filed 4/22/03, effective 8/1/03.]

WAC 296-823-16025 Provide information to the health care professional evaluating the employee.

You must:

- Provide ALL of the following information to the health care professional evaluating an employee after an exposure incident:
 - A copy of WAC 296-823-160
 - A description of the job duties the exposed employee was performing when exposed
 - Documentation of the routes of exposure and circumstances under which exposure occurred
 - Results of the source person's blood testing, if available
 - All medical records that you are responsible to maintain, including vaccination status, relevant to the appropriate treatment of the employee.

Reference: Requirements for the health care professional's written opinion for hepatitis B vaccinations can be found in WAC 296-823-13010.

Note: You may meet the requirement to provide a copy of WAC 296-823-160 to the health care professional by giving them the <http://www.lni.wa.gov/rules/>, as long as their office has a computer and access to the labor and industries' web site.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-16025, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-16025, filed 4/22/03, effective 8/1/03.]

WAC 296-823-16030 Obtain and provide a copy of the health care professional's written opinion on post-exposure evaluation to the employee.

You must:

- Obtain and provide to the employee a copy of the evaluating health care professional's written opinion within fifteen days of the completion of their evaluation.

Note: • If the health care professional provides the written opinion directly to the employee, you do not need to do so

- If the employee's personal health care professional completes the evaluation, you are not required to obtain the health care professional's written opinion.

- Make sure the health care professional's written opinion is limited to the following information:
 - That the employee has been informed of the results of the evaluation
 - That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials (OPIM) which need further evaluation or treatment.

• Make sure that all other findings or diagnoses remain confidential and are NOT included in the written report.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-16030, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-16030, filed 4/22/03, effective 8/1/03.]

WAC 296-823-170 Records. Summary.**Your responsibility:**

To obtain and maintain required records.

You must:

Establish and maintain medical records

WAC 296-823-17005

Maintain a sharps injury log

WAC 296-823-17010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-170, filed 4/22/03, effective 8/1/03.]

WAC 296-823-17005 Establish and maintain medical records.**You must:**

- Establish and maintain an accurate medical record for each employee with occupational exposure
- Make sure this record includes ALL of the following that apply:
 - Name and Social Security number of the employee
 - A copy of the employee's hepatitis B vaccination status, including the dates of all the hepatitis B vaccinations
 - Any medical records related to the employee's ability to receive vaccinations
 - The HBV declination statement
 - A copy of all results of examinations, medical testing, and follow-up procedures related to post-exposure evaluations
 - Your copy of the health care professional's written opinion
 - A copy of the information provided to the health care professional as required.
- Make sure that employee medical records are:
 - Kept confidential
 - Not disclosed or reported to any person, without the employee's written consent, except as required by this section or as may be required by law.

Note:

- In some industries, a medical record is also known as the employee health file.
- You may contract with the medical professional responsible for hepatitis B vaccination and post-exposure evaluation to maintain employee records.

Reference: You need to follow additional requirements for medical records found in WAC 296-62-052, Access to records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-17005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-17010 Maintain a sharps injury log.

Exemption: You are exempt from the requirements to record contaminated sharps injuries if you have ten or less employees.

You must:

- Record contaminated sharps injuries on your OSHA 300 or equivalent log.

Reference: Requirements for the OSHA 300 log are found in chapter 296-27 WAC Recordkeeping and reporting. <http://www.lni.wa.gov/wisha/regs/WACS/27/27.htm>.

You must:

- Record and maintain contaminated sharps injury information in a way that protects the confidentiality of the injured employee
- Also record the following additional information for contaminated sharps injuries:
 - The type and brand of device involved in the incident

(2009 Ed.)

– The department or work area where the exposure incident occurred

– An explanation of how the incident occurred.

- Maintain your contaminated sharps injury records for five years.

Note: You may record the additional information in any format you choose, such as on the OSHA 300 and 301 forms. It must be retrievable and identifiable to each specific injury.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-17010, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-17010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-180 Additional requirements for HIV and HBV research laboratories and production facilities. Summary.**Your responsibility:**

To implement and enforce these additional rules in research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV.

Exemption: This section does NOT apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs.

Note: Production and research facilities: Hepatitis C (HCV) is the virus involved in most cases of parenterally transmitted (bloodborne) non-A, non-B hepatitis in the United States. Most individuals who contract HCV become chronically infected (85%) and develop chronic hepatitis (70%). It is recommended that you also follow these requirements for HCV production and research facilities.

You must:

Prepare, review and update a biosafety manual

WAC 296-823-18005

Follow these special practices for the work area

WAC 296-823-18010

Make sure these practices for contaminated material and waste are followed

WAC 296-823-18015

Make sure these special practices for personal protective equipment (PPE) and other safe guards are followed

WAC 296-823-18020

Protect vacuum lines

WAC 296-823-18025

Use and handle hypodermic needles and syringes appropriately and safely

WAC 296-823-18030

Handle all spills and accidents properly

WAC 296-823-18035

Post signs

WAC 296-823-18040

Provide additional training for facility employees

WAC 296-823-18045

Furnish a sink for washing hands and a readily available eye wash facility

WAC 296-823-18050

Make sure these additional criteria are followed

WAC 296-823-18055.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-180, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-180, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18005 Prepare, review, and update a biosafety manual.**You must:**

- Prepare or adopt a biosafety manual. This manual must be:
 - Periodically reviewed
 - Updated at least annually or more often, if necessary.
- Make sure employees are:
 - Advised of potential hazards
 - Required to read and follow instructions about practices and procedures.
- Establish written policies and procedures where only authorized persons can enter work areas and animal rooms.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18005, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18010 Follow these special practices for the work area.

You must:

- Make sure only authorized persons are allowed to enter the work areas and animal rooms. Authorized persons must:
 - Have been advised of the potential biohazard
 - Meet any specific entry requirements
 - Comply with all entry and exit procedures.
- Keep laboratory doors closed when work involving HIV or HBV is in progress.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18010, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18015 Make sure these practices for contaminated material and waste are followed.

You must:

- Incinerate or decontaminate all regulated waste by a method known to effectively destroy bloodborne pathogens, such as autoclaving
- Make sure to place materials to be decontaminated away from the work area in a container that is:
 - Durable
 - Leakproof
 - Appropriately labeled, or color-coded
 - Closed before being removed from the work area.

Reference: You can find additional requirements for appropriate labels and color-coding in WAC 296-823-14025.

You must:

- Incinerate or decontaminate ALL waste from work areas and from animal rooms before disposal
- Make sure an autoclave is available for decontamination of regulated waste.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-823-18015, filed 1/24/07, effective 4/1/07; 04-12-070, § 296-823-18015, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-18015, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18020 Make sure these special practices for personal protective equipment (PPE) and other safe guards are followed.

You must:

- Make sure appropriate personal protective clothing is used in work areas and animal rooms. Examples of appropriate personal protective clothing include:
 - Laboratory coats
 - Gowns
 - Smocks

[Title 296 WAC—p. 2914]

- Uniforms.
- Decontaminate protective clothing before it is laundered
 - Make sure employees remove protective clothing before leaving their work area
 - Take special care to avoid skin contact with other potentially infectious materials (OPIM)
 - Wear gloves when handling infected animals and when you can not avoid making hand contact with OPIM
 - Conduct all activities involving OPIM in biological safety cabinets or other physical-containment devices within the containment module. No work with OPIM must be conducted on the open bench.

– Appropriate certified biological safety cabinets (Class I, II, or III) or personal protection or physical containment devices must be used for all activities with OPIM that pose a threat of exposure to droplets, splashes, spills, or aerosols. Appropriate personal protection and physical containment devices include:

- Special protective clothing
- Respirators
- Centrifuge safety cups
- Sealed centrifuge rotors
- Containment caging for animals.

– Biological safety cabinets must be certified when installed or moved, and at least annually.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18020, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18025 Protect vacuum lines.

You must:

- Protect vacuum lines with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of same or greater efficiency. Make sure filters are checked routinely and maintained or replaced as necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18025, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18030 Use and handle hypodermic needles and syringes appropriately and safely.

You must:

- Use hypodermic needles and syringes only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.
 - Use only needle-locking syringes or disposable syringe-needle units (when the needle is integral to the syringe) for the injection or aspiration of other potentially infectious materials (OPIM)
 - Use extreme caution when handling needles and syringes
 - The needle must not be bent, sheared, replaced in the sheath or guard, or removed from the syringe after use
 - Place the needle and syringe promptly in a puncture-resistant container and autoclave or decontaminate before reuse or disposal.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18030, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18035 Handle all spills and accidents properly.

You must:

- Make sure appropriate professional staff or others, properly trained and equipped to work with concentrated potentially infectious materials, immediately contain and clean up all spills
- Make sure that employees report a spill or accident that results in an exposure incident immediately to the laboratory director or other responsible person.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18035, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18040 Post signs.**You must:**

- Post signs at the entrance to work areas and all access doors when other potentially infectious materials (OPIM) or infected animals are present in the work area or containment module.
- Make sure signs:
 - Contain the following symbol and information:



(Name of the infectious agent)
 (Special requirements for entering the area)
 (Name, telephone number of the laboratory director or other responsible person.)

- Are all or mostly fluorescent orange-red with lettering and symbol in a contrasting color.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 03-09-110, § 296-823-18040, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18045 Provide additional training for facility employees.**You must:**

- Provide initial training to employees in HIV or HBV research laboratories or production facilities in addition to the training required in WAC 296-823-120
- Make sure that employees demonstrate proficiency in the following:
 - Standard microbiological practices and techniques
 - The practices and operations specific to the facility BEFORE being allowed to work with HIV or HBV.
- Provide a training program to employees working with HIV or HBV who have no prior experience in handling human pathogens.
 - Initial work activities must not include the handling of infectious agents
 - A progression of work activities must be assigned as techniques are learned and proficiency is developed.

(2009 Ed.)

- Make sure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-18045, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-18045, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18050 Furnish a sink for washing hands and a readily available eye wash facility.**You must:**

- Make sure each work area contains a sink for hand-washing and an eyewash facility is readily available.
 - For HIV and HBV production facilities, the sink must be operated automatically or by foot or elbow and must be located near the exit door of the work area.

Reference: Requirements for emergency eyewash stations can be found in WAC 296-800-15030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-12-070, § 296-823-18050, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-18050, filed 4/22/03, effective 8/1/03.]

WAC 296-823-18055 Make sure these additional criteria are followed for HIV and HBV production facilities.**You must:**

- Separate the HIV and HBV work areas from areas that are open to unrestricted traffic flow within the building
- Use two sets of doors to separate HIV and HBV work areas from access corridors or other contiguous areas.

Note: You may provide a physical separation of the high-containment work area from access corridors or other areas or activities by providing:

- A double-doored clothes-change room (showers may be included)
- Airlock

OR

- Other access facilities that require passing through two sets of doors before entering the work area.

- Make sure the surfaces of doors, walls, floors, and ceilings in the work area are water resistant so they can be easily cleaned. These surfaces must be sealed or capable of being sealed to facilitate decontamination

• Make sure access doors to the work area or containment module are self-closing

• Provide a ducted exhaust-air ventilation system. This system must create directional airflow that draws air into the work area through the entry area and you must verify this airflow. The exhaust air must:

- NOT be recirculated to any other area of the building
- Be discharged to the outside
- Be dispersed away from occupied areas and air intakes.

• Make sure an autoclave for decontamination of regulated waste is available within or as near as possible to the work area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-823-18055, filed 1/24/07, effective 4/1/07; 04-12-070, § 296-823-18055, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-18055, filed 4/22/03, effective 8/1/03.]

WAC 296-823-200 Definitions.**Blood**

Human blood, human blood components and products made from human blood. Also included are medications

derived from blood, such as immune globulins, albumin, and factors 8 and 9.

Bloodborne pathogens

Pathogenic microorganisms that are present in human blood and can cause disease in humans. Examples of these pathogens include:

- Human immunodeficiency virus (HIV)
- Hepatitis B virus (HBV)
- Hepatitis C virus, malaria
- Syphilis
- Babesiosis
- Brucellosis
- Leptospirosis
- Arboviral infections
- Relapsing fever
- Creutzfeld-Jakob Disease
- Human T-lymphotrophic virus Type I
- Viral Hemorrhagic Fever.

Clinical laboratory

A workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials (OPIM).

Contaminated

The presence or the reasonably anticipated presence of blood or other potentially infectious materials (OPIM) on an item or surface.

Contaminated laundry

Laundry that has been soiled with blood or other potentially infectious materials (OPIM) or may contain contaminated sharps.

Contaminated sharps

Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination

The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Exposure incident

A specific eye, mouth, other mucous membrane, nonintact skin or parenteral contact with blood or other potentially infectious materials (OPIM) that results from the performance of an employee's duties. Examples of nonintact skin include skin with dermatitis, hangnails, cuts, abrasions, chafing, or acne.

Handwashing facilities

A facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

Licensed healthcare professional

A person whose legally permitted scope of practice allows him or her to independently perform the activities required by this rule.

Needleless systems

A device that does not use needles for any of the following:

- The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established
- The administration of medication or fluids

- Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Occupational exposure

Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.

Other potentially infectious materials (OPIM)

Includes all of the following:

- Human body fluids: Semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;
 - Any unfixed tissue or organ (other than intact skin) from a human (living or dead);
 - HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV
 - Blood and tissues of experimental animals infected with bloodborne pathogens.

Parenteral contact

When mucous membranes or skin is pierced by needlesticks, human bites, cuts, or abrasions.

Personal protective equipment (PPE)

Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (for example, uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard are not considered to be PPE.

Production facility

A facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

Regulated waste

Regulated waste is any of the following:

- Liquid or semiliquid blood or other potentially infectious materials (OPIM)
- Contaminated items that would release blood or OPIM in a liquid or semiliquid state, if compressed
- Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological wastes containing blood or OPIM.

Research laboratory

A laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

Safer medical devices

Medical devices that have been engineered to reduce the risk of needlesticks and other contaminated sharps injuries. These include not only sharps with engineered sharps injury protections and needleless systems but also other medical devices designed to reduce the risk of sharps injury exposures to bloodborne pathogens. Examples include blunt suture needles and plastic or mylar-wrapped glass capillary tubes.

Secondary duty

Any job expectation outside the primary job duties assigned to that position.

Sharps with engineered sharps injury protections (SESIP)

A nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Source person

A person, living or dead, whose blood or other potentially infectious materials may be a source (OPIM) of occupational exposure to the employee. Examples include:

- Hospital and clinic patients
- Clients in institutions for the developmentally disabled
- Trauma victims
- Clients of drug and alcohol treatment facilities
- Residents of hospices and nursing homes
- Human remains
- Individuals who donate or sell blood or blood components.

Standard microbiological practices

Standard microbiological practices refer to procedures comparable to those outlined in the current edition of the Center for Disease Control "Biosafety in Microbiological and Biomedical Laboratories."

Sterilize

The use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal precautions

An approach to infection control. According to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Note: Universal Blood-Body Fluid Precautions, Body Substance Isolation, and Standard Precautions expand on the concept of universal precautions to include all body fluids and substances as infectious. These concepts are acceptable alternatives to universal precautions.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-12-070, § 296-823-200, filed 6/1/04, effective 9/1/04; 03-09-110, § 296-823-200, filed 4/22/03, effective 8/1/03.]

Chapter 296-824 WAC EMERGENCY RESPONSE

WAC

296-824-100	Scope.
296-824-110	Reserved.
296-824-11010	Reserved.
296-824-11020	Reserved.
296-824-11050	Reserved.
296-824-11060	Reserved.
296-824-12010	Reserved.
296-824-12020	Reserved.
296-824-12030	Reserved.
296-824-12040	Reserved.
296-824-12050	Reserved.
296-824-12060	Reserved.
296-824-13010	Reserved.
296-824-13020	Reserved.
296-824-13030	Reserved.
296-824-14010	Reserved.
296-824-15010	Reserved.
296-824-200	Planning.

296-824-20005	Develop an emergency response plan.
296-824-300	Training.
296-824-30005	Train your employees.
296-824-400	Medical surveillance.
296-824-40005	Provide medical surveillance to employees.
296-824-40010	Keep records.
296-824-500	Incident requirements.
296-824-50005	Recognize emergencies and initiate a response.
296-824-50010	Implement and maintain an incident command system (ICS).
296-824-50015	Prepare skilled support personnel.
296-824-50020	Make sure the incident commander oversees activities during the response.
296-824-50025	Use the buddy system in danger areas.
296-824-50030	Provide rescue and medical assistance.
296-824-600	Personal protective equipment.
296-824-60005	Personal protective equipment.
296-824-60010	Control hazards created by personal protective equipment (PPE).
296-824-60015	Use personal protective equipment (PPE) properly.
296-824-700	Postemergency response.
296-824-70005	Follow the appropriate postemergency response requirements.
296-824-800	Definitions.

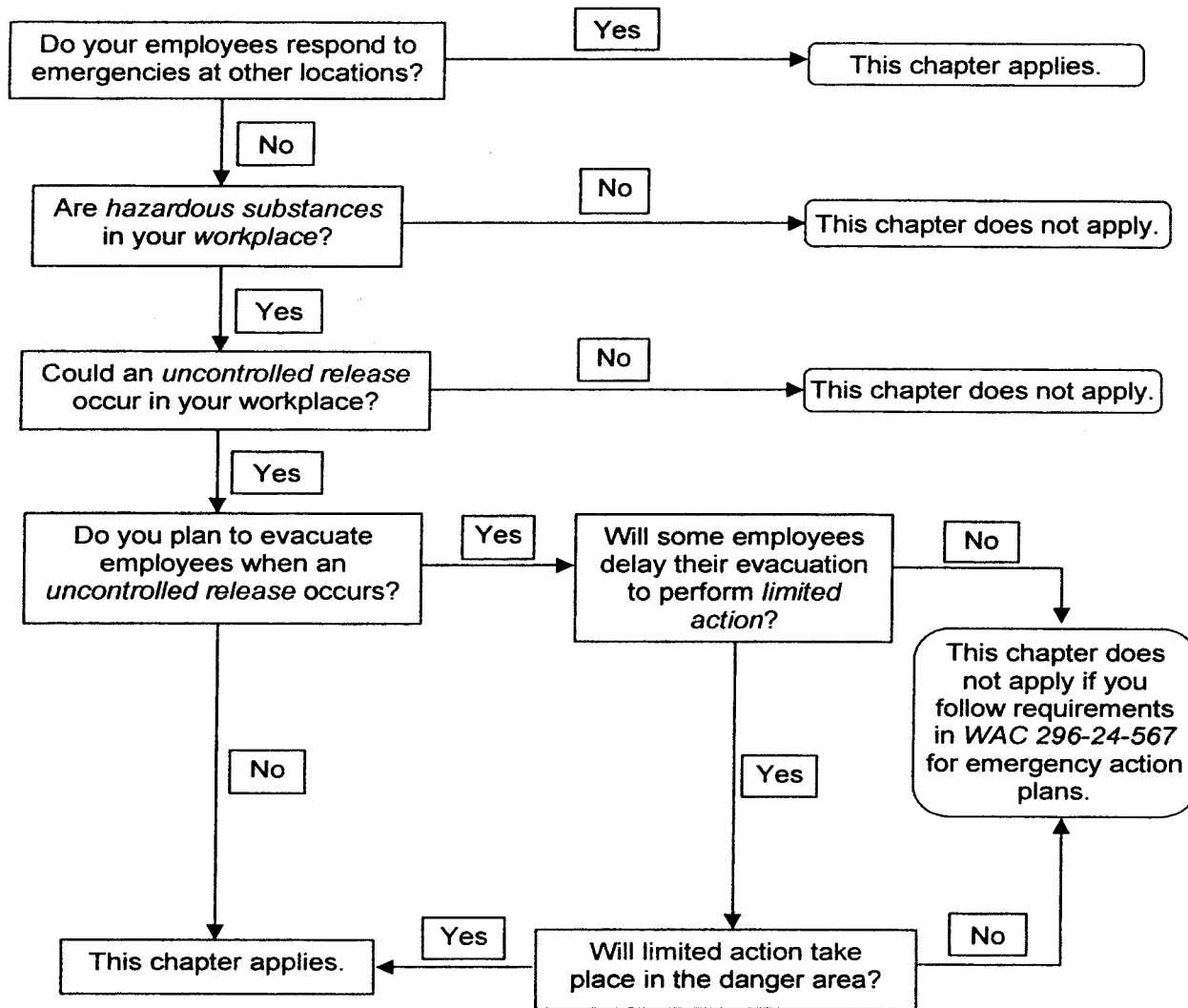
WAC 296-824-100 Scope. This chapter states the minimum requirements that help you protect the safety and health of your employees during a response to a *hazardous substance releases* in your *workplace* or any other location.

This chapter applies if your employees are, or could become, involved in responding to uncontrolled releases of hazardous substances in your workplace or any other location. Use the scope flow chart, and definitions that follow, to determine if this chapter applies to your workplace(s). Defined words are italicized in the flow chart.

EXEMPTION:

- This chapter does not apply to you if your workplace is a hazardous waste site. If you are not sure about your site classification, see chapter 296-843 WAC, Hazardous waste operations.
- If your workplace is a treatment, storage, and disposal site this chapter may apply.

Note: Requirements in other chapters may also apply to your workplace. You will find some safety and health requirements (for example, personal protective equipment) are addressed on a general level in the WISHA Safety and Health Core Rules, chapter 296-800 WAC, while being addressed for a specific application in this rule. When this happens, both requirements apply and should not conflict. If you are uncertain which requirements to follow, you must comply with the more protective requirement. Contact your local L&I office if you need assistance in making this determination.



Definitions applicable to the flow chart. (See WAC 296-824-800 for additional definitions used in the chapter):

Danger area

Areas where conditions pose a serious danger to employees, such as areas where:

- Immediately dangerous to life or health (IDLH) conditions could exist

OR

- High levels of exposure to toxic substances could exist

OR

- There is a potential for exceeding the lower explosive limit (LEL), also known as the lower flammability limit (LFL), of a substance.

Emergency response

A response to an anticipated release of a hazardous substance that is, or could become, an *uncontrolled release*.

Hazardous substance

Any biological, radiological, or chemical substance that can have adverse effects on humans. (See WAC 296-824-800 for a more specific definition.)

Immediately dangerous to life or health (IDLH)

Any atmospheric condition that would:

- Cause an immediate threat to life

- Cause permanent or delayed adverse health effects
- Interfere with an employee's ability to escape

Incidental release

A release that can be safely controlled at the time of the release and does not have the potential to become an *uncontrolled release*.

Example of a situation that results in an incidental release:

A tanker truck is receiving a load of hazardous liquid when a leak occurs. The driver knows the only hazard from the liquid is minor skin irritation. The employer has trained the driver on procedures and provided equipment to use for a release of this quantity. The driver puts on skin protection and stops the leak. A spill kit is used to contain, absorb, and pick up the spilled material for disposal.

Limited action

Action necessary to:

- Secure an operation during emergency responses,

OR

- Prevent an incident from increasing in severity.

Examples include shutting down processes and closing emergency valves.

Release

A spill, leak, or other type of hazardous substance discharge.

Uncontrolled release

A release where significant safety and health risks could be created. Releases of hazardous substances that are either incidental or could not create a safety or health hazard (i.e., fire, explosion or chemical exposure) are not considered to be uncontrolled releases.

Examples of conditions that could create a significant safety and health risk:

- Large-quantity releases
- Small-releases that could be highly toxic
- Potentially contaminated individuals arriving at hospitals
- Airborne exposures that could exceed a WISHA permissible exposure limit or a published exposure limit and employees are not adequately trained or equipped to control the release.

Example of an uncontrolled release:

A forklift driver knocks over a container of a solvent-based liquid, releasing the contents onto the warehouse floor. The driver has been trained to recognize the vapor is flammable and moderately toxic when inhaled. The driver has not been trained or provided appropriate equipment to address this type of spill. In this situation, it is not safe for the driver to attempt a response. The driver needs to notify someone of the release so an emergency response can be initiated.

Workplace

- A fixed facility
- OR**
- A temporary location (such as a traffic corridor)
- OR**
- Locations where employees respond to emergencies.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-824-100, filed 1/24/07, effective 4/1/07; 02-20-034, § 296-824-100, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17-010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-100, filed 5/22/02, effective 10/1/02.]

WAC 296-824-110 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-110, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-110, filed 5/22/02, effective 10/1/02.]

WAC 296-824-11010 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-11010, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-11010, filed 5/22/02, effective 10/1/02.]

WAC 296-824-11020 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-11020, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-11020, filed 5/22/02, effective 10/1/02.]

(2009 Ed.)

WAC 296-824-11050 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-11050, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-11050, filed 5/22/02, effective 10/1/02.]

WAC 296-824-11060 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-11060, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-11060, filed 5/22/02, effective 10/1/02.]

WAC 296-824-12010 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-12010, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-12010, filed 5/22/02, effective 10/1/02.]

WAC 296-824-12020 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-12020, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-12020, filed 5/22/02, effective 10/1/02.]

WAC 296-824-12030 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-12030, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-12030, filed 5/22/02, effective 10/1/02.]

WAC 296-824-12040 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-12040, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-12040, filed 5/22/02, effective 10/1/02.]

WAC 296-824-12050 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-12050, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-12050, filed 5/22/02, effective 10/1/02.]

WAC 296-824-12060 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-12060, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-12060, filed 5/22/02, effective 10/1/02.]

WAC 296-824-13010 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-13010, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-13010, filed 5/22/02, effective 10/1/02.]

WAC 296-824-13020 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-13020, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-13020, filed 5/22/02, effective 10/1/02.]

WAC 296-824-13030 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-13030, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-13030, filed 5/22/02, effective 10/1/02.]

[Title 296 WAC—p. 2919]

WAC 296-824-14010 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-14010, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-14010, filed 5/22/02, effective 10/1/02.]

WAC 296-824-15010 Reserved.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-15010, filed 9/24/02, effective 10/1/02. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-11-141, § 296-824-15010, filed 5/22/02, effective 10/1/02.]

WAC 296-824-200 Planning.

Your Responsibility:

To anticipate and plan for emergency response operations.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-200, filed 9/24/02, effective 10/1/02.]

WAC 296-824-20005 Develop an emergency response plan.

- Note:**
- You may already have an emergency response plan, such as required by chapter 296-843 WAC, Hazardous waste operations or by state and locally coordinated response efforts (Section 303 of Superfund Amendments and Reauthorization Act (SARA), Title III). You may use those plans to comply with this section, if they include the items listed below.
 - Before a written emergency response plan can be developed, you will need to anticipate the types of uncontrolled releases that employees could encounter in your workplace(s).

You must:

(1) Make sure your plan is written and adequately addresses, as a minimum, all of the following:

- Preemergency planning and coordination with additional responders (including personnel from other employers such as: Fire departments, law enforcement agencies, emergency medical services, and state or federal agencies).
- Personnel roles, (See Table 1) and lines of authority and communications for all affected parties including responders
- Employee training (see WAC 296-824-30005 for more detail):

- Note:**
- Responders' level of training depends on the duties or roles the employer assigns.
 - Training for the employees' role should address the competencies specified in Tables 3 through 6.
 - Training on specific substances may be appropriate depending on the number and characteristics of hazardous substances expected to be encountered. For example, if employees may only respond to one substance, you could provide training (covering the knowledge and skills specified in Tables 3 through 6) on that single substance. If employees might respond to a range of hazardous substances, training may be required to cover categories of hazardous substances.
 - Videos and automated training methods (for example: Interactive computer-based programs) may be used in training; however, instructors must be readily available to:
 - Encourage and provide responses to questions for the benefit of the group.
 - Evaluate employee understanding of the material.
 - Provide other instructional interaction to the group.

- Emergency recognition
- Immediate emergency procedures including:

Note: In situations where multiple employers could respond to an incident, all plans should consistently address:

- Methods of alerting employees (see WAC 296-800-310, exit routes and employee alarm systems) and outside responders

- Procedures for limited action (emergency prevention)

Note: *Limited action* includes shutting down processes, closing emergency valves and other critical actions to secure the operation, or prevent the incident from increasing in severity.

Limited Action and Employee Roles	
If . . .	Then employees involved would be:
Limited action could be conducted in the danger area	Considered emergency responders
Limited action will not be conducted in the danger area	Considered evacuees, not emergency responders

- Details of who will evacuate immediately and who will remain behind for limited action

- Evacuation routes and procedures

– How to establish safe distances and places of refuge (for example, during emergency response the incident commander (IC) decides to make changes based on new developments, i.e., changes in the wind direction).

- Methods of securing and controlling access to the site
- Emergency medical treatment and first aid
- A complete personal protective equipment (PPE) program that addresses:

– Selection of PPE including selection criteria to be used and the identification, specified use and limitations of the PPE selected.

– Training on proper use of PPE (including maintenance).

– Hazards created by wearing PPE including heat stress during temperature extremes, and/or other appropriate medical considerations.

- Criteria used for determining the proper fit of PPE.

– Procedures covering proper use of PPE including procedures for inspection, putting it on (donning) and removing it (doffing).

– Maintenance of PPE including procedures for decontamination, disposal and storage.

– Methods used to evaluate the effectiveness of your PPE program.

- Note:**
- If a manufacturer's printed information or WISHA rule adequately addresses procedural requirements (such as donning or doffing for PPE), it is not necessary to rewrite this into your program; simply attach the printed information.
 - You may use written procedures provided by the equipment manufacturer when they meet the requirements of other chapters, including chapter 296-842 WAC, Respirators.

- Emergency equipment
- Emergency response procedures
- Decontamination procedures determined by a hazardous materials specialist or other qualified individual
 - Methods to critically assess the response and conduct appropriate follow-up

You must:

(2) Make your written emergency response plan available to employees, their representatives, and WISHA personnel for inspecting or copying.

- Who will be designated as the incident commander (IC)
- AND
- If, when, and how transfer of the incident commander (IC) position will take place.

Table 1 Roles and Duties of Emergency Responders	
If the employee's role is:	Then all of the following apply. They:
First responder at the awareness level	<ul style="list-style-type: none"> • Are likely to witness or discover a hazardous substance release • Are trained to initiate an emergency response by notifying the proper authorities of the release • Take no further action beyond notifying the authorities
First responder at the operations level	<ul style="list-style-type: none"> • Respond to actual or potential releases in order to protect nearby persons, property, and/or the environment from the effects of the release • Are trained to respond defensively, without trying to stop the release • May try to: <ul style="list-style-type: none"> - Confine the release from a safe distance - Keep it from spreading - Protect others from hazardous exposures
Hazardous materials technician	<ul style="list-style-type: none"> • Respond to releases or potential releases, with the intent of stopping the release • Are trained to approach the point of release offensively in order to, either: <ul style="list-style-type: none"> - Plug - Patch - Stop the release using other methods
Hazardous materials specialist	<ul style="list-style-type: none"> • Respond along with, and provide support to, hazardous materials technicians • Are required to have more specific knowledge of hazardous substances than a hazardous materials technician • Act as the site activity liaison when federal, state, local, and other government authorities participate
Incident commander	<ul style="list-style-type: none"> • Have ultimate responsibility for: <ul style="list-style-type: none"> - Direction - Control - Coordination of the response effort - Will assume control of the incident beyond the first responder awareness level
Specialist employee	<ul style="list-style-type: none"> • Are a technical, medical, environmental, or other type of expert • May represent a hazardous substance manufacturer, shipper, or a government agency • May be present at the scene or may assist from an off-site location • Regularly work with specific hazardous substances • Are trained in the hazards of specific substances • Are expected to give technical advice or assistance to the incident commander or incident safety officer, when requested
Skilled support personnel	<ul style="list-style-type: none"> • Are needed to perform an immediate, specific emergency support task at the site • Are skilled in the operation of equipment including: <ul style="list-style-type: none"> - Earth moving equipment - Cranes - Hoisting equipment
Incident safety officer	<ul style="list-style-type: none"> • Are designated by the incident commander • Are knowledgeable in operations being implemented at the site • Have specific responsibility to: <ul style="list-style-type: none"> - Identify and evaluate hazards - Provide direction on employee safety matters

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-824-20005, filed 1/24/07, effective 4/1/07; 05-03-093, § 296-824-20005, filed 1/18/05, effective 3/1/05; 02-20-034, § 296-824-20005, filed 9/24/02, effective 10/1/02.]

WAC 296-824-300 Training.

Your responsibility:

To make sure employees participating in emergency response operations are appropriately trained for their assigned roles and duties.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060, 02-20-034, § 296-824-300, filed 9/24/02, effective 10/1/02.]

WAC 296-824-30005 Train your employees.

Note: • Use Tables 3 through 6 to identify your employees' training competencies.

- You may conduct training internally, or use outside training services to comply with this section.
 - When outside trainers are hired, you are still responsible for making sure the requirements of this section are met. For example, employers may compare the course outline to the competencies listed in Tables 3 through 6.

You must:

- Make sure employees are appropriately trained for their assigned roles and duties as follows:

EXEMPTION: Skilled support employees are not covered by the training requirements in this section. (See WAC 296-824-50015.)

– Initial training:

- Provide initial training before the employee is allowed to participate in an actual emergency response operation.

Note: When first responders at the awareness or operations level have sufficient experience to objectively demonstrate competencies specified in Table 3, you may accept experience instead of training.

- Make sure initial training adequately addresses the competencies in Tables 3 through 6 and the minimum training durations in Table 2.

- Certify that employees objectively demonstrate competencies specified in Tables 3, 4 and 5 (except for employees trained as first responders at the awareness level).

– Retraining (refresher) training:

- Provide retraining annually
- Make sure retraining covers necessary content
- Document training or demonstrated competency

Note: Retraining is not required when employees demonstrate competencies annually and a record is kept of the demonstration methodology used.

– Trainer qualifications:

- Verify trainers have satisfactorily completed an instructors' training course for the subjects they teach. For example, courses offered by the United States National Academy, or equivalent courses are acceptable.

OR

- Have the educational and instructional experience necessary for training.

– Specialist employees:

- Specialist employees who have been sent to the scene to advise or assist must receive training or demonstrate competency in their specialty, annually.

Table 2 Minimum Training Durations for All Responders	
If you are a:	Then:
First responder at the awareness level	Training duration needs to be sufficient to provide the required competencies
First responder at the operations level	You need a minimum of 8 hours training (see Table 3)
Hazardous materials technician	You need a minimum of 24 hours training (see Table 4)
Hazardous materials specialist	You need a minimum of 24 hours training (see Table 4)
Incident commander	You need a minimum of 24 hours training (see Table 5)

Table 3 Competencies for First Responders at the Awareness Level and Operations Level		
Employees must be able to show they:	When they are designated as First Responders at the:	
	Awareness Level	Operations Level
Understand what hazardous substances are and their associated risks.	X	X
Recognize the presence of hazardous substances in an emergency.	X	X
Can identify the hazardous substances, when possible.	X	X
Understand the potential consequences of hazardous substances in an emergency.	X	X
Understand the role of a first responder at the awareness level as described in: <ul style="list-style-type: none"> • The employer's emergency response plan, including site security and control. • The United States Department of Transportation's Emergency Response Guidebook. (<i>search at: http://www.dot.gov</i>). 	X	X
Can use The United States Department of Transportation's Emergency Response Guidebook.	X	X
Recognize the need for additional resources and the need to notify the incident's communication center accordingly.	X	X
Know basic hazard and risk assessment techniques.		X
Can select and use personal protective equipment (PPE) appropriate for first responder operations level.		X
Understand basic hazardous materials terms.		X
Can perform basic control, containment, and/or confinement operations within the capabilities of the resources and PPE available.		X
Can implement decontamination procedures to their level training.		X
Understand relevant standard operating and termination procedures.		X

Table 4
Competencies for Hazardous Materials Technicians and Hazardous Materials Specialist

Employees must be able to show they:	When they are designated as a Hazardous Materials:	
	Technician	Specialist
Have the competencies specified for the first responder operations level. (See Table 3)	X	X
Can implement an employer's emergency response plan.	X	X
Can function within their assigned role in the incident command system.	X	X
Understand hazard and risk assessment techniques.	X	X
Understand basic chemical and toxicological terminology and behavior.	X	X
Can use field survey instruments and equipment to classify, identify, and verify materials at the incident.	X	X
Can select and use personal protective equipment (PPE) appropriate for hazardous materials technicians.	X	X
Can perform advance control, containment, and/or confinement operations within the capabilities of the resources and PPE available.	X	X
Can implement decontamination procedures to their level of training.	X	X
Understand termination procedures.	X	X
Can implement the local emergency response plan.		X
Know of the state emergency response plan.		X
Can develop a site safety and control plan.		X
Understand chemical, radiological, and toxicological terminology and behavior.		X
Understand in-depth hazard and risk techniques.		X
Can use advanced survey instruments and equipment to classify, identify and verify materials at the incident.		X
Can select and use proper specialized chemical PPE given to hazardous materials specialists.		X
Can perform specialized control, containment, and/or confinement operations within the capabilities of the resources and PPE available.		X
Can determine decontamination procedures.		X

Table 5
Competencies for Incident Commanders

Employees designated as Incident Commanders must be able to show they:
<ul style="list-style-type: none"> • Have competencies specified for the First Responder Operations Level. (See Table 3.) • Know of the state emergency response plan and the Federal Regional Response Team. • Can implement the local emergency response plan. • Can implement the employer's emergency response plan. • Have knowledge of the incident command system (ICS) and understand how they relate to it. • Can implement the employer's ICS. • Understand the hazards and risks associated with employees working in chemical protective clothing. • Understand the importance of decontamination procedures.
Note: If the first employee arriving at the scene is not trained as an IC, they may take control of the incident within their designated role and training level.

Table 6
Competencies for Specialist Employees

Employees designated as Specialist Employees must be able to show they:
<ul style="list-style-type: none"> • Have current knowledge in their field regarding safety and health practices relating to the specific hazardous substances. • Have the knowledge of the ICS and understand how they relate to it. • Understand the care and use of personal protective equipment (PPE).

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-30005, filed 9/24/02, effective 10/1/02.]

WAC 296-824-400 Medical surveillance. Summary.

Your responsibility:

To provide and document medical surveillance for your employees.

You must:

Provide medical surveillance to employees

WAC 296-824-40005

Keep records

WAC 296-824-40010.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-400, filed 9/24/02, effective 10/1/02.]

WAC 296-824-40005 Provide medical surveillance to employees.

You must:

(1) Provide medical surveillance for employees to comply with Tables 7 and 8, and the following:

- Make medical surveillance available at:

- Reasonable times and places.

- No cost to employees, including travel associated costs such as mileage, gas or bus fare if the employee is required to travel off site

AND

- Wages for additional time spent outside of employees normal work hours.

- Make sure a licensed physician performs or supervises exams and procedures.

- Give complete information to the examining physician including:

- A copy of this chapter.

- A description of the employee's duties that relate to hazardous substance exposure.

- The hazardous substance exposure levels anticipated for the employee.

- A description of the personal protective equipment (PPE) the employee could use.

- Information available from previous medical examinations.

- The medical evaluation information required by chapter 296-842 WAC, Respirators.

- Medical exams must include, at a minimum:

- A medical history

- A work history (or updated history if on file)

- A special emphasis on:

- Assessment of symptoms related to handling hazardous substances

- Health hazards

- Evaluation of fitness for duty (including the ability to wear any personal protective equipment (PPE) or other conditions that may be expected at the workplace)

- Other content as determined by the examining physician.

Note: The physician should consult the *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* and the *Medical Management Guidelines for Acute Chemical Exposure* (search OSHA web site: <http://www.osha.gov>).

(2) Obtain the physician's written opinion and give a copy to the employee that includes:

- A statement of whether or not medical conditions were found which would increase the employee's risk for impairment during emergency response work or respirator use.

- Do not include specific findings or diagnoses unrelated to occupational exposures.

- Limitations recommended to the employee's assigned work, if any.

- Exam and test results if the employee requests this information.

- A statement that affirms the employee has been confidentially informed of medical exam results (including medical conditions requiring follow-up).

Table 7 Medical Surveillance for Employee Categories	
If the employee is covered by this chapter and is:	Then you must:
<ul style="list-style-type: none"> • Exposed for at least 30 days a year to health hazards or hazardous substances at or above the permissible exposure limit or published exposure levels (even when respirators are used), OR • Required to wear a respirator for at least 30 days a year.* 	<ul style="list-style-type: none"> • Offer standard medical surveillance as specified in Table 8.*
<ul style="list-style-type: none"> • A hazardous materials (HAZMAT) team member • A hazardous materials specialist 	<ul style="list-style-type: none"> • Provide standard medical surveillance as specified in Table 8.
<ul style="list-style-type: none"> • An emergency responder who shows immediate or delayed signs or symptoms possibly resulting from exposure to hazardous substances during an incident. 	<ul style="list-style-type: none"> • Provide incident-specific medical surveillance as specified in Table 8.
<ul style="list-style-type: none"> • Not an emergency responder and: <ul style="list-style-type: none"> – May be injured – Shows immediate or delayed signs or symptoms possibly resulting from exposure to hazardous substances – May have been exposed to hazardous substances at concentrations above the permissible exposure limits (PELs) or the published exposure levels without appropriate PPE. 	<ul style="list-style-type: none"> • Offer incident-specific medical surveillance as specified in Table 8.

*Note: A medical evaluation for respirator use is required by chapter 296-842 WAC, Respirators, for those employees who have not been cleared for respirator use during medical surveillance activities.

Table 8
Frequency of Exams and Consultations

If the employee is covered by:	Then medical surveillance must include:
<ul style="list-style-type: none"> • Standard medical surveillance 	<ul style="list-style-type: none"> • Exams and consultations: <ul style="list-style-type: none"> – Before assignment. Note: If the employee is a hazardous materials (HAZMAT) team member or a hazardous materials specialist, the employee must receive a baseline physical examination. <ul style="list-style-type: none"> – At least once every 12 months after their initial assignment unless the physician believes a shorter, or longer interval (but no more than 24 months) is appropriate. – Whenever employees are reassigned to an area where they will no longer be covered by medical surveillance and they have not been examined within the past 6 months. – As soon as possible after an employee reports: <ul style="list-style-type: none"> ◆ Signs or symptoms of possible overexposure to hazardous substances or health hazards ◆ Injury ◆ Exposure above the permissible exposure limits or published exposure levels – At the termination of their employment unless they were examined within the past 6 months.
<ul style="list-style-type: none"> • Incident-specific medical surveillance 	<ul style="list-style-type: none"> • Medical consultations and exams: <ul style="list-style-type: none"> – As soon as possible following the incident or development of signs or symptoms. – At additional times, if the physician determines follow-up is medically necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-03-093, § 296-824-40005, filed 1/18/05, effective 3/1/05; 02-20-034, § 296-824-40005, filed 9/24/02, effective 10/1/02.]

WAC 296-824-40010 Keep records.

You must:

- Keep a record of:
 - Name and Social Security number of the employee receiving medical surveillance
 - Physicians' written opinions, recommended limitations, and results of examinations and tests
 - Any employee medical complaints regarding hazardous substance exposures
 - A copy of all information given to the examining physician (except a copy of this chapter)

Note: Keep records meeting the criteria specified in chapter 296-62 WAC, Part B, Access to records, for the length of time specified in that chapter.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-40010, filed 9/24/02, effective 10/1/02.]

WAC 296-824-500 Incident requirements. Summary.

Your responsibility:

To conduct and manage emergency response operations so employees are protected from hazardous substances and conditions.

You must:

- Recognize emergencies and initiate a response
WAC 296-824-50005
- Implement and maintain an incident command system (ICS)
WAC 296-824-50010
- Prepare skilled support personnel
WAC 296-824-50015

Make sure the incident commander oversees activities during the response

WAC 296-824-50020

Use the buddy system in danger areas

WAC 296-824-50025

Provide rescue and medical assistance

WAC 296-824-50030.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-500, filed 9/24/02, effective 10/1/02.]

WAC 296-824-50005 Recognize emergencies and initiate a response.

You must:

- Make sure employees follow procedures in your emergency response plan to:
 - Recognize when an emergency response must be initiated
 - Notify employees, and others designated in your plan, of the release
 - Follow immediate emergency procedures
 - Prevent the incident from increasing in severity or to secure the operation.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-50005, filed 9/24/02, effective 10/1/02.]

WAC 296-824-50010 Implement and maintain an incident command system (ICS).

You must:

(1) Make sure a single individual, acting as the incident commander (IC), is in charge of the site-specific incident command system (ICS) and acts within their designated role and training level.

- Note:**
- For multiemployer worksites:
 - The IC has responsibility for controlling emergency response operations at the site for all employers.
 - Emergency response plans should be consistent in designating who assumes the IC position.
 - If the first employee arriving at the scene is not trained as an IC (see Table 5, Competencies for Incident Commanders, WAC 296-824-30005), they may take control of the incident within their designated role and training level.

(2) Make sure all employers' emergency responders and their communications are coordinated and controlled by the IC.

- Note:** The IC may delegate tasks to subordinates (within their training level).

(3) Make sure each employer at the scene has designated a representative to assist the IC.

(4) Establish security and control of the site as specified in your written emergency response plan.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-50010, filed 9/24/02, effective 10/1/02.]

WAC 296-824-50015 Prepare skilled support personnel.

- Note:** The duties of skilled support personnel are described in Table 1, Roles and Duties of Emergency Responders.

You must:

(1) Make sure that your skilled support personnel (including those employees who are not regularly employed by you) who could be exposed to on-scene hazards are given an initial briefing at the site before they participate in any emergency response. The initial briefing must include:

- What chemical hazards are involved
- What duties are to be performed
- Instruction in the wearing of appropriate personal protective equipment

- Note:** Skilled support personnel do not need to comply with the other training requirements of this chapter.

(2) Make sure the safety and health precautions given to your employees are also given to skilled support personnel.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-50015, filed 9/24/02, effective 10/1/02.]

WAC 296-824-50020 Make sure the incident commander oversees activities during the response.

The employer of the incident commander (IC) must:

(1) Identify all hazardous substances and conditions present, within their training level, using site analysis and maximum exposure limits, when appropriate.

(2) Implement emergency response procedures appropriate to the hazardous substances and conditions present, such as:

- Procedures that address the use of engineering controls, hazardous substance handling, and new technologies
- Procedures that address decontamination
- Procedures that address PPE

[Title 296 WAC—p. 2926]

- Procedures that limit the number of personnel to those who are actively performing emergency response operations, in areas where exposure could exist.

(3) Designate an incident safety officer (ISO).

- Make sure the ISO demonstrates knowledge about operations being implemented at the emergency response site. They must:

- Identify and evaluate hazards
- Communicate with the IC about hazards, immediately informing the IC of corrective actions that must be taken when conditions are judged to be:

◆ An imminent danger

OR

◆ Immediately dangerous to life or health (IDLH).

- Provide direction about the safety of operations.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-50020, filed 9/24/02, effective 10/1/02.]

WAC 296-824-50025 Use the buddy system in danger areas.

You must:

- Make sure operations and tasks (including limited actions) in danger areas are conducted using the buddy system in teams of two or more.

Definition:

Danger areas are areas where conditions pose a serious danger to employees, such as areas where:

- Immediately dangerous to life or health (IDLH) conditions could exist.

OR

- High levels of exposure to toxic substances could exist.

OR

- There is a potential for exceeding the lower explosive limit (LEL), also known as the lower flammability limit (LFL), of a hazardous substance.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-50025, filed 9/24/02, effective 10/1/02.]

WAC 296-824-50030 Provide rescue and medical assistance.

You must:

(1) Provide stand-by employees equipped with the same level of personal protective equipment (PPE) as the entrants, for assistance or rescue.

- Note:**
- The buddy system applies to stand-by employees (see WAC 296-824-50025).
 - One of the two stand-by employees can be assigned to another task provided it does not interfere with the performance of the stand-by role.
 - Rescue equipment should be selected and provided based on the types of rescue situations that could occur.

You must:

(2) Make sure employees trained in first aid are readily available with necessary medical equipment and have a way to transport the injured.

- Note:**
- Employee training is covered by WAC 296-800-150, first aid. This rule requires training on the eighteen subjects listed in addition to any subjects that are specific to your workplace emergency hazards (for example: If exposure to corrosive substances could occur, training would need to include first-aid procedures for treating chemical burns).
 - Employers who designate and train their employees to provide first aid are covered by chapter 296-823 WAC, Occupational exposure to bloodborne pathogens.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-09-110, § 296-824-50030, filed 4/22/03, effective 8/1/03. Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-50030, filed 9/24/02, effective 10/1/02.]

WAC 296-824-600 Personal protective equipment.

Summary.

Your responsibility:

To provide appropriate personal protective equipment (PPE) and make sure it is used properly.

You must:

Use appropriate personal protective equipment

WAC 296-824-60005

Control hazards created by PPE

WAC 296-824-60010

Use PPE properly

WAC 296-824-60015.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-600, filed 9/24/02, effective 10/1/02.]

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 fire fighting.

You must:

- Provide employees with appropriate PPE 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:
<ul style="list-style-type: none"> • Inhalation hazards could be present. 	<ul style="list-style-type: none"> • Positive-pressure (pressure-demand) self-contained breathing apparatus (SCBA) <p>OR</p> <ul style="list-style-type: none"> • 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. 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.]

WAC 296-824-60010 Control hazards created by personal protective equipment (PPE).

You must:

- Control hazards created by the use of PPE, including:
 - Heat stress due to extremely high temperatures.
 - Any other employee health hazard and consideration.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-60010, filed 9/24/02, effective 10/1/02.]

WAC 296-824-60015 Use personal protective equipment (PPE) properly.

You must:

- (1) Make sure employees inspect PPE before, during and after use, following your plan's procedures.
- (2) Make sure employees put on (don) and remove (doff) PPE following your plan's procedures.
- (3) Make sure employees do not interchange self-contained breathing apparatus (SCBA) air cylinders from different manufacturers, unless all of the following apply:
 - There is a life-saving emergency
 - You need a supplemental air supply
 - The cylinders are of the same capacity and pressure rating.

(4) Make sure compressed air cylinders used with SCBAs meet the testing and service life requirements of the United States Department of Transportation (USDOT). Search at: <http://www.dot.gov>.

Note: You can also check with the cylinder manufacturers to obtain USDOT test and service life specifications.

You must:

(5) Make sure PPE is maintained in a safe and reliable condition using your plan's procedures.

PPE maintenance includes:

- Decontamination
- Cleaning
- Inspection
- Identification of damage or defects
- Parts repair or replacement
- Storage or disposal.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-60015, filed 9/24/02, effective 10/1/02.]

WAC 296-824-700 Postemergency response.

Your responsibility:

To protect employees during postemergency response activities by following appropriate work practices, training and other requirements.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-20-034, § 296-824-700, filed 9/24/02, effective 10/1/02.]

WAC 296-824-70005 Follow the appropriate post-emergency response requirements.

Important:

- Postemergency response is the stage of the emergency response where the immediate threat from the release has been stabilized or eliminated, and cleanup of the site has started.

- When cleanup is done by the employees who were part of the initial emergency response, the employees are not covered by this section (however, training, PPE and other requirements in WAC 296-824-20005 through 296-824-60015 apply to these employees).

You must:

(1) Follow Table 10 to determine which requirements apply to your postemergency response activities.

(2) Maintain clean-up equipment as specified in Table 10.

Table 10 Rules that Apply to Postemergency Response Activities	
When postemergency response cleanup is performed by employees who were not part of the initial emergency response and:	The following rules or requirements apply:
It is necessary to remove hazardous substances, health hazards and contaminated materials (example: Soil) from the site	Chapter 296-843 WAC, Hazardous waste operations.
Cleanup is done on plant property using plant or workplace employees AND It is not necessary to remove hazardous substances, health hazards and contaminated materials from the site.	For training: <ul style="list-style-type: none"> • WAC 296-24-567(1), Employee emergency action plans • Chapter 296-842 WAC, Respirators • WAC 296-800-170, Employer chemical hazard communication • Other appropriate training requirements relevant to personal protective equipment (PPE) and decontamination For equipment: <ul style="list-style-type: none"> • Make sure that all equipment used for clean-up work is serviced and inspected before use.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-824-70005, filed 1/24/07, effective 4/1/07; 05-03-093, § 296-824-70005, filed 1/18/05, effective 3/1/05; 02-20-034, § 296-824-70005, filed 9/24/02, effective 10/1/02.]

WAC 296-824-800 Definitions. The following definitions are specific to this chapter:

Annually

Any twelve-month cycle.

Buddy system

A system of organizing employees (who enter or stand by danger areas) into work groups, so each employee can be observed by at least one other member of the group. The purpose of this system is to provide rapid assistance to employees in an emergency.

Clean-up operation(s)

An operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared up or, in any other manner, processed or handled with the goal of making the site safer for people or the environment.

Danger area

Areas where conditions pose a serious danger to employees, such as areas where:

- Immediately dangerous to life or health (IDLH) conditions could exist

OR

- High levels of exposure to toxic substances could exist

OR

- There is a potential for exceeding the lower explosive limit (LEL), also known as the lower flammability limit (LFL), of a substance.

Decontamination

Removing hazardous substances from employees and their equipment so potential adverse health effects will not occur.

Emergency response

An organized response to an anticipated release of a hazardous substance that is, or could become an uncontrolled release.

Emergency response plan

A written plan that requires coordination between emergency response participants, and contains procedures, criteria, and other information that will be applied to emergency response operations. Each employer's plan should be compatible with local and state plans.

Engineering controls

Methods of controlling employee exposures by modifying the source or reducing the quantity of contaminants.

Hazardous materials team (HAZMAT team)

A group of employees who are expected to perform responses to releases, or possible releases, of hazardous substances for the purpose of control and stabilization. As a result of their duties, HAZMAT team members may have close contact with hazardous substances.

Note: A HAZMAT team may be a separate component of a fire brigade or fire department.

Hazardous substance

Any of the following substances that could adversely affect an exposed employee's health or safety:

- Substances defined under section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or "Superfund" Act (visit: <http://www.epa.gov>)

- Biological or other disease-causing agents released that could reasonably be expected to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in a person or their offspring when the person:
 - Is directly exposed to the agent in the environment
 - Directly ingests, inhales, or assimilates the agent from the environment
 - Indirectly ingests the agent through a food chain

- Substances listed by the United States Department of Transportation as hazardous materials under Title 49 (Transportation) in the Code of Federal Regulations (CFR), Part 172, section 101 and appendices (visit: <http://www.nara.gov> and search for "List of CFR subjects")
- Hazardous wastes as defined in this chapter.

Hazardous waste

A substance designated by chapter 173-303 WAC, Dangerous waste regulations, department of ecology, as a dangerous waste or an extremely hazardous waste and any waste fitting the definition of "health hazard" in this chapter.

Note: For department of ecology regulations, visit: <http://www.ecy.wa.gov>

Health hazard

A chemical, a mixture of chemicals, or a pathogen for which there is statistically significant evidence, based on at least one study conducted according to established scientific principles, that acute or chronic health effects may occur in exposed employees.

The term "health hazard" includes stress due to temperature extremes and chemicals that are:

- Carcinogens
- Toxic or highly toxic agents

- Reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, or neurotoxins

- Agents acting on the hematopoietic system agents that damage lungs, skin, eyes, or mucous membranes. (Detailed definitions of these chemical terms can be found in the Safety and health core rules, WAC 296-800-170, chemical hazard communication.)

Incident command system (ICS)

An organized approach to control and manage operations at an emergency response incident.

Incidental release

A release that can be safely controlled at the time of the release and does not have the potential to become an uncontrolled release.

Note:

Example of a situation that results in an incidental release:

A tanker truck is receiving a load of hazardous liquid when a leak occurs. The driver knows the only hazard from the liquid is minor skin irritation. The employer has trained the driver on procedures and provided equipment to use for a release of this quantity. The driver puts on skin protection and stops the leak. A spill kit is used to contain, absorb, and pick up the spilled material for disposal.

Immediately dangerous to life or health (IDLH)

Any 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

Limited action

Action necessary to:

- Secure an operation during emergency responses,
- OR**
- Prevent an incident from increasing in severity.

Examples include shutting down processes and closing emergency valves.

Lines of authority

A preestablished ranking of individuals, qualified to assume a commanding role during an emergency response, noted in an emergency response plan and implemented during a response. This is most important when responders from multiple employers could participate in an emergency response.

Lower explosive limit (LEL)

See lower flammable limit (LFL).

Lower Flammable limit (LFL)

The lowest concentration of a material that will propagate a flame. The LFL is usually expressed as a percent (by volume) of the material in air (or other oxidant).

Must

Must means mandatory.

Permissible exposure limit (PEL)

Means the established time-weighted-average (TWA) concentration or ceiling concentration of a contaminant that must not be exceeded. The exposure, inhalation, or dermal permissible limit specified in chapter 296-841 WAC, Airborne contaminants.

Personal protective equipment (PPE)

Protective items designed to be worn by the user to protect them against airborne, skin contact and other hazards. This includes items such as respiratory protection, protective suits, gloves, eye protection, etc.

Postemergency response

The stage of the emergency response where the immediate threat from the release has been stabilized or eliminated, and cleanup of the site has started.

Published exposure level

Exposure limits published in "*National Institute for Occupational Safety and Health (NIOSH) Recommendations for Occupational Safety and Health*" (DHHS publication #92-100, 1992).

If an exposure limit is not published by NIOSH, then "published exposure level" means the exposure limits published by the American Conference of Governmental Industrial Hygienists (ACGIH) in "*TLVs and BEIs-Threshold Limit Values for Chemical Substances and Physical Agents*" (1999 edition).

Note: Additional exposure levels published by recognized organizations such as the American Industrial Hygiene Association are not required to be observed by this rule; however, they may be a useful resource when a hazardous substance is not covered by NIOSH and ACGIH publications.

Release

A spill, leak, or other type of hazardous substance discharge.

Uncontrolled release

A release where significant safety and health risks could be created. Releases of hazardous substances that are either incidental or could not create a safety or health hazard (i.e., fire, explosion or chemical exposure) are not considered to be uncontrolled releases.

Examples of conditions that could create a significant safety and health risk:

- Large-quantity releases
- Small releases that could be highly toxic
- Potentially contaminated individuals arriving at hospitals
- Airborne exposures that could exceed a WISHA permissible exposure limit or a published exposure limit and employees are not adequately trained or equipped to control the release.

Example of an uncontrolled release:

A forklift driver knocks over a container of a solvent-based liquid, releasing the contents onto the warehouse floor. The driver has been trained to recognize the vapor is flammable and moderately toxic when inhaled. The driver has not been trained or provided appropriate equipment to address this type of spill. In this situation, it is not safe for the driver to attempt a response. The driver needs to notify someone of the release so an emergency response can be initiated.

Workplace

- A fixed facility

OR

- A temporary location (such as a traffic corridor)

OR

- Locations where employees respond to emergencies.

You

The employer. For a complete definition of "employer" see Safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-824-800, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-824-800, filed 1/18/05, effective 3/1/05; 02-20-034, § 296-824-800, filed 9/24/02, effective 10/1/02.]

Chapter 296-826 WAC ANHYDROUS AMMONIA

WAC

296-826-100	Scope.
296-826-200	Employee safety.
296-826-20005	Personal protective equipment (PPE).
296-826-20010	Training.
296-826-20015	Chemical reactions.
296-826-20020	Emergencies.
296-826-300	Design, construction and installation.

CONTAINER LOCATION AND MARKING

296-826-30005	General specifications.
296-826-30010	Specifications for portable DOT containers.
296-826-30015	Nonrefrigerated stationary containers.
296-826-30020	Refrigerated storage.
296-826-30025	Systems mounted on trucks, semi-trailers, and trailers.
296-826-30030	Systems mounted on farm trucks or trailers for transporting ammonia.
296-826-30035	Systems mounted on farm equipment for ammonia application.
296-826-30040	DOT containers.

NONREFRIGERATED CONTAINERS

296-826-30045	Installation.
296-826-30050	Reinstallation.

REFRIGERATED STORAGE TANKS

296-826-30055	Installation.
296-826-30060	Reinstallation.
296-826-400	Equipment and systems.
296-826-40005	Electrical.
296-826-40010	Hose specifications.

PIPING, TUBING, AND FITTINGS

296-826-40015	General requirements for all systems.
296-826-40020	Nonrefrigerated systems.
296-826-40025	Systems mounted on trucks, semi-trailers, and trailers.

REFRIGERATED STORAGE

296-826-40030	Refrigerated storage compressors.
296-826-40035	Refrigeration load.
296-826-40040	Separators for refrigerated storage.
296-826-40045	Automatic control equipment for refrigerated storage.
296-826-40050	Other refrigerated storage equipment.
296-826-40055	Compressors for refrigerated systems.
296-826-500	Appurtenances.
296-826-50005	Appurtenance requirements for all systems.
296-826-50010	Nonrefrigerated stationary containers.
296-826-50015	Refrigerated tanks.
296-826-50020	Systems mounted on trucks, semi-trailers and trailers.
296-826-50025	Systems mounted on farm trucks or trailers for transportation of ammonia.
296-826-50030	Systems mounted on farm equipment for ammonia application.
296-826-50035	Portable DOT containers.
296-826-600	Operations.
296-826-60005	Mounting containers on trucks, semi-trailers and trailers.
296-826-60010	Mounting containers on farm trucks or trailers for transporting ammonia.
296-826-60015	Tank car loading or unloading.

TRANSFERRING LIQUIDS

296-826-60020	General specifications.
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296-826-60025 Additional requirements for systems mounted on trucks, semi-trailers, and trailers for transporting ammonia.

FILLING DENSITIES

296-826-60030 Nonrefrigerated containers.
 296-826-60035 Refrigerated tanks.
 296-826-60040 Welding.
 296-826-900 Definitions.

WAC 296-826-100 Scope. This chapter applies to employers who use, handle, store, distribute, or transport anhydrous ammonia.

• Operations covered by this chapter include, but are not limited to:

– All distributors of anhydrous ammonia, including distributors who store and transport anhydrous ammonia on trucks delivering to a farm.

– Any employer who stores and handles anhydrous ammonia to use in water treatment plants, acid production, metal processing, pollution control, or make products such as:

- Fertilizers
- Synthetic resins
- Plastics and intermediates
- Hexamine for explosives
- Dyes
- Insecticides

• Operations not covered by this chapter include:

– The manufacture of anhydrous ammonia.
 – Mechanical refrigeration systems where ammonia is used solely as a refrigerant.
 – Pipelines transporting anhydrous ammonia into or out of a storage facility.

– Agricultural operations within the scope of chapter 296-307 WAC. When a distributor delivers anhydrous ammonia to a farmer, the requirements for agricultural operations apply:

■ As soon as the farmer takes possession of the truck or equipment containing ammonia from the distributor, this includes the farmer picking up the farm truck or equipment from the distributor.

■ An ammonia distributor begins performing agricultural operations using their ammonia at the farm.

- References:**
- For requirements on agricultural operations using anhydrous ammonia, go to Part U-1 of chapter 296-307 WAC.
 - If you use, handle, store, distribute, or transport anhydrous ammonia in quantities of 10,000 pounds or more, follow the requirements found in another chapter, Process safety management of highly hazardous chemicals, chapter 296-67 WAC.
 - To protect employees handling ammonia, in addition to this chapter, you will need the following requirements found in other chapters:
 - The following sections from the Safety and health core rules, chapter 296-800 WAC:
 - Accident prevention program, WAC 296-800-140
 - Emergency washing, WAC 296-800-150
 - Personal protective equipment, WAC 296-800-160
 - Emergency response, chapter 296-824 WAC
 - Respiratory hazards, chapter 296-841 WAC
 - Respirators, chapter 296-842 WAC

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-100, filed 5/2/06, effective 9/1/06.]

WAC 296-826-200 Employee safety.

Your responsibility:

(2009 Ed.)

To protect employees who use, handle, store, distribute, or transport anhydrous ammonia.

Personal protective equipment (PPE)

WAC 296-826-20005

Training

WAC 296-826-20010

Chemical reactions

WAC 296-826-20015

Emergencies

WAC 296-826-20020

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-200, filed 5/2/06, effective 9/1/06.]

WAC 296-826-20005 Personal protective equipment (PPE).

You must:

• Provide the following PPE 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. 06-10-067, § 296-826-20005, filed 5/2/06, effective 9/1/06.]

WAC 296-826-20010 Training.

You must:

• Train employees who handle ammonia on all of the following:

– Safe operating practices

– Emergency procedures

– Proper use of personal protective equipment (PPE)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-20010, filed 5/2/06, effective 9/1/06.]

WAC 296-826-20015 Chemical reactions.

You must:

• Prohibit the use of ammonia with other chemicals unless the possible reactions have been adequately investigated.

Note:

- Under some circumstances, ammonia and ammonium compounds can form explosive products with other chemicals. For additional information, refer to the following:
 - Section 491M "Manual on Hazardous Chemical Reactions" of the NFPA, 1969 Edition;

[Title 296 WAC—p. 2931]

AND

- CG-388, the "Chemical Data Guide for Bulk Shipment by Water," 1969

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-20015, filed 5/2/06, effective 9/1/06.]

WAC 296-826-20020 Emergencies.**You must:**

- Make sure only trained personnel designated to respond if a leak occurs in an ammonia system do all of the following:

- Evacuate affected personnel to noncontaminated areas
- Shut off appropriate valves
- Put on all of the following PPE in concentrated ammonia atmospheres and in unknown concentrations of ammonia:

- Self-contained breathing apparatus (SCBA)
- A plastic or rubber suit
- Gauntlet-type plastic or rubber gloves

- Make sure a physician treats all employees with eye injuries caused by liquid ammonia. In addition:

- Immediately flush liquid ammonia from skin or eyes continuously for a minimum of fifteen minutes using water or eye wash solutions as required by the safety and health core rules; First aid, WAC 296-800-150.

- Do not use neutralizing solutions or ointments on affected areas.

Note:

- Drivers unable to stop a leak during transport should:
 - Move the vehicle to an isolated area
 - Use the current *Department of Transportation (DOT) Emergency Response Guidebook* to establish safe distances to isolate a leaking tank from the driver and the public.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-20020, filed 5/2/06, effective 9/1/06.]

WAC 296-826-300 Design, construction and installation.**Your responsibility:**

To make sure containers and tanks used for storing, distributing, or transporting anhydrous ammonia meet design, construction and installation requirements.

Container location and marking

General specifications

WAC 296-826-30005

Specifications for portable DOT containers

WAC 296-826-30010

Nonrefrigerated stationary containers

WAC 296-826-30015

Refrigerated storage

WAC 296-826-30020

Systems mounted on trucks, semi-trailers, and trailers

WAC 296-826-30025

Systems mounted on farm trucks or trailers for transporting ammonia

WAC 296-826-30030

Systems mounted on farm equipment for ammonia application

WAC 296-826-30035

DOT containers

WAC 296-826-30040

Nonrefrigerated containers

Installation

WAC 296-826-30045

Reinstallation

WAC 296-826-30050

Refrigerated tanks

Installation

WAC 296-826-30055

Reinstallation

WAC 296-826-30060

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-300, filed 5/2/06, effective 9/1/06.]

CONTAINER LOCATION AND MARKING**WAC 296-826-30005 General specifications.****You must:**

- Locate containers either:
 - In buildings or parts of the building provided for ammonia storage;

OR

- Outside, away from densely populated areas.
- Locate containers according to Table 1, Minimum Distances for Container Location.

Table 1
Minimum Distances for Container Location

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

You must:

- Make sure containers are located to meet all of the following:

- Away from readily ignitable materials such as weeds, long dry grass, and waste.

- So there is no adverse impact on employee health through unnecessary exposure.

- At least fifty feet away from dug wells and other sources of potable water.

- If the container is a part of a water treatment installation, then this requirement does not apply.

- Maintain legibility of all container and valve markings.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30005, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30010 Specifications for portable DOT containers.**IMPORTANT:**

This section applies to systems that use cylinders, portable tanks (DOT-51), or "ton containers" (DOT-106A, DOT-110A), constructed according to DOT specifications.

You must:

- Locate containers aboveground, never buried below the ground.

- Put containers on firm ground or secure them.

- Guard against settling on the outlet piping by using a flexible connection or a special fitting.
- Protect containers from all of the following:
 - Ignitable debris
 - External damage including corrosion
 - Heat sources, like radiant flames and steam pipes
 - Moving vehicles.
- Prohibit the use of heat to raise the container pressure.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30010, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30015 Nonrefrigerated stationary containers.

You must:

- Construct and test containers according to the Unfired Pressure Vessel Code.
 - Make sure the minimum design pressure of the container is 250 psig
 - Make sure all containers with a capacity exceeding two hundred fifty gallons are constructed to meet one or more of the following:
 - Stress relieved after fabrication according to the Unfired Pressure Vessel Code
 - Have stress relieved cold-formed heads
 - Hot-formed heads

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30015, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30020 Refrigerated storage.

You must:

- Make sure the minimum design temperature is the same as the refrigerated temperature of the tank.
- Construct and test containers, with a design pressure exceeding 15 psig, according to the Unfired Pressure Vessel Code.
 - Select construction materials from those listed from *API Standard 620, 4th Edition 2002, Recommended Rules for Design and Construction of Large, Welded Low Pressure Storage Tanks.*
 - Construct tanks with a design pressure with 15 psig or less according to API Standard 620, 4th Edition, 2002.
 - Use ASME Code as a guide in the selection of austenitic steels or nonferrous materials, if used at the design temperature.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30020, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30025 Systems mounted on trucks, semi-trailers, and trailers.

You must:

- Construct and test containers, when transported within the state of Washington, according to both of the following:
 - A minimum design pressure of 250 psig
 - The Unfired Pressure Vessel Code.
- Construct containers used for interstate transport according to DOT regulations.
 - Make sure the shell or head thickness of any container is at least 3/16 of an inch.
 - Make sure electrical lighting circuits meet all of the following:

(2009 Ed.)

- Have suitable over-current protection, such as fuses or automatic circuit breakers.
 - Are suitably secured, insulated, and protected against physical damage.
 - Have wiring with sufficient carrying capacity and mechanical strength.
- Use only electric light.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30025, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30030 Systems mounted on farm trucks or trailers for transporting ammonia.

You must:

- Construct and test containers, with a design pressure exceeding 15 psig, according to the Unfired Pressure Vessel Code.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30030, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30035 Systems mounted on farm equipment for ammonia application.

You must:

- Construct and test containers according to the Unfired Pressure Vessel Code.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30035, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30040 DOT containers.

You must:

- Make sure containers meet DOT specifications.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30040, filed 5/2/06, effective 9/1/06.]

NONREFRIGERATED CONTAINERS

WAC 296-826-30045 Installation.

You must:

- Provide a minimum distance of five feet between aboveground and underground containers that have more than a twelve hundred gallon capacity each.
 - Protect containers from floating away, in areas with a potential for high flood waters, by providing either:
 - Secure anchorage;
- OR**
- Adequate pier height.
- Follow Table 2 for aboveground, nonrefrigerated containers.

Table 2
Aboveground Nonrefrigerated Container Requirements

If you have:	Then:
Aboveground containers	Provide one of the following: <ul style="list-style-type: none"> – Substantial reinforced concrete footings and foundations OR – Structural steel supports mounted on reinforced concrete foundations.

If you have:	Then:
	<p>Make sure the reinforced concrete foundation meets all of the following:</p> <ul style="list-style-type: none"> – Extends below the established frost line – Is of sufficient width and thickness to support the total weight of the containers and contents – Has the lowest point of the tank at least eighteen inches above the ground.
	<p>Make sure the footings meet all of the following:</p> <ul style="list-style-type: none"> – Extend below the established frost line – Are of sufficient width and thickness to support the total weight of the containers and contents.
Floating type foundations on containers installed aboveground	Make sure they are designed to adequately support the tank, contents, and pumping equipment.
A horizontal, above-ground container	<p>Mount the container on a foundation that permits expansion and contraction.</p> <p>Prevent the weight of excessive loads from resting on the supporting portion of the shell.</p> <p>Provide saddle bearing that extends over at least one-third the circumference of the shell.</p> <p>Prevent corrosion on the portions of the container in contact with the foundations or saddles.</p>

You must:

- Follow Table 3 for underground, non-refrigerated containers.

Table 3

Underground Nonrefrigerated Container Requirements

If you have:	Then:
Underground containers	<p>Set the containers on firm foundations or earth</p> <ul style="list-style-type: none"> – Surround containers with soft earth or sand well tamped into place. <p>Make sure the top of the container is at least one foot below the surface of the ground.</p> <ul style="list-style-type: none"> – If ground conditions make this impractical, use precautions to prevent physical damage to the container. <p>Exemption: It is not necessary to cover the portion of the container where a manhole and other connections are attached.</p> <p>Securely anchor or weight containers when necessary to prevent floating.</p>

If you have:	Then:
	<p>Have a protective corrosion resistant coating applied before it is placed underground that is both of the following:</p> <ul style="list-style-type: none"> – Satisfactory to the authority having jurisdiction; <p>AND</p> <ul style="list-style-type: none"> – Equal to either hot dip galvanizing or two preliminary coatings of red lead followed by a heavy coating of coal tar or asphalt.
	Lower containers onto firm foundations without damaging the protective corrosion resistant coating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30045, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30050 Reinstallation.

You must:

- Prohibit the reinstallation of nonrefrigerated, previously installed underground, containers unless they meet both of the following:
 - Pass a hydrostatic pressure retest using the original pressure specified by the Unfired Pressure Vessel Code under which the tank was constructed;
- AND**
- Show no evidence of serious corrosion.
 - Maintain a corrosion resistant coating on reinstalled underground containers.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30050, filed 5/2/06, effective 9/1/06.]

REFRIGERATED STORAGE TANKS

WAC 296-826-30055 Installation.

You must:

- Support tanks on noncombustible foundations designed for the type of tank.
 - Provide protection against flotation or other water damage, where high floodwater might occur.
 - Prevent the effects of freezing and consequent frost heaving, in tanks used for product storage at less than 32°F, by providing either support or heat supply.
 - Prevent accidental discharge of liquids from spreading into uncontrolled areas by providing, to the area surrounding a refrigerated tank or group of tanks, one of the following:
 - A drainage system provided with at least a one percent slope that terminates in an impounding basin with a capacity as large as the largest tank served;
- OR**
- A diked enclosure with a capacity as large as the largest tank served.
 - Meet, when using a diked enclosure or an impounding basin in a drainage system, the following requirements:
 - The wall is made of earth, steel, or concrete. If made of earth, meet both of the following:
 - The top is flat and at least two feet wide;
- AND**
- There is a stable slope consistent with the angle of the earth used

– Design the wall to be both:

- Liquid tight;

AND

■ Able to withstand the hydrostatic pressure and the temperature.

• Provide for drainage of rain water, that does not permit the release of ammonia, from diked or impounding areas.

- Note:**
- It is recommended that the ground in an impounding basin or within a diked enclosure be graded so that small spills or the early part of a large spill will accumulate at one side or corner contacting both:
 - A relatively small area of ground;
- AND
- Exposing a relatively small surface area for heat gain.
 - Shallow channels in the ground surface or low curbs of earth can help guide the liquid to these low areas without contacting a large ground area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30055, filed 5/2/06, effective 9/1/06.]

WAC 296-826-30060 Reinstallation.

You must:

• Make sure moved and reinstalled containers of a size to require field fabrication are reconstructed and reinspected to:

- Meet the original Unfired Pressure Vessel Code under which the tank was manufactured and do the following according to the same code:

- A pressure retest
- Any necessary rerating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-30060, filed 5/2/06, effective 9/1/06.]

WAC 296-826-400 Equipment and systems.

Your responsibility:

To make sure all equipment and systems are operated and maintained safely.

- Electrical
WAC 296-826-40005
- Hose specifications
WAC 296-826-40010

- Piping, tubing, and fittings
General requirements for all systems
WAC 296-826-40015
- Nonrefrigerated systems
WAC 296-826-40020
- Systems mounted on trucks, semi-trailers, and trailers
WAC 296-826-40025

- Refrigeration storage
Refrigerated storage compressors
WAC 296-826-40030
- Refrigeration load
WAC 296-826-40035
- Separators for refrigerated storage
WAC 296-826-40040
- Automatic control equipment for refrigerated storage
WAC 296-826-40045
- Other refrigerated storage equipment
WAC 296-826-40050
- Compressors for refrigerated systems
WAC 296-826-40055

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-400, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40005 Electrical.

You must:

• Use electrical equipment and wiring on ammonia installations that is either of the following:

- General purpose;

OR

- Weather resistant.

• Follow the electrical requirements found in another chapter, chapter 296-24 WAC, Part L for Class 1, Group D locations when the concentrations of ammonia in air are in excess of 16% by volume.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40005, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40010 Hose specifications.

You must:

• Make sure hose used in ammonia service and subject to container pressure meets both of the following:

- The *Joint Rubber Manufacturers Association, RMA-IP-14, Specifications for Anhydrous Ammonia Hose* 7th Edition 2003;

AND

- The *Fertilizer Institute "Hose Specifications for Anhydrous Ammonia."*

• Make sure hose assemblies are able to withstand a 500 psig pressure test.

• Follow Table 4 for hose specifications.

Table 4
Hose Specifications

If you have:	Then:
Hose subject to container pressure	Design it with a minimum <ul style="list-style-type: none"> – Working pressure of 350 psig AND <ul style="list-style-type: none"> – Burst pressure of 1750 psig
Hose and their connections	Design them for the maximum low side working pressure when located on either: <ul style="list-style-type: none"> – The pressure reducing valves on devices discharging to atmospheric pressure; OR <ul style="list-style-type: none"> – The low pressure side of flow control.
Liquid transfer hose that is not drained of liquid upon completion of transfer operations	Design, construct, and install so there is no leakage when connected.
	Equip with an approved shut off valve at the discharge end. Prevent excessive hydrostatic pressure in the hose.
Hose with an outside diameter one-half inch and larger	Make sure the hose is marked and legible at five foot intervals.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40010, filed 5/2/06, effective 9/1/06.]

PIPING, TUBING, AND FITTINGS

WAC 296-826-40015 General requirements for all systems.

You must:

- Prohibit the use of cast iron fittings.
 - The use of malleable or nodular iron such as Specification ASTM A47 or ASTM A395 is permitted.
- Make sure all metal flexible connections for permanent installations have a minimum working pressure of 250 psig
- Make sure all pipes, tubes, and fittings used for ammonia service meet all of the following:
 - Made of material with a design pressure at least equal to the maximum service pressure.
 - Well supported and have provisions for all of the following:
 - Expansion
 - Contraction
 - Vibration
 - Jarring
 - Settling.
- Protect all exposed pipes from damage resulting from undue strain including:
 - Moving machinery
 - The presence of vehicles.
- Use ammonia resistant joint compounds.
- Make sure, after assembly, that all piping and tubing are leak free at a pressure not less than the normal operating pressure of the system.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40015, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40020 Nonrefrigerated systems.

You must:

- Make sure piping on nonrefrigerated systems is:
 - ASTM A-53-2004 Electrical Resistance Welded and Electric Flash Welded Pipe or equal. In addition piping needs to be:
 - At least schedule 80 when joints are threaded.
 - At least schedule 40 when joints are either welded or welded and flanged.
- Prohibit the use of piping or tubing made of any of the following:
 - Brass
 - Copper
 - Galvanized steel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40020, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40025 Systems mounted on trucks, semi-trailers, and trailers.

You must:

- Make sure all piping, tubing, and fittings are:
 - Securely mounted
 - Protected against physical damage.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40025, filed 5/2/06, effective 9/1/06.]

[Title 296 WAC—p. 2936]

REFRIGERATED STORAGE

WAC 296-826-40030 Refrigerated storage compressors.

You must:

- Make sure compressors have all of the following:
 - Their own driving unit
 - Discharge pressure that is governed by the condensing conditions
 - Suitable compressor operation controls based on the load pressure in the container
 - At least two compressors either of which is of sufficient size to handle the intended loads
 - Standby equipment equal to the largest normally operating piece of equipment installed when more than two compressors are provided
 - Automatic controls installed to prohibit the operation of alternate compressors unless the controls will function with alternate compressors.
 - Make sure compressors are sized to operate with a suction pressure that is both of the following:
 - At least ten percent below the minimum setting of the safety relief valves on the storage tank
 - Able to withstand one hundred twenty percent of the design pressure of the tank.
 - Install an oil separator of suitable size in the compressor discharge line that is both:
 - Designed for at least 250 psig;
- AND**
- Equipped with a drain valve and gauging device.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40030, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40035 Refrigeration load.

You must:

- Make sure the total refrigeration load includes the loads imposed by all of the following:
 - Heat flow into the container caused by the temperature difference between both:
 - The ambient temperature;
- AND**
- The design storage temperature
 - Heat flow into the tank caused by maximum sun radiation
 - Filling the tank with ammonia warmer than the design storage temperature.
 - Provide emergency power capable of handling loads imposed by both of the following:
 - The temperature difference between the ambient temperature and the design storage temperature;
- AND**
- Sun radiation.

Note: Emergency power is not necessary for facilities able to effectively vent vapors when the refrigeration system is not operating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40035, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40040 Separators for refrigerated storage.

You must:

(2009 Ed.)

- Install an entrainment separator, of suitable size and design pressure, in the compressor suction line that is equipped with both of the following:

- A drain valve;

AND

- A gauging device.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40040, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40045 Automatic control equipment for refrigerated storage.

You must:

- Install an emergency alarm to detect minimum and maximum allowable operating pressure changes.

- Install an emergency alarm and shut off in the condenser system to detect excess discharge pressure caused by the failure of the cooling medium.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40045, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40050 Other refrigerated storage equipment.

You must:

- Discharge ammonia to storage by using either:

- A receiver with an automatic float valve;

OR

- A high pressure liquid drain trap of suitable capacity.

- Make sure receivers are:

- Designed for at least 250 psig;

AND

- Equipped with all of the following:

- Necessary connections

- Safety relief valves

- Gauging devices.

- Cover insulated containers and pipelines with material that meets all of the following:

- Thick enough for the temperatures it will be exposed to

- Supported

- Weather and fire resistant.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40050, filed 5/2/06, effective 9/1/06.]

WAC 296-826-40055 Compressors for refrigerated systems.

You must:

- Make sure condensers are designed:

- For at least 250 psig;

AND

- To manually or automatically purge noncondensibles.

Note: • Condensers may be cooled by any of the following:

- Air

- Water

- Air and water.

You must:

- Make sure compressors used for refrigerating ammonia meet all of the following:

- Are connected to plant piping with shut off valves located as close as practical to compressor connections

- Have a safety relief valve that is both:

- Large enough to discharge the full capacity of the compressor;

(2009 Ed.)

AND

- Connected to the discharge and placed before any shut off valve

- Have an oil separator on the discharge side, where necessary to prevent contamination.

- Have a drainable liquid trap or other adequate method on the compressor suction to minimize the entry of liquids into the compressor.

- Pressure gauges on the suction and discharge ends graduated to at least one and one-half times the maximum pressure that can develop.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-40055, filed 5/2/06, effective 9/1/06.]

WAC 296-826-500 Appurtenances.

Your responsibility:

To follow the requirements in this section when using appurtenances.

Appurtenance requirements for all systems

WAC 296-826-50005

Nonrefrigerated stationary containers

WAC 296-826-50010

Refrigerated tanks

WAC 296-826-50015

Systems mounted on trucks, semi-trailers and trailers

WAC 296-826-50020

Systems mounted on farm trucks or trailers for transportation of ammonia

WAC 296-826-50025

Systems mounted on farm equipment for ammonia application

WAC 296-826-50030

Portable DOT containers

WAC 296-826-50035

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-500, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50005 Appurtenance requirements for all systems.

Definition:

Appurtenance means all devices such as pumps, compressor, safety relief devices, liquid-level gauging devices, valves and pressure gauges.

You must:

- Make sure each appurtenance installed before February 8, 1973, is determined to be safe by meeting one of the following:

- Approved, tested, and installed by either:

- The American National Standard for the Storage and Handling of Anhydrous Ammonia (in effect at the time of installation)

- The Fertilizer Institute Standards for the Storage and Handling of Agricultural Anhydrous Ammonia (in effect at the time of installation)

- Accepted, certified, listed, or labeled, by a nationally recognized testing laboratory

- Inspected or tested by a federal, state, municipal, or local authority responsible for enforcing occupational safety provisions, when no nationally recognized laboratory will provide approval

[Title 296 WAC—p. 2937]

– Tested and approved by a registered professional engineer or other qualified person if the system is a custom-designed or custom-built unit and no other recognized entity will provide approval

– Keep a document on file signed by the qualified person that indicates the unit is safe. Include the test bases, test data and results and the qualifications of the qualified person.

You must:

• Make sure container appurtenances are both of the following:

– Designed for at least the working pressure for the portion of the system where installed;

AND

– Fabricated from materials suitable for anhydrous ammonia service.

• Make sure fixed liquid level gauges, except on refrigerated storage:

– Are designed so the maximum volume of the container filled by liquid does not exceed eighty-five percent of its water capacity;

AND

– Have a coupling into which it is threaded that is placed at the eighty-five percent level of the container

■ If located elsewhere, install the dip tube of this gauge so it can not be easily removed.

• Equip each container, except those filled by weight, with an approved liquid level gauging device that does all of the following:

– Has a design pressure equal to or greater than the design pressure of the container

– Are arranged so the maximum liquid fill level of containers can be readily determined.

• Follow additional requirements found in Table 5, Appurtenance Requirements for all Systems

Table 5
Appurtenance Requirements for all Systems

If you have:	Then make sure they:
Safety relief devices	Do not have discharge termination in or beneath any building.
Safety relief valves	Have a flow capacity that is not restricted by any connection to it on either the upstream or downstream side.
Connections to containers	Have shut off valves located as close to the container as possible. Exemption: Safety relief devices, gauging devices or devices fitted with a No. 54 drill size hole are not required to have shut off valves located as close to the container as possible.
Connections and the line, including valves and fittings	Have a greater rated flow than the excess flow valves that protects them

If you have:	Then make sure they:
Excess flow valves, where required	Meet all of the following: <ul style="list-style-type: none"> • Are designed with a bypass no larger than a No. 60 drill size opening to allow equalization of pressures. • Close automatically at the rated flow of vapor or liquid specified by the manufacturer. • Maintain legible markings.
Excess flow valves provided with shut off valves	Are designed to close if the shut off valve breaks during installation
Excess flow and back pressure check valves, where required	Are located either: <ul style="list-style-type: none"> • Inside the container; OR • Outside the container as long as the excess flow valve is: <ul style="list-style-type: none"> – As close as possible to the entrance of the line; AND – Installed without excessive stress that could result in breakage between the container and the valve.
Liquid level gauging devices that: <ul style="list-style-type: none"> – Require bleeding of the product into the atmosphere such as the rotary tube, fixed tube, and slip tube devices 	Are either: <ul style="list-style-type: none"> • Designed so that the maximum opening of the bleed valve is not larger than No. 54 drill size; OR • Provided with an excess flow valve. Exemption: <ul style="list-style-type: none"> – If openings from the containers or through fittings are attached directly onto the container where pressure gauge connections are made, then there is no need for excess flow valves as long as the openings are not larger than a No. 54 drill size

If you have:	Then make sure they:
	– This requirement does not apply to farm vehicles used for the application of ammonia as covered by WAC 296-826-50030.

reduced to thirty percent of the rate of discharge specified in Table 6, Safety Relief Valve Rate of Discharge so long as the container is not uncovered after installation until the liquid ammonia has been removed.

Table 6
Safety Valve Start to Discharge Rate

Containers	Minimum	Maximum*
ASME U-68, U-69	110%	125%
ASME U-200, U-201	95%	100%
ASME 1952, 1956, 1959, 1962, 1965, 1968, or 1971	95%	100%
API-ASME	95%	100%
U.S. Coast Guard	(As required by U.S.C.G. regulations)	
DOT	(As required by DOT regulations)	

You must:

• Follow Table 6, Safety Valve Start to Discharge Rate, and Table 7, Safety Relief Valve Rate of Discharge, for the following systems:

- Nonrefrigerated stationary containers
- Mounted on trucks, semi-trailers, and trailers used for the transportation of ammonia
- Mounted on farm wagons for the transportation of ammonia
- Mounted on farm equipment for the application of ammonia

Exemption: The rate of discharge of spring-loaded safety relief valves installed on underground containers may be

Note: A relief valve manufacturer's tolerance of plus ten percent is permitted.

Instructions are found below the table

Table 7
Safety Relief Valve Rate of Discharge

Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air	Surface Area sq. ft.	Flow Rate CFM Air
20	258	145	1,310	340	2,640	1,350	8,160
25	310	150	1,350	350	2,700	1,400	8,410
30	360	155	1,390	360	2,760	1,450	8,650
35	408	160	1,420	370	2,830	1,500	8,900
40	455	165	1,460	380	2,890	1,550	9,140
45	501	170	1,500	390	2,950	1,600	9,380
50	547	175	1,530	400	3,010	1,650	9,620
55	310	180	1,570	450	3,320	1,700	9,860
60	360	185	1,600	500	3,620	1,750	10,090
65	408	190	1,640	550	3,910	1,800	10,330
70	455	195	1,670	600	4,200	1,850	10,560
75	762	200	1,710	650	4,480	1,900	10,800
80	804	210	1,780	700	4,760	1,950	11,030
85	845	220	1,850	750	5,040	2,000	11,260
90	885	230	1,920	800	5,300	2,050	11,490
95	925	240	1,980	850	5,590	2,100	11,720
100	965	250	2,050	900	5,850	2,150	11,950
105	1,010	260	2,120	950	6,120	2,200	12,180
110	1,050	270	2,180	1,000	6,380	2,250	12,400
115	1,090	280	2,250	1,050	6,640	2,300	12,630
120	1,120	290	2,320	1,100	6,900	2,350	12,850
125	1,160	300	2,380	1,150	7,160	2,400	13,080
130	1,200	310	2,450	1,200	7,410	2,450	13,300
135	1,240	320	2,510	1,250	7,660	2,500	13,520
140	1,280	330	2,570	1,300	7,910		

Table instructions:

- The surface area = the total outside surface area of the container in square feet.
- When the surface area is not stamped on the name plate or the marking is not legible, calculate the area by using the Table 8, Surface Area

Table 8
Surface Area

If you have:	Then calculate as follows:
Cylindrical container with hemispherical heads	Area = overall length in feet times the outside diameter in feet times 3.1416

If you have:	Then calculate as follows:
Cylindrical container with other than hemispherical heads	Area = (overall length in feet plus 0.3 outside diameter in feet) times outside diameter in feet times 3.1416
Spherical container	Area = outside diameter in feet squared times 3.1416

- Flow rate—CFM air = cubic feet per minute of air required at standard conditions, 60°F and atmospheric pressure (14.7 psia).

- The rate of discharge may be altered for intermediate values of surface area.

- For containers with total outside surface area greater than 2,500 sq. ft., the required flow rate can be calculated using the formula, flow rate CFM air = 22.11 A0.82 where A = outside surface area of the container in square feet

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50005, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50010 Nonrefrigerated stationary containers.

IMPORTANT:

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

You must:

- Make sure all containers are equipped with all of the following:

- An approved vapor return valve
- A fixed maximum liquid level gauge
- A pressure gauge that is both:
 - Graduated from zero to 400 psig;

AND

- Designed for use in ammonia service
- Provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers.

- Make sure safety relief valves do all of the following:

- Discharge in the following ways:
 - Away from the container in an upward, unobstructed manner into the atmosphere
 - Not in or beneath a building
 - Have raincaps that allow free discharge of the vapor and prevent the entrance of water
 - Have a method for draining accumulated condensation
 - Have a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate
 - Are arranged to minimize the possibility of tampering
 - Are provided, when the pressure setting adjustment is external, with a means of sealing the adjustment
 - Have direct communication with the vapor space of the container

Note: • Vent pipes from 2 or more safety relief devices located on the same unit, or similar lines from 2 or more different units, may be run into a common header if:

- The cross-sectional area of the header is at least equal to the sum of the cross sectional areas of the individual vent pipes.

You must:

- Protect container appurtenances against physical damage and during transit of containers intended for underground installation.

- Make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

Exemption: • You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:

- A three-way valve installed under two safety relief valves, each with

- The required rate of discharge;

AND

- Installed to allow either of the safety relief valves to be closed off but not at the same time.

- Two separate relief valves are installed with individual shut off valves.

- The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.

- When a safety relief valve manifold that allows:

- One valve of two or more to be closed off;

AND

- The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

You must:

- Make sure vapor and liquid connections have either of the following:

- An approved excess flow valve;

OR

- An approved quick-closing internal valve that remains closed except during operation.

Exemption: • The following do not need to be fitted with excess flow valves:

- Safety relief valves
- Liquid level gauging devices that require both of the following:

- Bleeding of the product into the atmosphere

- Construction so that outward flow will not exceed that passed by a No. 54 drill size opening

- Those with openings from the containers or through fittings that are attached directly onto the container where pressure gauge connections are made as long as:

- The openings are not larger than a No. 54 drill size.

You must:

- Follow additional requirements found in Table 9, Appurtenances for Nonrefrigerated Stationary Containers

Table 9

Appurtenances for Nonrefrigerated Stationary Containers

If you have:	Then make sure they:
Columnar-type gauges	Are restricted to stationary storage installations
	Are shielded against the direct rays of the sun
	Are equipped with all of the following: <ul style="list-style-type: none"> • Shut off valves having metallic hand-wheels • Excess flow valves • Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer
Main shut off valves	Are kept closed and locked when the installation is unattended Exemption: Valve locks are not required if the facility is protected against tampering by fencing or other suitable means.
Filling connections	Are provided with one of the following: <ul style="list-style-type: none"> • Combination back-pressure check valve and excess flow valve • One double or two single back-pressure check valves

If you have:	Then make sure they:
	<ul style="list-style-type: none"> A positive shut off valve in conjunction with either an internal back-pressure check valve or an internal excess flow valve
Underground installations with a probability of the manhole or housing becoming flooded	Have vent lines located above the high water level
	Have manholes or housings with ventilated louvers or their equivalent with the area of their openings equal or exceeding: <ul style="list-style-type: none"> The combined discharge areas of the safety relief valves and vent lines which discharge their content into the manhole housing
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50010, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50015 Refrigerated tanks.

IMPORTANT:

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

You must:

- Protect container appurtenances against the following:
 - Physical damage during transit of containers intended for underground installation
 - Damage from vehicles.
- Make sure safety relief devices have a total relieving capacity larger than either of the following:
 - A possible refrigeration system upset such as a cooling water failure, power failure, instrument air or instrument failure, mechanical failure of any equipment, excessive pumping rates or changing atmospheric pressure;

OR

The amount based on using either one of the following fire exposure formulas (see note below for codes):

■ Valve manufacturers who use weight of vapors to be relieved as the classifying basis, use this formula:

$$W = \frac{34,500 F A (0.82)}{L}$$

OR

■ Valve manufacturers that classify valves based on air flows, use this formula:

$$Q_{(a)} = \frac{633,000 F A O.32}{LC}$$

- Make sure safety relief devices meet the following additional requirements:
 - Are set to start-to-discharge at a pressure not in excess of the design pressure of the tank

(2009 Ed.)

– Have a total relieving capacity sufficient to prevent a maximum pressure in a tank of more than one hundred twenty percent of the design pressure.

- Provide shut off valves for all connections including plugs, safety valves, and thermometer wells:

– Locate them as close to the tank as is practical.

Exemption: Shut off valves do not need to be provided on connections with a No. 54 drill size restriction

Note: Install, when operating conditions make it advisable, both of the following:

- A check valve on the fill connection
- A remotely operated shut off valve on other connections located below the maximum liquid level.

You must:

- Follow requirements found in Table 10, Refrigerated Tank Appurtenances

Table 10
Refrigerated Tank Appurtenances

If you have:	Then make sure they:
Shut off valves used as a means of lock out for inspection or repair	Are of adequate flow capacity
	Are arranged to be locked or sealed open and not closed except by an authorized person who does both of the following: <ul style="list-style-type: none"> Remains there while the valve is closed Locks or seals the valve open when leaving the station.
Discharge line and header	Are designed to accommodate the maximum flow.
	Have a back pressure not greater than ten percent of the design pressure of the storage container
	Include the back pressure in the one hundred twenty percent of the maximum pressure of the design pressure.
	Do not have other containers or systems that exhaust into the discharge line or header.
	Have vent lines installed to prevent the accumulation of liquid in the lines Note: Multiple safety relief valves on the same storage unit may be run through a common discharge header.
Vacuum breakers	Are provided with atmospheric storage
Stacks	Do both of the following: <ul style="list-style-type: none"> Prevent any obstructions by rain, snow, ice, or condensation; AND Have an outlet size not smaller than the size of the safety relief valve outlet connection

You must:

- Make sure appurtenances meet all of the requirements found in the following:
 - ANSI CGA C-7 2004
 - ANSI CGA G2.1 1999
 - API Standard 620 4th Edition, 2002
 - ASHRAE 15 2004

- ASME 2001, Section VIII, Division 1
- ANSI B95.1 1977

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50015, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50020 Systems mounted on trucks, semi-trailers and trailers.

IMPORTANT:

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

You must:

- Make sure each container has all of the following
 - Fixed maximum liquid level gauging devices
 - Pressure-indicator gauges with a dial graduated from zero to 400 psig
 - Either of the following:
 - Equipped for spray-loading, which fills in vapor space;
 - OR**
 - Has an approved vapor return valve of adequate capacity.
- Provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers, that do all of the following:
 - Discharges in the following ways:
 - Away from the container in an upward, unobstructed manner into the atmosphere
 - Not in or beneath a building.
 - Has raincaps that allow free discharge of the vapor and prevent the entrance of water
 - Has a method for draining accumulated condensation
 - Has a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate
 - Are arranged to minimize the possibility of tampering
 - Provided, when the pressure setting adjustment is external, with a means of sealing the adjustment
 - Has direct communication with the vapor space of the container
- Make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

Exemption:

- You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:
 - A three-way valve installed under two safety relief valves, each with
 - The required rate of discharge;
 - AND**
 - Installed to allow either of the safety relief valves to be closed off but not at the same time.
 - Two separate relief valves are installed with individual shut off valves.
 - The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.
 - When a safety relief valve manifold that allows:
 - One valve of two or more to be closed off
 - AND**
 - The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

- Follow additional requirements found in Table 11, Appurtenances for Systems Mounted on Trucks, Semi-Trailers and Trailers

Table 11
Appurtenances for Systems Mounted on Trucks,
Semi-Trailers and Trailers

If you have:	Then make sure they:
All container connections	Are provided with either of the following: Automatic excess flow valves; OR Quick-closing internal valves that remain closed except during delivery operations Note: If the control mechanism is provided with a secondary control remote from the delivery connection, then a fusible section (melting point 208°F to 220°F) is required to permit the internal valve to close automatically in case of fire. Exemption: Filling connections, safety relief devices, and liquid level and pressure gauge connections are exempt from automatic excess flow valves and quick-closing internal valves.
Filling connections	Prevent back-flow in the event the filling connection breaks with at least one of the following: <ul style="list-style-type: none"> • Automatic back pressure check valves • Excess flow check valves • Quick closing internal valves Exemption: <ul style="list-style-type: none"> • An automatic valve is not required if: <ul style="list-style-type: none"> - The filling and discharge connect to a common opening in the container shell; AND - The opening is fitted with a quick-closing internal valve
Nonrecessed container fittings and appurtenances	Are protected against physical damage by one of the following methods: <ul style="list-style-type: none"> • A protected location • The vehicle frame or bumper • A protective housing that meets the following: <ul style="list-style-type: none"> - Is fabricated from material that is compatible with the containers design and construction requirements - Designed to withstand static loadings in any direction equal to twice the weight of the container and attachments when filled using a safety factor of not less than 4, based on the ultimate strength of the material used

If you have:	Then make sure they:
	Note: Protect nonrecessed container fittings and appurtenances with a weather cover as needed for proper operation of valves and safety relief devices
Columnar-type gauges	<ul style="list-style-type: none"> – Are restricted to stationary storage installations – Are shielded against the direct rays of the sun – Are equipped with all of the following: <ul style="list-style-type: none"> – Shut off valves having metallic hand-wheels – Excess flow valves – Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer
Hydrostatic relief valves	– Are installed between each pair of valves in the liquid ammonia piping or hose.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50020, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50025 Systems mounted on farm trucks or trailers for transportation of ammonia.

IMPORTANT:

- This section applies to containers of three thousand gallons capacity or less and pertinent equipment mounted on farm trucks or trailers used for the transportation of ammonia.
- In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

You must:

- Make sure all containers are equipped with a fixed maximum liquid level gauge.
- Make sure vapor and liquid connections have either of the following:
 - An approved excess flow valve;
- OR**
- An approved quick-closing internal valve that remains closed except during operation.

Exemption:

- The following do not need to be fitted with excess flow valves:
 - Safety relief valves
 - Those with openings from the containers or through fittings that are attached directly onto the container where pressure gauge connections are made as long as the openings are not larger than a No. 54 drill size.

- Provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers, that do all of the following:
 - Discharges in the following ways:
 - Away from the container in an upward, unobstructed manner into the atmosphere
 - Has raincaps that allow free discharge of the vapor and prevent the entrance of water
 - Has a method for draining accumulated condensation
 - Has a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate

- Are arranged to minimize the possibility of tampering
- Provided, when the pressure setting adjustment is external, with a means of sealing the adjustment
- Has direct communication with the vapor space of the container
 - Make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

Exemption:

- You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:
 - A three-way valve installed under two safety relief valves, each with
 - The required rate of discharge;
 - AND**
 - Installed to allow either of the safety relief valves to be closed off but not at the same time.
 - Two separate relief valves are installed with individual shut off valves.
 - The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.
 - When a safety relief valve manifold that allows:
 - One valve of two or more to be closed off
 - AND**
 - The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

- Secure both ends of the hose while in transit
- Make sure all containers with a capacity exceeding two hundred fifty gallons are equipped with both of the following:
 - A pressure gauge with a dial graduated from 0-400 psig;
 - AND**
 - A method for spray loading or with an approved vapor return valve
- Follow additional requirements found in Table 12, Appurtenances for Systems Mounted on Farm Trucks or Trailers

Table 12
Appurtenances for Systems Mounted on Farm Trucks or Trailers

If you have:	Then make sure they:
Filling connections	Are fitted with one of the following: <ul style="list-style-type: none"> – A combination back-pressure check valve and excess flow valve – One double or two single back-pressure check valves – A positive shut off valve used with either an: <ul style="list-style-type: none"> ■ Internal back-pressure check valve; OR ■ Internal excess flow valve
A fully enclosed guard	Have properly vented safety relief valves.
Fittings	Are protected from physical damage by a rigid guard designed: <ul style="list-style-type: none"> – To withstand static loading in any direction equal to twice the weight of the container and loading

If you have:	Then make sure they:
	<ul style="list-style-type: none"> - With a safety factor of four based on the maximum strength of the material used
Liquid withdrawal lines installed in the bottom of the container	Have connections, including the hose, that are not lower than the lowest horizontal edge of the truck axle
Columnar-type gauges	Are shielded against the direct rays of the sun Are equipped with all of the following: <ul style="list-style-type: none"> - Shut off valves having metallic hand-wheels - Excess flow valves - Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50025, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50030 Systems mounted on farm equipment for ammonia application.

IMPORTANT:

- This section applies to systems mounted on farm equipment and used for the filed application of ammonia.
- In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

You must:

- Make sure each container has a fixed maximum liquid-level gauge.
- Provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers, that do all of the following:
 - Discharges in the following ways:
 - Away from the container in an upward, unobstructed manner into the atmosphere
 - Not in or beneath a building.
 - Has raincaps that allow free discharge of the vapor and prevent the entrance of water
 - Has a method for draining accumulated condensation
 - Has a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate
 - Are arranged to minimize the possibility of tampering
 - Provided, when the pressure setting adjustment is external, with a means of sealing the adjustment
 - Has direct communication with the vapor space of the container

You must:

- Make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

Exemption:

- You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:
 - A three-way valve installed under two safety relief valves, each with
 - The required rate of discharge;**AND**
 - Installed to allow either of the safety relief valves to be closed off but not at the same time.
 - Two separate relief valves are installed with individual shut off valves.
 - The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.
 - When a safety relief valve manifold that allows:
 - One valve of two or more to be closed off;**AND**
 - The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

- Follow additional requirements found in Table 13, Appurtenances for Systems Mounted on Farm Equipment for Ammonia Application

Table 13
Appurtenances for Systems Mounted on Farm Equipment for Ammonia Application

If you have:	Then make sure they:
Filling connections	Are fitted with one of the following: <ul style="list-style-type: none"> - A combination back-pressure check valve and excess flow valve - One double or two single back-pressure check valves - A positive shut off valve used with either an: <ul style="list-style-type: none"> ■ Internal back-pressure check valve; OR <ul style="list-style-type: none"> ■ Internal excess flow valve Exemption: <ul style="list-style-type: none"> • An excess-flow valve is not required in either of the following: <ul style="list-style-type: none"> - Vapor connection providing you meet both of the following: <ul style="list-style-type: none"> ■ The controlling orifice is not in excess of seven-sixteenths of an inch in diameter; AND <ul style="list-style-type: none"> ■ The valve is hand-operated (attached hand-wheel or equivalent) shut off valve; OR <ul style="list-style-type: none"> - In the liquid withdrawal line if the controlling opening between the contents of the container and the outlet of the shut off valve do not exceed 7/16 inch in diameter. Note: To assist in filling applicator tanks, you are allowed to bleed vapors into the open air if you meet the above requirements.

If you have:	Then make sure they:
Columnar-type gauges	<p>Are shielded against the direct rays of the sun</p> <p>Are equipped with all of the following:</p> <ul style="list-style-type: none"> – Shut off valves having metallic hand-wheels – Excess flow valves – Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer
An applicator tank that is both of the following: Trailed; AND The metering device is remotely mounted (for example on a tractor tool bar)	Use an automatic break-away type, self-closing, coupling
Hydrostatic relief valves	Are installed between each pair of valves in the liquid ammonia piping or hose.

- Note:**
- Metering devices may be connected directly to the tank withdrawal valve.
 - A union type connection is acceptable between the tank valve and metering device

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50030, filed 5/2/06, effective 9/1/06.]

WAC 296-826-50035 Portable DOT containers.

IMPORTANT:

- This section applies to systems that use cylinders, portable tanks (DOT-51), or ton containers (DOT-106A, DOT-110A).
- In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

You must:

- Make sure safety relief devices meet DOT specifications.
 - Provide the following protection:
 - To valves and pressure regulating equipment from tampering once installed for use
 - To containers:
 - From heat sources such as radiant flame and steam pipes. Do not apply heat directly to containers to raise the pressure
 - From moving vehicles or external damage while being stored
 - From ignitable debris and to prevent external corrosion while being stored. Storage can be indoors or outdoors.
 - Protect container valves while in transit, in storage, and while being moved into final use by doing either of the following:
 - Setting them into the recess of the container;

OR

(2009 Ed.)

- By fastening a ventilated cap or collar to the container that can withstand a blow from any direction equivalent to a thirty-pound weight being dropped four feet
 - Construction should be such that a blow will not be transmitted to the valves or other connections.
 - Keep outlet valves tightly closed when containers are not connected for service on all empty or loaded containers
 - Secure the valve protection cap, if the container is designed for one, when the container is not in service.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-50035, filed 5/2/06, effective 9/1/06.]

WAC 296-826-600 Operations.

Your responsibility:

- To protect employees while transporting, transferring, loading and unloading anhydrous ammonia.
 - Mounting containers on trucks, semi-trailers and trailers
WAC 296-826-60005
 - Mounting containers on farm trucks or trailers for transporting ammonia
WAC 296-826-60010
 - Tank car loading or unloading
WAC 296-826-60015
 - Transferring liquids
 - General specifications
WAC 296-826-60020
 - Additional requirements for systems mounted on trucks, semi-trailers, and trailers for transporting ammonia
WAC 296-826-60025
 - Filling densities
 - Nonrefrigerated containers
WAC 296-826-60030
 - Refrigerated tanks
WAC 296-826-60035
 - Welding
WAC 296-826-60040

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-600, filed 5/2/06, effective 9/1/06.]

WAC 296-826-60005 Mounting containers on trucks, semi-trailers and trailers.

You must:

- Make sure the method for attaching any container to the cradle, frame, or chassis of a vehicle is based on both of the following:
 - Two "g" loading in either direction
 - Using a safety factor of at least four based on the maximum strength of the material used.

- Note:**
- Two "g" is either of the following:
 - For load support it is equivalent to three times the static weight of the supported articles
 - For loading and bending, acceleration, and torsion it is equivalent to twice the static weight support applied horizontally at the road surface.

You must:

- Secure both ends of the hose during transit.
- Follow the requirements in Table 14, Additional Container Mounting Requirements.

Table 14
Additional Container Mounting Requirements

<p>If you have: "Hold-down" devices</p>	<p>Then: Anchor the container to the cradle, frame, or chassis so there is no area of unnecessary stress Lock the container down tightly Provide stops or anchors to minimize movement between the container and the framing Note: Movement could be the result of stopping, starting or changing direction.</p>
<p>Vehicles with cargo tanks designed with stress members instead of a frame</p>	<p>Support the tank with external cradles suspended at least one hundred twenty degrees of the shell circumference The design calculation needs to include all of the following stressors: – Beam – Shear – Torsion – Bending moment – Acceleration – Any other stresses covered by the code of the cargo tank design.</p>
<p>A liquid withdrawal line installed in the bottom of a container</p>	<p>Then make sure the connections to the container, including the hose, are not lower than the lowest horizontal edge of the trailer axle.</p>
<p>A cradle and container that are not welded together</p>	<p>Use suitable material between them to eliminate metal-to-metal friction.</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60005, filed 5/2/06, effective 9/1/06.]

WAC 296-826-60010 Mounting containers on farm trucks or trailers for transporting ammonia.

You must:

- Make sure tanks mounted on farm trucks and trailers meet all of the following:
 - Are securely attached using drawbars and safety chains
 - Follow behind the towing vehicle without swerving
 - Have at least five gallons of readily available clean water.
- Do all of the following when mounting containers on farm trucks:
 - Use suitable material between the cradle and the container to eliminate metal-to-metal friction
 - This is not necessary if the cradle and container are welded together
 - Use stops and hold down devices to prevent displacement.
- Distribute the container's weight, when mounted on four-wheel farm trucks or trailers, evenly over both axles.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60010, filed 5/2/06, effective 9/1/06.]

WAC 296-826-60015 Tank car loading or unloading.

You must:

- Establish a location for tank car loading and unloading operations.
- Assign employees and instruct them in the unloading of tank cars.
 - Make sure, when unloading cars, to set the brake and block the wheels.
 - Make sure the track of tank siding is level.
 - Place caution signs on the track or car to warn approaching persons of loading and unloading operations that are:
 - Kept in place until the car is unloaded and disconnected from discharge connections.
 - Make sure these caution signs meet all of the following:
 - Are made of metal or other suitable material
 - Are at least twelve to fifteen inches in size
 - Read either "STOP-Tank Car Connected" or "STOP-Men at Work" meeting the following criteria:
 - "STOP" at least four inches high
 - All other words at least two inches high
 - All with white letters on a blue background.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60015, filed 5/2/06, effective 9/1/06.]

TRANSFERRING LIQUIDS

WAC 296-826-60020 General specifications.

You must:

- Get owner authorization to use transfer containers.
- Make sure transfer containers are gauged and filled in either:
 - Open atmospheres;
 - OR**
 - Buildings approved for that purpose.
- Make sure pumps used to transfer ammonia meet all of the following:
 - Have a manufacturer's label for ammonia service
 - Are designed for at least 250 psig working pressure
 - Have a constant differential relief valve discharging into the suction port that:
 - Is installed on positive displacement pumps;
 - AND**
 - Meets the pump manufacturer's recommendation for the settings and installation
 - Have a pressure gauge graduated zero to 400 psig installed on the discharge side before the relief valve line.
 - Make sure plant pipes with shut off valves are located as close as possible to the pump connections.
 - Make sure meters used for measuring liquid anhydrous ammonia:
 - Are recommended and labeled for ammonia service by the manufacturer
 - Are designed for a minimum working pressure of 250 psig
 - Incorporate devices that prevent unintended measurement of vapor.
 - Do the following when transferring ammonia:
 - Maintain ammonia at a temperature suitable for the receiving container
 - Have at least one attendant supervise the transfer from the time connections are made to when disconnection occurs

– Do NOT use flammable gases or gases that will react with ammonia, such as air to unload tank cars or transport trucks.

- Make sure compressors used for transferring ammonia meet all of the following:

- Have a working pressure of at least 250 psig when transferring ammonia.

- If crank cases of compressors are not designed to withstand system pressure, then provide protection with a suitable safety relief valve

- Are connected to plant piping with shut off valves located as close as practical to compressor connections

- Have a safety relief valve that is both:

- Large enough to discharge the full capacity of the compressor;

AND

- Connected to the discharge before any shut off valve
- Have an oil separator on the discharge side, where necessary to prevent contamination

- Have a drainable liquid trap or other adequate method on the compressor suction to minimize the entry of liquids into the compressor

- Pressure gauges on the suction and discharge ends graduated to at least one and one-half times the maximum pressure that can develop.

- Protect loading and unloading systems in the event of hose severance by suitable devices where necessary, such as:

- Backflow check valves;

OR

- Properly sized excess flow valves.

Note: If such valves are not practical, remotely operated shut off valves may be installed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60020, filed 5/2/06, effective 9/1/06.]

WAC 296-826-60025 Additional requirements for systems mounted on trucks, semi-trailers, and trailers for transporting ammonia.

You must:

- Make sure the content of vehicle containers is determined by one of the following:

- Weight

- Liquid-level gauging devices

- Meters

OR

- Other approved methods.

- Use a thermometer well when the content of a container is determined by liquid-level measurement. Make sure of the following:

- The volume, when converted to weight, does not exceed the DOT filling density requirement.

- Protect pumps and compressors against physical damage when mounted on trucks or trailers.

- Unload tank motor vehicles with a water capacity greater than 3500 gallons at approved locations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60025, filed 5/2/06, effective 9/1/06.]

FILLING DENSITIES

WAC 296-826-60030 Nonrefrigerated containers.

You must:

- Make sure filling densities for nonrefrigerated containers are below or equal to the requirements in Table 15, Filling Densities.

Table 15
Filling Densities

Containers	Aboveground Containers	Underground Containers
Uninsulated	56%	58%
Insulated	57%	—

Note:

- For uninsulated, aboveground containers, the 56% corresponds to:
 - 82% by volume at -28°F.
 - 85% by volume at 5°F
 - 87.5% by volume at 30°F
 - 90.6% by volume at 60°F.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60030, filed 5/2/06, effective 9/1/06.]

WAC 296-826-60035 Refrigerated tanks.

You must:

Make sure refrigerated tanks are not liquid full at a liquid temperature so that the vapor pressure is below the "start-to-discharge" pressure setting of the safety relief valve.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60035, filed 5/2/06, effective 9/1/06.]

WAC 296-826-60040 Welding.

You must:

Permit welding only on the saddle plates, lugs, or brackets attached to the container by the manufacturer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-60040, filed 5/2/06, effective 9/1/06.]

WAC 296-826-900 Definitions.

Appurtenance

All devices that are added onto the system such as pumps, compressors, safety relief devices, liquid-level gauging devices, valves, and pressure gauges.

Capacity

The total volume of the container measured in U.S. gallons, unless otherwise specified.

Container

All vessels, tanks, cylinders or spheres used for transportation, storage or application of anhydrous ammonia.

Cylinder

A container constructed according to the United States Department of Transportation Specifications with a water capacity of one thousand pounds or less.

Design pressure

The same as the "maximum allowable working pressure" as used in the Unfired Pressure Vessel Code.

DOT regulations

The department of transportation (DOT) hazardous materials regulations and Specifications for Shipping Containers found in:

- Title 49—Transportation, Code of Federal Regulations, Parts 171 to 190, inclusive.

Filling density

The ratio of the weight of the gas in a container to the weight of water at 60°F that the container will hold. One lb. H₂O = 27.737 cu. in. at 60°F

– For determining the weight capacity of the tank in pounds, the weight of a gallon (231 cubic inches) of water at 60°F in air is 8.32828 pounds.

Gas

Anhydrous ammonia in either the gaseous or liquefied state.

Hydrostatic relief valve

An automatic pressure activated valve for liquid service

– It is characterized by a throttle or slow weep opening, a nonpop action.

– Refer to American National Standards Institute, Terminology for Pressure Relief Devices, B95.1 for more information.

"psig" and "psia"

Abbreviations that mean the following:

– "psig" refers to pounds per square inch gauge

– "psia" refers to absolute pounds per square inch.

Safety relief valve

An automatic spring loaded or equivalent type pressure activated device for gas or vapor service

– It is characterized by a pop action upon opening, and is sometimes referred to as a pop valve.

– Refer to American National Standards Institute, Terminology for Pressure Relief Devices, B95.1 for more information.

Semi-trailer

Every vehicle that meets both of the following:

– Designed for carrying property and for being drawn by a motor vehicle

– Constructed so that some part of its weight and the weight of its load rests upon or is carried by another vehicle.

Systems

An assembly of equipment consisting of the container or containers, appurtenances, pumps, compressors, and interconnecting piping.

Tank motor vehicle

Any motor vehicle designed or used for the transportation of anhydrous ammonia that has either:

– A tank designed to be permanently attached to any motor vehicle;

OR

– A container that is not permanently attached but needs to be loaded and unloaded without being removed from the motor vehicle due to its size, construction, or means of attachment.

Trailer

Every vehicle meeting all of the following:

– Designed for carrying property and for being drawn by a motor vehicle

– Constructed so that no part of its weight except the towing device rests on the towing vehicle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-10-067, § 296-826-900, filed 5/2/06, effective 9/1/06.]

[Title 296 WAC—p. 2948]

Chapter 296-828 WAC

HAZARDOUS CHEMICALS IN LABORATORIES

WAC

296-828-100	Scope.
296-828-200	Using hazardous chemicals in laboratories.
296-828-20005	Chemical hygiene plan.
296-828-20010	Exposure evaluation.
296-828-20015	Training.
296-828-20020	Labeling and material safety data sheets (MSDSs).
296-828-20025	Chemicals produced in laboratories.
296-828-20030	Medical evaluations.
296-828-300	Definitions.

WAC 296-828-100 Scope. This chapter applies to the laboratory use of hazardous chemicals. To determine if this chapter applies to your workplace, use Table 1.

Table 1
Chapter Application

<p>Are "Hazardous Chemicals" used?</p> <p>Definition: <i>Hazardous chemicals</i> are any chemicals that have been shown (in at least one scientific study) to cause acute or chronic health effects in exposed employees. 296-839 WAC contains information that can be used to determine if a chemical is considered hazardous for this rule</p>	<p>YES NO</p>	
<p>Are the hazardous chemicals used in "laboratory scale operations"?</p> <p>Note: Laboratory scale operations use containers that have been designed to be easily and safely handled by one person for reactions, transfers and other handling of the hazardous chemicals.</p> <p>Laboratory scale operations are not</p> <ul style="list-style-type: none"> Capable of producing commercial quantities of materials Part of a production process or simulate a production process Part of a quality control process that directs how a process operates. A simulation of a production process such as a pilot plant 	<p>YES NO</p>	<p><i>If any one of your answers brought you here, the Laboratory Standard does not apply, but other WISHA rules still apply</i></p>
<p>Are multiple chemicals or multiple procedures used?</p>	<p>YES NO</p>	
<p>Are protective practices or protective equipment generally available for employee protection?</p> <p>Note: Protective practices and equipment are those procedures, practices, or equipment accepted by laboratory health and safety experts as effective at controlling employee exposures to hazardous chemicals. For example laboratory fume hoods, chemical splash goggles, protective gloves, etc. OR Those practices, procedures or equipment the employer can show are effective at controlling employee exposures to hazardous chemicals.</p>	<p>YES NO</p>	
<p>If your answers brought you here, the Laboratory Standard applies to your workplace.</p>		

IMPORTANT:

- When your laboratory operation is covered by this chapter, and you use any of the substances in Table 2, the following applies:
 - The exposure limits and any requirement protecting employees from skin and eye contact in the rules listed in Table 2 will still apply.
 - Where the action level (or where no action level exists, the permissible exposure limit) is exceeded for a substance listed in Table 2, the exposure evaluation and medical surveillance requirements in the substance rule will still apply.
 - You are not required to meet other requirements of the substance rule.
- To get the permissible exposure limits (PELs) for hazardous chemicals used in your laboratory, see chapter 296-841 WAC, Airborne contaminants.

Table 2
WISHA Regulated Hazardous Chemicals

<p>Acrylonitrile</p> <p>Arsenic (inorganic)</p> <p>Asbestos</p> <p>Benzene</p> <p>Butadiene</p> <p>Cadmium</p> <p>Coke ovens</p> <p>Cotton dust</p> <p>1, 2-Dibromo-3-chloropropane</p> <p>Ethylene oxide</p> <p>Formaldehyde</p> <p>Lead</p> <p>Methylene chloride</p>

Table 2
WISHA Regulated Hazardous Chemicals

Methylenedianiline
Vinyl chloride
Ionizing radiation
4-Nitrobiphenyl
Alpha-Naphthylamine
4,4' Methylene bis (2 - chloroaniline)
Methyl chloromethyl ether
3,3'-Dichlorobenzidine (and its salts)
Bis-Chloromethyl ether
Beta-Naphthylamine benzidine
4-Aminodiphenyl
Ethyleneimine
Beta-Propiolactone
2-Acetylaminofluorene
4-Dimethylaminoazobenzene
N-Nitrosodimethylamine

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-828-100, filed 2/20/07, effective 4/1/07; 06-02-060, § 296-828-100, filed 1/3/06, effective 4/1/06.]

WAC 296-828-200 Using hazardous chemicals in laboratories.

Your responsibility:

To protect employees from laboratory use of hazardous chemicals.

WAC 296-828-20005

Chemical hygiene plan.

WAC 296-828-20010

Exposure evaluation.

WAC 296-828-20015

Training.

WAC 296-828-20020

Labeling and material safety data sheets (MSDSs).

WAC 296-828-20025

Chemicals produced in laboratories.

WAC 296-828-20030

Medical evaluations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060, 06-02-060, § 296-828-200, filed 1/3/06, effective 4/1/06.]

WAC 296-828-20005 Chemical hygiene plan.

You must:

- Develop and carry out a written chemical hygiene plan (CHP) that will protect your employees from hazardous substances in the laboratory and keep exposure levels below those listed in chapter 296-841 WAC, Airborne contaminants.

- Make sure the written plan is readily available to employees and their representatives.

- Include the following elements in your written CHP:

- The names or job titles of the chemical hygiene officer, other personnel responsible for implementing the CHP, or when appropriate, the members of a chemical hygiene committee.

- Standard operating procedures that provide employee protection when working with hazardous substances.

[Title 296 WAC—p. 2950]

- Criteria for how you will select and use control measures to reduce employee exposures to hazardous chemicals, especially chemicals known to be extremely hazardous.

- Additional employee protection for select carcinogens, reproductive toxins, and chemicals with high degree of acute toxicity. The following will be considered, when appropriate:

- The establishment of exposure control areas.

- Containment devices, such as fume hoods or glove boxes.

- The safe removal of contaminated waste.

- Procedures for decontamination.

- Specific measures to make sure fume hoods and other protective equipment provide proper and adequate performance and are properly functioning.

- The circumstances when specific laboratory operation, activity, or procedure requires prior approval from the employer or their designated representative before implementation.

- A description of how you are going to train and inform your employees about laboratory use of hazardous chemicals.

- A description of your provisions for medical consultations and medical examinations.

- Review and evaluate the effectiveness of your written CHP at least annually and update as necessary.

Reference: This publication can provide you with additional information to help you with your written chemical hygiene plan: National Research Council, Prudent Practices for Disposal of Chemicals from Laboratories, National Academy Press, Washington, DC, 1995.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-828-20005, filed 2/20/07, effective 4/1/07; 06-02-060, § 296-828-20005, filed 1/3/06, effective 4/1/06.]

WAC 296-828-20010 Exposure evaluation.

IMPORTANT:

For any of the specific substances listed in Table 2 of the scope of this chapter, you need to follow the exposure evaluation procedures found in the chapters regulating those substances if employee exposure routinely exceeds the AL or PEL. For all other employee exposures follow this section to determine exposure evaluation procedures.

You must:

- Determine if you could have a respiratory hazard as described in chapter 296-841 WAC, Respiratory hazards.

Reference: For additional requirements relating to respiratory hazards, see:

- Chapter 296-841 WAC, Respiratory hazards.

- Chapter 296-842 WAC, Respirators.

- The specific rule for your chemical.

You must:

- Provide written notification of exposure monitoring results to employees represented by your exposure evaluation, within five business days after the results become known to you.

Note:

- You can notify employees either individually or by posting the notification in areas readily accessible to all affected employees.

- Posted notifications may need information that allows affected employees to determine which monitoring results apply to them.

- Notification may be:

- In any written form, such as hand-written or e-mail.

- Limited to the required information, such as exposure monitoring results.

(2009 Ed.)

Reference: • For additional requirements relating to employee exposure records, go to chapter 296-802 WAC, Employee medical and exposure records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-828-20010, filed 1/24/07, effective 4/1/07; 06-02-060, § 296-828-20010, filed 1/3/06, effective 4/1/06.]

WAC 296-828-20015 Training.

You must:

- Inform employees about the presence of hazardous chemicals at the following times:
 - At the time of initial assignment to a work area where hazardous chemicals are present.
 - Prior to situations involving a new exposure to hazardous chemicals.
 - Train employees on all of the following:
 - Methods and observations for detecting the presence or release of hazardous substances. Examples of these methods and observations may include:
 - Monitoring conducted by you.
 - Continuous monitoring devices.
 - Visual appearance or odor of hazardous chemicals when being released.
 - The physical and health hazards of chemicals in the work area.
 - The procedures and measures employees can use to protect themselves from hazardous substances. Examples of these include:
 - Appropriate work practices.
 - Emergency procedures.
 - Personal protective equipment.
- Provide refresher training to fit your needs.
- Provide information to employees on all of the following:
 - The contents of this chapter and where to find a copy.
 - Permissible exposure limits found in chapter 296-841 WAC, Respiratory hazards.
 - Any recommended exposure levels for compounds without an exposure limit in the WISHA rules. Examples include:
 - The PELs found in the National Institute for Occupational Safety and Health (NIOSH) NIOSH Pocket Guide to Chemical Hazards 2004; or
 - The American Conference of Governmental Industrial Hygienists (ACGIH®) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs), 7th Ed.
 - Signs and symptoms associated with exposures to hazardous chemicals used in the laboratory.
 - Where to find a copy of:
 - Your chemical hygiene plan.
 - Material safety data sheets (MSDSs), including those received from the chemical suppliers.
 - Reference material on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-828-20015, filed 1/24/07, effective 4/1/07; 06-02-060, § 296-828-20015, filed 1/3/06, effective 4/1/06.]

(2009 Ed.)

WAC 296-828-20020 Labeling and material safety data sheets (MSDSs).

You must:

- Make sure labels on incoming containers are not removed or defaced.
- Keep and make available to employees any MSDS received with an incoming container of hazardous chemicals.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 06-02-060, § 296-828-20020, filed 1/3/06, effective 4/1/06.]

WAC 296-828-20025 Chemicals produced in laboratories.

You must:

Follow Table 3 for chemical substances produced in your laboratory.

**Table 3
Lab Produced Chemical Substance Requirements**

If	Then
The chemical is a hazardous chemical	Follow all appropriate requirements of this chapter
A chemical by-product is produced and its composition is unknown	Assume it is a hazardous chemical AND Follow your chemical hygiene plan to protect employees
You produce chemicals in your laboratory for users outside the laboratory	Follow chapter 296-839 WAC, MSDS and label preparation

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 06-02-060, § 296-828-20025, filed 1/3/06, effective 4/1/06.]

WAC 296-828-20030 Medical evaluations.

IMPORTANT:

For any of the specific substances listed in Table 2 of the scope of this chapter, you need to follow the medical evaluation procedures found in the chapters regulating those substances if employee exposure routinely exceeds the AL or PEL. For all other employee exposures follow this section to determine medical evaluation procedures.

You must:

- (1) Make medical evaluations available when:
 - An employee develops signs or symptoms associated with a hazardous substance from laboratory exposure.
 - Any emergency situation that could cause a hazardous exposure, such as a spill, leak, or explosion, occurs.
 - A medical provider recommends a follow-up evaluation.
 - Exposure monitoring for any of the substances found in Table 2 reveals exposures routinely over the action level (AL) or in the absence of an AL the permissible exposure level (PEL).
- (2) Make sure medical evaluations are provided at reasonable times and places, and at no cost to employees.

Note: This includes travel costs and wages associated with any time spent obtaining the medical evaluation.

You must:

• Provide the LHCP the following information before the medical evaluation is performed:

- The name of the hazardous chemicals the employee may have been exposed to.
- Any signs or symptoms of exposure the employee has.
- A description of the conditions under which the exposure occurred.
- The exposure monitoring results for the conditions, if available.

• Obtain the LHCP's written opinion for each medical evaluation that includes the following:

- Recommendations for medical follow-up.
- Any medical conditions found that would increase the employee's risk for impairment from exposure to a hazardous chemical.
- A statement that the employee has been informed of exposure-related medical results and conditions that require further examination or treatment.
- A written opinion that does not contain any medical information unrelated to the employee's occupational exposures.

■ If the written opinion contains any medical information unrelated to occupational exposures, return it to the LHCP and obtain a revised version without the additional medical information.

Reference: • For additional requirements relating to employee medical records, go to chapter 296-802 WAC, Employee medical and exposure records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-828-20030, filed 1/24/07, effective 4/1/07; 06-02-060, § 296-828-20030, filed 1/3/06, effective 4/1/06.]

WAC 296-828-300 Definitions.**Action level**

An airborne concentration of a hazardous substance that is calculated as an 8-hour time-weighted average, and initiates certain requirements to be followed such as exposure monitoring or medical surveillance.

Carcinogens see "select carcinogen"**Chemical hygiene officer**

An employee designated by the employer who is qualified by training or experience to provide technical guidance in the development and implementation of the chemical hygiene plan. This definition is not intended to place limitations on the designated employee's position description or job classification within the employer's organization.

Chemical hygiene plan

A written program developed and implemented by the employer that establishes procedures, equipment, personal protective equipment, and work practices to protect employees from the health hazards of the chemicals used in the laboratory.

Container

Any container, except for pipes or piping systems that contains a hazardous substance. For example it can be any of the following:

- Barrel.
- Bottle.
- Can.
- Cylinder.

- Drum.
- Reaction vessel.
- Storage tank.

Day

Any part of a calendar day.

Designated representative

Any one of the following:

- Any individual or organization to which an employee gives written authorization.
- A recognized or certified collective bargaining agent without regard to written employee authorization.
- The legal representative of a deceased or legally incapacitated employee.

Emergency

Any event that could or does result in the unexpected, significant release of a hazardous substance. Examples of emergencies include equipment failure, container rupture, or control equipment failure.

Exposure

The contact an employee has with a hazardous substance, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Hazardous chemical

A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic systems, and agents which damage the lungs, skin, eyes, or mucous membranes.

Laboratory

A facility where the "laboratory use of hazardous substances" takes place. A workplace where relatively small amounts of hazardous substances are used on a nonproduction basis.

Laboratory-type hood

A device located in a laboratory, enclosure on five sides with a moveable sash or fixed partial enclosed on the remaining side; constructed and maintained to draw air from the laboratory and to prevent or minimize the escape of air contaminants into the laboratory; and allows chemical manipulations to be conducted in the enclosure without insertion of any portion of the employee's body other than hands and arms.

Note: Walk-in hoods with adjustable sashes meet the above definition provided that the sashes are adjusted during use so that the airflow and the exhaust of air contaminants are not compromised and employees do not work inside the enclosure during the release of airborne hazardous substances.

Laboratory scale

Work with substances in which the containers used for reactions, transfers and other handling of the substances are designed to be easily and safely manipulated by one person. "Laboratory scale" **does not** include workplaces producing commercial quantities of materials.

Laboratory use

The handling or use of hazardous substances that includes **all** the following:

- Chemical manipulations conducted on a "laboratory scale."
- Multiple chemical procedures or chemicals are used.
- The procedures are not part of a production process, nor in any way simulate a production process.
- "Protective laboratory practices and equipment" are available and are commonly used to minimize the potential for employee exposures to hazardous substances.

Licensed healthcare professional (LHCP)

An individual whose legally permitted scope of practice allows him or her to provide some or all of the healthcare services required for medical evaluations.

Material safety data sheet (MSDS)

Written, printed, or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors, employers or employees about a hazardous substance, its hazards, and protective measures as required by material safety data sheet and label preparation, chapter 296-839 WAC.

Permissible exposure limits (PELs)

PELs are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are also specified in WISHA rules found in other chapters.

Physical hazard

As used in Employer chemical hazard communication, WAC 296-800-170 means a chemical that has scientifically valid evidence to show it is one of the following:

- Combustible liquid.
- Compressed gas.
- Explosive.
- Flammable.
- Organic peroxide.
- Oxidizer.
- Pyrophoric.
- Unstable (reactive).
- Water reactive.

Protective laboratory practices and equipment

Laboratory procedures, practices, and equipment accepted by laboratory health and safety experts as effective, that can be shown to be effective, in minimizing the potential for employee exposure to hazardous substances.

Reproductive toxin

Chemicals that affect reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis).

Select carcinogen

Any substance meeting one of the following criteria:

- Regulated by WISHA as a carcinogen.
- Listed in the "known to be carcinogens" category in the latest edition of the Annual Report on Carcinogens by the National Toxicity Program (NTP).
- Listed in Group I (carcinogenic to humans) in the latest editions of the International Agency for Research on Cancer (IARC) Monographs.
- Listed in either group 2A or 2B by IARC **or** in the category "reasonably anticipated to be carcinogens" by the NTP, and causes statistically significant tumor incidence in experi-

(2009 Ed.)

mental animals in accordance with any of the following criteria:

- After an inhalation exposure of six to seven hours a day; five days a week; for a significant portion of a lifetime to dosages of less than 10 mg/m³; **or**
- After repeated skin application of less than 300 mg/kg of body weight per week; **or**
- After oral dosages of less than 50 mg/kg of body weight per day.

Time-weighted average (TWA₈)

An exposure limit averaged over an 8-hour period that must not be exceeded during an employee's workday.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-828-300, filed 1/24/07, effective 4/1/07; 06-02-060, § 296-828-300, filed 1/3/06, effective 4/1/06.]

Chapter 296-829 WAC**HELICOPTERS USED AS LIFTING MACHINES****WAC**

296-829-100	Scope.
296-829-200	Design and installation requirements for helicopters.
296-829-20005	Follow Federal Aviation Administration (FAA) requirements.
296-829-20010	Install and test hooks on helicopters correctly.
296-829-300	Maintenance.
296-829-30005	Keep landing and deposit areas safe.
296-829-30010	Follow safe refueling procedures.
296-829-400	Operating the helicopter.
296-829-40005	Hold daily briefings.
296-829-40010	Make sure employees are dressed correctly.
296-829-40015	Make sure loads are attached correctly.
296-829-40020	Make sure the load is handled correctly.
296-829-500	Definitions.

WAC 296-829-100 Scope. Chapter 296-829 WAC applies to helicopters when used to carry loads, suspended with a cargo sling, powered hoist, or other attaching methods.

Exemption: This chapter does not apply to the use of helicopters:

- In the logging industry.
- For rescue operations when a winch or hoist is used.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-100, filed 4/20/04, effective 9/1/04.]

WAC 296-829-200 Design and installation requirements for helicopters.

Summary:**Your responsibility:**

To make sure your helicopters meet design specifications and are equipped properly.

You must:

Follow Federal Aviation Administration (FAA) requirements

WAC 296-829-20005.

Install and test hooks on helicopters correctly

WAC 296-829-20010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-200, filed 4/20/04, effective 9/1/04.]

WAC 296-829-20005 Follow Federal Aviation Administration (FAA) requirements.

You must:

• Make sure helicopter cranes and their use meet the applicable requirements of the Federal Aviation Administration (FAA).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-20005, filed 4/20/04, effective 9/1/04.]

WAC 296-829-20010 Install and test hooks on helicopters correctly.

You must:

- Make sure electrically operated cargo hooks are:
 - Designed and installed to prevent accidental operation.
 - Equipped with an emergency mechanical control to release the load.
- Make sure a competent person tests all hooks before each day's operation to make sure both the electrical and mechanical releases work properly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-20010, filed 4/20/04, effective 9/1/04.]

WAC 296-829-300 Maintenance.

Summary:

Your responsibility:

To keep helicopters in safe operating condition.

You must:

- Keep landing and deposit areas safe
WAC 296-829-30005.
- Follow safe refueling procedures
WAC 296-829-30010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-300, filed 4/20/04, effective 9/1/04.]

WAC 296-829-30005 Keep landing and deposit areas safe.

You must:

(1) Make sure precautions are taken to prevent loose objects from being caught in the downwash and flying around.

- Secure or remove all loose gear:
 - Within one hundred feet of lift and deposit areas.
 - In all other areas affected by rotor downwash.

(2) Make sure employees do not work under hovering craft, except where necessary to hook or unhook loads.

(3) Make sure safe access and exit, including an emergency escape route, is provided for employees who hook or unhook loads.

(4) Prohibit open fires in any area that could be affected by the rotor downwash.

(5) Make sure unauthorized people do not go within fifty feet of the helicopter when the rotor blades are turning.

(6) Make sure all employees:

- Stay in full view of the pilot, in a crouched position, when approaching or leaving a helicopter with rotating blades.

- Stay away from the area behind the cockpit or cabin unless the operator authorizes them to work there.

(7) Take precautions to eliminate reduced visibility.

(8) Make sure ground personnel take special care to stay clear of rotors when visibility is reduced by dust or other conditions.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-30005, filed 4/20/04, effective 9/1/04.]

[Title 296 WAC—p. 2954]

WAC 296-829-30010 Follow safe refueling procedures.

You must:

- Make sure refueling areas are safe.
 - Post "NO SMOKING" signs at all entrances to the refueling area.
 - Provide at least one thirty-pound fire extinguisher, or a combination totaling thirty pounds, good for class A, B, and C fires, within one hundred feet on the upwind side of the refueling operation.

Reference: For additional requirements relating to portable fire extinguishers, see WAC 296-800-300 in the safety and health core rules.

You must:

• Make sure workers involved in refueling are trained in both:

- The refueling operation;

AND

– The use of fire extinguishing equipment they may need.

• Make sure the following precautions are taken before and during refueling:

- Keep unauthorized people at least fifty feet away from the refueling operation or equipment.
- Prohibit smoking and open flames within fifty feet of the refueling area or fueling equipment.

– Make sure helicopter engines are shut down before refueling, if using aviation gasoline or jet B type fuel.

- Pump fuel, either by hand or power.

– Use self-closing nozzles or deadman controls:

■ Do not allow these to be blocked open.

– Make sure nozzles are not dragged along the ground.

– Make sure the helicopter and the fueling equipment are grounded.

– Electrically bond the fueling nozzle to the helicopter:

■ Do not use conductive hose for this bonding.

– Make sure all grounding and bonding connections are:

■ Electrically and mechanically firm.

■ On clean unpainted metal parts.

• Stop fueling **immediately** if there is a spill:

– Do not continue operation until the person in charge has determined it is safe.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-30010, filed 4/20/04, effective 9/1/04.]

WAC 296-829-400 Operating the helicopter.

Summary:

Your responsibility:

To make sure helicopters are operated safely.

You must:

Hold daily briefings

WAC 296-829-40005.

Make sure employees are dressed correctly

WAC 296-829-40010.

Make sure loads are attached correctly

WAC 296-829-40015.

Make sure the load is handled correctly

WAC 296-829-40020.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-400, filed 4/20/04, effective 9/1/04.]

(2009 Ed.)

WAC 296-829-40005 Hold daily briefings.

You must:

- Make sure the helicopter pilot and ground personnel hold a briefing before each day's operation to discuss cargo-handling plans.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-40005, filed 4/20/04, effective 9/1/04.]

WAC 296-829-40010 Make sure employees are dressed correctly.

You must:

- Make sure employees receiving the load:
 - Do NOT wear loose-fitting clothes that could snag on the hoist line.
 - Wear personal protective equipment (PPE), including complete eye protection and hard hats that are secured by chin straps.

Reference: For other requirements relating to PPE, see WAC 296-800-160 in the safety and health core rules.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-40010, filed 4/20/04, effective 9/1/04.]

WAC 296-829-40015 Make sure loads are attached correctly.

You must:

- Make sure loads are properly slung so tag lines cannot be drawn up into rotors.
- Make sure precautions are taken on all freely suspended loads to keep hand splices from spinning open or

cable clamps from loosening, such as using pressed sleeves or swedged eyes.

- Make sure the weight of the load does not exceed the manufacturer's load ratings.
- Make sure hoist wires and other gear are **not** attached to or allowed to catch on any fixed structure.

Exemption: This requirement does not apply to pulling lines or conductors that "pay out" from a container or reel.

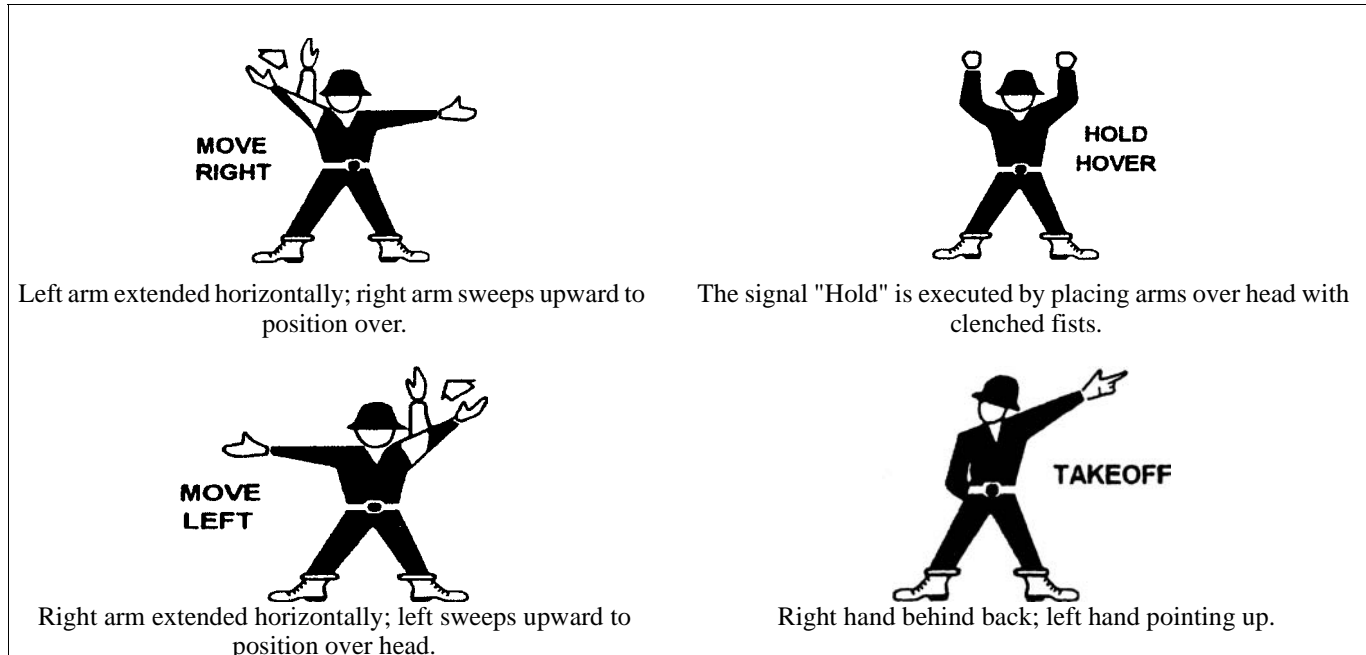
[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-09-099, § 296-829-40015, filed 4/20/04, effective 9/1/04.]

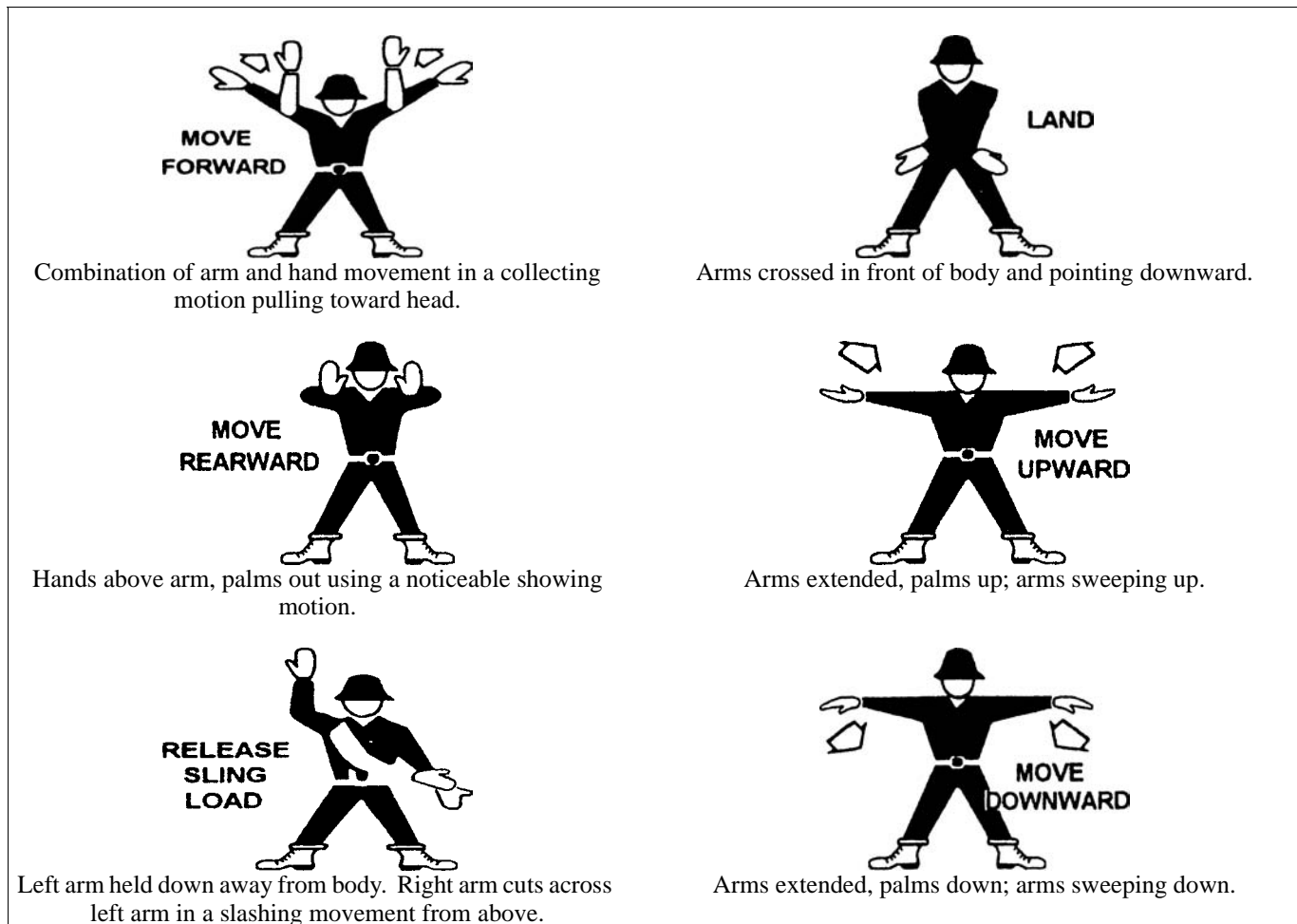
WAC 296-829-40020 Make sure the load is handled correctly.

You must:

- Make sure signal systems, whether radio or hand signals, are checked before hoisting the load:
 - When using hand signals, use those shown in Figure 1.
 - Make sure workers on the ground do **either** of the following before touching the suspended load:
 - Use a ground device to safely discharge any static charge;
- OR**
- Put on and wear rubber gloves.
 - Make sure there are enough employees for safe loading and unloading operations.
 - Make sure constant communications are maintained between the pilot and signal person:
 - The signal person must be distinctly recognizable from other ground personnel.

HELICOPTER HAND SIGNALS





[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-40020, filed 4/20/04, effective 9/1/04.]

WAC 296-829-500 Definitions.

Aviation gasoline

Gasoline fuel for reciprocating piston engine helicopters, also known as avgas.

Cargo hook

A device attached to a helicopter that is used to hold suspended loads.

Competent person

One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Deadman controls

A control, switch or device that will automatically shut off whenever the operator releases it.

Deposit area

An area that is designated for dropping off and picking up suspended loads.

Downwash

The wind created by the rotating blades of a helicopter.

Ground device

A device used to dissipate the static electricity charge that has built up on a suspended load.

Helicopter crane

A helicopter that carries cargo or equipment suspended underneath it.

Jet A type fuel

A kerosene grade fuel suitable for helicopters with turbine engines.

Jet B type fuel

A blend of gasoline and kerosene fuel.

Powered hoist

A powered device designed to lift and lower equipment and cargo.

Tag line

A line or rope used to control suspended loads that can swing freely.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-09-099, § 296-829-500, filed 4/20/04, effective 9/1/04.]

Chapter 296-832 WAC

LATE NIGHT RETAIL WORKER CRIME PREVENTION

WAC

296-832-100
296-832-200
296-832-20005
296-832-20010

Scope.
Training.
Provide crime prevention training to your employees.
Provide crime prevention retraining to your employees annually.

296-832-300	Store safety.
296-832-30005	Have a safe in your store.
296-832-30010	Post a notice about your store's safe and cash register.
296-832-30015	Provide outside lighting.

WAC 296-832-100 Scope. This rule applies to all retail businesses operating between the hours of 11:00 p.m. and 6:00 a.m.

Exemption: This chapter does not apply to restaurants, hotels, taverns, and lodging facilities.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-100, filed 8/7/02, effective 10/1/02.]

WAC 296-832-200 Training.

SUMMARY

Your responsibility:

To make sure all employees receive crime prevention training as part of your accident prevention program.

You must:

Provide crime prevention training to your employees

WAC 296-832-20005

Provide crime prevention retraining to your employees annually

WAC 296-832-20010.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-200, filed 8/7/02, effective 10/1/02.]

WAC 296-832-20005 Provide crime prevention training to your employees.

Note: These training requirements apply only to employees working any time during the hours of 11:00 p.m. to 6:00 a.m. This training must be conducted prior to the employee working this time period.

You must:

- Provide crime prevention training as part of your accident prevention program.

- Make sure you have instructed your employees on the purpose and function of robbery and violence prevention to provide them with the knowledge and skills required to maintain their personal safety.

- Provide training and training materials that outline your company's:

- Security policies

- Safety and security procedures

- Personal safety and crime prevention techniques.

- Provide formal instruction about crime prevention through a training seminar or training video presentation that includes these topics:

- How keeping the store clean, neat and uncluttered discourages potential robbers

- Why the cash register should be kept in plain view from outside the store, if your store layout allows

- Reasons for operating your business with only a minimum number of cash registers at night

- Reasons for keeping cash register funds to a minimum

- How to take extra precautions after dark such as ways to keep alert, making sure appropriate lights are on, inspecting dark corners, and identifying possible hiding places for robbers

- Violence prevention procedures in case of a robbery.

- Have employees sign a statement indicating the date, time, and place they received their crime prevention training.

(2009 Ed.)

- Keep a record of this information readily available for review when requested by the department of labor and industries.

Note: Employers may keep electronic records of employee training and verification.

- Have a videotape or other materials about crime prevention available to all employees at their request.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-20005, filed 8/7/02, effective 10/1/02.]

WAC 296-832-20010 Provide crime prevention retraining to your employees annually.

You must:

- Provide a refresher course in crime prevention training annually.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-20010, filed 8/7/02, effective 10/1/02.]

WAC 296-832-300 Store safety.

SUMMARY

Your responsibility:

To take certain safety measures to discourage crime in your store.

You must:

Have a safe in your store

WAC 296-832-30005

Post a notice about your store's safe and cash register

WAC 296-832-30010

Provide outside lighting

WAC 296-832-30015.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-300, filed 8/7/02, effective 10/1/02.]

WAC 296-832-30005 Have a safe in your store.

You must:

- Have a drop-safe, limited access safe, or comparable device in your store.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-30005, filed 8/7/02, effective 10/1/02.]

WAC 296-832-30010 Post a notice about your store's safe and cash register.

You must:

- Post a notice in an obvious place on a window or door stating:

- There is a safe in the store

- Employees have no access to the safe

- The cash register contains only enough cash to do business.

Notes:

- You will not be cited by WISHA for having money in the cash register over the minimal amount needed to do business.

- All displays and other materials posted in the window(s) or door(s) should be arranged to provide an unobstructed view of the cash register if it is visible from the street.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-30010, filed 8/7/02, effective 10/1/02.]

WAC 296-832-30015 Provide outside lighting.

You must:

- Light the store's approach area and parking lot during all night hours your business is open.

[Title 296 WAC—p. 2957]

- Note:** You can do this by:
- Providing surveillance lighting to observe pedestrian and vehicle entrances
 - Providing lighting of a minimum of one foot candle to comply with ANSI/IES RP7-1983. Lighting levels can be measured with a light meter; for comparison purposes 1 foot-candle = 1 lumen incident per square foot = 10.76 lux.

[Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050, and [49.17].060. 02-16-087, § 296-832-30015, filed 8/7/02, effective 10/1/02.]

Chapter 296-833 WAC

TEMPORARY HOUSING FOR WORKERS

WAC

296-833-100	Scope.
296-833-10010	Summary.
296-833-200	Shelter location and structure requirements.
296-833-20005	Provide and maintain sufficient grounds and open areas in temporary housing sites.
296-833-20010	Follow these design and equipment requirements for shelters.
296-833-300	Utilities employers must provide.
296-833-30005	Provide electricity and lighting to temporary housing areas.
296-833-30010	Provide adequate water.
296-833-30015	Provide toilet facilities.
296-833-30020	Follow local regulations for sewage disposal.
296-833-400	Service facilities: Food preparation, dining, bathing, laundry and handwashing.
296-833-40005	Provide service buildings for laundry, handwashing and bathing.
296-833-40010	Provide cooking, food-handling, and dining facilities.
296-833-500	Waste disposal and pest control.
296-833-50005	Follow proper waste disposal procedures.
296-833-50010	Control insects, rodents, and other pests.
296-833-600	Employee first aid and communicable disease reporting.
296-833-60005	Provide first-aid facilities.
296-833-60010	Report communicable diseases.

WAC 296-833-100 Scope. This chapter applies to all employers who provide or require their employees to live in temporary housing.

Exemption:

This rule does not apply to the agriculture industry.

For agriculture employers, see WAC 296-307-161, Temporary worker housing, and WAC 296-307-163, Cherry harvest camps.

[Statutory Authority: RCW 49.17.010, 49.[17].040, 49.[17].050, and 49.[17].060. 02-23-073, § 296-833-100, filed 11/19/02, effective 1/1/03.]

WAC 296-833-10010 Summary.

Your responsibility:

If you choose to provide temporary housing for workers, or require them to live on the grounds in housing they provide themselves, you must make sure the housing facilities meet the requirements of this rule.

[Statutory Authority: RCW 49.17.010, 49.[17].040, 49.[17].050, and 49.[17].060. 02-23-073, § 296-833-10010, filed 11/19/02, effective 1/1/03.]

WAC 296-833-200 Shelter location and structure requirements.

Summary.

Your responsibility:

To provide and maintain safe and healthful housing for your temporary workers.

You must:

Provide and maintain sufficient grounds and open areas in temporary housing sites

WAC 296-833-20005

[Title 296 WAC—p. 2958]

Follow these design and equipment requirements for shelters

WAC 296-833-20010.

[Statutory Authority: RCW 49.17.010, 49.[17].040, 49.[17].050, and 49.[17].060. 02-23-073, § 296-833-200, filed 11/19/02, effective 1/1/03.]

WAC 296-833-20005 Provide and maintain sufficient grounds and open areas in temporary housing sites.

You must:

- (1) Make sure that all temporary housing sites:
 - Are adequately drained and are free from ground depressions in which water may accumulate
 - Have no history of flooding
 - Do not endanger any domestic or public water supply with their drainage
 - Are located at least two hundred feet from a swamp, pool, sink hole, or other surface collection of water unless the water surface can be treated for mosquito control.

(2) Make sure the housing area is large enough to prevent the buildings from being crowded too closely together.

(3) Make sure the principal housing areas for sleeping and food preparation/eating are at least five hundred feet from livestock operations.

Note: Livestock operations include, among other things, dairy farms, corrals, slaughterhouses, feedlots, and stockyards. Operations where livestock can roam on a pasture over a distance may be treated as outside the definition.

(4) Make sure that grounds and open areas surrounding the shelters are maintained in a clean and sanitary condition.

[Statutory Authority: RCW 49.17.010, 49.[17].040, 49.[17].050, and 49.[17].060. 02-23-073, § 296-833-20005, filed 11/19/02, effective 1/1/03.]

WAC 296-833-20010 Follow these design and equipment requirements for shelters.

You must:

(1) Make sure that every shelter in the camp provides protection against the elements.

(2) Make sure each dwelling unit:

• Has at least seventy square feet of floor space for the first occupant and at least fifty square feet of floor space for each additional occupant

• That is designated a family unit has a separate sleeping area for children over six years old

• With designated sleeping room(s) has at least fifty square feet of floor space in the sleeping room for each occupant

• Has at least a seven-foot ceiling

• Has windows:

– Covering a total area equal to at least one-tenth of the floor area

AND

– At least one-half of which can be opened for ventilation

• Has each exterior opening screened with 16-mesh material

• Has screen doors with self-closing devices.

(3) Make sure that the floors of each shelter are constructed of wood, asphalt, or concrete.

• Floors must be kept in good repair

• If wooden floors are used, they must be:

(2009 Ed.)

- Elevated one foot above ground level at all points to prevent dampness and to permit free air circulation
- Smooth and tight.

Note: You may "bank" around outside walls with earth or other suitable material to guard against extreme low temperatures.

(4) Provide beds, cots, or bunks, and suitable storage facilities such as wall lockers for clothing and personal articles in every sleeping room.

- Beds must be at least thirty-six inches away from other beds, both side to side and end to end
- The frame of the bed must keep mattresses at least twelve inches off the floor
- Double-deck bunks must be spaced at least forty-eight inches away from other beds, both side to side and end to end
- The minimum clear space between lower and upper bunks must be at least twenty-seven inches
- Triple-deck bunks are not allowed.

(5) Provide equipment that adequately heats the living area whenever the camp is used during cold weather.

Note: All heating, cooking, and water heating equipment must meet state and local ordinances, codes, and regulations concerning installation.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-20010, filed 11/19/02, effective 1/1/03.]

WAC 296-833-300 Utilities employers must provide. Summary.

Your responsibility:

To provide utilities to your temporary housing camps.

You must:

Provide electricity and lighting to temporary housing areas

WAC 296-833-30005

Provide adequate water

WAC 296-833-30010

Provide toilet facilities

WAC 296-833-30015

Follow local regulations for sewage disposal

WAC 296-833-30020.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-300, filed 11/19/02, effective 1/1/03.]

WAC 296-833-30005 Provide electricity and lighting to temporary housing areas.

You must:

(1) Supply electricity to all:

- Dwelling units
- Kitchen facilities
- Shower/bathroom facilities
- Common areas
- Laundry facilities.

Reference:

You need to follow additional requirements for electricity and lighting. See WAC 296-800-280, Basic electrical rules, in the safety and health core rules book for more information.

(2) Provide lighting to camp buildings.

- Make sure general lighting and task lighting are adequate for normal daily activities
- Make sure living quarters have:

- One ceiling-type light fixture

AND

- One separate floor or wall convenience outlet.
- Make sure laundry rooms, toilet rooms, and other common areas have at least:

- One ceiling light fixture

OR

- A wall light fixture.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-30005, filed 11/19/02, effective 1/1/03.]

WAC 296-833-30010 Provide adequate water.

You must:

- Provide a water supply that is adequate and convenient for:

- Drinking
- Cooking
- Bathing
- Laundry purposes.

- Make sure the water supply system is:

- Capable of delivering

- Thirty-five gallons per person per day to the campsite
- At a peak rate of two and one-half times the average hourly demand

- Able to supply water to all fixtures at the same time with normal operating pressures

- Approved by the appropriate health authority

- Supply water to each housing area by either:

- Piping water directly to the shelters
- Providing yard hydrants within one hundred feet of the shelters

- Prohibit common drinking cups

- Provide one or more drinking fountain(s) for each one hundred occupants (or fraction of that number) where water under pressure is available.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-05-027, § 296-833-30010, filed 2/7/06, effective 4/1/06; 02-23-073, § 296-833-30010, filed 11/19/02, effective 1/1/03.]

WAC 296-833-30015 Provide toilet facilities.

Note: For the purposes of this rule, a restroom is a room maintained on the premises for use by employees that contains a toilet. This includes outhouses.

You must:

(1) Provide enough toilets for the camp's capacity.

- Toilets and outhouses must be provided in a ratio of one for every fifteen people, with a minimum of two units for any facility shared by men and women.

Note: Check with your local jurisdictions for regulations regarding outhouses.

(2) Have enough rest rooms for each sex based on the maximum number of persons the camp is designed to house at any one time.

(3) Provide separate rest rooms for each sex wherever rest rooms are in buildings shared by men and women.

- Distinctly mark the rooms "men" and "women" with:

- Signs printed in English and in the native language of the persons occupying the camp

OR

- Easily understood pictures or symbols.

- If the facilities for each sex are in the same building, they must be separated by:

- Solid walls

OR

- Partitions extending from the floor to the roof or ceiling.

(4) Make sure:

- No one has to pass through a sleeping room to reach a rest room

- Rest rooms have a window of at least six square feet opening directly to the outside, or are satisfactorily ventilated

- All outside openings are screened with 16-mesh material

- Fixtures, toilets, chemical toilets, or urinals are not located in a room used for other than toilet purposes

- A rest room is within two hundred feet of the door of each sleeping room

- Any outhouse is at least one hundred feet away from any sleeping room, dining room, lunch area, or kitchen.

(5) Provide urinals as follows:

- One urinal or two linear feet of urinal trough for each twenty-five men

- Construct the floor out of materials that are moisture proof, from the wall and out at least fifteen inches from the outer edge of the urinals

- Have an adequate water flush in urinals when water under pressure is available

- Urinal troughs in outhouses must:

- Drain freely into the pit or vault

AND

- Have a drain constructed to exclude flies and rodents from the pit.

(6) Install any new toilets in a rest room.

(7) Make sure:

- There is an adequate supply of toilet paper for each rest room, outhouse, or chemical toilet

- Toilet facilities are:

- Kept in sanitary condition

AND

- Cleaned at least daily.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-30015, filed 11/19/02, effective 1/1/03.]

WAC 296-833-30020 Follow local regulations for sewage disposal.

You must:

- Provide sewage disposal systems according to local health jurisdictions.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-30020, filed 11/19/02, effective 1/1/03.]

WAC 296-833-400 Service facilities: Food preparation, dining, bathing, laundry and handwashing.

Summary.

Your responsibility:

To provide facilities for your employees to cook, eat, do laundry, bathe, and wash their hands.

You must:

Provide service buildings for laundry, handwashing and bathing

WAC 296-833-40005

[Title 296 WAC—p. 2960]

Provide cooking, food-handling, and dining facilities

WAC 296-833-40010.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-400, filed 11/19/02, effective 1/1/03.]

WAC 296-833-40005 Provide service buildings for laundry, handwashing and bathing.

You must:

(1) Make sure that every service building has equipment capable of maintaining a room temperature of at least seventy degrees Fahrenheit.

(2) Make sure an adequate supply of hot and cold running water is provided for bathing and laundry purposes.

(3) Provide:

- One handwash basin

- Per family shelter

OR

- Per six persons in shared facilities

- One shower head for every ten persons

- One laundry tray or tub for every thirty persons

- One "deepwell" type sink in each building used for laundry, handwashing, and bathing.

(4) Make sure all:

- Laundry, handwashing and bathing room floors:

- Are moisture-resistant and smooth but not slippery

- Have coved junctions of the curbing and the floor

- Walls and partitions of shower rooms are smooth and moisture-resistant to the height where water splashes.

- Shower baths, shower rooms, or laundry rooms have floor drains to remove wastewater and facilitate cleaning.

(5) Provide facilities for drying clothes.

(6) Keep all service buildings clean.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-40005, filed 11/19/02, effective 1/1/03.]

WAC 296-833-40010 Provide cooking, food-handling, and dining facilities.

You must:

(1) Make sure common cooking and dining areas are of adequate size and are separated from sleeping areas by a door.

(2) Provide enclosed and screened cooking and food-handling facilities for all occupants. The facilities must include:

- A working cook stove or hot plate with at least one cooking surface for every two occupants

- A sink with hot and cold running potable water under pressure

- Food storage areas located off the floor

- Nonabsorbent, easily cleanable food preparation counters

- Mechanical refrigeration capable of maintaining a temperature of forty-five degrees Fahrenheit or below, with enough space to store perishable food items for all occupants

- Fire-resistant, nonabsorbent, nonasbestos, and easily cleanable wall coverings close to cooking areas

- Nonabsorbent, easily cleanable floors

- At least one ceiling or wall light fixture

- Lighting adequate for normal food preparation activities

- Adequate ventilation for cooking facilities.

(2009 Ed.)

(3) Make sure that dining halls:

- Meet the requirements of the department of health's rules in chapter 246-215 WAC, Food service
- Have no direct openings to living or sleeping areas
- Have fire-resistant, nonabsorbent, nonasbestos, and easy-to-clean wall coverings adjacent to cooking areas
- Have nonabsorbent, easy-to-clean floors
- Have at least one ceiling or wall light fixture
- Have lighting adequate for normal dining activities.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-40010, filed 11/19/02, effective 1/1/03.]

WAC 296-833-500 Waste disposal and pest control. Summary.

Your responsibility:

To make sure your temporary housing camps are kept sanitary.

You must:

- Follow proper waste disposal procedures
WAC 296-833-50005
- Control insects, rodents, and other pests
WAC 296-833-50010.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-500, filed 11/19/02, effective 1/1/03.]

WAC 296-833-50005 Follow proper waste disposal procedures.

You must:

- Provide at least one garbage container for each family shelter. Garbage containers must be:
 - Placed on a wooden, metal, or concrete pad
- AND**
- Located within one hundred feet of each shelter.
- Provide garbage containers that:
 - Are nonabsorbent
 - Are cleanable **OR** only used once (for example, a disposable plastic liner)
 - Can be securely closed.
- Make sure garbage containers are kept clean and emptied:
 - At least twice a week
- AND**
- When full.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-50005, filed 11/19/02, effective 1/1/03.]

WAC 296-833-50010 Control insects, rodents, and other pests.

You must:

- Take steps to effectively prevent insects, rodents, and other pests from infesting camp areas
- Carry out a continuing and effective control program where pests have been detected.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-50010, filed 11/19/02, effective 1/1/03.]

WAC 296-833-600 Employee first aid and communicable disease reporting.

Summary.

Your responsibility:

To guard the general health of your employees by providing first-aid facilities and reporting communicable diseases.

You must:

- Provide first-aid facilities
WAC 296-833-60005
- Report communicable diseases
WAC 296-833-60010.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-600, filed 11/19/02, effective 1/1/03.]

WAC 296-833-60005 Provide first-aid facilities.

You must:

- Provide and maintain adequate first-aid facilities
- AND**
- Make sure a person trained in first aid is in charge of the first-aid facilities.

Reference:

See WAC 296-800-150, First aid, in the core rules book for requirements for first-aid training and supplies.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-60005, filed 11/19/02, effective 1/1/03.]

WAC 296-833-60010 Report communicable diseases.

You must:

- Immediately report to the local health officer:
 - The name and address of any individual in the camp known to or suspected of having a communicable disease listed in the department of health's list of notifiable conditions, chapter 246-101 WAC
 - Any suspected food poisoning
 - Any unusual occurrence of:
 - Fever
 - Diarrhea
 - Sore throat
 - Vomiting
 - Jaundice.

[Statutory Authority: RCW 49.17.010, 49.[17.]040, 49.[17.]050, and 49.[17.]060. 02-23-073, § 296-833-60010, filed 11/19/02, effective 1/1/03.]

Chapter 296-835 WAC

DIPPING AND COATING OPERATIONS (DIP TANKS)

WAC

296-835-100	Scope.
296-835-110	General requirements.
	CONSTRUCTION
296-835-11005	Construct safe dip tanks.
	VENTILATION
296-835-11010	Provide proper ventilation for the vapor area.
296-835-11015	Take additional precautions if you recirculate ventilation system exhaust air into the workplace.
296-835-11020	Take additional precautions when using an exhaust hood.
	INSPECTION
296-835-11025	Periodically inspect your dip tanks and associated equipment and correct any deficiencies.
	FIRST AID
296-835-11030	Make sure employees working near dip tanks know appropriate first-aid procedures.

CLEANING

296-835-11035 Prepare dip tanks before cleaning.

CYANIDE

296-835-11040 Safeguard cyanide tanks.

WELDING

296-835-11045 Protect employees during welding, burning, or other work using open flames.

LIQUIDS HARMFUL TO SKIN

296-835-11050 Protect employees that use liquids that may burn, irritate, or otherwise harm the skin.
296-835-120 Additional requirements for dip tanks using flammable or combustible liquids.

CONSTRUCTION

296-835-12005 Include additional safeguards when constructing dip tanks.
296-835-12010 Provide overflow pipes.
296-835-12015 Provide bottom drains.

FIRE PROTECTION

296-835-12020 Provide fire protection in the vapor area.
296-835-12025 Provide additional fire protection for large dip tanks.

ELECTRICAL WIRING AND EQUIPMENT AND SOURCES OF IGNITION

296-835-12035 Prevent static electricity sparks or arcs when adding liquids to a dip tank.
296-835-12040 Control ignition sources.
296-835-12045 Provide safe electrical wiring and equipment where the liquid can drip or splash.

HOUSEKEEPING

296-835-12050 Keep the area around dip tanks clear of combustible material and properly dispose of waste.

HEATING LIQUID

296-835-12055 Make sure heating the liquid in your dip tanks does not cause a fire.

HEAT DRYING

296-835-12060 Make sure a heating system used for drying objects does not cause a fire.

CONVEYORS

296-835-12065 Make sure conveyor systems are safe.
296-835-130 Additional requirements for dip tanks used for specific processes.

HARDENING OR TEMPERING

296-835-13005 Meet specific requirements if you use a hardening or tempering tank.

ELECTROSTATIC EQUIPMENT

296-835-13010 Meet specific requirements if you use electrostatic equipment.

FLOW COATING

296-835-13015 Meet specific requirements if you use a flow coating process.

ROLL COATING

296-835-13020 Take additional precautions if your roll coating operation uses a liquid that has a flashpoint below 140°F (60°C).

VAPOR DEGREASING

296-835-13025 Provide additional safeguards for vapor degreasing tanks.

SPRAY CLEANING OR DEGREASING

296-835-13030 Control liquid spray over an open surface cleaning or degreasing tank.
296-835-140 Definitions.

WAC 296-835-100 Scope.**IMPORTANT:**

A **dip tank** is a container holding a liquid other than plain water that is used for dipping or coating. An object may be completely or partially immersed (in a dip tank) or it may be suspended in a vapor coming from the tank.

Exemption: Dip tanks that use a molten material (molten metal, alloy, salt, etc.) are not covered by this chapter.

This chapter **applies** to:

• A dip tank that uses a liquid other than plain water, or the vapor of the liquid, to:

- Clean an object
- Coat an object
- Alter the surface of an object

OR

– Change the character of an object.

• Draining or drying an object that has been dipped or coated.

Examples of covered dipping and coating operations include, but are not limited to:

- Paint dipping
- Electroplating
- Anodizing
- Pickling
- Quenching
- Tanning
- Degreasing
- Stripping
- Cleaning
- Dyeing
- Flow coating
- Roll coating.

Reference: You have to do a hazard assessment to identify hazards or potential hazards in your workplace and determine if PPE is necessary to protect your employees. See personal protective equipment (PPE), WAC 296-800-160, in the core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-100, filed 7/17/02, effective 10/1/02.]

WAC 296-835-110 General requirements. Summary.**Your responsibility:**

Safeguard employees working with dip tanks.

You must:**CONSTRUCTION**

Construct safe dip tanks

WAC 296-835-11005

VENTILATION

Provide proper ventilation for the vapor area

WAC 296-835-11010

Take additional precautions if you recirculate ventilation system exhaust air into the workplace

WAC 296-835-11015

Take additional precautions when using an exhaust hood

WAC 296-835-11020

INSPECTION

Periodically inspect your dip tanks and associated equipment and correct any deficiencies

WAC 296-835-11025

FIRST AID

Make sure employees working near dip tanks know appropriate first-aid procedures

WAC 296-835-11030

CLEANING

Prepare dip tanks before cleaning

WAC 296-835-11035

CYANIDE

Safeguard cyanide tanks

WAC 296-835-11040

WELDING

Protect employees during welding, burning or other work using open flames

WAC 296-835-11045

LIQUIDS HARMFUL TO SKIN

Provide additional protection for employees working near dip tanks that use liquid that may burn, irritate, or otherwise harm the skin

WAC 296-835-11050.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-110, filed 7/17/02, effective 10/1/02.]

CONSTRUCTION**WAC 296-835-11005 Construct safe dip tanks.****You must:**

- Make sure dip tanks, including any drain boards, are strong enough to support the expected load.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11005, filed 7/17/02, effective 10/1/02.]

VENTILATION**WAC 296-835-11010 Provide proper ventilation for the vapor area.****You must:**

- Make sure mechanical ventilation meets the requirements of one or more of the following standards:

- NFPA 34-1995, Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids

- ACGIH's "Industrial Ventilation: A Manual of Recommended Practice" (22nd ed., 1995)

- ANSI Z9.1-1971, Practices for Ventilation and Operation of Open-Surface Tanks and ANSI Z9.2-1979, Fundamentals Governing the Design and Operation of Local Exhaust Systems.

- ANSI Z9.1-1971, Practices for Ventilation and Operation of Open-Surface Tanks and ANSI Z9.2-1979, Fundamentals Governing the Design and Operation of Local Exhaust Systems.

- ANSI Z9.1-1971, Practices for Ventilation and Operation of Open-Surface Tanks and ANSI Z9.2-1979, Fundamentals Governing the Design and Operation of Local Exhaust Systems.

Note: Some, or all, of the consensus standards (such as ANSI and NFPA) may have been revised. If you comply with a later version of a consensus standard, you will be considered to have complied with any previous version of the same consensus standard.

You must:

- Limit the vapor area to the smallest practical space by using mechanical ventilation.

- Keep airborne concentration of any substance below twenty-five percent of its lower flammable limit (LFL).

- Make sure mechanical ventilation draws the flow of air into a hood or exhaust duct.

- Have a separate exhaust system for each dip tank if the combination of substances being removed could cause a:

- Fire

- Explosion

(2009 Ed.)

OR

- Potentially hazardous chemical reaction.

Reference: You need to keep employee exposure within safe levels when the liquid in a dip tank creates an exposure hazard. See Air contaminants, WAC 296-62-075 through 296-62-07515.

Note: You may use a tank cover or material that floats on the surface of the liquid to replace or assist ventilation. The method or combination of methods you choose has to maintain the airborne concentration of the hazardous material and the employee's exposure within safe limits.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11010, filed 7/17/02, effective 10/1/02.]

WAC 296-835-11015 Take additional precautions if you recirculate ventilation system exhaust air into the workplace.**You must:**

- Only recirculate air that contains no substance at a concentration that could pose a health or safety hazard to employees.

- Make sure any exhaust system that recirculates air into the workplace:

- Passes the air through a device that removes contaminants

- Sounds an alarm and automatically shuts down the dip tank operation, if the vapor concentration of any substance in the exhaust air exceeds twenty-five percent of its LFL

- Monitors the concentration of vapor from flammable or combustible liquids with approved equipment.

Note:

- The LFL concentration in the air must be determined after the air passes through the air-cleaning device and before the air reenters the workspace.
- Most substances will pose a health hazard at a concentration far below twenty-five percent of its LFL.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11015, filed 7/17/02, effective 10/1/02.]

WAC 296-835-11020 Take additional precautions when using an exhaust hood.**You must:**

- Make sure each room with an exhaust hood has a source of outside air that:

- Enters the room in a way that will not interfere with the function of the hood

- Replaces at least ninety percent of the air taken in through the hood.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11020, filed 7/17/02, effective 10/1/02.]

INSPECTION**WAC 296-835-11025 Periodically inspect your dip tanks and associated equipment and correct any deficiencies.****You must:**

- Inspect or test your dip tanks and associated equipment periodically, including:

- Covers

- Overflow pipes

- Bottom drains and valves

- Electrical wiring, equipment, and grounding connections

[Title 296 WAC—p. 2963]

- Ventilating systems
- Fire extinguishing equipment
- Inspect the hoods and ductwork of the ventilation system for corrosion and damage and make sure the airflow is adequate:

- At least quarterly during operation
- Prior to operation after a prolonged shutdown
- Promptly fix any deficiencies found.

- Note:**
- To assist you in tracking your inspections and actions taken from those inspections, you may want to keep a written record.
 - It is recommended that inspections be at least quarterly even if the system is not operating. Depending on the chemicals in use more frequent inspection may be required.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11025, filed 7/17/02, effective 10/1/02.]

FIRST AID

WAC 296-835-11030 Make sure employees working near dip tanks know appropriate first-aid procedures.

You must:

- Make sure your employees know the appropriate first-aid procedures for the hazards of your dipping and coating operations.

- Note:**
- First-aid procedures are contained in the Material Safety Data Sheet (MSDS) for the chemicals used in the dip tank.
 - First-aid supplies appropriate for the hazards of the dipping or coating operation need to be located near the dip tank to be considered "readily available" as required by WAC 296-800-15020.

Reference: There are additional requirements that may include providing emergency washing facilities and employee training. See first aid, WAC 296-800-150, and employer chemical hazard communication, WAC 296-800-170, in the safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11030, filed 7/17/02, effective 10/1/02.]

CLEANING

WAC 296-835-11035 Prepare dip tanks before cleaning.

You must:

- (1) Drain the contents of the tank and open any cleanout doors.
- (2) Ventilate the tank to clear any accumulated hazardous vapors.

Reference: There may be requirements that apply before an employee enters a dip tank. See chapter 296-809 WAC, Confined spaces.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-835-11035, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11035, filed 7/17/02, effective 10/1/02.]

CYANIDE

WAC 296-835-11040 Safeguard cyanide tanks.

You must:

- Provide a dike or other safeguard(s) to prevent cyanide from mixing with an acid if a dip tank fails.

[Title 296 WAC—p. 2964]

- Note:** This would also apply to spills or other means by which cyanide could come in contact with an acid in sufficient quantity to produce a hazardous gas.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11040, filed 7/17/02, effective 10/1/02.]

WELDING

WAC 296-835-11045 Protect employees during welding, burning, or other work using open flames.

You must:

- Make sure the dip tank and the area around it are thoroughly cleaned of solvents and vapors before performing work involving:

- Welding
- Burning

OR

- Open flames

Reference: There are additional requirements for this type of work. See Welding, cutting and brazing, chapter 296-24 WAC, Part I, and Respiratory protection, chapter 296-842 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-03-093, § 296-835-11045, filed 1/18/05, effective 3/1/05. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11045, filed 7/17/02, effective 10/1/02.]

LIQUIDS HARMFUL TO SKIN

WAC 296-835-11050 Protect employees that use liquids that may burn, irritate, or otherwise harm the skin.

You must:

(1) Make sure washing facilities, including hot water, are available for every ten employees that work with dip tank liquids.

(2) Satisfy medical requirements:

- Make sure an employee with any small skin abrasion, cut, rash, or open sore receives treatment by a properly designated person.

- Make sure an employee with a sore, burn, or other skin lesion that needs medical treatment, has a physician's approval before they perform their regular work.

- Make sure employees who work with chromic acid receive periodic examinations of their exposed body parts, especially their nostrils.

- Note:**
- Periodic means on a yearly basis unless otherwise indicated.
 - Any time chromic acid spills onto an employee's skin or their clothing is saturated, a physician should be responsible for evaluating and monitoring the area where chromic acid made contact with the skin.

You must:

(3) Provide lockers or other storage space to prevent contamination of street clothes.

Reference: You have to do a hazard assessment to identify hazards or potential hazards in your workplace and determine if PPE is necessary to protect your employees. See Personal protective equipment (PPE), WAC 296-800-160, in the safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-11050, filed 7/17/02, effective 10/1/02.]

WAC 296-835-120 Additional requirements for dip tanks using flammable or combustible liquids. Summary.**IMPORTANT:**

This section applies to:

- Flammable and combustible liquids (flashpoint below 200°F)
- Liquids that have a flashpoint of 200°F (93.3°C) or higher if you:
 - Heat the liquid
 - Dip a heated object in the tank

Reference: Store flammable and combustible liquids as required by Flammable and combustible liquids, WAC 296-24-330, in the general safety and health standards.

Your responsibility:

Safeguard employees working with dip tanks containing flammable or combustible liquids

You must:**CONSTRUCTION**

Include additional safeguards when constructing dip tanks

WAC 296-835-12005

Provide overflow pipes

WAC 296-835-12010

Provide bottom drains

WAC 296-835-12015

FIRE PROTECTION

Provide fire protection in the vapor area

WAC 296-835-12020

Provide additional fire protection for large dip tanks

WAC 296-835-12025

ELECTRICAL WIRING AND EQUIPMENT AND SOURCES**OF IGNITION**

Prevent static electricity sparks or arcs when adding liquids to a dip tank

WAC 296-835-12035

Control ignition sources in the vapor area and adjacent area

WAC 296-835-12040

Provide safe wiring and electrical equipment where the liquid can drip or splash

WAC 296-835-12045

HOUSEKEEPING

Keep the area around dip tanks clear of combustible material and properly dispose of waste

WAC 296-835-12050

HEATING LIQUID

Make sure heating the liquid in your dip tanks does not cause a fire

WAC 296-835-12055

HEAT DRYING

Make sure a heating system used for drying objects does not cause a fire

WAC 296-835-12060

CONVEYORS

Make sure the conveyor system for dip tanks is safe

WAC 296-835-12065.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-120, filed 7/17/02, effective 10/1/02.]

(2009 Ed.)

CONSTRUCTION**WAC 296-835-12005 Include additional safeguards when constructing dip tanks.****You must:**

(1) Make sure the dip tank, drain boards (if provided), and supports, are made of noncombustible material.

(2) Make sure piping connections on drains and overflow pipes allow easy access to the inside of the pipe for inspection and cleaning.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12005, filed 7/17/02, effective 10/1/02.]

WAC 296-835-12010 Provide overflow pipes.**You must:**

• Provide an overflow pipe on dip tanks that:

– Hold more than one hundred fifty gallons of liquid

OR

– Have more than ten square feet of liquid surface area

• Make sure the overflow pipe is:

– Properly trapped

– Able to prevent the dip tank from overflowing

– Three inches or more (7.6 cm) in diameter

– Discharged to a safe location.

Note: Discharged to a safe location could be a:

– Safe location outside the building

OR

– Closed, properly vented salvage tank or tanks that can hold more than the dip tank.

You must:

• Make sure the bottom of the overflow pipe is at least six inches (15.2 cm) below the top of the tank.

Note: The overflow pipe should be large enough to remove water applied to the liquid surface of the dip tank from automatic sprinklers or other sources in the event of fire. Smaller dip tanks should be equipped with overflow pipes, if practical.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12010, filed 7/17/02, effective 10/1/02.]

WAC 296-835-12015 Provide bottom drains.

Exemption: A bottom drain is not required if:

– The viscosity of the liquid makes it impractical to empty the tank by gravity or pumping

OR

– The dip tank has an automatic closing cover that meets the requirements of WAC 296-835-12025.

You must:

• Provide a bottom drain on all dip tanks that hold more than five hundred gallons of liquid.

• Make sure the bottom drain:

– Is properly trapped

– Will empty the dip tank during a fire

– Has pipes large enough to empty the tank within five minutes

– Uses automatic pumps if gravity draining is not practical

– Is capable of both manual and automatic operation

– Discharges to a safe location.

Note: Discharges to a safe location could be a:

– Safe location outside the building

OR

– Closed, properly vented salvage tank or tanks that can hold more than the dip tank.

[Title 296 WAC—p. 2965]

You must:

- Make sure manual operation of the bottom drain is performed from a safe and easily accessible location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-835-12015, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12015, filed 7/17/02, effective 10/1/02.]

FIRE PROTECTION

WAC 296-835-12020 Provide fire protection in the vapor area.

You must:

- Provide a manual fire extinguisher near the tank that is suitable for putting out flammable and combustible liquid fires.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12020, filed 7/17/02, effective 10/1/02.]

WAC 296-835-12025 Provide additional fire protection for large dip tanks.

You must:

- Provide at least one automatic fire extinguishing system or an automatic dip tank cover if the tank:
 - Holds one hundred fifty gallons or more of liquid
- OR**
- Has four square feet or more of liquid surface area.
- Make sure automatic fire extinguishing systems or automatic dip tank covers meet the requirements of Table 1.

Exemption: An automatic fire extinguishing system or an automatic dip tank cover is **not** required for a hardening or tempering tank that:

- Holds less than five hundred gallons

OR

- Has less than twenty-five square feet of liquid surface area.

Table 1: Automatic Fire Protection System Requirements

IF YOU PROVIDE:	THEN YOU MUST:
An automatic fire extinguishing system	<ul style="list-style-type: none"> • Use extinguishing materials suitable for a fire fueled by the liquid in the tank • Make sure the system protects the: <ul style="list-style-type: none"> – Tanks – Drain boards – Stock over drain boards.
A dip tank cover	<ul style="list-style-type: none"> • Make sure the cover is: <ul style="list-style-type: none"> – Closed by approved automatic devices in the event of fire – Able to be manually activated – Kept closed when the tank is not being used – Made of noncombustible material or tin-clad material with locked metal joints.

Reference: Automatic fire extinguishing systems have specific requirements. See:

- WAC 296-24-622 for automatic dry chemical extinguishing system requirements
- WAC 296-24-623 for automatic carbon dioxide extinguishing system requirements
- WAC 296-24-627 for automatic water spray extinguishing system and automatic foam extinguishing system requirements.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-835-12025, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12025, filed 7/17/02, effective 10/1/02.]

ELECTRICAL WIRING AND EQUIPMENT AND SOURCES OF IGNITION

WAC 296-835-12035 Prevent static electricity sparks or arcs when adding liquids to a dip tank.

You must:

- Make sure any portable container used to add liquid to the tank is:
 - Electrically bonded to the dip tank
 - Positively grounded.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12035, filed 7/17/02, effective 10/1/02.]

WAC 296-835-12040 Control ignition sources.

You must:

- (1) Make sure the vapor areas and adjacent areas do not have any:
 - Open flames.
 - Spark producing devices.
 - Heated surfaces hot enough to ignite vapors.
- (2) Use explosion-proof wiring and equipment in the vapor area.

Reference: Electrical wiring and equipment has to meet the requirements of the applicable hazardous (classified) location. See Hazardous (classified) locations, WAC 296-24-95613. Electrostatic equipment has specific electrical requirements. See WAC 296-835-13010.

You must:

- (3) Prohibit smoking in any vapor area:
 - Post an easily seen "NO SMOKING" sign near each dip tank.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12040, filed 7/17/02, effective 10/1/02.]

WAC 296-835-12045 Provide safe electrical wiring and equipment where the liquid can drip or splash.

You must:

- Make sure all electrical wiring and equipment in the vapor area is approved for areas that have:
 - Deposits of easily ignited residue
 - Explosive vapor

Exemption: This does not apply to wiring that is:

- In rigid conduit, threaded boxes or fittings
- Has no taps, splices, or terminal connections.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12045, filed 7/17/02, effective 10/1/02.]

HOUSEKEEPING

WAC 296-835-12050 Keep the area around dip tanks clear of combustible material and properly dispose of waste.

You must:

- (1) Make sure the area surrounding dip tanks is:
 - Completely free of combustible debris
 - As free of combustible stock as possible.
- (2) Provide approved metal waste cans that are:
 - Used for immediate disposal of rags and other material contaminated with liquids from dipping or coating operations
 - Emptied and the contents properly disposed of at the end of each shift.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12050, filed 7/17/02, effective 10/1/02.]

HEATING LIQUID

WAC 296-835-12055 Make sure heating the liquid in your dip tanks does not cause a fire.

You must:

- Keep the temperature of the liquid in the dip tank:
 - Below the liquid's boiling point
 - At least 100°F below the liquid's autoignition temperature.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12055, filed 7/17/02, effective 10/1/02.]

HEAT DRYING

WAC 296-835-12060 Make sure a heating system used for drying objects does not cause a fire.

You must:

- Make sure the heating system used in a drying operation that could cause ignition:
 - Has adequate mechanical ventilation that operates before and during the drying operation
 - Shuts down automatically if a ventilating fan fails to maintain adequate ventilation
 - Is installed as required by NFPA 86-1999, Standard for Ovens and Furnaces.

Note: Some, or all, of the consensus standards (such as ANSI and NFPA) may have been revised. If you comply with a later version of a consensus standard, you will be considered to have complied with any previous version of the same consensus standard.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12060, filed 7/17/02, effective 10/1/02.]

CONVEYORS

WAC 296-835-12065 Make sure conveyor systems are safe.

You must:

- Make sure the conveyor system shuts down automatically if:
 - The ventilation system fails to maintain adequate ventilation
- OR**
- There is a fire.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-12065, filed 7/17/02, effective 10/1/02.]

WAC 296-835-130 Additional requirements for dip tanks used for specific processes. **Summary.**

Your responsibility: Safeguard employees working with dip tanks used for specific processes

You must:**HARDENING OR TEMPERING**

Meet specific requirements if you use a hardening or tempering tank

WAC 296-835-13005

ELECTROSTATIC EQUIPMENT

Meet specific requirements if you use electrostatic equipment

WAC 296-835-13010

FLOW COATING

Meet specific requirements if you use flow coating

WAC 296-835-13015

ROLL COATING

Take additional precautions if your roll coating operation uses a liquid that has a flashpoint below 140°F (60°C)

WAC 296-835-13020

VAPOR DEGREASING

Provide additional safeguards for vapor degreasing tanks

WAC 296-835-13025

SPRAY CLEANING OR DEGREASING

Control liquid spray over an open surface cleaning or degreasing tank

WAC 296-835-13030.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-130, filed 7/17/02, effective 10/1/02.]

HARDENING OR TEMPERING

WAC 296-835-13005 Meet specific requirements if you use a hardening or tempering tank.

You must:

(1) Provide an automatic fire extinguishing system or an automatic dip tank cover for any hardening and tempering tank that uses flammable or combustible liquids and:

- Holds five hundred gallons (1893 L) or more of liquid

OR

- Has twenty-five square feet (2.37 m²) or more of liquid surface area.

(2) Prevent fires.

- Make sure hardening and tempering tanks are:

- **Not** located on or near combustible flooring.

- Located as far away as practical from furnaces.

- Equipped with noncombustible hoods and vents (or equally effective devices) for venting to the outside.

- Treat vent ducts as flues and keep them away from combustible material, particularly roofs.

(3) Make sure air under pressure is not used to:

- Fill the tank

OR

- Agitate the liquid in the tank.

(4) Equip each tank with an alarm that will sound when the temperature is within 50°F (10°C) of the liquid's flashpoint (alarm set point).

[Title 296 WAC—p. 2967]

(5) Make sure a limit switch shuts down conveyors supplying work to the tank when the temperature reaches the alarm setpoint, if operationally practical.

(6) Have a circulating cooling system if the temperature of the liquid can exceed the alarm set point.

Note: The bottom drain of the tank may be combined with the oil circulating system if the requirements for bottom drains in WAC 296-835-12015 are satisfied.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-13005, filed 7/17/02, effective 10/1/02.]

ELECTROSTATIC EQUIPMENT

WAC 296-835-13010 Meet specific requirements if you use electrostatic equipment.

ELECTRICAL

You must:

(1) Provide safe electrical equipment.

• Make sure electrodes in your equipment are:

- Substantial
- Rigidly supported
- Permanently located
- Effectively insulated from ground by insulators

• Make sure the insulators are:

- Nonporous
- Noncombustible
- Kept clean and dry

• Make sure high voltage leads to electrodes are effectively:

- Supported on permanent, suitable insulators
- Guarded against accidental contact or grounding.

(2) Make sure transformers, powerpacks, control apparatus, and all other electrical parts of the equipment:

- Are located outside the vapor area

OR

- Meet the requirements of WAC 296-835-12040.

Exemption: High voltage grids and their connections may be located in the vapor area without meeting the requirements of WAC 296-835-12040.

PAINT DETEARING

You must:

(3) Safeguard paint detearing operations.

• Use approved electrostatic equipment in paint detearing operations.

(4) Make sure goods being paint deteared are:

- Supported on conveyors
- **Not** manually handled.

(5) Keep a minimum safe distance (twice the sparking distance) between goods being paint deteared and the electrodes or conductors of the electrostatic equipment at all times by:

- Arranging the conveyors to provide the necessary distance
- Supporting the goods to prevent swinging or movement, if necessary

• Post a sign that shows the minimum safe distance (twice the sparking distance) near the equipment, where it can be easily seen.

(6) Keep paint detearing operations separate from storage areas and people by using fences, rails or guards that are:

- Made of conducting material

– Adequately grounded.

(7) Protect paint detearing operations from fire by installing:

- Automatic sprinklers

OR

– An approved automatic fire extinguishing system.

(8) Collect and remove paint deposits by:

- Providing removable drip plates and screens
- Cleaning these plates and screens in a safe location.

AUTOMATIC DISCONNECT REQUIREMENT

You must:

(9) Make sure electrostatic equipment has automatic controls that immediately disconnect the power supply to the high-voltage transformer and signal the operator, if:

• Ventilating fans or equipment stop or fail for any reason

• Conveyors do not work properly

• A ground (or imminent ground) occurs anywhere in the high-voltage system

OR

• Goods being paint deteared come within twice the sparking distance of the electrodes or conductors of the equipment.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-13010, filed 7/17/02, effective 10/1/02.]

FLOW COATING

WAC 296-835-13015 Meet specific requirements if you use a flow coating process.

You must:

(1) Make sure all piping is substantial and rigidly supported.

(2) Make sure the paint is supplied by a:

• Gravity tank that does not hold more than ten gallons (38 L)

OR

• Direct low-pressure pumping system.

(3) Have an approved heat-actuated device that shuts down the pumping system if there is a fire.

Note: The area of the sump, and any areas on which paint flows, should be included in the area of dip tank.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-13015, filed 7/17/02, effective 10/1/02.]

ROLL COATING

WAC 296-835-13020 Take additional precautions if your roll coating operation uses a liquid that has a flash-point below 140°F (60°C).

IMPORTANT:

This section applies to the processes of roll coating, roll spreading, or roll impregnating that use a liquid having a flashpoint below 140°F (60°C). Material may be passed directly through a tank or over the surface of a roller that revolves partially submerged in the liquid.

You must:

• Prevent sparks from static electricity by:

– Bonding and grounding all metallic parts (including rotating parts) and installing static collectors

OR

– Maintaining a conductive atmosphere (one with a high relative humidity, for example) in the vapor area.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-13020, filed 7/17/02, effective 10/1/02.]

VAPOR DEGREASING

WAC 296-835-13025 Provide additional safeguards for vapor degreasing tanks.

You must:

(1) Make sure, if the tank has a condenser or a vapor-level thermostat, that it keeps the vapor level at least:

- Thirty-six inches (91 cm) below the top of the tank if the width of the tank is seventy-two inches or more

OR

- One-half the tank width below the top of the tank if the tank is less than seventy-two inches wide.

(2) Make sure, if you use gas as a fuel to heat the tank liquid, that the combustion chamber is airtight (except for the flue opening) to prevent solvent vapors from entering the air-fuel mixture.

(3) Make sure the exhaust flue:

- Is made of corrosion-resistant material
- Extends to the outside
- Has a draft diverter if mechanical exhaust is used.

(4) Take special precautions to keep solvent vapors from mixing with the combustion air of the heater if chlorinated or fluorinated hydrocarbon solvents (for example, trichloroethylene or freon) are used in the dip tank.

(5) Keep the temperature of the heating element low enough to keep a solvent or mixture from:

- Decomposing

OR

- Generating excessive vapor.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-13025, filed 7/17/02, effective 10/1/02.]

SPRAY CLEANING OR DEGREASING

WAC 296-835-13030 Control liquid spray over an open surface cleaning or degreasing tank.

You must:

- Control the spray to the greatest extent feasible by:
 - Enclosing the spraying operation as completely as possible
 - Using mechanical ventilation to provide enough inward air velocity to prevent the spray from leaving the vapor area.

Note: Mechanical baffles may be used to help prevent the discharge of spray.

Reference: Spray painting operations are covered in Spray finishing using flammable and combustible materials, WAC 296-24-370, and Spray-finishing operations, WAC 296-62-11019.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-13030, filed 7/17/02, effective 10/1/02.]

WAC 296-835-140 Definitions. ACGIH: American Conference of Governmental Industrial Hygienists.

(2009 Ed.)

Adjacent area: Any area within twenty feet (6.1 m) of a vapor area that is not separated from the vapor area by tight partitions.

ANSI: American National Standards Institute.

Approved: Approved or listed by a nationally recognized testing laboratory. Refer to federal regulation 29 CFR 1910.7, for definition of nationally recognized testing laboratory.

Autoignition temperature: The minimum temperature required to cause self-sustained combustion without any other source of heat.

Combustible liquid: A liquid having a flashpoint of at least 100°F (37.8°C) and below 200°F (93.3°C). Mixtures with at least ninety-nine percent of their components having flashpoints of 200°F (93.3°C) or higher are not considered combustible liquids.

Detearing: A process for removing excess wet coating material from the bottom edge of a dipped or coated object or material by passing it through an electrostatic field.

Dip tank: A container holding a liquid other than plain water that is used for dipping or coating. An object may be immersed (or partially immersed) in a dip tank or it may be suspended in a vapor coming from the tank.

Flammable liquid: Any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up ninety-nine percent or more of the total volume of the mixture.

Flashpoint: The minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested by any of the measurement methods described in the definition of flashpoint in the safety and health core rules, WAC 296-800-370.

Lower flammable limit: The lowest concentration of a material that will propagate a flame. The LFL is usually expressed as a percent by volume of the material in air (or other oxidant).

NFPA: National Fire Protection Association.

Vapor area: Any area in the vicinity of dip tanks, their drain boards or associated drying, conveying, or other equipment where the vapor concentration could exceed twenty-five percent of the lower flammable limit (LFL) for the liquid in the tank.

You: Means the employer. See the definition of employer in the safety and health core rules, WAC 296-800-370.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-15-102, § 296-835-140, filed 7/17/02, effective 10/1/02.]

Chapter 296-839 WAC

CONTENT AND DISTRIBUTION OF MATERIAL SAFETY DATA SHEETS (MSDSs) AND LABEL INFORMATION

WAC

296-839-100	Scope.
296-839-200	Hazard evaluation.
296-839-20005	Conduct complete hazard evaluations.
296-839-20010	Provide access to hazard evaluation procedures.
296-839-300	Material safety data sheets.
296-839-30005	Develop or obtain material safety data sheets (MSDSs).
296-839-30010	Provide MSDSs for products shipped, transferred or sold over-the-counter.

- 296-839-30015 Follow-up if an MSDS is not provided.
- 296-839-400 Labeling.
- 296-839-40005 Label containers of hazardous chemicals.
- 296-839-500 Definitions.

WAC 296-839-100 Scope. This chapter sets minimum requirements for content and distribution of material safety data sheets (MSDSs) and labels for hazardous chemicals.

- This chapter applies when you do **one or more** of the following:

- Import, produce, or repackage chemicals, including manufactured items (such as bricks, welding rods, and sheet metal) that are not exempt as articles
- Sell or distribute hazardous chemicals to manufacturers, distributors or employers
- Choose to develop material safety data sheets (MSDSs) for a product you do not import or manufacture.

Reference:

See WAC 296-800-170, the Employer chemical hazard communication rule, for MSDSs, label, and other requirements that apply when hazardous chemicals are used in your workplace.

Note: • Use Table 2 to determine which sections in this chapter apply to your workplace.

Exemptions:

- All of the following are **always** exempt from this chapter:
 - Ionizing and nonionizing radiation
 - Biological hazards
 - Tobacco and tobacco products
- The chemicals and items listed in Table 1 are exempt from this chapter **under the conditions specified.**

Table 1 Conditional Exemptions from this Chapter	
This chapter does NOT apply to	When
<ul style="list-style-type: none"> • Alcoholic beverages <p>OR</p> <ul style="list-style-type: none"> • Foods 	<ul style="list-style-type: none"> • Sold, used, or prepared in a retail establishment (such as a grocery store, restaurant, bar, or tavern)
<ul style="list-style-type: none"> • An article (manufactured item) 	<ul style="list-style-type: none"> • It is not a fluid or particle <p>AND</p> <ul style="list-style-type: none"> • It is formed to a specific shape or design during manufacture for a particular end use function¹ <p>AND</p> <ul style="list-style-type: none"> • It releases only trace amounts of a hazardous chemical during normal use AND does not pose a physical or health risk to employees
<ul style="list-style-type: none"> • Consumer products <ul style="list-style-type: none"> – Produced or distributed for sale meeting the definition of "consumer products" in the Consumer Product Safety Act (see U.S. Code, Title 15, Chapter 47, section 2052²) <p>OR</p> <ul style="list-style-type: none"> • Hazardous household products <ul style="list-style-type: none"> – Meeting the definition of "hazardous substances" in the Federal Hazardous Substance Act (see U.S. Code, Title 15, Chapter 30, section 1261²) 	<ul style="list-style-type: none"> • Both criteria apply: <ul style="list-style-type: none"> – They are used in the workplace for the same purpose as intended by the manufacturer or importer – The duration and frequency of an employee's exposure is no more than the range of exposures that consumers might reasonably experience
<ul style="list-style-type: none"> • Cosmetics 	<ul style="list-style-type: none"> • Packaged and sold in retail establishments

Table 1 Conditional Exemptions from this Chapter	
This chapter does NOT apply to	When
<ul style="list-style-type: none"> • Drugs <ul style="list-style-type: none"> – Meeting the definition for "drugs" in the Federal Food, Drug, and Cosmetic Act (see U.S. Code, Title 21, Chapter 9, Subchapter II, section 321²) 	<ul style="list-style-type: none"> • In solid, final form (for example, tablets, or pills) for direct administration to the patient <p>OR</p> <ul style="list-style-type: none"> • Packaged and sold in retail establishments (for example, over-the-counter drugs) <p>OR</p> <ul style="list-style-type: none"> • Intended for employee consumption while in the workplace (for example, first-aid supplies)
<ul style="list-style-type: none"> • Hazardous solid wastes <ul style="list-style-type: none"> – Meeting the definition of "hazardous wastes" in the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (see U.S. Code, Title 42, Chapter 82, Subchapter I, section 6903²) 	<ul style="list-style-type: none"> • Subject to the United States Environmental Protection Agency (EPA) regulations³
<ul style="list-style-type: none"> • Hazardous substances <ul style="list-style-type: none"> – Released into the environment, meeting the definition of "hazardous substances" in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (see U.S. Code, Title 42, Chapter 103, Subchapter I, section 9601²) 	<ul style="list-style-type: none"> • They are the focus of remedial or removal action being conducted under CERCLA in accordance with EPA regulations (Title 40 of the Code of Federal Regulations (CFR)³)
<ul style="list-style-type: none"> • Hazardous wastes <ul style="list-style-type: none"> – Meeting the definition of "dangerous wastes" in the Hazardous Waste Management Act (see chapter 70.105 RCW⁴) 	<ul style="list-style-type: none"> • Subject to department of ecology regulations, chapter 173-303 WAC⁵, that address the accumulation, handling and management of hazardous waste, and describe all of the following: <ul style="list-style-type: none"> – Safety – Labeling – Personnel training – And other related requirements
<ul style="list-style-type: none"> • Solid wood <p>OR</p> <ul style="list-style-type: none"> • Wood products (for example, lumber, and paper) 	<ul style="list-style-type: none"> • All of the following apply <ul style="list-style-type: none"> – The material is not treated with hazardous chemicals – The only hazard is potential flammability or combustibility – The product is not expected to be processed (for example, by sanding or sawing)

¹End use is dependent in whole, or in part, upon maintaining the item's original shape or design. If the item will be significantly altered from its original form, it can no longer be considered a manufactured item

²This federal act is included in the United States Code. See <http://www.access.gpo.gov/uscode/usmain.html>

³EPA regulations are included in the Code of Federal Regulations (CFR). See <http://www.epa.gov>

⁴This state act is included in the Revised Code of Washington (RCW). The RCW compiles all permanent laws of the state. See <http://www.leg.wa.gov/wsladm/default.htm>

⁵See <http://www.ecy.wa.gov>

Use Table 2 to find out which sections of this chapter apply to you. For example, if you import **AND** sell hazardous chemicals **ALL** sections apply. WAC 296-839-500 applies to all employers covered by the scope of this chapter.

If you	Then the sections marked with an "X" apply			
	20005 - 20010	30005	30010 - 30015	40005
• Import or produce chemicals	X	X		
• Sell or distribute hazardous chemicals to <ul style="list-style-type: none"> – Manufacturers OR – Distributors OR – Employers (includes retail or wholesale transactions) 			X	X
• Choose to develop MSDSs for a product you do not import or manufacture	X	X		

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-100, filed 12/17/02, effective 6/1/03.]

WAC 296-839-200 Hazard evaluation.

Your responsibility:

To make sure the hazardous chemicals are identified.

You must:

Conduct complete hazard evaluations

WAC 296-839-20005

Provide access to hazard evaluation procedures

WAC 296-839-20010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-200, filed 12/17/02, effective 6/1/03.]

WAC 296-839-20005 Conduct complete hazard evaluations. Important:

• Hazard evaluation is a process where hazards of chemicals are identified by reviewing available research or testing information. You are not required to perform your own laboratory research or testing to meet the requirements of this section

– Information from hazard evaluations is used to complete material safety data sheets (MSDSs) and labels

– MSDSs from your suppliers may be used to complete the hazard evaluation for chemicals you produce

– MSDSs and labels are **NOT** required for chemicals that are determined to be nonhazardous

• Importers and manufacturers are required to develop MSDSs. If you choose to develop MSDSs for a product you do not import or manufacture, then this chapter also applies to you.

You must:

(1) Describe in writing your procedures for conducting hazard evaluations.

(2) Conduct a complete hazard evaluation for **ALL** chemicals you produce or import to determine if they are hazardous chemicals.

• Identify and consider available scientific evidence of health and physical hazards

• Evidence that meets the criteria in Table 3 must be used to establish a hazard

• Chemicals identified in a Table 4 source must be regarded as hazardous

(2009 Ed.)

• The scope of health hazards considered must include the categories in Tables 5 and 6

• If the chemical is a mixture, follow the additional criteria in Table 7.

If you find evidence that meets the criteria in Table 3, use it in your hazard evaluation.

Hazard	Criteria
• Health hazard	<ul style="list-style-type: none"> • Where available, use human case reports of health effects AND • One or more studies that <ul style="list-style-type: none"> – Are based on human populations, if available, and animal populations^{1,2} AND – Report statistically significant conclusions of a hazardous effect or health hazard (as defined in this rule) AND – Have been conducted following established scientific principles
• Physical hazard	<ul style="list-style-type: none"> • Valid evidence that shows a chemical is any one of the following³: <ul style="list-style-type: none"> – A combustible liquid – A compressed gas – Explosive – Flammable – An organic peroxide – An oxidizer – Pyrophoric – Unstable (reactive) – Water-reactive

¹ If human data is not available, use results of tests done on animals and other available studies to predict health effects on employees (for example, effects resulting from short and long-term exposures to chemicals).

² In vitro studies alone do not generally form the basis of a finding of hazard.

³ These terms are defined in WAC 296-839-500.

Chemicals identified in the sources listed in Table 4 must be assumed to be hazardous (including carcinogens and potential carcinogens).

<ul style="list-style-type: none"> • Sources that address a broad range of hazard categories: <ul style="list-style-type: none"> – Chapter 296-62 WAC, General Occupational Health Standards, WISHA – 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA) – <i>Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment</i>, American Conference of Governmental Industrial Hygienists (ACGIH) (latest edition). • Sources that identify carcinogens or potential carcinogens: <ul style="list-style-type: none"> – Chapter 296-62 WAC, General Occupational Health Standards, WISHA – 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA) – National Toxicology Program (NTP), Annual Report on Carcinogens (latest edition) – International Agency for Research on Cancer (IARC) Monographs (latest editions). <p>Note: The <i>Registry of Toxic Effects of Chemical Substances</i> is published by the National Institute for Occupational Safety and Health (NIOSH) and identifies chemicals found to be potential carcinogens by the NTP and IARC.</p>

Chemicals meeting Table 5 definitions, along with the criteria for established evidence in Table 3, must be regarded as hazardous.

Table 5 is NOT intended to present all hazard categories or test methods. Available scientific data involving other test methods and animal species must also be evaluated to determine a chemical's hazards.

Table 5 Standard Health Hazard Categories	
A chemical is considered to be	If
• A carcinogen	<ul style="list-style-type: none"> • The International Agency for Research on Cancer (IARC) considers it to be a carcinogen or potential carcinogen OR <ul style="list-style-type: none"> • The National Toxicity Program (NTP) (latest edition) lists it as a carcinogen or potential carcinogen OR <ul style="list-style-type: none"> • It is regulated by WISHA or OSHA as a carcinogen
• Corrosive	<ul style="list-style-type: none"> • It causes visible destruction of, or irreversible alterations in, living tissue (not inanimate surfaces) by chemical action at the site of contact Example: <ul style="list-style-type: none"> – A chemical is corrosive if tested on the intact skin of albino rabbits by a method described by the U.S. Department of Transportation (in Appendix A to 49 CFR Part 173) and it destroys or changes (irreversibly) the structure of the tissue at the contact site after a four-hour exposure period
• Toxic	<ul style="list-style-type: none"> • It has a median lethal dose (LD50) greater than 50 milligrams per kilogram, but no more than 500 milligrams per kilogram of body weight, when administered orally to albino rats weighing between 200 - 300 grams each. OR <ul style="list-style-type: none"> • It has a median lethal dose (LD50) greater than 200 milligrams per kilogram, but not more than 1,000 milligrams per kilogram, of body weight when administered by continuous contact for twenty-four hours (or less if death occurs within twenty-four hours) with the bare skin of albino rabbits weighing between 2 - 3 kilograms each OR <ul style="list-style-type: none"> • It has a median lethal concentration (LC50), in air: <ul style="list-style-type: none"> – Greater than 200 parts per million, but not more than 2,000 parts per million (by volume of gas or vapor) OR <ul style="list-style-type: none"> – Greater than 2 milligrams per liter, but not more than 20 milligrams per liter, of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats, weighing between 200 - 300 grams each
• Highly toxic	<ul style="list-style-type: none"> • It has a median lethal dose (LD50) of 50 milligrams, or less, per kilogram of body weight when administered orally to albino rats weighing between 200 - 300 grams each OR <ul style="list-style-type: none"> • It has a median lethal dose (LD50) of 200 milligrams, or less, per kilogram of body weight when administered by continuous contact for twenty-four hours (or less if death occurs within twenty-four hours) with the bare skin of albino rabbits weighing between 2 - 3 kilograms each

Table 5 Standard Health Hazard Categories	
A chemical is considered to be	If
	OR <ul style="list-style-type: none"> • It has a median lethal concentration of (LC50), in air, of: <ul style="list-style-type: none"> – 200 parts per million (by volume), or less, of gas or vapor OR <ul style="list-style-type: none"> – 2 milligrams per liter, or less, of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 - 300 grams each
• An irritant	<ul style="list-style-type: none"> • It is NOT corrosive, but causes a reversible inflammatory effect on living tissue by chemical action at the contact site Examples: <ul style="list-style-type: none"> – The chemical is a skin irritant when tested on the intact skin of albino rabbits (by the methods of 16 CFR 1500.41) for four hours exposure, (or by other appropriate techniques) and the exposure results in an empirical score of five or more – A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42 or other appropriate techniques
• A sensitizer	<ul style="list-style-type: none"> • It causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure

Categories provided in Table 6 illustrate the broad range of target organ effects that must be considered when conducting hazard evaluations. Chemicals meeting Table 6 definitions, along with the criteria for established evidence in Table 3, must be regarded as hazardous.

Examples provided in Table 6 are **NOT** intended to be a complete list.

Category	Definition	Examples of Signs and Symptoms	Examples of Chemicals
Hepatotoxins	Cause liver damage	<ul style="list-style-type: none"> • Jaundice • Liver enlargement 	<ul style="list-style-type: none"> • Carbon tetrachloride • Nitrosamines
Nephrotoxins	Cause kidney damage	<ul style="list-style-type: none"> • Edema • Proteinuria 	<ul style="list-style-type: none"> • Halogenated hydrocarbons • Cadmium
Neurotoxins	Cause primary toxic effects on the nervous system	<ul style="list-style-type: none"> • Narcosis • Behavioral changes • Decrease in motor functions 	<ul style="list-style-type: none"> • Mercury • Carbon disulfide • Lead
Chemicals that act on the <ul style="list-style-type: none"> • Blood OR <ul style="list-style-type: none"> • Hematopoietic (blood forming) system 	<ul style="list-style-type: none"> • Decrease hemoglobin function OR <ul style="list-style-type: none"> • Deprive the body tissues of oxygen 	<ul style="list-style-type: none"> • Cyanosis • Loss of consciousness 	<ul style="list-style-type: none"> • Carbon monoxide • Cyanides • Benzene
Chemicals that damage the lungs	<ul style="list-style-type: none"> • Irritate lungs OR <ul style="list-style-type: none"> • Damage pulmonary tissue 	<ul style="list-style-type: none"> • Cough • Tightness in chest • Shortness of breath 	<ul style="list-style-type: none"> • Silica • Asbestos
Reproductive toxins	Affect reproductive capabilities, including: <ul style="list-style-type: none"> • Chromosomal damage (mutation) • Effects on fetuses (teratogenesis) 	<ul style="list-style-type: none"> • Birth defects • Sterility 	<ul style="list-style-type: none"> • Lead • 1,2-Dibromo-3-chloropropane (DBCP) • Nitrous Oxide
Cutaneous (skin) hazards	Affect the dermal layer of the body	<ul style="list-style-type: none"> • Defatting of the skin • Rashes • Irritation 	<ul style="list-style-type: none"> • Ketones • Chlorinated compounds
Eye hazards	Affect the eye or ability to see	<ul style="list-style-type: none"> • Conjunctivitis • Corneal damage 	<ul style="list-style-type: none"> • Organic solvents • Acids

If a mixture	Then
<ul style="list-style-type: none"> • Has been thoroughly tested as a whole for a physical or health hazard 	<ul style="list-style-type: none"> • You must use those results
<ul style="list-style-type: none"> • Has NOT been tested as a whole for a health hazard 	<ul style="list-style-type: none"> • You must: <ul style="list-style-type: none"> – Evaluate EACH ingredient in the mixture to determine the hazards – Consider the mixture to have the same hazard as each ingredient determined to be hazardous
<ul style="list-style-type: none"> • Has NOT been tested as a whole for physical hazards 	<ul style="list-style-type: none"> • You must: <ul style="list-style-type: none"> • Use any scientifically valid data available to evaluate the potential physical hazards of the mixture

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-20005, filed 12/17/02, effective 6/1/03.]

WAC 296-839-20010 Provide access to hazard evaluation procedures.

You must:

- Provide access to your written hazard evaluation procedures when requested by any of the following:
 - Employees
 - Designated representatives of employees
 - Representatives of the department of labor and industries
 - Representatives of the National Institute for Occupational Safety and Health (NIOSH).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-20010, filed 12/17/02, effective 6/1/03.]

WAC 296-839-300 Material safety data sheets.

Your responsibility:

To provide complete and accurate material safety data sheets (MSDSs).

You must:

Develop or obtain MSDSs
WAC 296-839-30005

Provide MSDSs

WAC 296-839-30010

Follow-up if an MSDS is not provided

WAC 296-839-30015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-300, filed 12/17/02, effective 6/1/03.]

WAC 296-839-30005 Develop or obtain material safety data sheets (MSDSs).

You must:

- Develop or obtain a complete and accurate material safety data sheet (MSDS) for each hazardous chemical or mixture according to **ALL** of the following:

- **ALL** information in Table 8 must be completed. If there is no relevant information for a required item, this must be noted. Blank spaces are not permitted.

Note: • No specific format is required for MSDSs; however, an example format (OSHA form 174) can be found online at: <http://www.osha.gov>

• One MSDS can be developed for a group of complex mixtures (for example, jet fuels or crude oil) **IF** the health and physical hazards of the mixtures are similar (the amounts of chemicals in the mixture may vary).

- Content of MSDSs must accurately represent the available scientific evidence.

Note: You may report results of scientifically valid studies that tend to refute findings of hazards.

- MSDSs must be in English.

Note: You may develop copies of MSDSs in other languages.

You must:

- Revise an MSDS when you become aware of new and significant information regarding the hazards of a chemical, or how to protect against the hazards

- Within three months after you first become aware of the information

OR

– Before the chemical is reintroduced into the workplace if the chemical is no longer being used, produced or imported.

Table 8 Information Required on MSDSs
<ul style="list-style-type: none"> • The chemical's identity as it appears on the label • The date the MSDS was prepared or updated • A contact for additional information about the hazardous chemical and appropriate emergency procedures Include all of the following: <ul style="list-style-type: none"> – Name – Address – Telephone number of the responsible party preparing or distributing the MSDS • The chemical's hazardous ingredients¹ as determined by your hazard evaluation <ul style="list-style-type: none"> – For a single substance chemical, include the chemical and common name(s) of the substance – For mixtures tested as a whole <ul style="list-style-type: none"> ■ Include the common name(s) of the mixture <li style="text-align: center;">AND ■ List the chemical and common name(s) of ingredients that contribute to the known hazards – For mixtures NOT tested as a whole, list the chemical and common name(s) of hazardous ingredients <ul style="list-style-type: none"> ■ That make up 1% or more of the mixture, by weight or volume, including carcinogens (if 0.1% concentration or more, by weight or volume) – If ingredients are less than the above concentrations but may present a health risk to employees (for example, allergic reaction or exposure could exceed the permissible exposure limits, or PEL) they must be listed here • Exposure limits for airborne concentrations. Include ALL of the following, when they exist: <ul style="list-style-type: none"> – WISHA or OSHA PELs² <ul style="list-style-type: none"> ■ The 8-hour time weighted average (TWA) ■ The short-term exposure limit (STEL), if available ■ Ceiling values, if available – Threshold limit values (TLVs) including 8-hour TWAs, STELS, and ceiling values – Other exposure limits used or recommended by the employer preparing the MSDS • Physical and chemical characteristics <ul style="list-style-type: none"> – For example, boiling point, vapor pressure, and odor • Fire, explosion data, and related information <ul style="list-style-type: none"> – For example, flashpoint, flammable and explosion limits, extinguishing media, and unusual fire or explosion hazards • Physical hazards of the chemical including reactivity information <ul style="list-style-type: none"> – For example, incompatibilities, decomposition products, by-products, and conditions to avoid • Health hazard information including ALL of the following: <ul style="list-style-type: none"> – Primary routes of exposure <ul style="list-style-type: none"> ■ For example, inhalation, ingestion, and skin absorption or other contact³ – Health effects (or hazards) associated with: <ul style="list-style-type: none"> ■ Short-term exposure⁴ <li style="text-align: center;">AND ■ Long-term exposure⁴ – Whether the chemical is listed or described as a carcinogen or potential carcinogen in the latest editions of each of the following: <ul style="list-style-type: none"> ■ The National Toxicology Program (NTP) Annual Report on Carcinogens <li style="text-align: center;">OR ■ The International Agency for Research on Cancer (IARC) Monographs as a potential carcinogen <li style="text-align: center;">OR ■ WISHA or OSHA rules <ul style="list-style-type: none"> – Signs and symptoms of exposure⁵ – Medical conditions generally recognized as being aggravated by exposure • Emergency and first-aid procedures

Table 8 Information Required on MSDSs
<ul style="list-style-type: none"> • Generally applicable precautions for safe handling and use known to the employer preparing the MSDS <ul style="list-style-type: none"> – For example, appropriate procedures for clean-up of spills and leaks, waste disposal method, precautions during handling and storing • Generally applicable and appropriate control measures known to the employer preparing the MSDS, including ALL of the following: <ul style="list-style-type: none"> – Engineering controls (for example, general or local exhaust ventilation) – Work practices – Personal protective equipment (PPE) – Personal hygiene practices – Protective measures during repair and maintenance of contaminated equipment

¹The identities of some chemicals may be protected as trade secret information (see chapter 296-62 WAC, Part B-1, Trade secrets).

² WISHA PEL categories are defined, and values are provided, in chapter 296-841 WAC, Airborne contaminants.

³ A "skin notation" listed with either an ACGIH TLV or WISHA/OSHA PEL indicates that skin absorption is a primary route of exposure.

⁴Examples of:

- Short-term health effects (or hazards) include eye irritation, skin damage caused by contact with corrosives, narcosis, sensitization, and lethal dose.
- Long-term health effects (or hazards) include cancer, liver degeneration, and silicosis.

⁵Signs and symptoms of exposure to hazardous substances include those that:

- Can be measured such as decreased pulmonary function

AND

- Are subjective such as feeling short of breath.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-839-30005, filed 2/20/07, effective 4/1/07; 05-03-093, § 296-839-30005, filed 1/18/05, effective 3/1/05; 03-01-096, § 296-839-30005, filed 12/17/02, effective 6/1/03.]

WAC 296-839-30010 Provide MSDSs for products shipped, transferred or sold over-the-counter.

You must:

- Provide the correct MSDS to manufacturers, distributors and employers:

– With the initial shipment or transfer of the product

AND

– With the first shipment or transfer after an MSDS is updated

AND

– Whenever one is requested.

Note:

- MSDSs may be provided separately from containers as long as they are provided before or at the same time as the containers. For example, you may fax, or e-mail the MSDS.
 - You are NOT required to provide MSDSs to retailers who inform you they
 - Do not sell the product to commercial accounts
- AND
- Do not open the sealed product containers for use in their workplace.

You must:

- Follow the requirements in Table 9 for chemicals sold over-the-counter.

If you are a	Then
• Retail distributor WITH commercial accounts	• Provide an MSDS to employers with commercial accounts when requested AND • Post a sign, or otherwise inform employers, that MSDSs are available
• Retail distributor WITHOUT commercial accounts	• Provide the employer, when requested, with ALL of the following: – Name – Address – Telephone number of the chemical manufacturer, importer, or distributor who can provide an MSDS
• Wholesale distributor selling products over-the-counter to employers	• Provide an MSDS to employers with commercial accounts when requested AND • Post a sign, or otherwise inform employers, that MSDSs are available

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-30010, filed 12/17/02, effective 6/1/03.]

WAC 296-839-30015 Follow-up if an MSDS is not provided.

You must:

- Obtain an MSDS from the chemical manufacturer, distributor or importer as soon as possible, if an MSDS is not provided for a shipment labeled as a hazardous chemical.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-30015, filed 12/17/02, effective 6/1/03.]

WAC 296-839-400 Labeling.

Your responsibility:

To provide employers with containers of hazardous chemicals that are properly labeled.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-01-096, § 296-839-400, filed 12/17/02, effective 6/1/03.]

WAC 296-839-40005 Label containers of hazardous chemicals.

Exemption:

Containers are exempt from this section if **ALL** hazardous contents are listed in Table 11.

You must:

- Make sure every container of hazardous chemicals leaving the workplace is properly labeled. This includes **ALL** of the following:

- The identity of the hazardous chemical (the chemical or common name) that matches the identity used on the MSDS

- An appropriate hazard warning

- The name and address of the chemical manufacturer, importer, or other responsible party

- Make sure labeling does not conflict with the requirements of:

- The Hazardous Materials Transportation Act (49 U.S.C. 1801 et seq.)

AND

(2009 Ed.)

- Regulations issued under the act by the U.S. Department of Transportation (Title 49 of the Code of Federal Regulations, Parts 171 through 180). See <http://www.dot.gov>

- Revise labels within three months of becoming aware of new and significant information about chemical hazards

- Provide revised labels on containers beginning with the first shipment after a revision, to manufacturers, distributors or employers

- Revise the label when a chemical is not currently used, produced or imported, before:

- You resume shipping (or transferring) the chemical

OR

- The chemical is reintroduced in the workplace

- Label information

- Clearly written in English

AND

- Prominently displayed on the container

Note: When the conditions specified in Table 10 are met for the solid material products listed you are not required to provide labels for every shipment.

You need only send labels with the first shipment, IF the product is	And
Whole grain	<ul style="list-style-type: none"> • It is shipped to the same customer AND • No hazardous chemicals are part of or known to be present with the product which could expose employees during handling <ul style="list-style-type: none"> – For example, cutting fluids on solid metal, and pesticides with grain
Solid untreated wood	
Solid metal For example: Steel beams, metal castings	
Plastic items	

Exemptions:

The chemicals (and items) listed in Table 11 are **EXEMPT** from **THIS SECTION** under the conditions specified. Requirements in other sections still apply.

This section does not apply to	When the product is
<ul style="list-style-type: none"> • Pesticides <ul style="list-style-type: none"> – Meeting the definition of "pesticides" in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (see Title 7, U.S.C. Chapter 6, Subchapter II, section 136¹) 	<ul style="list-style-type: none"> • Subject to <ul style="list-style-type: none"> – Labeling requirements of FIFRA¹ AND – Labeling regulations issued under FIFRA by the United States Environmental Protection Agency (EPA) (see Title 40 of the Code of Federal Regulations²)

[Title 296 WAC—p. 2975]

Table 11 Conditional Label Exemptions	
This section does not apply to	When the product is
<ul style="list-style-type: none"> • A chemical substance or mixture <ul style="list-style-type: none"> – Meeting the definition of "chemical substance" or "mixture" in the Toxic Substance Control Act (TSCA) (see Title 15 U.S.C. Chapter 53, Subchapter II, Section 2602¹) 	<ul style="list-style-type: none"> • Subject to <ul style="list-style-type: none"> – Labeling requirements of TSCA¹ AND – Labeling requirements issued under TSCA by the EPA (see Title 40 of the Code of Federal Regulations²)
<ul style="list-style-type: none"> • Each of the following: <ul style="list-style-type: none"> – Food – Food additives – Color additives – Drugs – Cosmetics – Medical devices or products – Veterinary devices or products – Materials intended for use in these products (for example: Flavors, and fragrances) • As defined in <ul style="list-style-type: none"> – The Federal Food, Drug, and Cosmetic Act (see Title 21 U.S.C. Chapter 9, Subchapter II, Section 321¹) <p>OR</p> <ul style="list-style-type: none"> – Or the Virus-Serum Toxin Act of 1913 (see Title 21 U.S.C. Chapter 5, Section 151 et seq.¹) <p>OR</p> <ul style="list-style-type: none"> – Regulations issued under these acts (see Title 21 Part 101 in the Code of Federal Regulations, and Title 9, in the Code of Federal Regulations³) 	<ul style="list-style-type: none"> • Subject to: <ul style="list-style-type: none"> – Labeling requirements in Federal Food, Drug, and Cosmetic Act, Virus-Serum Toxin Act of 1913, and issued regulations enforced by the United States <ul style="list-style-type: none"> ■ Food and Drug Administration (see Title 21 Parts 101-180 in the Code of Federal Regulations³) OR ■ Department of Agriculture (see Title 9, in the Code of Federal Regulations³)
<ul style="list-style-type: none"> • Each of the following: <ul style="list-style-type: none"> – Distilled spirits (beverage alcohols) AND – Wine AND – Malt beverage • As defined in <ul style="list-style-type: none"> – The Federal Alcohol Administration Act (see Title 27 U.S.C. Section 201¹) 	<ul style="list-style-type: none"> • Subject to: <ul style="list-style-type: none"> – Labeling requirements of Federal Alcohol Administration Act¹ AND – Labeling regulations issued under Federal Alcohol Administration Act by the Bureau of Alcohol, Tobacco, and Firearms (see Title 27

Table 11 Conditional Label Exemptions	
This section does not apply to	When the product is
<p>AND</p> <ul style="list-style-type: none"> – Regulations issued under this act (see Title 27 in the Code of Federal Regulations)³ 	<ul style="list-style-type: none"> in the Code of Federal Regulations³)
<ul style="list-style-type: none"> • Consumer products AND • Hazardous substances <ul style="list-style-type: none"> – As defined in <ul style="list-style-type: none"> ■ The Consumer Product Safety Act (see 15 U.S.C. 2051 et seq.¹) AND ■ The Federal Hazardous Substances Act (see 15 U.S.C. 1261 et seq.¹) 	<ul style="list-style-type: none"> • Subject to: <ul style="list-style-type: none"> – A consumer product safety or labeling requirement of the Consumer Product Safety Act or Federal Hazardous Substances Act¹ OR – Regulations issued under these acts by the Consumer Product Safety Commission (see Title 16 in the Code of Federal Regulations³)
<ul style="list-style-type: none"> • Agricultural seed AND • Vegetable seed treated with pesticides 	<ul style="list-style-type: none"> • Labeled as required by <ul style="list-style-type: none"> – The Federal Seed Act (see Title 7 U.S.C. Chapter 37 Section 1551 et seq.¹) AND – Labeling requirements issued under Federal Seed Act by the United States Department of Agriculture¹

¹This federal act is included in the United States Code. See <http://www.access.gpo.gov/uscode/uscmmain.html>

²See <http://www.epa.gov>

³See <http://www.access.gpo.gov/nara/cfr/index.html>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.066, 49.17.087, § 296-839-40005, filed 4/4/06, effective 9/1/06; 03-01-096, § 296-839-40005, filed 12/17/02, effective 6/1/03.]

WAC 296-839-500 Definitions. The following definitions apply to this chapter:

- Article (manufactured item)
 - A manufactured item that
 - Is not a fluid or particle
 - AND**
 - Is formed to a specific shape or design during manufacture for a particular end use function
 - AND**
 - Releases only trace amounts of a hazardous chemical during normal use and does not pose a physical or health risk to employees.
- Chemical
 - An element or mixture of elements
- OR**
- A compound or mixture of compounds
- OR**
- A mixture of elements and compounds

Included are manufactured items (such as bricks, welding rods and sheet metal) that are not exempt as an article.

Chemical name

- The scientific designation of a chemical developed by the

- International union of pure and applied chemistry (IUPAC)

OR

- Chemical abstracts service (CAS) rules of nomenclature

OR

- A name that clearly identifies the chemical for the purpose of conducting a hazard evaluation.

Combustible liquid

Liquids with a flashpoint of at least 100°F (37.8°C) and below 200°F (93.3°C). A mixture with at least 99% of its components having flashpoints of 200°F (93.3°C), or higher, is not considered a combustible liquid.

Commercial account

An arrangement where a retailer is selling hazardous chemicals to an employer

- Generally in large quantities over time

OR

- At costs below regular retail price.

Common name

Any designation or identification used to identify a chemical other than the chemical name, such as a

- Code name or number

OR

- Trade or brand name

OR

- Generic name.

Compressed gas

- A contained gas or mixture of gases with an absolute pressure greater than:

- 40 psi at 70°F (21.1°C)

OR

- 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C)

OR

- A liquid with a vapor pressure greater than 40 psi at 100°F (37.8°C), as determined by ASTM D323-72.

Container

A vessel, other than a pipe or piping system, that holds a hazardous chemical. Examples include:

- Bags
- Barrels
- Bottles
- Boxes
- Cans
- Cylinders
- Drums
- Reaction vessels
- Storage tanks
- Rail cars.

Designated representative

- An individual or organization with written authorization from an employee

OR

- A recognized or certified collective bargaining agent (not necessarily authorized by an employee)

OR

- A legal representative of a deceased or legally incapacitated employee.

Distributor

A business that supplies hazardous chemicals to other employers. Included are employers who conduct retail and wholesale transactions.

Explosive

A chemical that causes a sudden, almost instant release of pressure, gas, and heat when exposed to a sudden shock, pressure, or high temperature.

Flammable

A chemical in one of the following categories:

- Aerosols that, when tested using a method described in 16 CFR 1500.45, yield either a:

- Flame projection of more than eighteen inches at full valve opening

OR

- A flashback (a flame extending back to the valve) at any degree of valve opening

- Gases that, at the temperature and pressure of the surrounding area, form a:

- Flammable mixture with air at a concentration of thirteen percent, by volume, or less

OR

- Range of flammable mixtures with air wider than twelve percent, by volume, regardless of the lower limit

- Liquids with a flashpoint below 100°F (37.8°C). A mixture with at least ninety-nine percent of its components having flashpoints of 100°F (37.8°C), or higher, is not considered a flammable liquid

- Solids, other than blasting agents or explosives, as defined in WAC 296-52-417 or 29 CFR 1910.109(a), that:

- Is likely to cause fire through friction, moisture, absorption, spontaneous chemical change or retained heat from manufacturing or processing

OR

- That can be readily ignited (and when ignited burns so vigorously and persistently that it creates a serious hazard)

OR

- When tested by the method described in 16 CFR 1500.44, ignite and burn with a self-sustained flame at a rate greater than 1/10th of an inch per second along its major axis.

Flashpoint

The minimum temperature at which a liquid gives off an ignitable concentration of vapor, when tested by any of the following measurement methods:

- Tagliabue closed tester. Use this for liquids with a viscosity less than, 45 Saybolt Universal Seconds (SUS) at 100°F (37.8°C), that do not contain suspended solids and do not tend to form a surface film under test. See American National Standard Method of Test for Flashpoint by Tag Closed Tester, Z11.24-1979 (ASTM D 56-79)

- Pensky-Martens closed tester. Use this for liquids with a viscosity equal to, or greater than, 45 SUS at 100°F (37.8°C) or for liquids that contain suspended solids or have a tendency to form a surface film under test. See American

National Standard Method of Test for Flashpoint by Pensky-Martens Closed Tester, Z11.7-1979 (ASTM D 93-79)

- Setaflash closed tester. See American National Standard Method of Test for Flashpoint by Setaflash Closed Tester (ASTM D 3278-78)

Organic peroxides, which undergo auto accelerating thermal decomposition, are excluded from any of the flash-point measurement methods specified above.

Hazardous chemical

A chemical, which is a physical or health hazard.

Hazard warning

Words, pictures or symbols (alone or in combination) that appear on labels (or other forms of warning such as placards or tags) that communicate specific physical and health hazards (including target organ effects) associated with chemicals in a container.

Health hazard

A chemical that may cause health effects in short or long-term exposed employees based on statistically significant evidence from a single study conducted by using established scientific principles.

Health hazards include, but are not limited to, any of the following:

- Carcinogens
- Toxic or highly toxic substances
- Reproductive toxins
- Irritants
- Corrosives
- Sensitizers
- Hepatotoxins (liver toxins)
- Nephrotoxins (kidney toxins)
- Neurotoxins (nervous system toxins)
- Substances that act on the hematopoietic system (blood or blood forming system)
- Substances that can damage the lungs, skin, eyes, or mucous membranes.

Identity

A chemical or common name listed on the material safety data sheet (MSDS) and label.

Importer

The first business, within the Customs Territory of the United States, that receives hazardous chemicals produced in other countries and supplies them to manufacturers, distributors or employers within the United States.

Label

Written, printed, or graphic material displayed on, or attached to, a container of hazardous chemicals.

Manufacturer

An employer with a workplace where one or more chemicals (including items not exempt as "articles," see Table 1 in this chapter) are produced for use or distribution.

Material safety data sheet (MSDS)

Written, printed or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors or employers about the chemical, its hazards and protective measures as required by this rule.

Mixture

A combination of two or more chemicals that retain their chemical identity after being combined.

Organic peroxide

An organic compound containing the bivalent-O-O-structure. It may be considered a structural derivative of hydrogen peroxide if one or both of the hydrogen atoms has been replaced by an organic radical.

Oxidizer

A chemical, other than a blasting agent or explosive as defined in WAC 296-52-417 or 29 CFR 1910.109(a), that starts or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases.

Permissible exposure limits

See chapter 296-841 WAC, for definition of this term.

Physical hazards

A chemical that has scientifically valid evidence to show it is one of the following:

- A combustible liquid
- A compressed gas
- Explosive
- Flammable
- An organic peroxide
- An oxidizer
- Pyrophoric
- Unstable (reactive)
- Water-reactive.

Produce

To do one or more of the following:

- Manufacture
- Process
- Formulate
- Blend
- Extract
- Generate
- Emit
- Repackage.

Pyrophoric

Chemicals that ignite spontaneously in the air at a temperature of 130°F (54.4°C) or below.

Responsible party

Someone who can provide more information about the hazardous chemical and appropriate emergency procedures.

Retailer

See "distributor."

Threshold limit values (TLVs)

Airborne concentrations of substances established by the American Conference of Governmental Industrial Hygienists (ACGIH), and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

TLVs are specified in the most recent edition of the *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices* and include the following categories:

- Threshold limit value-time-weighted average (TLV-TWA)
- Threshold limit value-short-term exposure limit (TLV-STEL)
- Threshold limit value-ceiling (TLV-C).

Unstable (reactive)

A chemical in its pure state, or as produced or transported, that will vigorously polymerize, decompose, con-

dense, or become self-reactive under conditions of shocks, pressure or temperature.

Use

To do one or more of the following:

- Package
- Handle
- React
- Emit
- Extract
- Generate as a by-product
- Transfer.

Water-reactive

A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

Wholesaler

See "distributor."

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-03-093, § 296-839-500, filed 1/18/05, effective 3/1/05; 03-01-096, § 296-839-500, filed 12/17/02, effective 6/1/03.]

Chapter 296-841 WAC AIRBORNE CONTAMINANTS

WAC

296-841-100	Scope.
296-841-200	Evaluate and control employee exposures.
296-841-20003	Employee protective measures.
296-841-20005	Exposure evaluations.
296-841-20010	Exposure controls.
296-841-20015	Respirators.
296-841-20020	Notification.
296-841-20025	Permissible exposure limits (PELs).
296-841-300	Definitions.

WAC 296-841-100 Scope. This chapter applies when your employees are, or could be, exposed to an airborne hazard.

• The following are examples of airborne contaminants that may become airborne hazards in some workplaces:

– Chemicals listed in Table 3, Permissible Exposure Limits (PELs) for Airborne Contaminants

– Any substance:

■ Listed in the latest edition of the NIOSH Registry of Toxic Effects of Chemical Substances

■ For which positive evidence of an acute or chronic health hazard exists through tests conducted by, or known to, the employer

■ That may pose a hazard to human health as stated on a material safety data sheet (MSDS) kept by, or known to, the employer

– Biological agents such as harmful bacteria, viruses or fungi

■ Examples include TB aerosols and anthrax

– Pesticides

– Chemicals used as crowd control agents, such as pepper spray

– Chemicals present at clandestine drug labs.

• Airborne contaminants exist in a variety of physical forms such as dusts, fibers, fogs, fumes, mists, gases, smoke, sprays, vapors, or aerosols.

Definition:

Exposed or exposure:

The contact an employee has with a toxic substance, harmful physical agent or oxygen-deficient condition, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-100, filed 2/20/07, effective 4/1/07; 06-08-087, § 296-841-100, filed 4/4/06, effective 9/1/06; 05-17-168, § 296-841-100, filed 8/23/05, effective 1/1/06; 04-18-079, § 296-841-100, filed 8/31/04, effective 11/1/04; 03-20-115, § 296-841-100, filed 10/1/03, effective 1/1/04.]

WAC 296-841-200 Evaluate and control employee exposures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-200, filed 2/20/07, effective 4/1/07; 03-20-115, § 296-841-200, filed 10/1/03, effective 1/1/04.]

WAC 296-841-20003 Employee protective measures. Protect employees from potentially hazardous exposure while you perform your exposure evaluation, using all available resources to determine adequate protective measures.

Note: • Resources include product labels, material safety data sheets (MSDSs), manufacturer recommendations, and industry protocols.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-20003, filed 2/20/07, effective 4/1/07.]

WAC 296-841-20005 Exposure evaluations. (1) Conduct an exposure evaluation to determine or reasonably estimate whether an employee is or could be exposed to either of the following:

– An airborne contaminant above a permissible exposure limit (PEL) listed in Table 3;

OR

– Other airborne hazards, such as biological hazards.

Note: • When evaluating air contaminants, keep in mind that oxygen deficient conditions may also occur due to:
– Processes such as fermentation, decomposition of organic matter, or combustion of fossil fuels
– Displacement by another gas such as nitrogen or carbon dioxide
• Rules for specific substances may contain additional requirements for determining employee exposure
• Samples from a representative group of employees may be used for other employees performing the same work activities, when the duration and level of exposure are similar.

(2) Conclude that an atmosphere is immediately dangerous to life or health (IDLH) when you cannot determine or reasonably estimate employee exposure.

(3) Do all the following when you perform your evaluation:

(a) Determine the form of the airborne contaminant, such as dust, mist, gas, or biological agent.

(b) Make sure you don't use the amount of protection provided to employees by respirators as a factor in determining whether employees are exposed to an airborne hazard.

(c) Make sure any air monitoring results used to determine employee exposures are based on personal air samples taken from, or representative of, the employee's breathing zone.

■ You may use area sampling to screen for the presence of an airborne contaminant; however, results from area sam-

pling can't be used if they don't adequately represent exposure of affected employees.

(d) Include potential emergency and rescue situations that may occur, such as equipment or power failures, uncontrolled chemical reactions, fire, explosion, or human error.

(e) Include workplace conditions such as work processes, types of material, exposure control methods, work practices, and environmental conditions.

(f) Address extended work periods. For work shifts longer than eight hours, evaluate the continuous eight-hour portion of the shift expected to have the highest average exposure concentration.

(4) Use either of the following types of documentation to conclusively demonstrate that employee exposure cannot meet or exceed any PEL for the airborne contaminant during any reasonably anticipated conditions:

- Personal air samples that represent an employee's usual or worst-case exposure during the entire shift.

OR

- Specific information about products, materials, or activities that provides for an estimate of the level of employee exposure such as material safety data sheets (MSDSs), observations, previous air sampling results, other measurements, calculations, or pesticide labels.

Note: • You should use methods of sampling and analysis that have been validated by the laboratory performing the analysis.

(5) Use the following formula to evaluate employee exposure to two or more substances that have additive health effects:

$$E_m = \frac{C_1}{L_1} + \frac{C_2}{L_2} + \dots + \frac{C_n}{L_n}$$

The symbol	Is the . . .
E	Equivalent exposure for the mixture. When the value of E is greater than 1, an airborne hazard is present.
C	Concentration of a specific airborne contaminant.
L	TWA ₈ , STEL, or ceiling limit for that airborne contaminant, from Table 3, Permissible Exposure Limits (PELs) for Airborne Contaminants.

Note: • When results from your exposure evaluation indicate an airborne hazard, follow requirements in WAC 296-841-20010 through 296-841-20020 of this chapter.
 • When changes occur that increase the level of exposure to an airborne hazard, you may need to conduct a new exposure evaluation to make sure exposure controls and other protective measures are sufficient.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-20005, filed 2/20/07, effective 4/1/07; 04-18-079, § 296-841-20005, filed 8/31/04, effective 11/1/04; 03-20-115, § 296-841-20005, filed 10/1/03, effective 1/1/04.]

WAC 296-841-20010 Exposure controls.

IMPORTANT:

• Respirators and other personal protective equipment are **not** exposure controls. Respirators may be used to protect employees while exposure controls are being installed or

when it's not feasible to use exposure controls to remove or reduce the airborne hazard.

(1) Use feasible exposure controls to reduce employee exposure to one of the following:

- A level below the permissible exposure limits (PEL) in Table 3
- A level that removes the airborne hazard, when no PEL is established
- The lowest achievable level, when exposure cannot be reduced to below the PEL or the airborne hazard can't be removed.

(2) Make sure exposure controls don't create or increase employee health hazards. For example, when ventilation systems are installed:

- Prevent contaminated exhaust air from either:
 - Reentering the building in harmful amounts
 - or
 - Exposing any employee to a health hazard.
 - Temper make-up air, when necessary
 - Prevent employee exposure to excessive air velocities.
- (3) Use make-up air systems that will not interfere with the effectiveness of the exhaust air system.
- For example, make sure enough make-up air is provided to replace the amount of air exhausted.

Note: • Table 1 provides examples of possible exposure controls.

Table 1
Examples of Possible Controls

Preferred exposure controls include:	For example:
Using a different chemical (this is also known as substitution)	<ul style="list-style-type: none"> • Choose a chemical with a lower evaporation rate or vapor pressure • Choose a chemical that's not hazardous
Changing a process to decrease emissions	<ul style="list-style-type: none"> • Use hand rolling or paint dipping instead of paint spraying • Bolt items instead of welding them
Separating employees from emissions areas and sources	<ul style="list-style-type: none"> • Use control rooms • Build an enclosure around process machinery or other emissions sources • Automate a process
Using local exhaust ventilation to remove emissions at or near the source	<ul style="list-style-type: none"> • Install exhaust hoods or slots to capture emissions • Use an exhausted enclosure (like a blasting cabinet or laboratory hood)
Other exposure controls include:	For example:
Using general exhaust ventilation to dilute and remove emissions in the work area	<ul style="list-style-type: none"> • Allow natural air movement to create an adequate airflow through an area • Use mechanical fans

This isn't recommended for control of highly toxic airborne contaminants such as carcinogens, where low exposures can still present a health hazard	
Modifying work practices	<ul style="list-style-type: none"> • Change the position of the employee relative to the work so fumes, vapors, or smoke aren't directed into the employee's face
Limiting the amount of time employees can spend in a contaminated area.	<ul style="list-style-type: none"> • Establish a contaminant-free area for tasks such as prep work that don't need to be done in the exposure area
Implementing an employee rotation schedule	Have employees alternate working in the exposure area so that each employee gets less overall exposure
<p>Note: This control will increase the number of employees exposed to the airborne contaminant. Due to this risk, employee rotation is NOT recommended for highly toxic airborne contaminants such as carcinogens, where low exposures can still present a health hazard.</p>	

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-20010, filed 2/20/07, effective 4/1/07; 04-18-079, § 296-841-20010, filed 8/31/04, effective 11/1/04; 03-20-115, § 296-841-20010, filed 10/1/03, effective 1/1/04.]

WAC 296-841-20015 Respirators. Require employees to use respirators when airborne hazards have not been removed using feasible exposure controls. For example, use respirators at any of the following times:

- While exposure controls are being evaluated or put in place
- When the airborne hazard is not completely removed
- When exposure controls are **NOT** feasible.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-20015, filed 2/20/07, effective 4/1/07; 03-20-115, § 296-841-20015, filed 10/1/03, effective 1/1/04.]

WAC 296-841-20020 Notification. Notify employees who are or may be exposed to airborne hazards, as specified in Table 2.

Note: • The notification may be provided either individually, to a group, or by posting of results in an appropriate location that is accessible to affected employees.

**Table 2
Notification Requirements**

Notify employees of:	As follows:
Any exposure result above a permissible exposure limit (PEL)	Within five business days, after the employee's exposure result is known to the employer

Notify employees of:	As follows:
The corrective action being taken to reduce employee exposure to or below the PEL AND The schedule for completion of the corrective action and any reasons why exposures cannot be lowered to below the PEL	Within fifteen business days, after the employee's exposure result is known to the employer

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-20020, filed 2/20/07, effective 4/1/07; 04-18-079, § 296-841-20020, filed 8/31/04, effective 11/1/04; 03-20-115, § 296-841-20020, filed 10/1/03, effective 1/1/04.]

WAC 296-841-20025 Permissible exposure limits (PELs).

IMPORTANT:

The following information applies to Table 3, Permissible Exposure Limits (PELs) for Airborne Contaminants.

- Ppm refers to parts of vapor or gas per million parts of air by volume, at 25 degrees C and 760 mm Hg pressure.
- Mg/m³ refers to milligrams of an airborne contaminant per cubic meter of air.
- F/cc refers to fibers per cubic centimeter of air.

• For a metal that is measured as the metal itself, only the CAS number for the metal is given. The CAS numbers for individual compounds of the metal are not provided. For more information about CAS registry numbers see the web site: <http://www.cas.org>.

• Short-term exposure limits (STEL) pertain to fifteen-minute exposure periods, unless another time period is noted in Table 3.

• An "X" in the "skin" column indicates the contaminant can be absorbed through the skin, either by airborne or direct contact.

- Personal protective equipment (PPE) to prevent skin contact may be needed to minimize the risk for adverse health effects when employees are exposed to these chemicals.

- Requirements for the use of gloves, coveralls, goggles, and other personal protective equipment can be found in WAC 296-800-160, Personal protective equipment (PPE).

• Nuisance dusts (also known as inert dusts) are included in the Table 3 listing, particulates not otherwise regulated (PNOR).

- The PNOR listing in Table 3 also applies to other particulate airborne contaminants for which a specific PEL is NOT listed **unless** the airborne contaminant is found to require a lower limit.

• The respirable fraction of a particulate airborne contaminant is measured by sampling with a size-selector having the following characteristics:

Mean aerodynamic diameter in micrometers	Percent passing the selector
1	97
2	91
3	74
4	50
5	30

Mean aerodynamic diameter in micrometers	Percent passing the selector
6	17
7	9
8	5
10	1

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Abate (Temephos)	3383-96-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Acetaldehyde	75-07-0	100 ppm	150 ppm	—	—
Acetic acid	64-19-7	10 ppm	20 ppm	—	—
Acetic anhydride	108-24-7	—	—	5 ppm	—
Actinolite (asbestiform) (as asbestos) (see WAC 296-62-077 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Acetone	67-64-1	750 ppm	1,000 ppm	—	—
Acetonitrile	75-05-8	40 ppm	60 ppm	—	—
2-Acetylaminofluorene (see WAC 296-62-073)	53-96-3	—	—	—	—
Acetylene	74-86-2	Simple asphyxiant	—	—	—
Acetylene dichloride (1,2-Dichloroethylene)	540-59-0	200 ppm	250 ppm	—	—
Acetylene tetrabromide	79-27-6	1 ppm	3 ppm	—	—
Acetylsalicylic acid (Aspirin)	50-78-2	5 mg/m ³	10 mg/m ³	—	—
Acrolein	107-02-8	0.1 ppm	0.3 ppm	—	—
Acrylamide	79-06-1	0.03 mg/m ³	0.09 mg/m ³	—	X
Acrylic acid	79-10-7	10 ppm	20 ppm	—	X
Acrylonitrile (Vinyl cyanide) (see WAC 296-62-07336)	107-13-1	2 ppm	10 ppm	—	—
Aldrin	309-00-2	0.25 mg/m ³	0.75 mg/m ³	—	X
Allyl alcohol	107-18-6	2 ppm	4 ppm	—	X
Allyl chloride	107-05-1	1 ppm	2 ppm	—	—
Allyl glycidyl ether (AGE)	106-92-3	5 ppm	10 ppm	—	—
Allyl propyl disulfide	2179-59-1	2 ppm	3 ppm	—	—
alpha-Alumina (Aluminum oxide)	1344-28-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Aluminum (as Al)	7429-90-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Pyro powders	—	5 mg/m ³	10 mg/m ³	—	—
Welding fumes	—	5 mg/m ³	10 mg/m ³	—	—
Soluble salts	—	2 mg/m ³	4 mg/m ³	—	—
Alkyls (NOC)	—	2 mg/m ³	4 mg/m ³	—	—
Aluminum oxide (Alundum, Corundum)	7429-90-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
4-Aminodiphenyl (see WAC 296-62-073)	92-67-1	—	—	—	—
2-Aminoethanol (Ethanolamine)	141-43-5	3 ppm	6 ppm	—	—
2-Aminopyridine	504-29-0	0.5 ppm	1.5 ppm	—	—
Amitrole	61-82-5	0.2 mg/m ³	0.6 mg/m ³	—	—
Ammonia	7664-41-7	25 ppm	35 ppm	—	—
Ammonium chloride, fume	12125-02-9	10 mg/m ³	20 mg/m ³	—	—
Ammonium sulfamate (Ammate)	7773-06-0	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5.0 mg/m ³	10 mg/m ³	—	—
Amosite (as asbestos) (see WAC 296-62-077 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
n-Amyl acetate	628-63-7	100 ppm	150 ppm	—	—
sec-Amyl acetate	626-38-0	125 ppm	156 ppm	—	—
Aniline and homologues	62-53-3	2 ppm	4 ppm	—	X
Anisidine (o, p-isomers)	29191-52-4	0.1 ppm	0.3 ppm	—	X

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Anthophyllite (asbestiform) (as asbestos) (see WAC 296-62-077 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Antimony and compounds (as Sb)	7440-36-0	0.5 mg/m ³	1.5 mg/m ³	—	—
ANTU (alpha Naphthyl thiourea)	86-88-4	0.3 mg/m ³	0.9 mg/m ³	—	—
Argon	7440-37-1	Simple asphyxiant	—	—	—
Arsenic, organic compounds (as As)	7440-38-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Arsenic, inorganic compounds (as As) (when use is covered by chapter 296-848 WAC)	7440-38-2	0.01 mg/m ³	—	—	—
Arsenic, inorganic compounds (as As) (when use is not covered by chapter 296-848 WAC)	7440-38-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Arsine	7784-42-1	0.05 ppm	0.15 ppm	—	—
Asbestos (see WAC 296-62-077 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Asphalt (Petroleum fumes)	8052-42-4	5 mg/m ³	10 mg/m ³	—	—
Atrazine	1912-24-9	5 mg/m ³	10 mg/m ³	—	—
Azinphos methyl (Guthion)	86-50-0	0.2 mg/m ³	0.6 mg/m ³	—	X
Azodrin (Monocrotophos)	6923-22-4	0.25 mg/m ³	0.75 mg/m ³	—	—
Barium, soluble compounds (as Ba)	7440-39-3	0.5 mg/m ³	1.5 mg/m ³	—	—
Barium sulfate	7727-43-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Baygon (Propoxur)	114-26-1	0.5 mg/m ³	1.5 mg/m ³	—	—
Benomyl	17804-35-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Benzene (see chapter 296-849 WAC)	71-43-2	1 ppm	5 ppm	—	—
Benzydine (see WAC 296-62-073)	92-87-5	—	—	—	—
p-Benzoquinone (Quinone)	106-51-4	0.1 ppm	0.3 ppm	—	—
Benzo(a) pyrene (Coal tar pitch volatiles)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Benzoyl peroxide	94-36-0	5 mg/m ³	10 mg/m ³	—	—
Benzyl chloride	100-44-7	1 ppm	3 ppm	—	—
Beryllium and beryllium compounds (as Be)	7440-41-7	0.002 mg/m ³	0.005 mg/m ³ (30 min.)	0.025 mg/m ³	—
Biphenyl (Diphenyl)	92-52-4	0.2 ppm	0.6 ppm	—	—
Bismuth telluride, undoped	1304-82-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Bismuth telluride, Se-doped	—	5 mg/m ³	10 mg/m ³	—	—
Borates, tetra, sodium salts	—	—	—	—	—
Anhydrous	1330-43-4	1 mg/m ³	3 mg/m ³	—	—
Decahydrate	1303-96-4	5 mg/m ³	10 mg/m ³	—	—
Pentahydrate	12179-04-3	1 mg/m ³	3 mg/m ³	—	—
Boron oxide	1303-86-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Boron tribromide	10294-33-4	—	—	1 ppm	—
Boron trifluoride	6737-07-2	—	—	1 ppm	—
Bromacil	314-40-9	1 ppm	3 ppm	—	—
Bromine	7726-95-6	0.1 ppm	0.3 ppm	—	—
Bromine pentafluoride	7789-30-2	0.1 ppm	0.3 ppm	—	—
Bromochloromethane (Chlorobromomthane)	74-97-5	200 ppm	250 ppm	—	—
Bromoform	15-25-2	0.5 ppm	1.5 ppm	—	X
Butadiene (1,3-butadiene) (see WAC 296-62-07460)	106-99-0	1 ppm	5 ppm	—	—
Butane	106-97-8	800 ppm	1,000 ppm	—	—
Butanethiol (Butyl mercaptan)	109-79-5	0.5 ppm	1.5 ppm	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
2-Butanone (Methyl ethyl ketone)	78-93-3	200 ppm	300 ppm	—	—
2-Butoxy ethanol (Butyl cellosolve)	111-76-2	25 ppm	38 ppm	—	X
n-Butyl acetate	123-86-4	150 ppm	200 ppm	—	—
sec-Butyl acetate	105-46-4	200 ppm	250 ppm	—	—
tert-Butyl acetate	540-88-5	200 ppm	250 ppm	—	—
Butyl acrylate	141-32-2	10 ppm	20 ppm	—	—
n-Butyl alcohol	71-36-3	—	—	50 ppm	X
sec-Butyl alcohol	78-92-2	100 ppm	150 ppm	—	—
tert-Butyl alcohol	75-65-0	100 ppm	150 ppm	—	—
Butylamine	109-73-9	—	—	5 ppm	X
Butyl cellosolve (2-Butoxy ethanol)	111-76-2	25 ppm	38 ppm	—	—
tert-Butyl chromate (as Cr) (see WAC 296-62-08003)	1189-85-1	0.005 mg/m ³	—	0.1 mg/m ³	X
n-Butyl glycidyl ether (BGE)	2426-08-6	25 ppm	38 ppm	—	—
n-Butyl lactate	138-22-7	5 ppm	10 ppm	—	—
Butyl mercaptan	109-79-5	0.5 ppm	1.5 ppm	—	—
o-sec-Butylphenol	89-72-5	5 ppm	10 ppm	—	X
p-tert-Butyl-toluene	98-51-1	10 ppm	20 ppm	—	—
Cadmium oxide fume (as Cd) (see WAC 296-62-074 and 296-155-174)	1306-19-0	0.005 mg/m ³	—	—	—
Cadmium dust and salts (as Cd) (see WAC 296-62-074 and 296-155-174)	7440-43-9	0.005 mg/m ³	—	—	—
Calcium arsenate (see chapter 296-848 WAC)	—	0.01 mg/m ³	—	—	—
Calcium carbonate	1317-65-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Calcium cyanamide	156-62-7	0.5 mg/m ³	1.5 mg/m ³	—	—
Calcium hydroxide	1305-62-0	5 mg/m ³	10 mg/m ³	—	—
Calcium oxide	1305-78-8	2 mg/m ³	4 mg/m ³	—	—
Calcium silicate	1344-95-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Calcium sulfate	7778-18-9	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Camphor (synthetic)	76-22-2	2 mg/m ³	4 mg/m ³	—	—
Caprolactam	105-60-2	—	—	—	—
Dust	—	1 mg/m ³	3 mg/m ³	—	—
Vapor	—	5 ppm	10 ppm	—	—
Captafol (Difolatan)	2425-06-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Captan	133-06-2	5 mg/m ³	10 mg/m ³	—	—
Carbaryl (Sevin)	63-25-2	5 mg/m ³	10 mg/m ³	—	—
Carbofuran (Furadon)	1563-66-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Carbon black	1333-86-4	3.5 mg/m ³	7 mg/m ³	—	—
Carbon dioxide	124-38-9	5,000 ppm	30,000 ppm	—	—
Carbon disulfide	75-15-0	4 ppm	12 ppm	—	X
Carbon monoxide	630-08-0	35 ppm	200 ppm (5 min.)	1,500 ppm	—
Carbon tetrabromide	558-13-4	0.1 ppm	0.3 ppm	—	—
Carbon tetrachloride (Tetrachloromethane)	56-23-5	2 ppm	4 ppm	—	X
Carbonyl chloride (Phosgene)	7803-51-2	0.1 ppm	0.3 ppm	—	—
Carbonyl fluoride	353-50-4	2 ppm	5 ppm	—	—
Catechol (Pyrocatechol)	120-80-9	5 ppm	10 ppm	—	X
Cellosolve acetate (2-Ethoxyethylacetate)	111-15-9	5 ppm	10 ppm	—	X
Cellulose (paper fiber)	9004-34-6	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Cesium hydroxide	21351-79-1	2 mg/m ³	4 mg/m ³	—	—
Chlordane	57-74-9	0.5 mg/m ³	1.5 mg/m ³	—	X
Chlorinated camphene (Toxaphen)	8001-35-2	0.5 mg/m ³	1 mg/m ³	—	X
Chlorinated diphenyl oxide	55720-99-5	0.5 mg/m ³	1.5 mg/m ³	—	—
Chlorine	7782-50-5	0.5 ppm	—	1 ppm	—
Chlorine dioxide	10049-04-4	0.1 ppm	0.3 ppm	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Chlorine trifluoride	7790-91-2	—	—	0.1 ppm	—
Chloroacetaldehyde	107-20-0	—	—	1 ppm	—
a-Chloroacetophenone (Phenacyl chloride)	532-21-4	0.05 ppm	0.15 ppm	—	—
Chloroacetyl chloride	79-04-9	0.05 ppm	0.15 ppm	—	—
Chlorobenzene (Monochlorobenzene)	108-90-7	75 ppm	113 ppm	—	—
o-Chlorobenzylidene malononitrile (OCBM)	2698-41-1	—	—	0.05 ppm	X
Chlorobromomethane	74-97-5	200 ppm	250 ppm	—	—
2-Chloro-1, 3-butadiene (beta-Chloroprene)	126-99-8	10 ppm	20 ppm	—	X
Chlorodifluoromethane	75-45-6	1,000 ppm	1,250 ppm	—	—
Chlorodiphenyl (42% Chlorine) (PCB) (Polychlorobiphenyls)	53469-21-9	1 mg/m ³	3 mg/m ³	—	X
Chlorodiphenyl (54% Chlorine) (Polychlorobiphenyls (PCB))	11097-69-1	0.5 mg/m ³	1.5 mg/m ³	—	X
1-Chloro-2, 3-epoxypropane (Epichlorohydrin)	106-89-8	2 ppm	4 ppm	—	X
2-Chloroethanol (Ethylene chlorohydrin)	107-07-3	—	—	1 ppm	X
Chloroethylene (vinyl chloride) (See WAC 296-62-07329)	75-01-4	1 ppm	5 ppm	—	—
Chloroform (Trichloromethane)	67-66-3	2 ppm	4 ppm	—	—
1-Chloro-1-nitropropane	600-25-9	2 ppm	4 ppm	—	—
bis-Chloromethyl ether (see WAC 296-62-073)	542-88-1	—	—	—	—
Chloromethyl methyl ether (Methyl chloromethyl ether) (see WAC 296-62-073)	107-30-2	—	—	—	—
Chloropentafluoroethane	76-15-3	1,000 ppm	1,250 ppm	—	—
Chloropicrin (Nitrotrichloromethane)	76-06-2	0.1 ppm	0.3 ppm	—	—
beta-Chloroprene (2-Chloro-1, 3-butadiene)	126-99-8	10 ppm	20 ppm	—	X
o-Chlorostyrene	2039-87-4	50 ppm	75 ppm	—	—
o-Chlorotoluene	95-49-8	50 ppm	75 ppm	—	—
2-Chloro-6-trichloromethyl pyridine (Nitrapyrin)	1929-82-4	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Chlorpyrifos	2921-88-2	0.2 mg/m ³	0.6 mg/m ³	—	X
Chromic acid and chromates (as Cr) (when the compound is not covered by WAC 296-62-08003)	Varies with compound	—	—	0.1 mg/m ³	—
Chromium	—	—	—	—	—
Chromium (VI) compounds (as Cr) (when the compound is covered by WAC 296-62-08003)	—	0.005 mg/m ³	—	—	—
Chromium metal or Chromium (II) compounds or Chromium (III) compounds	7440-47-3	0.5 mg/m ³	—	—	—
Chromyl chloride (as Cr) (see WAC 296-62-08003)	14977-61-8	0.005 mg/m ³	—	—	—
Chrysene (Coal tar pitch volatiles)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Chrysotile (as asbestos) (see WAC 296-62-077 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Clopidol	2971-90-6	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Coal dust (less than 5% SiO ₂) Respirable fraction	—	2 mg/m ³	4 mg/m ³	—	—
Coal dust (greater than or equal to 5% SiO ₂) Respirable fraction	—	0.1 mg/m ³	0.3 mg/m ³	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Coal tar pitch volatiles (benzene soluble fraction)	65996-93-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Acridine					
Anthracene					
Benzo (a) pyrene					
Chrysene					
Phenanthrene					
Pyrene					
Cobalt, metal fume & dust (as Co)	7440-48-4	0.05 mg/m ³	0.15 mg/m ³	—	—
Cobalt carbonyl (as Co)	10210-68-1	0.1 mg/m ³	0.3 mg/m ³	—	—
Cobalt hydrocarbonyl (as Co)	16842-03-8	0.1 mg/m ³	0.3 mg/m ³	—	—
Coke oven emissions (see WAC 296-62-200)	—	0.15 mg/m ³	—	—	—
Copper (as Cu)	7440-50-8	—	—	—	—
Fume	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Dusts and mists	—	1 mg/m ³	3 mg/m ³	—	—
Cotton dust (raw) (waste sorting, blending, cleaning, willowing and garetting) (see WAC 296-62-14533)	—	1 mg/m ³	—	—	—
Corundum (Aluminum oxide)	7429-90-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Crag herbicide (Sesone, Sodium-2, 4-dichloro-phenoxyethyl sulfate)	136-78-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Cresol (all isomers)	1319-77-3	5 ppm	10 ppm	—	X
Crocidolite (as asbestos) (see WAC 296-62-077 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Crotonaldehyde	123-73-9; 4170-30-3	2 ppm	4 ppm	—	—
Crufomate	299-86-5	5 mg/m ³	10 mg/m ³	—	—
Cumene	98-82-8	50 ppm	75 ppm	—	X
Cyanamide	420-04-2	2 mg/m ³	4 mg/m ³	—	—
Cyanide (as CN)	Varies with compound	5 mg/m ³	10 mg/m ³	—	X
Cyanogen	460-19-5	10 ppm	20 ppm	—	—
Cyanogen chloride	506-77-4	—	—	0.3 ppm	—
Cyclohexane	110-82-7	300 ppm	375 ppm	—	—
Cyclohexanol	108-93-0	50 ppm	75 ppm	—	X
Cyclohexanone	108-94-1	25 ppm	38 ppm	—	X
Cyclohexene	110-83-8	300 ppm	375 ppm	—	—
Cyclohexylamine	108-91-8	10 ppm	20 ppm	—	—
Cyclonite (RDX)	121-82-4	1.5 mg/m ³	3.0 mg/m ³	—	X
Cyclopentadiene	542-92-7	75 ppm	113 ppm	—	—
Cyclopentane	287-92-3	600 ppm	750 ppm	—	—
Cyhexatin (Tricyclohexyltin hydroxide)	13121-70-5	5 mg/m ³	10 mg/m ³	—	—
2,4-D (Dichlorophenoxy-acetic acid)	94-75-7	10 mg/m ³	20 mg/m ³	—	—
DBCP (1,2-Dibromo-3-chloropropane) (See WAC 296-62-07342)	96-12-8	0.001 ppm	—	0.005 ppm	—
DDT (Dichlorodiphenyltrichloroethane)	50-29-3	1 mg/m ³	3 mg/m ³	—	X
DDVP, (Dichlorvos)	62-73-7	0.1 ppm	0.3 ppm	—	X
Dasanit (Fensulfothion)	115-90-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Decaborane	17702-41-9	0.05 ppm	0.15 ppm	—	X
Demeton	8065-48-3	0.01 ppm	0.03 ppm	—	X
Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	123-42-2	50 ppm	75 ppm	—	—
1, 2-Diaminoethane (Ethylenediamine)	107-15-3	10 ppm	20 ppm	—	—
Diazinon	333-41-5	0.1 mg/m ³	0.3 mg/m ³	—	X
Diazomethane	334-88-3	0.2 ppm	0.6 ppm	—	—
Diborane	19287-45-7	0.1 ppm	0.3 ppm	—	—
Dibrom (see Naled)	300-76-5	3 mg/m ³	6 mg/m ³	—	X
1, 2-Dibromo-3-chloropropane (DBCP) (see WAC 296-62-07342)	96-12-8	0.001 ppm	—	0.005 ppm	—
2-N-Dibutylamino ethanol	102-81-8	2 ppm	4 ppm	—	X

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Dibutyl phosphate	107-66-4	1 ppm	2 ppm	—	—
Dibutyl phthalate	84-74-2	5 mg/m ³	10 mg/m ³	—	—
Dichloroacetylene	7572-29-4	—	—	0.1 ppm	—
o-Dichlorobenzene	95-50-1	—	—	50 ppm	—
p-Dichlorobenzene	106-46-7	75 ppm	110 ppm	—	—
3, 3'-Dichlorobenzidine (see WAC 296-62-073)	91-94-1	—	—	—	—
Dichlorodiphenyltri- chloroethane (DDT)	50-29-3	1 mg/m ³	3 mg/m ³	—	X
Dichlorodifluoromethane	75-71-8	1,000 ppm	1,250 ppm	—	—
1, 3-Dichloro-5, 5-dimethyl hydantoin	118-52-5	0.2 mg/m ³	0.4 mg/m ³	—	—
1, 1-Dichloroethane (Ethylidene chloride)	75-34-3	100 ppm	150 ppm	—	—
1, 2-Dichloroethane (Ethylene dichloride)	107-06-2	1 ppm	2 ppm	—	—
1, 1-Dichloroethylene (Vinylidene chloride)	75-35-4	1 ppm	3 ppm	—	—
1, 2-Dichloroethylene (Acetylene dichloride)	540-59-0	200 ppm	250 ppm	—	—
Dichloroethyl ether	111-44-4	5 ppm	10 ppm	—	X
Dichlorofluoromethane	75-43-4	10 ppm	20 ppm	—	—
Dichloromethane (Methylene chloride) (See chapter 296-859 WAC)	75-09-2	25 ppm	125 ppm	—	—
1, 1-Dichloro-1-nitroethane	594-72-9	2 ppm	10 ppm	—	—
Dichlorophenoxyacetic acid (2, 4-D)	94-75-7	10 mg/m ³	20 mg/m ³	—	—
1, 2-Dichloropropane (Propylene dichloride)	78-87-5	75 ppm	110 ppm	—	—
Dichloropropene	542-75-6	1 ppm	3 ppm	—	X
2, 2-Dichloropropionic acid	75-99-0	1 ppm	3 ppm	—	—
Dichlorotetrafluoroethane	76-14-2	1,000 ppm	1,250 ppm	—	—
Dichlorvos (DDVP)	62-73-7	0.1 ppm	0.3 ppm	—	X
Dicrotophos	141-66-2	0.25 mg/m ³	0.75 mg/m ³	—	X
Dicyclopentadiene	77-73-6	5 ppm	10 ppm	—	—
Dicyclopentadienyl iron	102-54-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Dieldrin	60-57-1	0.25 mg/m ³	0.75 mg/m ³	—	X
Diethanolamine	111-42-2	3 ppm	6 ppm	—	—
Diethylamine	109-89-7	10 ppm	25 ppm	—	—
2-Diethylaminoethanol	100-37-8	10 ppm	20 ppm	—	X
Diethylene triamine	111-40-0	1 ppm	3 ppm	—	X
Diethyl ether (Ethyl ether)	60-29-7	400 ppm	500 ppm	—	—
Diethyl ketone	96-22-0	200 ppm	250 ppm	—	—
Diethyl phthalate	84-66-2	5 mg/m ³	10 mg/m ³	—	—
Difluorodibromomethane	75-61-6	100 ppm	150 ppm	—	—
Difolatan (Captafol)	2425-06-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Diglycidyl ether (DGE)	2238-07-5	0.1 ppm	0.3 ppm	—	—
Dihydroxybenzene (Hydroquinone)	123-31-9	2 mg/m ³	4 mg/m ³	—	—
Diisobutyl ketone (2, 6- Dimethylheptanone)	108-83-8	25 ppm	38 ppm	—	—
Diisopropylamine	108-18-9	5 ppm	10 ppm	—	X
Dimethoxymethane (Methylal)	109-87-5	1,000 ppm	1,250 ppm	—	—
Dimethyl acetamide	127-19-5	10 ppm	20 ppm	—	X
Dimethylamine	124-40-3	10 ppm	20 ppm	—	—
4-Dimethylaminoazo benzene (see WAC 296-62-073)	60-11-7	—	—	—	—
Dimethylaminobenzene (Xylidene)	1300-73-8	2 ppm	4 ppm	—	X
Dimethylaniline (N, N-Dimethylaniline)	121-69-7	5 ppm	10 ppm	—	X
Dimethylbenzene (Xylene)	1300-73-8	100 ppm	150 ppm	—	—
Dimethyl-1, 2-dibromo-2, 2-dichloroethyl phosphate (Naled)	300-76-5	3 mg/m ³	6 mg/m ³	—	X
Dimethylformamide	68-12-2	10 ppm	20 ppm	—	X
2, 6-Dimethylheptanone (Diisobutyl ketone)	108-83-8	25 ppm	38 ppm	—	—
1, 1-Dimethylhydrazine	57-14-7	0.5 ppm	1.5 ppm	—	X
Dimethyl phthalate	131-11-3	5 mg/m ³	10 mg/m ³	—	—
Dimethyl sulfate	77-78-1	0.1 ppm	0.3 ppm	—	X

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Dinitolmide (3, 5-Dinitro-o-toluamide)	148-01-6	5 mg/m ³	10 mg/m ³	—	—
Dinitrobenzene (all isomers - alpha, meta and para)	528-29-0; 99-65-0; 100-25-4	0.15 ppm	0.45 ppm	—	X
Dinitro-o-cresol	534-52-1	0.2 mg/m ³	0.6 mg/m ³	—	X
3, 5-Dinitro-o-toluamide (Dinitolmide)	148-01-6	5 mg/m ³	10 mg/m ³	—	—
Dinitrotoluene	25321-14-6	1.5 mg/m ³	3 mg/m ³	—	X
Dioxane (Diethylene dioxide)	123-91-1	25 ppm	38 ppm	—	X
Dioxathion	78-34-2	0.2 mg/m ³	0.6 mg/m ³	—	X
Diphenyl (Biphenyl)	92-52-4	0.2 ppm	0.6 ppm	—	—
Diphenylamine	122-39-4	10 mg/m ³	20 mg/m ³	—	—
Diphenylmethane diisocyanate (Methylene bisphenyl isocyanate (MDI))	101-68-8	—	—	0.02 ppm	—
Dipropylene glycol methyl ether	34590-94-8	100 ppm	150 ppm	—	X
Dipropyl ketone	123-19-3	50 ppm	75 ppm	—	—
Diquat	85-00-7	0.5 mg/m ³	1.5 mg/m ³	—	—
Di-sec. Octyl phthalate (Di-2-ethylhexylphthalate)	117-81-7	5 mg/m ³	10 mg/m ³	—	—
Disulfiram	97-77-8	2 mg/m ³	4 mg/m ³	—	—
Disulfoton	298-04-4	0.1 mg/m ³	0.3 mg/m ³	—	X
2, 6-Di-tert-butyl-p-cresol	128-37-0	10 mg/m ³	20 mg/m ³	—	—
Diuron	330-54-1	10 mg/m ³	20 mg/m ³	—	—
Divinyl benzene	1321-74-0	10 ppm	20 ppm	—	—
Emery	12415-34-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Endosulfan (Thiodan)	115-29-7	0.1 mg/m ³	0.3 mg/m ³	—	X
Endrin	72-20-8	0.1 mg/m ³	0.3 mg/m ³	—	X
Epichlorohydrin (1-Chloro-2, 3-epoxypropane)	106-89-8	2 ppm	4 ppm	—	X
EPN	2104-64-5	0.5 mg/m ³	1.5 mg/m ³	—	X
1, 2-Epoxypropane (Propylene oxide)	75-56-9	20 ppm	30 ppm	—	—
2, 3-Epoxy-1-propanol (Glycidol)	556-52-5	25 ppm	38 ppm	—	—
Ethane	—	Simple asphyxiant	—	—	—
Ethanethiol (Ethyl mercaptan)	75-08-1	0.5 ppm	1.5 ppm	—	—
Ethanol (Ethyl alcohol)	64-17-5	1,000 ppm	1,250 ppm	—	—
Ethanolamine (2-Aminoethanol)	141-43-5	3 ppm	6 ppm	—	—
Ethion	563-12-2	0.4 mg/m ³	1.2 mg/m ³	—	X
2-Ethoxyethanol (Glycol monoethyl ether)	110-80-5	5 ppm	10 ppm	—	X
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	5 ppm	10 ppm	—	X
Ethyl acetate	141-78-6	400 ppm	500 ppm	—	—
Ethyl acrylate	140-88-5	5 ppm	25 ppm	—	X
Ethyl alcohol (ethanol)	64-17-5	1,000 ppm	1,250 ppm	—	—
Ethylamine	75-04-07	10 ppm	20 ppm	—	—
Ethyl amyl ketone (5-Methyl-3-hepatone)	541-85-5	25 ppm	38 ppm	—	—
Ethyl benzene	100-41-4	100 ppm	125 ppm	—	—
Ethyl bromide	74-96-4	200 ppm	250 ppm	—	—
Ethyl butyl ketone (3-Heptanone)	106-35-4	50 ppm	75 ppm	—	—
Ethyl chloride	75-00-3	1,000 ppm	1,250 ppm	—	—
Ethylene	74-85-1	Simple asphyxiant	—	—	—
Ethylene chlorohydrin (2-Chloroethanol)	107-07-3	—	—	1 ppm	X
Ethylenediamine (1,2- Diaminoethane)	107-15-3	10 ppm	20 ppm	—	X
Ethylene dibromide	106-93-4	0.1 ppm	0.5 ppm	—	—
Ethylene dichloride (1,2-Dichloroethane)	107-06-2	1 ppm	2 ppm	—	—
Ethylene glycol	107-21-1	—	—	50 ppm	—
Ethylene glycol dinitrate	628-96-6	—	0.1 mg/m ³	—	X
Ethylene glycol monomethyl ether acetate (Methyl cellosolve acetate)	—	5 ppm	10 ppm	—	X

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Ethyleneimine (see WAC 296-62-073)	151-56-4	—	—	—	X
Ethylene oxide (see chapter 296-855 WAC)	75-21-8	1 ppm	5 ppm	—	—
Ethyl ether (Diethyl ether)	60-29-7	400 ppm	500 ppm	—	—
Ethyl formate	109-94-4	100 ppm	125 ppm	—	—
Ethylidene chloride (1, 1-Dichloroethane)	107-06-2	1 ppm	2 ppm	—	—
Ethylidene norbornene	16219-75-3	—	—	5.0 ppm	—
Ethyl mercaptan (Ethanethiol)	75-08-1	0.5 ppm	1.5 ppm	—	—
n-Ethylmorpholine	100-74-3	5 ppm	10 ppm	—	X
Ethyl sec-amyl ketone (5-methyl-3-heptanone)	541-85-5	25 ppm	38 ppm	—	—
Ethyl silicate	78-10-4	10 ppm	20 ppm	—	—
Fenamiphos	22224-92-6	0.1 mg/m ³	0.3 mg/m ³	—	X
Fensulfothion (Dasanit)	115-90-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Fenthion	55-38-9	0.2 mg/m ³	0.6 mg/m ³	—	X
Ferbam	—	—	—	—	—
Total particulate	14484-64-1	10 mg/m ³	20 mg/m ³	—	—
Ferrovandium dust	12604-58-9	1 mg/m ³	3 mg/m ³	—	—
Fluorides (as F)	Varies with compound	2.5 mg/m ³	5 mg/m ³	—	—
Fluorine	7782-41-4	0.1 ppm	0.3 ppm	—	—
Fluorotrichloromethane (see Trichlorofluoro methane)	75-69-4	—	—	1,000 ppm	—
Fonofos	944-22-9	0.1 mg/m ³	0.3 mg/m ³	—	X
Formaldehyde (see chapter 296-856 WAC)	50-00-0	0.75 ppm	2 ppm	—	—
Formamide	75-12-7	20 ppm	30 ppm	—	—
Formic acid	64-18-6	5 ppm	10 ppm	—	—
Furadon (carbofuran)	1563-66-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Furfural	98-01-1	2 ppm	4 ppm	—	X
Furfuryl alcohol	98-00-0	10 ppm	15 ppm	—	X
Gasoline	8006-61-9	300 ppm	500 ppm	—	—
Germanium tetrahydride	7782-65-2	0.2 ppm	0.6 ppm	—	—
Glass, fibrous or dust	—	10 mg/m ³	20 mg/m ³	—	—
Glutaraldehyde	111-30-8	—	—	0.2 ppm	—
Glycerin mist	56-81-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Glycidol (2, 3-Epoxy-1-propanol)	556-52-5	25 ppm	38 ppm	—	—
Glycol monoethyl ether (2-Ethoxyethanol)	110-80-5	5 ppm	10 ppm	—	X
Grain dust (oat, wheat, barley)	—	10 mg/m ³	20 mg/m ³	—	—
Graphite, natural	7782-42-5	—	—	—	—
Respirable particulate	—	2.5 mg/m ³	5 mg/m ³	—	—
Graphite, synthetic	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Guthion (Azinphosmethyl)	86-50-0	0.2 mg/m ³	0.6 mg/m ³	—	X
Gypsum	13397-24-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Hafnium	7440-58-6	0.5 mg/m ³	1.5 mg/m ³	—	—
Helium	—	Simple asphyxiant	—	—	—
Heptachlor	76-44-8	0.5 mg/m ³	1.5 mg/m ³	—	X
Heptane (n-heptane)	142-82-5	400 ppm	500 ppm	—	—
2-Heptanone (Methyl n-amyl ketone)	110-43-0	50 ppm	75 ppm	—	—
3-Heptanone (Ethyl butyl ketone)	106-35-4	50 ppm	75 ppm	—	—
Hexachlorobutadiene	87-68-3	0.02 ppm	0.06 ppm	—	X
Hexachlorocyclopentadiene	77-47-4	0.01 ppm	0.03 ppm	—	—
Hexachloroethane	67-72-1	1 ppm	3 ppm	—	X
Hexachloronaphthalene	1335-87-1	0.2 mg/m ³	0.6 mg/m ³	—	X
Hexafluoroacetone	684-16-2	0.1 ppm	0.3 ppm	—	X
Hexane	—	—	—	—	—
n-hexane	110-54-3	50 ppm	75 ppm	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
other isomers	Varies with compound	500 ppm	1,000 ppm	—	—
2-Hexanone (Methyl-n-butyl ketone)	591-78-6	5 ppm	10 ppm	—	—
Hexone (Methyl isobutyl ketone)	108-10-1	50 ppm	75 ppm	—	—
sec-Hexyl acetate	108-84-9	50 ppm	75 ppm	—	—
Hexylene glycol	107-41-5	—	—	25 ppm	—
Hydrazine	302-01-2	0.1 ppm	0.3 ppm	—	X
Hydrogen	—	Simple asphyxiant	—	—	—
Hydrogenated terphenyls	61788-32-7	0.5 ppm	1.5 ppm	—	—
Hydrogen bromide	10035-10-6	—	—	3.0 ppm	—
Hydrogen chloride	7647-01-0	—	—	5.0 ppm	—
Hydrogen cyanide	74-90-8	—	4.7 ppm	—	X
Hydrogen fluoride	7664-39-3	—	—	3 ppm	—
Hydrogen peroxide	7722-84-1	1 ppm	3 ppm	—	—
Hydrogen selenide (as Se)	7783-07-5	0.05 ppm	0.15 ppm	—	—
Hydrogen sulfide	7783-06-4	10 ppm	15 ppm	—	—
Hydroquinone (Dihydroxybenzene)	123-31-9	2 mg/m ³	4 mg/m ³	—	—
4-Hydroxy-4-methyl-2-pentanone (Diacetone alcohol)	123-42-2	50 ppm	75 ppm	—	—
2-Hydroxypropyl acrylate	99-61-1	0.5 ppm	1.5 ppm	—	X
Indene	95-13-6	10 ppm	20 ppm	—	—
Indium and compounds (as In)	7440-74-6	0.1 mg/m ³	0.3 mg/m ³	—	—
Iodine	7553-56-2	—	—	0.1 ppm	—
Iodoform	75-47-8	0.6 ppm	1.8 ppm	—	—
Iron oxide dust and fume (as Fe) Total particulate	1309-37-1	—	—	—	—
		5 mg/m ³	10 mg/m ³	—	—
Iron pentacarbonyl (as Fe)	13463-40-6	0.1 ppm	0.2 ppm	—	—
Iron salts, soluble (as Fe)	Varies with compound	1 mg/m ³	3 mg/m ³	—	—
Isoamyl acetate	123-92-2	100 ppm	150 ppm	—	—
Isoamyl alcohol (primary and secondary)	123-51-3	100 ppm	125 ppm	—	—
Isobutyl acetate	110-19-0	150 ppm	188 ppm	—	—
Isobutyl alcohol	78-83-1	50 ppm	75 ppm	—	—
Isooctyl alcohol	26952-21-6	50 ppm	75 ppm	—	X
Isophorone	78-59-1	4 ppm	—	5 ppm	—
Isophorone diisocyanate	4098-71-9	0.005 ppm	0.02 ppm	—	X
Isopropoxyethanol	109-59-1	25 ppm	38 ppm	—	—
Isopropyl acetate	108-21-4	250 ppm	310 ppm	—	—
Isopropyl alcohol	67-63-0	400 ppm	500 ppm	—	—
Isopropylamine	75-31-0	5 ppm	10 ppm	—	—
N-Isopropylaniline	768-52-5	2 ppm	4 ppm	—	X
Isopropyl ether	108-20-3	250 ppm	313 ppm	—	—
Isopropyl glycidyl ether (IGE)	4016-14-2	50 ppm	75 ppm	—	—
Kaolin	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Ketene	463-51-4	0.5 mg/m ³	1.5 mg/m ³	—	—
Lannate (Methomyl)	16752-77-5	2.5 mg/m ³	5 mg/m ³	—	—
Lead, inorganic (as Pb) (see WAC 296-62-07521 and 296-155-176)	7439-92-1	0.05 mg/m ³	—	—	—
Lead arsenate (as Pb) (see WAC 296-62-07521, 296-155-176, and chapter 296-848 WAC)	3687-31-8	0.05 mg/m ³	—	—	—
Lead chromate (as Pb) (see WAC 296-62-08003, 296-62-07521, and 296-155-176)	7758-97-6	0.05 mg/m ³	—	—	—
Limestone	1317-65-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Lindane	58-89-9	0.5 mg/m ³	1.5 mg/m ³	—	X
Lithium hydride	7580-67-8	0.025 mg/m ³	0.075 mg/m ³	—	—
L.P.G. (liquified petroleum gas)	68476-85-7	1,000 ppm	1,250 ppm	—	—
Magnesite	546-93-0	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Magnesium oxide fume	1309-48-4	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Malathion	121-75-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	X
Maleic anhydride	108-31-6	0.25 ppm	0.75 ppm	—	—
Manganese and compounds (as Mn)	7439-96-5	—	—	5 mg/m ³	—
Manganese cyclopentadienyl tricarbonyl (as Mn)	12079-65-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Manganese tetroxide and fume (as Mn)	7439-96-5	1 mg/m ³	3 mg/m ³	—	—
Marble	1317-65-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
MBOCA (4, 4'-Methylene bis (2-chloro-aniline)) (see WAC 296-62-073)	101-14-4	—	—	—	X
MDA (4, 4-Methylene dianiline) (see WAC 296-62-076 and 296-155-173)	101-77-9	0.01 ppm	0.1 ppm	—	X
MDI (Methylene bisphenyl isocyanate) (Diphenylmethane diisocyanate)	101-68-8	—	—	0.02 ppm	—
MEK (Methyl ethyl ketone) (2-Butanone)	78-93-3	200 ppm	300 ppm	—	—
MEKP (Methyl ethyl ketone peroxide)	1338-23-4	—	—	0.2 ppm	—
Mercury (as Hg)	7439-97-6	—	—	—	—
Aryl and inorganic	—	0.1 mg/m ³	0.3 mg/m ³	—	X
Organo-alkyl compounds	—	0.01 mg/m ³	0.03 mg/m ³	—	X
Vapor	—	0.05 mg/m ³	0.15 mg/m ³	—	X
Mesityl oxide	141-79-7	15 ppm	25 ppm	—	—
Methacrylic acid	79-41-4	20 ppm	30 ppm	—	X
Methane	—	Simple asphyxiant	—	—	—
Methanethiol (Methyl mercaptan)	74-93-1	0.5 ppm	1.5 ppm	—	—
Methanol (Methyl alcohol)	67-56-1	200 ppm	250 ppm	—	X
Methomyl (lannate)	16752-77-5	2.5 mg/m ³	5 mg/m ³	—	—
Methoxychlor	72-43-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
2-Methoxyethanol (Methyl cellosolve)	109-86-4	5 ppm	10 ppm	—	X
2-Methoxyethyl acetate (Methyl cellosolve acetate)	110-49-6	5 ppm	10 ppm	—	X
4-Methoxyphenol	150-76-5	5 mg/m ³	10 mg/m ³	—	—
Methyl acetate	79-20-9	200 ppm	250 ppm	—	—
Methyl acetylene (propyne)	74-99-7	1,000 ppm	1,250 ppm	—	—
Methyl acetylene-propadiene mixture (MAPP)	—	1,000 ppm	1,250 ppm	—	—
Methyl acrylate	96-33-3	10 ppm	20 ppm	—	X
Methylacrylonitrile	126-98-7	1 ppm	3 ppm	—	X
Methylal (Dimethoxy-methane)	109-87-5	1,000 ppm	1,250 ppm	—	—
Methyl alcohol (methanol)	67-56-1	200 ppm	250 ppm	—	X
Methylamine	74-89-5	10 ppm	20 ppm	—	—
Methyl amyl alcohol (Methyl isobutyl carbinol)	108-11-2	25 ppm	40 ppm	—	X
Methyl n-amyl ketone (2-Heptanone)	110-43-0	50 ppm	75 ppm	—	—
N-Methyl aniline (Monomethyl aniline)	100-61-8	0.5 ppm	1.5 ppm	—	X
Methyl bromide	74-83-9	5 ppm	10 ppm	—	X
Methyl-n-butyl ketone (2-Hexanone)	591-78-6	5 ppm	10 ppm	—	—
Methyl cellosolve (2-Methoxyethanol)	109-86-4	5 ppm	10 ppm	—	X
Methyl cellosolve acetate (2-Methoxyethyl acetate)	110-49-6	5 ppm	10 ppm	—	X
Methyl chloride	74-87-3	50 ppm	100 ppm	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Methyl chloroform (1, 1, 1-trichloroethane)	71-55-6	350 ppm	450 ppm	—	—
Methyl chloromethyl ether (chloromethyl methyl ether) (see WAC 296-62-073)	107-30-2	—	—	—	—
Methyl 2-cyanoacrylate	137-05-3	2 ppm	4 ppm	—	—
Methylcyclohexane	108-87-2	400 ppm	500 ppm	—	—
Methylcyclohexanol	25639-42-3	50 ppm	75 ppm	—	—
Methylcyclohexanone	583-60-8	50 ppm	75 ppm	—	X
Methylcyclopentadienyl manganese tricarbonyl (as Mn)	12108-13-3	0.2 mg/m ³	0.6 mg/m ³	—	X
Methyl demeton	8022-00-2	0.5 mg/m ³	1.5 mg/m ³	—	X
Methylene bisphenyl isocyanate (MDI) (Diphenylmethane diisocyanate)	101-68-8	—	—	0.02 ppm	—
4, 4'-Methylene bis (2-chloro-aniline) (MBOCA) (see WAC 296-62-073)	101-14-4	—	—	—	X
Methylene bis (4-cyclohexylisocyanate)	5124-30-1	—	—	0.01 ppm	—
Methylene chloride (Dichloromethane) (see chapter 296-859 WAC)	75-09-2	25 ppm	125 ppm	—	—
4, 4-Methylene dianiline (MDA) (see WAC 296-62-076 and 296-155-173)	101-77-9	0.01 ppm	0.1 ppm	—	X
Methyl ethyl ketone (MEK) (2-Butanone)	78-93-3	200 ppm	300 ppm	—	—
Methyl ethyl ketone peroxide (MEKP)	1338-23-4	—	—	0.2 ppm	—
Methyl formate	107-31-3	100 ppm	150 ppm	—	—
5-Methyl-3-heptanone (Ethyl amyl ketone)	541-85-5	25 ppm	38 ppm	—	—
Methyl hydrazine (Monomethyl hydrazine)	60-34-4	—	—	0.2 ppm	X
Methyl iodide	74-88-4	2 ppm	4 ppm	—	X
Methyl isoamyl ketone	110-12-3	50 ppm	75 ppm	—	—
Methyl isobutyl carbinol (Methyl amyl alcohol)	108-11-2	25 ppm	40 ppm	—	X
Methyl isobutyl ketone (Hexone)	108-10-1	50 ppm	75 ppm	—	—
Methyl isocyanate	624-83-9	0.02 ppm	0.06 ppm	—	X
Methyl isopropyl ketone	563-80-4	200 ppm	250 ppm	—	—
Methyl mercaptan (Methanethiol)	74-93-1	0.5 ppm	1.5 ppm	—	—
Methyl methacrylate	80-62-6	100 ppm	150 ppm	—	—
Methyl parathion	298-00-0	0.2 mg/m ³	0.6 mg/m ³	—	X
Methyl propyl ketone (2-Pentanone)	107-87-9	200 ppm	250 ppm	—	—
Methyl silicate	684-84-5	1 ppm	3 ppm	—	—
alpha-Methyl styrene	98-83-9	50 ppm	100 ppm	—	—
Mevinphos (Phosdrin)	7786-34-7	0.01 ppm	0.03 ppm	—	X
Metribuzin	21087-64-9	5 mg/m ³	10 mg/m ³	—	—
Mica (Silicates) Respirable fraction	12001-26-2	3 mg/m ³	6 mg/m ³	—	—
Molybdenum (as Mo) Soluble compounds	7439-98-7	—	—	—	—
Insoluble compounds	—	5 mg/m ³	10 mg/m ³	—	—
Monochlorobenzene (Chlorobenzene)	—	10 mg/m ³	20 mg/m ³	—	—
Monochlorobenzene	108-90-7	75 ppm	113 ppm	—	—
Monocrotophos (Azodrin)	6923-22-4	0.25 mg/m ³	0.75 mg/m ³	—	—
Monomethyl aniline (N-Methyl aniline)	100-61-8	0.5 ppm	1.5 ppm	—	X
Monomethyl hydrazine	—	—	—	0.2 ppm	—
Morpholine	110-91-8	20 ppm	30 ppm	—	X
Naled (Dibrom)	300-76-5	3 mg/m ³	6 mg/m ³	—	X
Naphtha	8030-30-6	100 ppm	150 ppm	—	X
Naphthalene	91-20-3	10 ppm	15 ppm	—	—
alpha-Naphthylamine (see WAC 296-62-073)	134-32-7	—	—	—	—
beta-Naphthylamine (see WAC 296-62-073)	91-59-8	—	—	—	—
Neon	7440-01-9	Simple asphyxiant	—	—	—
Nickel carbonyl (as Ni)	13463-39-3	0.001 ppm	0.003 ppm	—	—
Nickel (as Ni)	7440-02-0	—	—	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Metal and insoluble compounds	—	1 mg/m ³	3 mg/m ³	—	—
Soluble compounds	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Nicotine	54-11-5	0.5 mg/m ³	1.5 mg/m ³	—	X
Nitrapyrin	1929-82-4	—	—	—	—
(2-Chloro-6-trichloromethyl pyridine)	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Nitric acid	7697-37-2	2 ppm	4 ppm	—	—
Nitric oxide	10102-43-9	25 ppm	38 ppm	—	—
p-Nitroaniline	100-01-6	3 mg/m ³	6 mg/m ³	—	X
Nitrobenzene	98-95-3	1 ppm	3 ppm	—	X
4-Nitrobiphenyl (see WAC 296-62-073)	92-93-3	—	—	—	—
p-Nitrochlorobenzene	100-00-5	0.5 mg/m ³	1.5 mg/m ³	—	X
4-Nitrodiphenyl (see WAC 296-62-073)	—	—	—	—	—
Nitroethane	79-24-3	100 ppm	150 ppm	—	—
Nitrogen	7727-37-9	Simple asphyxiant	—	—	—
Nitrogen dioxide	10102-44-0	—	1 ppm	—	—
Nitrogen oxide (Nitrogen oxide)	10024-97-2	50 ppm	75 ppm	—	—
Nitrogen trifluoride	7783-54-2	10 ppm	20 ppm	—	—
Nitroglycerin	55-63-0	—	0.1 mg/m ³	—	X
Nitromethane	75-52-5	100 ppm	150 ppm	—	—
1-Nitropropane	108-03-2	25 ppm	38 ppm	—	—
2-Nitropropane	79-46-9	10 ppm	20 ppm	—	—
N-Nitrosodimethylamine (see WAC 296-62-073)	62-75-9	—	—	—	—
Nitrotoluene	—	—	—	—	—
o-isomer	88-72-2	2 ppm	4 ppm	—	X
m-isomer	98-08-2	2 ppm	4 ppm	—	X
p-isomer	99-99-0	2 ppm	4 ppm	—	X
Nitrotrichloromethane (Chloropicrin)	76-06-2	0.1 ppm	0.3 ppm	—	—
Nitrous oxide (Nitrogen oxide)	10024-97-2	50 ppm	75 ppm	—	—
Nonane	111-84-2	200 ppm	250 ppm	—	—
Nuisance dusts (see Particulates not otherwise regulated)	—	—	—	—	—
Octachloronaphthalene	2234-13-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Octane	111-65-9	300 ppm	375 ppm	—	—
Oil mist mineral (particulate)	8012-95-1	5 mg/m ³	10 mg/m ³	—	—
Osmium tetroxide (as Os)	20816-12-0	0.0002 ppm	0.0006 ppm	—	—
Oxalic acid	144-62-7	1 mg/m ³	2 mg/m ³	—	—
Oxygen	—	—	—	—	—
See requirements in other chapters such as: Chapter 296-809 WAC, Confined spaces; chapter 296-843 WAC, Hazardous waste operations; chapter 296-824 WAC, Emergency response; WAC 296-62-100, Oxygen deficient atmospheres	—	—	—	—	—
Oxygen difluoride	7783-41-7	—	—	0.05 ppm	—
Ozone	10028-15-6	0.1 ppm	0.3 ppm	—	—
Paper fiber (Cellulose)	9004-34-6	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Paraffin wax fume	8002-74-2	2 mg/m ³	4 mg/m ³	—	—
Paraquat	—	—	—	—	—
Respirable fraction	4685-14-7	0.1 mg/m ³	0.3 mg/m ³	—	X
	1910-42-5	—	—	—	—
	2074-50-2	—	—	—	—
Parathion	56-38-2	0.1 mg/m ³	0.3 mg/m ³	—	X
Particulate polycyclic aromatic hydrocarbons (see coal tar pitch volatiles)	—	—	—	—	—
Particulates not otherwise regulated	—	—	—	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Pentaborane	19624-22-7	0.005 ppm	0.015 ppm	—	—
Pentachloronaphthalene	1321-64-8	0.5 mg/m ³	1.5 mg/m ³	—	X
Pentachlorophenol	87-86-5	0.5 mg/m ³	1.5 mg/m ³	—	X
Pentaerythritol	115-77-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Pentane	109-66-0	600 ppm	750 ppm	—	—
2-Pentanone	107-87-9	200 ppm	250 ppm	—	—
(methyl propyl ketone)					
Perchloroethylene	127-18-4	25 ppm	38 ppm	—	—
(tetrachloroethylene)					
Perchloromethyl mercaptan	594-42-3	0.1 ppm	0.3 ppm	—	—
Perchloryl fluoride	7616-94-6	3 ppm	6 ppm	—	—
Perlite	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Petroleum distillates	—	100 ppm	150 ppm	—	—
(Naptha, rubber solvent)					
Phenacyl chloride	532-21-4	0.05 ppm	0.15 ppm	—	—
(a-Chloroacetophenone)					
Phenol	108-95-2	5 ppm	10 ppm	—	X
Phenothiazine	92-84-2	5 mg/m ³	10 mg/m ³	—	X
p-Phenylene diamine	106-50-3	0.1 mg/m ³	0.3 mg/m ³	—	X
Phenyl ether (vapor)	101-84-8	1 ppm	3 ppm	—	—
Phenyl ether-diphenyl mixture (vapor)	—	1 ppm	3 ppm	—	—
Phenylethylene (Styrene)	100-42-5	50 ppm	100 ppm	—	—
Phenyl glycidyl ether (PGE)	122-60-1	1 ppm	3 ppm	—	—
Phenyldiazine	100-63-0	5 ppm	10 ppm	—	X
Phenyl mercaptan	108-98-5	0.5 ppm	1.5 ppm	—	—
Phenylphosphine	638-21-1	—	—	0.05 ppm	—
Phorate	298-02-2	0.05 mg/m ³	0.2 mg/m ³	—	X
Phosdrin (Mevinphos)	7786-34-7	0.01 ppm	0.03 ppm	—	X
Phosgene (carbonyl chloride)	75-44-5	0.1 ppm	0.3 ppm	—	—
Phosphine	7803-51-2	0.3 ppm	1 ppm	—	—
Phosphoric acid	7664-38-2	1 mg/m ³	3 mg/m ³	—	—
Phosphorus (yellow)	7723-14-0	0.1 mg/m ³	0.3 mg/m ³	—	—
Phosphorous oxychloride	10025-87-3	0.1 ppm	0.3 ppm	—	—
Phosphorus pentachloride	10026-13-8	0.1 ppm	0.3 ppm	—	—
Phosphorus pentasulfide	1314-80-3	1 mg/m ³	3 mg/m ³	—	—
Phosphorus trichloride	12-2-19	0.2 ppm	0.5 ppm	—	—
Phthalic anhydride	85-44-9	1 ppm	3 ppm	—	—
m-Phthalodinitrile	626-17-5	5 mg/m ³	10 mg/m ³	—	—
Picloram	1918-02-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Picric acid (2, 4, 6-Trinitrophenol)	88-89-1	0.1 mg/m ³	0.3 mg/m ³	—	X
Pindone	83-26-1	0.1 mg/m ³	0.3 mg/m ³	—	—
(2-Pivalyl-1, 3-indandione, Pival)					
Piperazine dihydrochloride	142-64-3	5 mg/m ³	10 mg/m ³	—	—
Pival (Pindone)	83-26-1	0.1 mg/m ³	0.3 mg/m ³	—	—
Plaster of Paris	26499-65-0	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Platinum (as Pt)	7440-06-4	—	—	—	—
Metal	—	1 mg/m ³	3 mg/m ³	—	—
Soluble salts	—	0.002 mg/m ³	0.006 mg/m ³	—	—
Polychlorobiphenyls	—	—	—	—	—
(Chlorodiphenyls)					
42% Chlorine (PCB)	53469-21-9	1 mg/m ³	3 mg/m ³	—	X
54% Chlorine (PCB)	11097-69-1	0.5 mg/m ³	1.5 mg/m ³	—	X
Portland cement	65997-15-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Potassium hydroxide	1310-58-3	—	—	2 mg/m ³	—
Propane	74-98-6	1,000 ppm	1,250 ppm	—	—
Propargyl alcohol	107-19-7	1 ppm	3 ppm	—	X
beta-Propiolactone	57-57-8	—	—	—	—
(see WAC 296-62-073)					

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Propionic acid	79-09-4	10 ppm	20 ppm	—	—
Propoxur (Baygon)	114-26-1	0.5 mg/m ³	1.5 mg/m ³	—	—
n-Propyl acetate	109-60-4	200 ppm	250 ppm	—	—
n-Propyl alcohol	71-23-8	200 ppm	250 ppm	—	X
n-Propyl nitrate	627-13-4	25 ppm	40 ppm	—	—
Propylene	—	Simple asphyxiant	—	—	—
Propylene dichloride (1, 2-Dichloropropane)	78-87-5	75 ppm	110 ppm	—	—
Propylene glycol dinitrate	6423-43-4	0.05 ppm	0.15 ppm	—	X
Propylene glycol monomethyl ether	107-98-2	100 ppm	150 ppm	—	—
Propylene imine	75-55-8	2 ppm	4 ppm	—	X
Propylene oxide (1,2- Epoxypropane)	75-56-9	20 ppm	30 ppm	—	—
Propyne (Methyl acetylene)	74-99-7	1,000 ppm	1,250 ppm	—	—
Pyrethrum	8003-34-7	5 mg/m ³	10 mg/m ³	—	—
Pyridine	110-86-1	5 ppm	10 ppm	—	—
Pyrocatachol (Catechol)	120-80-9	5 ppm	10 ppm	—	X
Quinone (p-Benzoquinone)	106-51-4	0.1 ppm	0.3 ppm	—	—
RDX (Cyclonite)	—	1.5 mg/m ³	3 mg/m ³	—	X
Resorcinol	108-46-3	10 ppm	20 ppm	—	—
Rhodium (as Rh)	7440-16-6	—	—	—	—
Insoluble compounds, metal fumes and dusts	—	0.1 mg/m ³	0.3 mg/m ³	—	—
Soluble compounds, salts	—	0.001 mg/m ³	0.003 mg/m ³	—	—
Ronnel	299-84-3	10 mg/m ³	20 mg/m ³	—	—
Rosin core solder, pyrolysis products (as formaldehyde)	8050-09-7	0.1 mg/m ³	0.3 mg/m ³	—	—
Rotenone	83-79-4	5 mg/m ³	10 mg/m ³	—	—
Rouge	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Rubber solvent (naphtha)	8030-30-6	100 ppm	150 ppm	—	—
Selenium compounds (as Se)	7782-49-2	0.2 mg/m ³	0.6 mg/m ³	—	—
Selenium hexafluoride (as Se)	7783-79-1	0.05 ppm	0.15 ppm	—	—
Sesone (Crag herbicide)	136-78-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Sevin (Carbaryl)	63-25-2	5 mg/m ³	10 mg/m ³	—	—
Silane (see Silicon tetrahydride)	7803-62-5	5 ppm	10 ppm	—	—
Silica, amorphous, precipitated and gel	112926-00-8	6 mg/m ³	12 mg/m ³	—	—
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica	61790-53-2	—	—	—	—
Total particulate	—	6 mg/m ³	12 mg/m ³	—	—
Respirable fraction	—	3 mg/m ³	6 mg/m ³	—	—
Silica, crystalline cristobalite	—	—	—	—	—
Respirable fraction	14464-46-1	0.05 mg/m ³	0.15 mg/m ³	—	—
Silica, crystalline quartz	—	—	—	—	—
Respirable fraction	14808-60-7	0.1 mg/m ³	0.3 mg/m ³	—	—
Silica, crystalline tripoli (as quartz)	—	—	—	—	—
Respirable fraction	1317-95-9	0.1 mg/m ³	0.3 mg/m ³	—	—
Silica, crystalline tridymite	—	—	—	—	—
Respirable fraction	15468-32-3	0.05 mg/m ³	0.15 mg/m ³	—	—
Silica, fused	—	—	—	—	—
Respirable fraction	60676-86-0	0.1 mg/m ³	0.3 mg/m ³	—	—
Silicates (less than 1% crystalline silica)	—	—	—	—	—
Mica	—	—	—	—	—
Respirable fraction	12001-26-2	3 mg/m ³	6 mg/m ³	—	—
Soapstone	—	—	—	—	—
Total particulate	—	6 mg/m ³	12 mg/m ³	—	—
Respirable fraction	—	3 mg/m ³	6 mg/m ³	—	—
Talc (containing asbestos) (as asbestos) (see WAC 296-62-07705 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Talc (containing no asbestos)	—	—	—	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
Respirable fraction	14807-96-6	2 mg/m ³	4 mg/m ³	—	—
Tremolite (asbestiform) (as asbestos) (see WAC 296-62-07705 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Silicon	7440-21-3	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Silicon carbide	409-21-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Silicon tetrahydride (Silane)	7803-62-5	5 ppm	10 ppm	—	—
Silver, metal dust and soluble compounds (as Ag)	7440-22-4	0.01 mg/m ³	0.03 mg/m ³	—	—
Soapstone	—	—	—	—	—
Total particulate	—	6 mg/m ³	12 mg/m ³	—	—
Respirable fraction	—	3 mg/m ³	6 mg/m ³	—	—
Sodium azide (as HN3 or NaN3)	26628-22-8	—	—	0.1 ppm	X
Sodium bisulfite	7631-90-5	5 mg/m ³	10 mg/m ³	—	—
Sodium-2, 4-dichloro-phenoxyethyl sulfate (Crag herbicide)	136-78-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Sodium fluoroacetate	62-74-8	0.05 mg/m ³	0.15 mg/m ³	—	X
Sodium hydroxide	1310-73-2	—	—	2 mg/m ³	—
Sodium metabisulfite	7681-57-4	5 mg/m ³	10 mg/m ³	—	—
Starch	9005-25-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Stibine	7803-52-3	0.1 ppm	0.3 ppm	—	—
Stoddard solvent	8052-41-3	100 ppm	150 ppm	—	—
Strychnine	57-24-9	0.15 mg/m ³	0.45 mg/m ³	—	—
Styrene (Phenylethylene, Vinyl benzene)	100-42-5	50 ppm	100 ppm	—	—
Subtilisins	9014-01-1	—	0.00006 mg/m ³ (60 min.)	—	—
Sucrose	57-50-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Sulfotep (TEDP)	3689-24-5	0.2 mg/m ³	0.6 mg/m ³	—	X
Sulfur dioxide	7446-09-5	2 ppm	5 ppm	—	—
Sulfur hexafluoride	2551-62-4	1,000 ppm	1,250 ppm	—	—
Sulfuric acid	7664-93-9	1 mg/m ³	3 mg/m ³	—	—
Sulfur monochloride	10025-67-9	—	—	1 ppm	—
Sulfur pentafluoride	5714-22-1	—	—	0.01 ppm	—
Sulfur tetrafluoride	7783-60-0	—	—	0.1 ppm	—
Sulfuryl fluoride	2699-79-8	5 ppm	10 ppm	—	—
Sulprofos	35400-43-2	1 mg/m ³	3 mg/m ³	—	—
Systox (Demeton)	8065-48-3	0.01 ppm	0.03 ppm	—	X
2, 4, 5-T (2, 4, 5- tri- chlorophenoxyacetic acid)	93-76-5	10 mg/m ³	20 mg/m ³	—	—
Talc (containing asbestos) (as asbestos) (see WAC 296-62-07705 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Talc (containing no asbestos)	—	—	—	—	—
Respirable fraction	14807-96-6	2 mg/m ³	4 mg/m ³	—	—
Tantalum	—	—	—	—	—
Metal and oxide dusts	7440-25-7	5 mg/m ³	10 mg/m ³	—	—
TDI (Toluene-2, 4-diisocyanate)	584-84-9	0.005 ppm	0.02 ppm	—	—
TEDP (Sulfotep)	3689-24-5	0.2 mg/m ³	0.6 mg/m ³	—	X
Tellurium and compounds (as Te)	13494-80-9	0.1 mg/m ³	0.3 mg/m ³	—	—
Tellurium hexafluoride (as Te)	7783-80-4	0.02 ppm	0.06 ppm	—	—
Temephos (Abate)	3383-96-8	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
TEPP	107-49-3	0.004 ppm	0.012 ppm	—	X
Terphenyls	26140-60-3	—	—	0.5 ppm	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
1, 1, 1, 2-Tetrachloro-2, 2-difluoroethane	76-11-0	500 ppm	625 ppm	—	—
1, 1, 2, 2-Tetrachloro-1, 2-difluoroethane	76-12-0	500 ppm	625 ppm	—	—
1, 1, 2, 2-Tetrachloroethane	79-34-5	1 ppm	3 ppm	—	X
Tetrachloroethylene (Perchloroethylene)	127-18-4	25 ppm	38 ppm	—	—
Tetrachloromethane (Carbon tetrachloride)	56-23-5	2 ppm	4 ppm	—	X
Tetrachloronaphthalene	1335-88-2	2 mg/m ³	4 mg/m ³	—	X
Tetraethyl lead (as Pb)	78-00-2	0.075 mg/m ³	0.225 mg/m ³	—	X
Tetrahydrofuran	109-99-9	200 ppm	250 ppm	—	—
Tetramethyl lead (as Pb)	75-74-1	0.075 mg/m ³	0.225 mg/m ³	—	X
Tetramethyl succinonitrile	3333-52-6	0.5 ppm	1.5 ppm	—	X
Tetranitromethane	509-14-8	1 ppm	3 ppm	—	—
Tetrasodium pyrophosphate	7722-88-5	5 mg/m ³	10 mg/m ³	—	—
Tetryl (2, 4, 6-trinitrophenyl-methylnitramine)	479-45-8	1.5 mg/m ³	3 mg/m ³	—	X
Thallium (soluble compounds) (as Tl)	7440-28-0	0.1 mg/m ³	0.3 mg/m ³	—	X
4, 4-Thiobis (6-tert-butyl-m-cresol)	96-69-5	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Thiodan (Endosulfan)	115-29-7	0.1 mg/m ³	0.3 mg/m ³	—	X
Thioglycolic acid	68-11-1	1 ppm	3 ppm	—	X
Thionyl chloride	7719-09-7	—	—	1 ppm	—
Thiram (see WAC 296-62-07519)	137-26-8	5 mg/m ³	10 mg/m ³	—	—
Tin (as Sn)	—	—	—	—	—
Inorganic compounds	7440-31-5	2 mg/m ³	4 mg/m ³	—	—
Tin (as Sn)	—	—	—	—	—
Organic compounds	7440-31-5	0.1 mg/m ³	0.3 mg/m ³	—	X
Tin oxide (as Sn)	21651-19-4	2 mg/m ³	4 mg/m ³	—	—
Titanium dioxide	13463-67-7	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
TNT (2, 4, 6-Trinitrotoluene)	118-96-7	0.5 mg/m ³	1.5 mg/m ³	—	X
Toluene	108-88-3	100 ppm	150 ppm	—	—
Toluene-2, 4-diisocyanate (TDI)	584-84-9	0.005 ppm	0.02 ppm	—	—
m-Toluidine	108-44-1	2 ppm	4 ppm	—	X
o-Toluidine	95-53-4	2 ppm	4 ppm	—	X
p-Toluidine	106-49-0	2.0 ppm	4 ppm	—	X
Toxaphene (Chlorinated camphene)	8001-35-2	0.5 mg/m ³	1 mg/m ³	—	X
Tremolite (asbestiform) (as asbestos) (see WAC 296-62-07705 and chapter 296-65 WAC)	—	0.1 f/cc	1.0 f/cc (30 minutes)	—	—
Tributyl phosphate	126-73-8	0.2 ppm	0.6 ppm	—	—
Trichloroacetic acid	76-03-9	1 ppm	3 ppm	—	—
1, 2, 4-Trichlorobenzene	120-82-1	—	—	5 ppm	—
1, 1, 1-Trichloroethane (Methyl chloroform)	71-55-6	350 ppm	450 ppm	—	—
1, 1, 2-Trichloroethane	79-00-5	10 ppm	20 ppm	—	—
Trichloroethylene	79-01-6	50 ppm	200 ppm	—	—
Trichlorofluoromethane (Fluorotrichloromethane)	75-69-4	—	—	1,000 ppm	—
Trichloromethane (Chloroform)	67-66-3	2 ppm	4 ppm	—	—
Trichloronaphthalene	1321-65-9	5 mg/m ³	10 mg/m ³	—	X
1, 2, 3-Trichloropropane	96-18-4	10 ppm	20 ppm	—	X
1, 1, 2-Trichloro-1, 2, 2-trifluoroethane	76-13-1	1,000 ppm	1,250 ppm	—	—
Tricyclohexyltin hydroxide (Cyhexatin)	13121-70-5	5 mg/m ³	10 mg/m ³	—	—
Triethylamine	121-44-8	10 ppm	15 ppm	—	—
Trifluorobromomethane	75-63-8	1,000 ppm	1,250 ppm	—	—
Trimellitic anhydride	552-30-7	0.005 ppm	0.015 ppm	—	—
Trimethylamine	75-50-3	10 ppm	15 ppm	—	—
Trimethyl benzene	25551-13-7	25 ppm	38 ppm	—	—
Trimethyl phosphite	121-45-9	2 ppm	4 ppm	—	—

Table 3 "Permissible Exposure Limits (PELs) for Airborne Contaminants"

Airborne contaminant	CAS	TWA ₈	STEL	Ceiling	Skin
2, 4, 6-Trinitrophenol (Picric acid)	88-89-1	0.1 mg/m ³	0.3 mg/m ³	—	X
2, 4, 6-Trinitrophenyl-methylnitramine (Tetryl)	479-45-8	1.5 mg/m ³	3 mg/m ³	—	X
2, 4, 6-Trinitrotoluene (TNT)	118-96-7	0.5 mg/m ³	1.5 mg/m ³	—	X
Triorthocresyl phosphate	78-30-8	0.1 mg/m ³	0.3 mg/m ³	—	X
Triphenyl amine	603-34-9	5 mg/m ³	10 mg/m ³	—	—
Triphenyl phosphate	115-86-6	3 mg/m ³	6 mg/m ³	—	—
Tungsten (as W)	7440-33-7	—	—	—	—
Soluble compounds	—	1 mg/m ³	3 mg/m ³	—	—
Insoluble compounds	—	5 mg/m ³	10 mg/m ³	—	—
Turpentine	8006-64-2	100 ppm	150 ppm	—	—
Uranium (as U)	7440-61-1	—	—	—	—
Soluble compounds	—	0.05 mg/m ³	0.15 mg/m ³	—	—
Insoluble compounds	—	0.2 mg/m ³	0.6 mg/m ³	—	—
n-Valeraldehyde	110-62-3	50 ppm	75 ppm	—	—
Vanadium (as V2O5)	—	—	—	—	—
Respirable fraction	1314-62-1	0.05 mg/m ³	0.15 mg/m ³	—	—
Vegetable oil mist	—	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Vinyl acetate	108-05-1	10 ppm	20 ppm	—	—
Vinyl benzene (Styrene)	100-42-5	50 ppm	100 ppm	—	—
Vinyl bromide	593-60-2	5 ppm	10 ppm	—	—
Vinyl chloride (Chloroethylene)	75-01-4	1 ppm	5 ppm	—	—
(see WAC 296-62-07329)	—	—	—	—	—
Vinyl cyanide (Acrylonitrile)	107-13-1	2 ppm	10 ppm	—	—
(see WAC 296-62-07336)	—	—	—	—	—
Vinyl cyclohexene dioxide	106-87-6	10 ppm	20 ppm	—	X
Vinyl toluene	25013-15-4	50 ppm	75 ppm	—	—
Vinylidene chloride	75-35-4	1 ppm	3 ppm	—	—
(1, 1-Dichloroethylene)	—	—	—	—	—
VM & P Naphtha	8032-32-4	300 ppm	400 ppm	—	—
Warfarin	81-81-2	0.1 mg/m ³	0.3 mg/m ³	—	—
Welding fumes	—	5 mg/m ³	10 mg/m ³	—	—
(total particulate)	—	—	—	—	—
Wood dust	—	—	—	—	—
Nonallergenic;	—	5 mg/m ³	10 mg/m ³	—	—
(All woods except allergenics)	—	—	—	—	—
Allergenics (e.g. cedar, mahogany and teak)	—	2.5 mg/m ³	5 mg/m ³	—	—
Xylenes (ortho, meta, and para isomers) (Dimethylbenzene)	1330-20-7	100 ppm	150 ppm	—	—
m-Xylene alpha, alpha-diamine	1477-55-0	—	—	0.1 mg/m ³	X
Xylidine (Dimethylaminobenzene)	1300-73-8	2 ppm	4 ppm	—	X
Yttrium	7440-65-5	1 mg/m ³	3 mg/m ³	—	—
Zinc chloride fume	7646-85-7	1 mg/m ³	2 mg/m ³	—	—
Zinc chromate (as Cr) (see WAC 296-62-08003)	Varies with compound	0.005 mg/m ³	—	0.1 mg/m ³	—
Zinc oxide	1314-13-2	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Zinc oxide fume	1314-13-2	5 mg/g ³	10 mg/m ³	—	—
Zinc stearate	557-05-1	—	—	—	—
Total particulate	—	10 mg/m ³	20 mg/m ³	—	—
Respirable fraction	—	5 mg/m ³	10 mg/m ³	—	—
Zirconium compounds (as Zr)	7440-67-2	5 mg/m ³	10 mg/m ³	—	—

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-20025, filed 2/20/07, effective 4/1/07; 04-18-079, § 296-841-20025, filed 8/31/04, effective 11/1/04.]

WAC 296-841-300 Definitions.

Breathing zone

The space around and in front of an employee's nose and mouth, forming a hemisphere with a six to nine inch radius.

Ceiling limit

See Permissible exposure limits (PELs).

Dust

Solid particles suspended in air. Dusts are generated by handling, drilling, crushing, grinding, rapid impact, detona-

tion, or decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, grain, etc.

Exposed or exposure

The contact an employee has with a toxic substance, harmful physical agent or oxygen deficient condition, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry, such as inhalation, ingestion, skin contact, or skin absorption.

Fume

Solid particles suspended in air, generated by condensation from the gaseous state, generally after volatilization from molten metals, etc.

Gas

A normally formless fluid which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both.

General exhaust ventilation

The general movement of air out of an area or permit-required confined space by mechanical or natural means.

Immediately dangerous to life or health (IDLH)

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

Mist

Liquid droplets suspended in air, generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming, spraying or atomizing.

Nuisance dust (or inert dust)

Dusts that, when inhaled, have little adverse effect on the lungs **and** do not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

The biological reaction to these dusts in lung tissue has the following characteristics:

- The architecture of the air spaces remains intact
- Scar tissue (collagen) isn't formed to a significant extent
- The tissue reaction is potentially reversible

Oxygen deficient

An atmosphere with an oxygen content below 19.5% by volume.

Permissible exposure limits (PEL)

The amount of an airborne chemical, toxic substance, or other harmful agent that must not be exceeded during any part of the workday.

An airborne chemical or toxic substance can have 3 PEL values:

- TWA_8 . This is an 8-hour, time-weighted average limit.
- Short-term exposure limit (STEL). This is typically a 15-minute, time-weighted average limit.
- Ceiling limit (C). This is an instantaneous limit.

Short-term exposure limit (STEL)

See Permissible exposure limits (PELs).

Temper

To condition air for a specific work environment by changing its temperature or moisture content.

Time weighted average (TWA_8)

See Permissible exposure limits (PELs).

Toxic substance

Any chemical substance or biological agent, such as bacteria, virus, and fungus, which is any of the following:

- Listed in the latest edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS)
- Shows positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer.

(2009 Ed.)

- The subject of a material safety data sheet kept by or known to the employer showing the material may pose a hazard to human health.

Vapor

The gaseous form of a substance that is normally in the solid or liquid state.

Ventilation

Providing, circulating or exhausting air into or out of an area or space.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-841-300, filed 2/20/07, effective 4/1/07; 04-18-079, § 296-841-300, filed 8/31/04, effective 11/1/04; 03-20-115, § 296-841-300, filed 10/1/03, effective 1/1/04.]

Chapter 296-842 WAC**RESPIRATORS****WAC**

296-842-100	Scope.
296-842-10505	Designate a program administrator.
296-842-110	Voluntary respirator use requirements.
296-842-11005	Make sure voluntary use of respirators is safe.
296-842-11010	Keep voluntary use program records.
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.
296-842-17010	Store respirators properly.
296-842-17015	Inspect and repair respirators.
296-842-18005	Prevent sealing problems with tight-fitting respirators.
296-842-18010	Make sure employees leave the use area before removing respirators.
296-842-19005	Provide standby assistance in immediately dangerous to life or health (IDLH) conditions.
296-842-20005	Make sure breathing air and oxygen meet established specifications.
296-842-20010	Prevent conditions that could create a hazardous breathing air supply.
296-842-20015	Make sure compressors do not create a hazardous breathing air supply.
296-842-21005	Keep labels readable on respirator filters, cartridges, and canisters during use.
296-842-22005	Use this medical questionnaire for medical evaluations.
296-842-22010	Follow these fit-testing procedures for tight-fitting respirators.
296-842-22015	Follow procedures established for cleaning and disinfecting respirators.
296-842-22020	Follow procedures established for seal checking respirators.
296-842-300	Definitions.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-842-105	Respirator program administrator. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-105, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
296-842-120	Written respirator program and recordkeeping. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-120, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
296-842-130	Respirator selection. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-130, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
296-842-140	Medical evaluations. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-

- 114, § 296-842-140, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-150 Fit testing. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-150, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-160 Training. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-160, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-170 Maintenance. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-170, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-180 Safe use and removal of respirators. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-180, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-190 Standby requirements for immediately dangerous to life or health (IDLH) conditions. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-190, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-200 Air quality for self-contained breathing apparatus (SCBA) and air-line respirators. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060.

- 03-20-114, § 296-842-200, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-210 Labeling of air-purifying respirator filters, cartridges, and canisters. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-210, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
- 296-842-220 Required procedures for respiratory protection program. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 03-20-114, § 296-842-220, filed 10/1/03, effective 1/1/04.] Repealed by 07-05-072, filed 2/20/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.

WAC 296-842-100 Scope. This chapter applies to all use of respirators at work.

IMPORTANT:

Before you decide to use respirators, you 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.

Definition:

Respirators are a type of personal protective equipment designed to protect the wearer from respiratory hazards.

You can use Table 1 for general guidance on which chapter sections apply to you.

Table 1
Chapter sections that apply to your workplace

If employees...	Then the sections marked with an "X" apply...					
	105	110	120	130-210	220	300
Request and are permitted to voluntarily use filtering-face-piece respirators, and are not exposed to a respiratory hazard		X				X
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 WISHA or the employer	X		X	X	X	X
Would use an escape respirator in an emergency	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 49.17.010, 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 296-842-10505 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.

Definition:

Voluntary use is respirator use that is requested by the employee AND permitted by the employer when **NO** respiratory hazard exists.

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 49.17.010, 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 296-842-110 Voluntary respirator use requirements.

IMPORTANT:

- Respirator use is **NOT** voluntary if 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, Respiratory hazards.

- 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 certified for protection against hazardous concentrations of organic vapor.

[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.]

WAC 296-842-11005 Make sure voluntary use of respirators is safe.

Definition:

Voluntary use is respirator use that is requested by the employee AND permitted by the employer when **NO** respiratory hazard exists.

IMPORTANT: If you choose to require respirator use, use is NOT voluntary and the required use sections of this chapter apply.

(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.

Note: If you have provided employees with the advisory information required in the previous rule, WAC 296-62-07117, you

do not need to provide the additional information in Table 2 to those employees.

(3) Develop and maintain a written program that includes the following:

Exemption: If employees use only filtering-facepiece respirators and do so only voluntarily, you do not need to develop and maintain a written program.

(a) Medical evaluation provisions as specified in WAC 296-842-140.

(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 296-842-200, when using air-line respirators and SCBAs.

(e) Effective training to ensure respirator use does NOT create a hazard.

Note:

- Pay for medical evaluations, training, travel related costs, and wages. You do **NOT** need to pay for respirators employees use only voluntarily.
- If you have both voluntary and required respirator users, you may choose to treat voluntary users as required users. Doing this exceeds the requirements in this section.

(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 WISHA 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. WISHA recommends voluntary use of respirators when exposure to substances is below WISHA 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 49.17.010, 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 296-842-11010 Keep voluntary use program records.

Exemption: If employees use only filtering-facepiece respirators voluntarily, you do not need to follow these record-keeping requirements.

(1) Keep copies of:

(a) Your current written respirator program

(b) Written recommendations from the licensed health care professional (LHCP)

(2) Allow records required by this section to be examined and copied by affected employees and their representatives.

Reference: See chapter 296-802 WAC, Employee medical and exposure records, for additional requirements that apply to medical records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-11010, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-11010, 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.

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 WISHA 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, 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) Keep records of your current respirator program
 (2) Keep each employee's current fit test record, if fit testing is conducted. 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 employee's names and the dates trained

(4) Keep written recommendations from the LHCP.

(5) Allow records required by this section to be examined and copied by affected employees and their representatives.

Reference: See chapter 296-802 WAC, Employee medical and exposure records, for additional requirements that apply to medical records.

[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.

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.

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

(2009 Ed.)

- 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:

- WISHA 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.

- If your measured or estimated expected exposure concentration is below NIOSH's IDLH values, proceed to **Step 7**.

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:

- The helpful tool, using assigned protection factors (APFs) for respirator selection, found in the resource section of this chapter, utilizes 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) [(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
• 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)

If the respirator is a(n) . . .	Then the APF is . . .
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
• Full-facepiece and designed to operate in pressure-demand or other positive pressure mode (e.g., open/closed circuit)	10,000
• Helmet or hood and designed to operate in demand mode	50
• Helmet or hood and designed to operate in pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	10,000
Combination respirators:	

If the respirator is a(n) . . .	Then the APF is . . .
<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 	
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) <p>OR</p> <ul style="list-style-type: none"> 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 <p>OR</p> <ul style="list-style-type: none"> 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 <p>OR</p> <ul style="list-style-type: none"> You may select respirators NIOSH certified as "dust and mist," "dust, fume, or mist," OR "pesticides." You can only use these respirators if particles primarily have a mass median aerodynamic diameter of at least two micrometers. <p>Note: These respirators are no longer sold for occupational use.</p>

[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.

IMPORTANT:

If you have provided an employee with a medical evaluation addressing respirator use, as required by another chapter, that evaluation will meet the requirements of this section.

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-face-piece 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 WISHA 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 296-842-130 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	<ul style="list-style-type: none"> • Before respirators are fit-tested or used in the workplace.
Subsequent medical evaluations	<ul style="list-style-type: none"> • 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 49.17.010, 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. (1) Provide, at no cost to the employee, fit tests for ALL tight fitting respirators on the following schedule:

- Before employees are assigned duties that may require the use of respirators
- At least every twelve months after initial testing
- Whenever any of the following occurs:
 - A different respirator facepiece is chosen such as a 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 296-842-150 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 49.17.010, 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. (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.

(2009 Ed.)

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 49.17.010, 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. (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 <ul style="list-style-type: none"> – To prevent health hazards such as skin irritation
<ul style="list-style-type: none"> • Shared for nonemergency use OR <ul style="list-style-type: none"> • 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 49.17.010, 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 296-842-17010 Store respirators properly. (1)

- Store respirators to protect them from ALL of the following:
- (a) Deformation of the facepiece or exhalation valve
 - (b) Sunlight or extreme temperatures or other conditions
 - (c) Contamination such as dust or damaging chemicals
 - (d) Excessive moisture.

Note: Use coffee cans, sealable plastic bags, or other suitable means of protection.

(2) Follow these additional requirements for emergency respirators:

- (a) Keep respirators accessible to the work area
- (b) Store respirators in compartments or with covers clearly marked as containing emergency respirators
- (c) Follow additional storage instructions from the respirator manufacturer
- (d) Store an adequate number of emergency respirators in each area where they may be needed.

Note: Emergency respirators include mouthpiece respirators and other respirators that are limited to escape-only use by their NIOSH certification.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-17010, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-17010, filed 10/1/03, effective 1/1/04.]

WAC 296-842-17015 Inspect and repair respirators.

- (1) Conduct respirator inspections as often as specified in Table 9.
- (2) Make sure respirator inspections cover **all** of the following:
- (a) Respirator function
 - (b) Tightness of connections
 - (c) The condition of the facepiece, head straps, valves, connecting tubes, and cartridge, canisters or filters
 - (d) Pliability and deterioration of elastomeric parts
 - (e) Maintenance of air or oxygen cylinders

- (f) Making sure SCBA air cylinders are at ninety percent of the manufacturer's recommended pressure level
- (g) Proper functioning of SCBA regulators when air-flow is activated
- (h) Proper functioning of SCBA low-pressure warning devices when activated
- (3) Certify inspections for emergency respirators by documenting the following:
 - (a) Inspection date
 - (b) Serial number of each respirator or other identifying information
 - (c) Inspector's name or signature
 - (d) Inspection findings
 - (e) Required action, if problems are found.

Note:

- When documenting inspections you may either:
 - Provide the information on a tag or label and attach it to the respirator compartment**OR**
 - Include the information in an inspection report stored in paper or electronic files accessible to employees.

(4) Repair or replace any respirator that is not functioning properly **before** the employee returns to a situation where respirators are required.

If respirators fail inspection or are not functioning properly during use due to problems such as leakage, vapor or gas breakthrough, or increased breathing resistance, **ALL** of the following apply:

- (a) Do **NOT** permit such respirators to be used until properly repaired or adjusted
- (b) Use only NIOSH-certified parts
- (c) Make sure repairs and adjustments are made by appropriately trained individuals

Use the manufacturer or a technician trained by the manufacturer to repair or adjust reducing and admission valves, regulators, and warning devices on SCBAs or air-line respirators.

(d) Follow the manufacturer's recommendations and specifications for the type and extent of repairs.

(5) Use Table 9 to determine how often to inspect respirators.

Table 9
Required Frequencies for Respirator Inspections

If the respirator is . . .	Then inspect . . .
A SCBA in any use	<ul style="list-style-type: none"> • Before each use AND <ul style="list-style-type: none"> • During cleaning OR <ul style="list-style-type: none"> • Monthly if NOT used
Used for nonemergencies, including day-to-day or infrequent use	<ul style="list-style-type: none"> • Inspect before each use AND <ul style="list-style-type: none"> • During cleaning
Used only for emergencies	<ul style="list-style-type: none"> • Check for proper function before and after each use AND <ul style="list-style-type: none"> • Inspect at least monthly as instructed by the manufacturer
Used for escape-only purposes	<ul style="list-style-type: none"> • Before carrying into a work place for use

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-17015, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-17015, filed 10/1/03, effective 1/1/04.]

WAC 296-842-18005 Prevent sealing problems with tight-fitting respirators. (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 49.17.010, 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 296-842-18010 Make sure employees leave the use area before removing respirators. Make sure employees leave the use area for **any** of these reasons:

- To replace air-purifying filters, cartridges, or canisters
- When they smell or taste (detect) vapor or gas leakage from, for example, cartridges, canister, or the facepiece seal
- When they detect changes in breathing resistance
- To readjust their respirators
- To wash their faces and respirators as necessary to prevent skin or eye irritation
- If they become ill
- If they experience sensations of dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever, or chills.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-18010, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-18010, 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:

WISHA 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
 - 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 air-line respirator with an auxiliary SCBA, for each standby employee

(2009 Ed.)

(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 49.17.010, 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 296-842-20005 Make sure breathing air and oxygen meet established specifications. (1) Make sure that all SCBAs and air-line respirators are provided with safe breathing air and oxygen.

(2) Compressed breathing air must meet the following specifications for Grade D air:

(a) Oxygen (volume/volume) within 19.5-23.5%

(b) Hydrocarbon (condensed): NO MORE than five milligrams per cubic meter of air

(c) Carbon **monoxide** (CO): NO MORE than ten parts per million (ppm)

(d) Carbon **dioxide** (CO₂): NO MORE than 1,000 ppm

(e) No noticeable odor

Reference: See the American National Standards Institute - Compressed Gas Association Commodity Specification for Air (G-7.1.1989) for more information. Contact your local library to access a copy.

(3) Make sure the moisture content of the air supplied meets the following:

(a) Air supplied to respirators from cylinders must NOT exceed a dew point of -50°F (or -45.6°C) at 1 atmospheric pressure.

(b) Compressor supplied air must NOT exceed a dew point of 10°F (or 5.56°C) **BELOW** the use temperature at 1 atmospheric pressure.

(4) Cylinders of breathing air purchased or otherwise obtained from a supplier must have a certificate of analysis from the supplier verifying each cylinder's contents meet Grade D breathing air requirements and dew point standards.

(5) Compressed and liquid oxygen must meet the United States Pharmacopoeia requirements for medical or breathing oxygen.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-20005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-20005, filed 10/1/03, effective 1/1/04.]

WAC 296-842-20010 Prevent conditions that could create a hazardous breathing air supply. (1) Use SCBA and air-line respirators safely:

– **DO NOT** supply compressed oxygen to SCBAs or air-line respirators that previously used compressed air.

Note: Compressed air leaves residues containing hydrocarbons such as oil or grease. Fire or explosion can occur if compressed oxygen makes contact with these residues.

(2) Use breathing air couplings on air-line respirators that are **NOT** compatible with couplings for nonrespirable air

[Title 296 WAC—p. 3009]

or other gas systems, for example, utility air used for manufacturing purposes.

(3) **DO NOT** allow asphyxiating substances to enter breathing air lines; for example, do not flush nitrogen through worksite air lines also used for breathing air.

(4) Use equipment specifically designed for oxygen service or distribution **IF** oxygen concentrations greater than 23.5% are used.

Note: Respiratory equipment NOT designed for oxygen service or distribution can create fire or explosion hazards in oxygen concentrations higher than 23.5%.

(5) Make sure cylinders used to supply breathing air for SCBAs or air-line respirators are tested and maintained as described in the federal Department of Transportation's (DOT) Shipping Container Specification Regulations, Title 49 CFR.

Note:

- Use only cylinders marked (with serial number, cylinder pressure, DOT exemption number, and test dates) according to these DOT regulations
- To find any Code of Federal Regulations (CFR) visit: www.access.gpo.gov.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-20010, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-20010, filed 10/1/03, effective 1/1/04.]

WAC 296-842-20015 Make sure compressors do not create a hazardous breathing air supply.

IMPORTANT:

- Ambient-air movers (or pumps) used to supply air to respirators must be used according to the manufacturer's instructions.

- Respirators used with ambient-air movers must be approved by NIOSH to operate within the pressure ranges of the air mover.

(1) Locate or modify compressor intakes so they will not pick up contaminated air OR exhaust gases such as carbon monoxide (CO) from:

- Fuel-powered vehicles

OR

- The internal combustion motor of the compressor

OR

- Other contaminant sources in the area, for example, a ventilation system discharge.

Note:

- You may need to reposition or extend the compressor's intake or engine exhaust pipe or outlet, especially if they are located near each other.
- Be aware that exhaust gases may not adequately disperse when the compressor is operated in:
 - An enclosed space such as a small room, a corner, or near a wall

OR

- In turbulent wind conditions.

(2) Equip compressors with suitable air-purifying filters, water traps, and sorbents (such as charcoal beds) and maintain them as follows:

(a) Periodically change or clean them according to the manufacturer or supplier's instructions

(b) Keep a tag at the compressor with the following information:

- When the sorbent and filters were last replaced or cleaned

- The date of the most recent changes or cleaning

[Title 296 WAC—p. 3010]

- The signature of the person authorized by the employer to perform changes or cleaning.

Note: To be sure you are providing the recommended operating pressure for respirators, you may need to install a delivery pressure gauge where the respirator's airline hose attaches to the manifold or other air outlet.

(3) Make sure the carbon monoxide (CO) level in breathing air from compressors does **NOT** exceed ten parts per million (ppm).

Maintain CO levels below ten ppm in oil lubricated compressors by using at least one of the following:

(a) An effective CO alarm

(b) An effective high temperature alarm **AND** testing the air supply often enough to prevent CO levels from exceeding ten ppm.

Note:

- If you do not have a reliable CO-free area available for locating your compressor intake, consider these examples of methods to prevent CO contamination of the air supply:
 - Use of continuous and effective carbon monoxide alarms and filters
 - Conduct frequent monitoring of air quality
 - Use a CO converter (converts CO to carbon dioxide).
- How often to test depends on a number of considerations, for example:
 - Compressor age
 - Maintenance history of the compressor
 - Stability of CO readings
- If the CO or high temperature alarm cannot be heard by the employee, a flashing light or other effective alternative to an audio alarm needs to be used
- Safeguards, such as alarms, are necessary to prevent CO contamination resulting from compressor overheating. When alarms are provided, proper maintenance practices such as periodic inspections and calibration will help make sure alarms remain effective
- Any type of oil-lubricated compressor, such as screw or piston types, may produce dangerous levels of CO if overheating occurs
 - Old compressors are known to leak oil due to worn parts, increasing the possibility for overheating. Newer compressors may also overheat if maintenance practices are poor. For example, poor maintenance practices may lead to disconnected or incorrectly set alarms, inoperative shut-offs, or an impaired cooling system
- You need to instruct employees to move to a safe area when the alarm sounds **AND** to stop using respirators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-20015, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-20015, filed 10/1/03, effective 1/1/04.]

WAC 296-842-21005 Keep labels readable on respirator filters, cartridges, and canisters during use. Make sure the NIOSH certification labeling and color-coding on air-purifying respirator filters, cartridges, and canisters remains readable and intact during use.

Link: Color-coding specifications for manufacturers can be found in Title 42 CFR, Part 84. Visit www.cdc.gov/niosh.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-21005, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-21005, 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 296-842-140 of this chapter are met.

(2009 Ed.)

- 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

WISHA 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. 	
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. 	

WISHA Medical Evaluation Questionnaire	
<ul style="list-style-type: none"> • 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:	Yes	/	No

12. During the period you are using the respirator(s), is your work effort:	Yes	/	No
a. <i>Light</i> (less than 200 kcal per hour):			
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. <i>Moderate</i> (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. <i>Heavy</i> (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 49.17.010, 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.

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. <p>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:</p>

Procedure for Choosing a Respirator for Fit Testing

- 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 296-842-22025 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> <ol style="list-style-type: none"> 1. Choose an appropriate location to conduct screening. <ul style="list-style-type: none"> • Conduct screening and tests in separate well-ventilated rooms. 2. Prepare a stock solution AT LEAST weekly as follows:

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
<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> <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>

Isoamyl Acetate (Banana Oil) Vapor Test Procedure
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

Saccharin Aerosol Test Procedure
Screening Preparations
<ul style="list-style-type: none"> • 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 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 (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>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> <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>

Saccharin Aerosol Test Procedure
Screening Preparations
<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™ Aerosol Test Procedure
<ul style="list-style-type: none"> • 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 <li style="text-align: center;">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. <p>7. Have particulate filters ready for the employee's chosen respirator or have filtering-facepiece respirators ready.</p>

Bitrex™ Aerosol Test Procedure
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 <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> ■ 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:</p> <p>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!</p> <p>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.
Test
<ol style="list-style-type: none"> 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. 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:

Irritant Smoke (Stannic Chloride) Test Procedure

- 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.
 - Continue to direct smoke from a distance of 6 inches around the facepiece perimeter
 - 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:
 - Continue to use the smoke tube used for fit testing
 - Carefully direct a **SMALL** amount of irritant smoke toward the employee
 - 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. <p>Note:</p> <ul style="list-style-type: none"> • 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
- 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 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.

Note:

- 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

Important!

- The respirator must not be adjusted once the fit-test exercises begin. Any adjustment voids the test and the test must be repeated.

Controlled Negative Pressure (CNP) Test Procedure	Controlled Negative Pressure (CNP) Test Procedure
<ul style="list-style-type: none"> • After the test, you must ask the employee about the comfort of the respirator AND if the respirator has become unacceptable, another size or model must be chosen and tested. <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. 	<ol style="list-style-type: none"> 8. Turn on the instrument AND have the employee stand and perform the fit-test exercises in Table 19. 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 model. 10. Determine the overall fit factor for each employee by calculating the harmonic mean of the fit-testing as follows: $\text{Overall fit factor} = \frac{n}{1/ffE1 + 1/ffE2 + 1/ffE3 \dots + 1/ffEn}$ <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
<ol style="list-style-type: none"> 1. Test aerosol. <ul style="list-style-type: none"> • Use a particulate, for example, corn oil, polyethylene glycol 400, di-2-ethyl hexyl sebacate, or sodium chloride. 2. Instrumentation. <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. 3. Test enclosure. <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%. 4. Prepare test respirators. <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:

Generated Aerosol Test Procedure

- 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**:
 - 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
 - Replace filters when increased breathing resistance is detected **OR** when the test agent has altered the filter material's integrity.

Test

Important!

- 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:
 - **STOP** the test
 - AND
 - Have the employee select another respirator for testing.
5. Have the employee attach filters, put on, adjust, and seal check the respirator.
- Be sure to crimp the sampling line to avoid pressure leaks during the seal check
- AND
- 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:
- $$\text{Exercise fit factor (ffE)} = \frac{\text{Average test enclosure concentration}}{\text{Test aerosol concentration inside the respirator}}$$
- 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

Generated Aerosol Test Procedure	
– 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:	
<ul style="list-style-type: none"> • 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 =	$\frac{n}{1/ffE1 + 1/ffE2 + 1/ffE3 \dots + 1/ffEn}$

Table 19

Fit-Test Exercises			
Important:			
<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	X	X	

Fit-Test Exercises			
– Jog in place for one minute if the test enclosure, such as a hood, does not permit bending over			
• Normal breathing – Breathe normally while standing for one minute	X	X	
• Face forward – Premeasurement activity: Stand and breath normally, without talking, for 30 seconds – Measurement position: Face forward while holding breath for 10 seconds			X
• Bending over – 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
• Head shaking – 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
• Redon-1 – 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
• Redon-2 – Repeat the premeasurement activity and measurement position described in Redon-1			X

¹ 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 49.17.010, 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 296-842-22015 Follow procedures established for cleaning and disinfecting respirators. Follow the procedure in Table 20 for cleaning and disinfecting respirators.

Table 20
Respirator Cleaning Procedure

Step	Task
1.	Remove filters, cartridges, canisters, speaking diaphragms, demand and pressure valve assemblies, hoses, or any components recommended by the manufacturer. • Discard or repair any defective parts.
2.	Wash components in warm (43°C (110°F) maximum) water with a mild detergent or with a cleaner recommended by the manufacturer • A stiff bristle (not wire) brush may be used to help remove the dirt • If the detergent or cleaner does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following: – A bleach solution (concentration of 50 parts per million of chlorine). Make this by adding approximately one milliliter of laundry bleach to one liter of water at 43°C (110°F) – A solution of iodine (50 parts per million iodine). Make this in two steps: ■ First, make a tincture of iodine by adding 6-8 grams of solid ammonium iodide and/or potassium iodide to 100 cc of 45% alcohol approximately

Step	Task
	<ul style="list-style-type: none"> ■ Second, add 0.8 milliliters of the tincture to one liter of water at 43°C (110°F) to get the final solution – Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
3.	Rinse components thoroughly in clean, warm (43°C (110°F) maximum), preferably, running water. Note: The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces could cause dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts, if not completely removed.
4.	Drain components.
5.	Air-dry components or hand dry components with a clean, lint-free cloth.
6.	Reassemble the facepiece components. <ul style="list-style-type: none"> • Replace filters, cartridges, and canisters, if necessary (for testing).
7.	Test the respirator to make sure all components work properly.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-072, § 296-842-22015, filed 2/20/07, effective 4/1/07; 03-20-114, § 296-842-22015, filed 10/1/03, effective 1/1/04.]

WAC 296-842-22020 Follow procedures established for seal checking respirators.

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.

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.

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. 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

User Seal Check Procedure

- If you detect evidence of leakage, reposition the respirator (after removing and inspecting it), and try the positive pressure check again.

Negative pressure check:

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.

- If you cannot use the palm(s) of your hands to effectively cover the inhalation openings on cartridges or canisters, you may use:

- 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).

- 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 49.17.010, 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.]

WAC 296-842-300 Definitions.

Air-purifying respirator (APR)

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.

Air-line respirator

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.

Air supplied respirator (see air-line respirator)

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

AND

- Fitted to the user

AND

- Worn by trained individuals

AND

• Used with the limitations specified on the NIOSH approval label.

Atmosphere-supplying respirator

A respirator that supplies the user with breathing air from sources, such as:

- A cylinder or a tank
- A compressor
- An uncontaminated environment.

Breathing air

Air supplied to an atmosphere-supplying respirator. This air meets the specifications found in WAC 296-842-200.

Canister or cartridge (air-purifying)

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.

Cartridge respirator (see also air-purifying respirator)

An air-purifying respirator equipped with one or more cartridges. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

Demand respirator

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.

Dust mask

A name used to refer to filtering-facepiece respirators. Dust masks may or may not be NIOSH certified. See filtering facepiece.

Emergency respirator

Respirators suitable for rescue, escape, or other activities during emergency situations.

Emergency situation

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.

End-of-service-life indicator (ESLI)

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.

Escape-only respirator

A respirator that can only be used to exit during emergencies. Look for this use limitation on the respirator's NIOSH approval label.

Exposed, or exposure

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.

Filter

Fibrous material that removes dust, spray, mist, fume, fog, smoke particles, OR other aerosols from the air.

Filtering-facepiece respirator

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."

Fit factor

A number providing an estimate of fit for a particular respiratory inlet covering to a specific individual during quantitative fit testing.

Fit test (see also qualitative fit test and quantitative fit test)

Fit testing is an activity where the facepiece seal of a respirator is challenged, using a WISHA accepted procedure, to determine if the respirator provides an adequate seal.

Full-facepiece respirator

A tight-fitting respirator that covers the wearer's nose, mouth, and eyes.

Gas mask

An air-purifying respirator equipped with one or more canisters. These respirators have a facepiece made from silicone, rubber OR other plastic-like materials.

Half-facepiece respirator

A tight-fitting respirator that only covers the wearer's nose and mouth.

Helmet

The rigid part of a respirator that covers the wearer's head AND also provides head protection against impact or penetration.

High-efficiency particulate air filter (HEPA)

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.

Hood

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.

Immediately dangerous to life or health (IDLH)

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.

Licensed health care professional (LHCP)

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.

Loose-fitting facepiece

A respiratory inlet covering that is designed to form a partial seal with the face.

Negative-pressure respirator

Any tight-fitting respirator in which the air pressure inside the facepiece is less than the air pressure outside the respirator during inhalation.

NIOSH

The National Institute for Occupational Safety and Health. NIOSH is the federal agency that certifies respirators for occupational use.

Oxygen deficient

An atmosphere with an oxygen content below 19.5% by volume.

Permissible exposure limit (PEL)

Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful agents that must not be exceeded. PELs are specified in applicable WISHA chapters.

Positive-pressure respirator

A respirator in which the air pressure inside the respiratory-inlet covering is greater than the air pressure outside the respirator.

Powered air-purifying respirators (PAPRs)

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.

Pressure-demand respirator

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.

Qualitative fit test (QLFT)

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."

Quantitative fit test (QNFT)

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."

Respiratory hazard

Harmful airborne hazards and oxygen deficiency that are addressed in chapter 296-841 WAC, Respiratory hazards.

Required use

Respirator use:

- That is necessary to protect employees from respiratory hazards

OR

- That the employer decides to require for his or her own reasons. For example, the employer decides to follow more rigorous exposure limits

Respirator

A type of personal protective equipment designed to protect the wearer from harmful airborne hazards, oxygen deficiency, or both.

Respiratory inlet covering

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.

Seal check

Actions conducted by the respirator user each time the respirator is put on, to determine if the respirator is properly seated on the face.

Self-contained breathing apparatus (SCBA)

An atmosphere-supplying respirator designed for the breathing air source, to be carried by the user.

Service-life

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.

Sorbent

Rigid, porous material, such as charcoal, used to remove vapor or gas from the air.

Supplied-air respirator (see air-line respirator)

Tight-fitting facepiece

A respiratory inlet covering forming a complete seal with the face OR neck. Mouthpiece respirators are not tight-fitting facepieces.

Voluntary use

Respirator use that is requested by the employee AND permitted by the employer when NO respiratory hazard exists.

[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.]

Chapter 296-843 WAC

HAZARDOUS WASTE OPERATIONS

WAC

296-843-100	Scope.
296-843-110	Evaluations and inspections.
296-843-11005	Complete a preliminary site evaluation before allowing employees to enter the site.
296-843-11010	Conduct ongoing evaluations of safety and health hazards.
296-843-120	Health and safety plan (HASP).
296-843-12005	Develop and maintain a written site-specific health and safety plan (HASP).
296-843-130	Sampling and monitoring.
296-843-13005	Conduct monitoring for health and safety hazards during initial site entry.
296-843-13010	Evaluate employee exposure to hazardous substances during clean-up operations.
296-843-140	Site control.
296-843-14005	Establish site control.
296-843-150	Worker and equipment decontamination.
296-843-15005	Establish and implement decontamination procedures before any worker or equipment enters a contaminated area.
296-843-15010	Provide showers and changing rooms.
296-843-15015	Provide washing facilities.
296-843-160	Emergency response for hazardous waste sites.
296-843-16005	Establish an emergency response plan for anticipated emergencies before beginning hazardous waste operations.
296-843-170	Employee exposure controls.
296-843-17005	Control employee exposure to site health and safety hazards.
296-843-180	Drum and container handling.
296-843-18005	Handle drums and containers safely.

296-843-18010	Handle drums and containers suspected of containing shock-sensitive (explosive) wastes safely.
296-843-18015	Maintain worker safety in drum and container opening areas.
296-843-18020	Ship and transport drums and containers safely.
296-843-190	Personal protective equipment (PPE).
296-843-19005	Provide and use appropriate PPE.
296-843-200	Training, briefings, and information.
296-843-20005	Inform workers, contractors and subcontractors about the hazardous waste site.
296-843-20010	Train workers, supervisors and managers before work begins on the site.
296-843-20015	Provide additional training to your managers and supervisors.
296-843-20020	Training for postemergency response.
296-843-20025	Make sure your employees receive written documentation of training.
296-843-20030	Provide refresher training to employees.
296-843-20035	Use qualified trainers.
296-843-210	Medical surveillance.
296-843-21005	Provide medical surveillance for your employees.
296-843-220	Recordkeeping and information access.
296-843-22005	Make your records accessible.
296-843-22010	Keep medical surveillance records for your employees.
296-843-300	Definitions.

– Postemergency response cleanup at the site of a hazardous substance release regulated by chapter 296-824 WAC, Emergency response.

IMPORTANT:

This chapter applies to hazardous waste sites until cleanup at the site is determined to be complete by the governing regulatory agency.

WAC 296-843-100 Scope. This chapter applies if you have any of the following:

- Employees working in operations involving hazardous waste at a treatment, storage, and disposal (TSD) facility required to have a permit or interim status AND regulated by any of the following:

- 40 CFR Parts 264 and 265 under the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6901 et seq.;

- Agencies implementing RCRA through agreements with the United States Environmental Protection Agency (U.S.E.P.A.);

- Chapter 173-303 WAC, Dangerous waste regulations;

OR

- Employees conducting initial investigations of government-identified sites before determining whether hazardous substances are present;

OR

- Corrective actions, involving clean-up operations, at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq.) or chapter 70.105 RCW, Hazardous waste management;

OR

- Employees performing clean-up operations at an uncontrolled hazardous waste site. Sites include, but are not limited to:

- The Environmental Protection Agency's (EPA) National Priority Site List (NPL); see <http://www.epa.gov/superfund/sites/npl/wa.htm>;

- Sites recommended for inclusion on the EPA NPL;

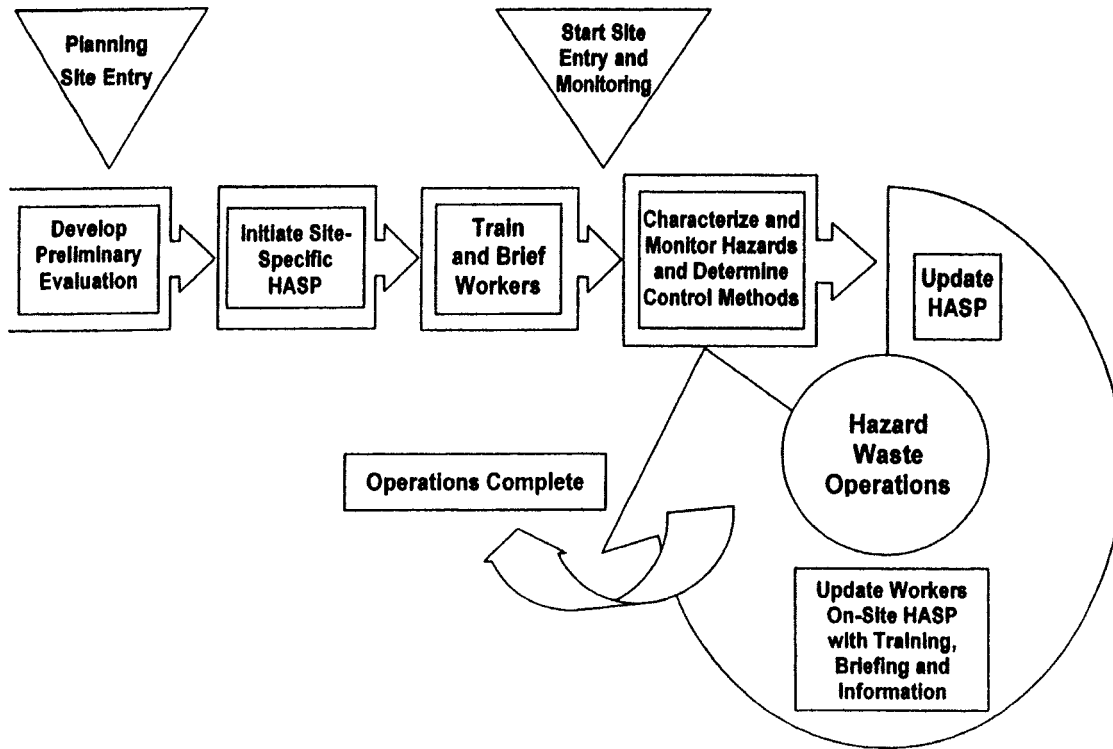
- State priority site lists, for example those listed under chapter 173-340 WAC, Model Toxics Control Act (MTCA); see <http://www.ecy.wa.gov/programs/tcp/cscs/CSCSPage.HTM>;

- Unlisted sites recognized by a federal, state or local government as an uncontrolled hazardous waste site. Examples of such sites include:

- Sites that do not meet clean-up goals established by the MTCA and that pose a threat or potential threat to human health or the environment;

- Clandestine drug lab sites designated for cleanup;

**Site Evaluation Health & Safety Plan
(HASP) Development Cycle**



IMPORTANT: This diagram is to illustrate the general flow of the site. Please see the body of the regulation for details.

Illustration 1

Other rules that may apply to hazardous waste operations:

You will find safety and health requirements (for example, personal protective equipment) are addressed in other rules and also in this chapter. If you find a conflict in requirements, you need to meet the more protective requirement. Contact your local L&I office if you need assistance in making this determination.

Examples of other rules that may apply:

- Chapter 296-800 WAC, Safety and health core rules:
 - WAC 296-800-140, Accident prevention program;
 - WAC 296-800-210, Lighting;
 - WAC 296-800-230, Drinking water, bathrooms, washing facilities and waste disposal.
- Chapter 296-24 WAC, Safety standards for general safety.
- Chapter 296-833 WAC, Temporary housing for workers.

- Chapter 296-62 WAC, General occupational health.
- Chapter 296-155 WAC, Safety standards for construction work.
- Chapter 296-824 WAC, Emergency response.
- Chapter 296-841 WAC, Respiratory hazards.
- Chapter 296-842 WAC, Respirators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-100, filed 1/5/04, effective 5/1/04.]

WAC 296-843-110 Evaluations and inspections.

Your responsibility:

To conduct evaluations before entering the site and periodically throughout the hazardous waste operations.

You must:

Complete a preliminary site evaluation before allowing employees to enter the site
WAC 296-843-11005.

Conduct ongoing evaluations of safety and health hazards

WAC 296-843-11010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-110, filed 1/5/04, effective 5/1/04.]

WAC 296-843-11005 Complete a preliminary site evaluation before allowing employees to enter the site.

You must:

• Complete a preliminary site evaluation by doing all the following:

Collect or develop the following information to the extent available:	<ul style="list-style-type: none"> • The site location and approximate size • A description of the response activity and the job tasks to be performed • The time needed to cover all planned activities • The site's topography and all ways to access the site • The current status and capabilities of any emergency response team assisting during an emergency • The safety and health hazards expected at the site • The hazardous substances and health hazards at the site, including their chemical and physical properties • All hazardous substance dispersion pathways • An emergency response plan
Have a qualified person evaluate the preliminary site information to identify:	<ul style="list-style-type: none"> • Potential site hazards and risks • The most appropriate methods to protect employees • Conditions that have the potential to cause death or serious harm, including potential inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH) <ul style="list-style-type: none"> – Examples include: <ul style="list-style-type: none"> ■ Confined space entry ■ Potentially explosive or flammable environments ■ Visible vapor clouds ■ Areas where plants or animals have died • Risks related to specific on-site hazardous substances and health hazards <ul style="list-style-type: none"> – Examples include: <ul style="list-style-type: none"> ■ Exposures exceeding the permissible exposure limits (PELs) or published exposure levels ■ IDLH concentrations ■ Potential skin absorption and irritation sources ■ Potential eye irritation sources ■ Explosion sensitivity and flammability ranges ■ Oxygen deficient atmospheres
Have a qualified person prepare an initial site characterization and analysis for the site to:	<ul style="list-style-type: none"> • Identify known and suspected health and safety hazards for the site • Aid in selecting control methods to protect employees from site hazards • Brief employees on site conditions before any work starts • Initiate the site-specific health and safety plan (HASP)

Note: Characterization and analysis of site hazards is an ongoing process for work on the hazardous waste site.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-11005, filed 1/5/04, effective 5/1/04.]

■ Include a site safety and health supervisor responsible for developing and implementing the HASP and verifying

WAC 296-843-11010 Conduct ongoing evaluations of safety and health hazards.

You must:

(1) Have a qualified person complete further evaluation of health and safety hazards at the site immediately after initial entry to:

- Identify site hazards in more detail.
- Help select appropriate:
 - Control methods to protect employees from site hazards.
 - Personal protective equipment (PPE) for site operations.

Note: For more information, see WAC 296-843-170, Hazard controls, and WAC 296-843-190, Personal protective equipment.

You must:

(2) Make sure your site safety and health supervisor or another qualified person performs periodic inspections to:

- Determine if the site-specific HASP is effective.
- Correct any deficiencies.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-11010, filed 1/5/04, effective 5/1/04.]

WAC 296-843-120 Health and safety plan (HASP).

Your responsibility:

To establish a written health and safety plan (HASP).

You must:

Develop and maintain a written site-specific health and safety plan (HASP)

WAC 296-843-12005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-120, filed 1/5/04, effective 5/1/04.]

WAC 296-843-12005 Develop and maintain a written site-specific health and safety plan (HASP).

Reference: If your overall program required under WAC 296-800-140, Accident prevention program (APP), meets requirements of this chapter, you do not need to duplicate those portions of your APP in the site-specific health and safety plan (HASP).

You must:

• Develop a written HASP for each hazardous waste site, **BEFORE** beginning hazardous waste operations, that includes at least the following:

Hazard analysis:

- Identification and evaluation of on-site safety and health hazards.
- A safety and health risk (hazard) analysis for each site task and operation that is identified in the comprehensive work plan.

Organization chart:

– An organizational structure that reflects current site operations, including the following:

- Establish and identify the chain of command.
- Identify the site safety and health supervisor and other personnel responsible for employee safety and health.
- Specify the overall responsibilities of supervisors and employees.
- Include the name and title of the person with responsibility and authority to direct all hazardous waste operations compliance.

- Identify the functions and responsibilities of all personnel needed for hazardous waste operations and emergency response.

- Identify site specific lines of authority, responsibility, and communication.

Comprehensive work plan:

- A written comprehensive work plan of tasks, objectives, logistics, and resources for site operations, including the following:

- Addresses anticipated clean-up activities and normal operating procedures unless that information is already available in another document.

- Defines work tasks and objectives.

- Describes how the work tasks and objectives will be accomplished.

- Establishes the personnel requirements to implement the work plan.

- Provides for implementation of training, briefings, and information as required by WAC 296-843-200.

Site control plan:

- An up-to-date site control plan before clean-up operations begin to minimize employee exposure to hazardous substances and including the following (unless it's available in another document):

- A site map.

- Establish site work zones.

- How the "buddy system" is used.

- The site communications plan, including how employees are alerted during emergencies.

- The site's standard operating procedures (SOPs) or safe work practices.

- Identification of the nearest medical assistance.

Personal protective equipment:

- A PPE plan that addresses all of the following:

- Site hazards and activities.

- Methods to evaluate the effectiveness of the PPE plan.

- Criteria for selecting and fitting PPE, including work duration, use limitations of particular PPE, and medical considerations such as temperature extremes and heat stress.

- Training on PPE use.

- Procedures for putting on and taking off PPE.

- PPE inspection procedures prior to, during, and after use.

- Decontamination and disposal of PPE.

- Maintenance and storage of PPE.

Additional elements:

- A sampling and monitoring plan (see WAC 296-843-130) that includes sampling of drums and containers.

- Site control measures (see WAC 296-843-140).

- Decontamination procedures (see WAC 296-843-150).

- Spill containment plans (see WAC 296-843-180, Drum and container handling).

- Standard operating procedures for sampling, managing, and handling drums and containers (see WAC 296-843-180).

- Entry procedures for tanks or vaults (see chapter 296-809 WAC, Confined spaces).

- A training, briefings, and information plan (see WAC 296-843-200).

- A medical surveillance plan (see WAC 296-843-210), that includes site-specific medical surveillance requirements.

(2009 Ed.)

- Sanitation (see WAC 296-155-140).

- Lighting (see WAC 296-800-210).

- Excavations (see chapter 296-155 WAC, Part N, Excavation, trenching and shoring).

- Any relationship or interaction between other programs and the site-specific program.

Note: The emergency response plan required by WAC 296-843-160, Emergency response for hazardous waste sites, is also included as a separate section in the HASP.

You must:

- Keep a copy of your HASP on site.

Reference: For more information, see WAC 296-843-220, Recordkeeping and information access.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-843-12005, filed 1/24/07, effective 4/1/07; 04-02-053, § 296-843-12005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-130 Sampling and monitoring.

Your responsibility:

To conduct monitoring for health and safety hazards to protect employees.

You must:

Conduct monitoring for health and safety hazards during initial site entry

WAC 296-843-13005.

Evaluate employee exposure to hazardous substances during clean-up operations

WAC 296-843-13010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060, 04-02-053, § 296-843-130, filed 1/5/04, effective 5/1/04.]

WAC 296-843-13005 Conduct monitoring for health and safety hazards during initial site entry.

You must:

- Make visual observations of the site to detect signs of actual or potential immediately dangerous to life or health (IDLH) or other dangerous conditions.

- Conduct representative air monitoring with direct reading test equipment, when the preliminary site evaluation does not eliminate the potential for ionizing radiation or IDLH conditions.

- Assess the following:

- Potential IDLH conditions.

- Exposure over radioactive material dose limits.

- Potential exposure over permissible exposure limits (PELs) or other published exposure levels.

- Other dangerous conditions, such as the presence of flammable or oxygen-deficient atmospheres.

Reference: See WAC 296-62-09004, Ionizing radiation, for additional information about radioactive material dose limits.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060, 04-02-053, § 296-843-13005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-13010 Evaluate employee exposure to hazardous substances during clean-up operations.

IMPORTANT:

The clean-up operation begins when soil, surface water, or containers are moved or disturbed.

You must:

- Identify the type of personnel monitoring and environmental sampling you plan to use, including instrumentation.
- Include requirements for maintaining and calibrating the monitoring and sampling instruments used.
- Monitor whenever employees may be exposed to concentrations exceeding PELs or other published exposure levels.

• Evaluate employees who are likely to have the highest exposure:

- Monitor all employees who are likely to have the highest exposure to hazardous substances or health hazards above the PEL or published exposure limit.
- Use personal sampling frequently enough to characterize the exposures of these employees.

■ When results indicate exposure is over the PEL or other published exposure level, identify all employees likely to be above the PEL or published exposure limit.

Note: You may use a representative sampling approach by documenting that the employees and chemicals chosen for monitoring are representative of both:

- Employee exposure to hazardous substances;
- AND**
- Employees not sampled.

You must:

- Conduct monitoring when the possibility of one of the following exists:
 - An atmosphere that is immediately dangerous to life or health (IDLH);
 - OR**
 - A flammable atmosphere;
 - OR**
 - Employee exposures exceeding PELs or other published exposure levels.

Examples of situations where these possibilities may exist:

- Work begins on a different portion of the site.
- Contaminants other than those previously monitored are being handled.
- A different type of site operation starts, such as moving from drum opening to exploratory well drilling.
- Handling leaking drums or containers.
- Working in areas with obvious liquid contamination such as a spill or lagoon.
- Time has passed and employee exposure levels may have significantly increased.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-13010, filed 1/5/04, effective 5/1/04.]

WAC 296-843-140 Site control.

Your responsibility:

To establish a plan to control access to the site.

You must:

Establish a site control plan
WAC 296-843-14005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-140, filed 1/5/04, effective 5/1/04.]

WAC 296-843-14005 Establish site control.

You must:

- Maintain site work zones and site control as required by Table 1, Site Work Zone Requirements.
- Control access to the exclusion and contamination reduction zones.
- Make sure people wear personal protective equipment (PPE) appropriate to their work zone.

**Table 1
Site Work Zone Requirements**

For this type of work zone:	You must:
Exclusion zone	<ul style="list-style-type: none"> • Establish entry and exit checkpoints on the zone's boundary • Regulate the flow of people and equipment into and out of the zone • Make sure exits go through a contamination reduction corridor
Contamination reduction zone with a contamination reduction corridor	<ul style="list-style-type: none"> • Enter through a control point from the clean zone • Provide a transition or buffer between the exclusion zone and the clean zone • Perform all decontamination procedures • Establish separate decontamination routes for people and equipment, if practical • Remove all PPE worn in the contamination reduction or exclusion zones before entering the clean zone
Clean zone or support zone	Have no employee exposure to hazardous substances or health hazards

Note: See Illustration 2 for an example of site work zones.

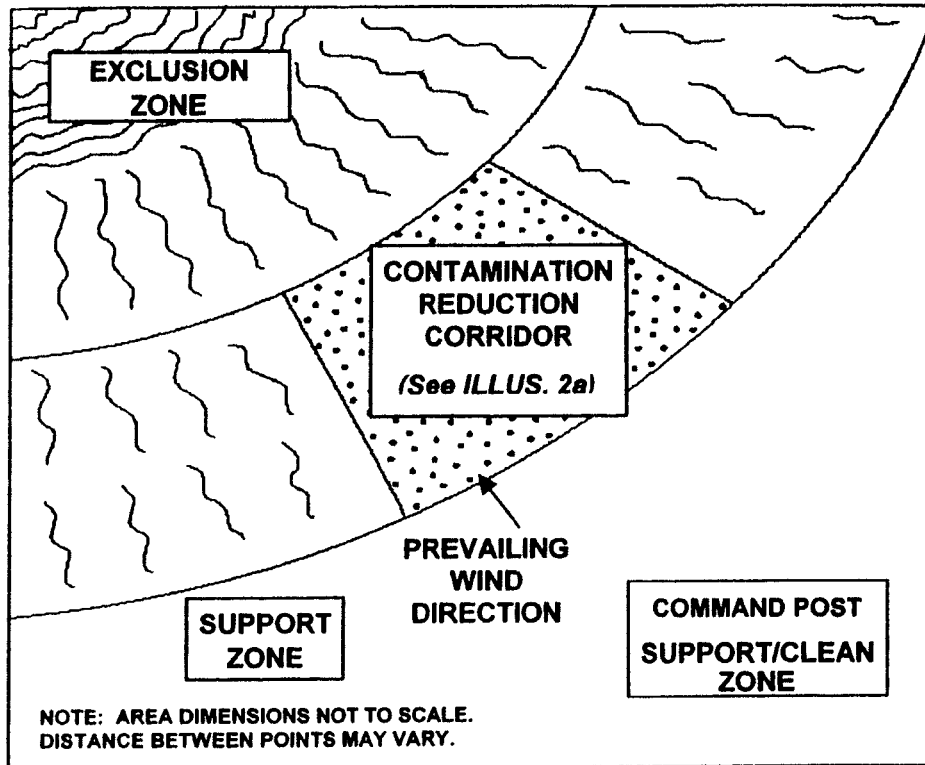


Illustration 2 - SITE WORK ZONES

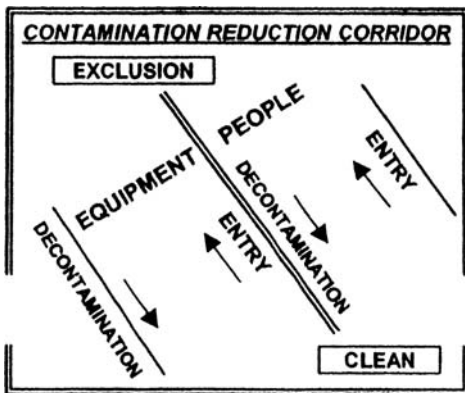


Illustration 2a - CONTAMINATION REDUCTION CORRIDOR

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-14005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-150 Worker and equipment decontamination.

Your responsibility:

To make sure the necessary facilities and equipment for effective decontamination are available and used.

You must:

Establish and implement decontamination procedures before any worker or equipment enters a contaminated area

WAC 296-843-15005.

Provide showers and changing rooms

(2009 Ed.)

WAC 296-843-15010.

Provide washing facilities

WAC 296-843-15015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-150, filed 1/5/04, effective 5/1/04.]

WAC 296-843-15005 Establish and implement decontamination procedures before any worker or equipment enters a contaminated area.

You must:

- Establish, implement, and communicate decontamination procedures to all workers, to include the following:

- Standard operating procedures to minimize worker contact with:

- Hazardous substances.

- Contaminated equipment.

- Decontaminating all:

- Workers leaving a contaminated area.

- Equipment leaving a contaminated area.

- Decontaminating, cleaning, laundering, repairing, or replacing protective clothing or equipment (PPE) as needed to maintain effectiveness.

- Immediate removal of clothing, such as cotton coveralls, wet with hazardous substances and use of the nearest shower.

- Decontaminate or dispose of clothing before removal from the work zone.

- Periodically monitoring procedures for effectiveness by the site safety and health supervisor.

- Correct your procedures when found ineffective.

– Establish decontamination areas to minimize contact of contaminated employees and equipment with uncontaminated employees or equipment.

– Make sure only authorized employees remove protective clothing or equipment from changing rooms.

– Inform commercial laundries or cleaning establishments about the potentially harmful effects from exposure to hazardous substances.

– Properly decontaminate or dispose of decontamination equipment and solvents.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-15005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-15010 Provide showers and changing rooms.

You must:

• Provide changing areas and showers outside a contaminated area, when needed for worker decontamination, that include at least the following:

– Separate changing areas:

■ One to provide a clean area where employees can remove, store, and put on street clothing with an exit leading off the work site.

■ Another where employees can put on, remove, store, and dispose of work clothing and PPE with an exit leading to the work site.

– A shower area separating the changing areas.

• Prevent clean areas from being contaminated by hazardous substances.

• Provide and use other effective means for worker cleansing, if temperature conditions prevent the effective use of water.

• Locate showers and change rooms where worker exposures are below permissible exposure limits (PELs) or other published exposure levels.

– If this cannot be accomplished, use a ventilation system to supply air that is below the PELs or published exposure levels.

• Make sure all workers shower at the end of their work shift or before they leave the site, when needed for worker decontamination.

Illustration 3 is a sample diagram of a change room layout.

Change Room Layout

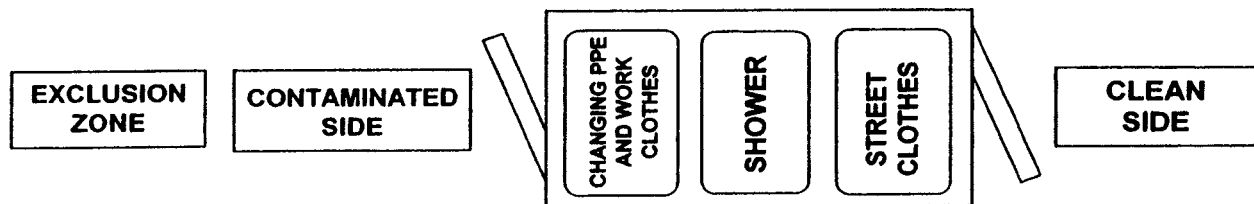


Illustration 3

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-15010, filed 1/5/04, effective 5/1/04.]

WAC 296-843-15015 Provide washing facilities.

You must:

• Provide adequate washing facilities to employees working in hazardous waste operations that are:

– Close and convenient to the work area.

– Located in areas where employee exposure is below PELs or other published exposure levels.

– Equipped so an employee can remove hazardous substances from themselves without assistance.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-15015, filed 1/5/04, effective 5/1/04.]

WAC 296-843-160 Emergency response for hazardous waste sites.

Your responsibility:

To establish an emergency response plan for emergencies at the hazardous waste site.

You must:

Establish an emergency response plan for anticipated emergencies before beginning hazardous waste operations

WAC 296-843-16005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-160, filed 1/5/04, effective 5/1/04.]

[Title 296 WAC—p. 3034]

WAC 296-843-16005 Establish an emergency response plan for anticipated emergencies before beginning hazardous waste operations.

Exemption: Employers are exempt from preparing an emergency response plan if they do ALL of the following:

- Evacuate all employees from the danger area during an emergency.
- Prohibit employees from assisting in the emergency response.
- Prepare an emergency action plan that complies with WAC 296-24-567(1), Evacuation plan.

IMPORTANT:

Treatment, storage, and disposal (TSD) employers are not required to duplicate subjects fully addressed in the contingency plan required by permits when the contingency plan is part of their emergency response plan. Examples of permits would be those issued by the department of ecology.

You must:

(1) Establish and maintain the plan to reflect current site conditions, information, and personnel:

• Include policies or procedures for at least the following:

– Preemergency planning.

– Coordination with outside organizations.

– Current site topography, layout, and weather conditions.

– Personnel roles.

- Lines of authority.
- Communication.
- Reporting incidents to local, state, and federal government agencies.
- Emergency recognition and prevention.
- Safe distances and places of refuge.
- Site security and control.
- Evacuation routes.
- Decontamination not covered by the site-specific HASP.
- Emergency medical treatment and first aid.
- Emergency alert and response.
- Personal protective equipment and emergency equipment.
- Employee training.
- Critique of the response effort and appropriate followup.
- Use available information at the time of the emergency to:
 - Evaluate the incident and site response capabilities.
 - Proceed with appropriate steps to implement your emergency response plan.
 - Make sure the emergency response plan is:
 - Kept as a separate section of your site-specific health and safety plan (HASP);

AND

- Integrated and compatible with, local, state, and federal plans for disasters, fires, and emergency responses.
- (2) Establish an alarm system to alert employees to all of the following:
 - An on-site emergency incident:
 - To stop work activities, if necessary.
 - To lower background noise to assist communication.
 - To begin emergency procedures.
 - (3) Rehearse the plan as part of site operations training.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-16005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-170 Employee exposure controls.

Your responsibility:

Implement feasible controls to protect employees from exposure to site hazards.

You must:

Control employee exposure to site health and safety hazards

WAC 296-843-17005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-170, filed 1/5/04, effective 5/1/04.]

WAC 296-843-17005 Control employee exposure to site health and safety hazards.

You must:

- Use feasible controls, selected based on monitoring and other available information, to protect employee exposure above permissible exposure limits (PELs) or other published exposure levels.
 - Examples of controls include:
 - Installing pressurized cabs or control booths on equipment.
 - Using remotely operated material handling equipment.

(2009 Ed.)

- Removing all nonessential employees when opening drums.

- Wetting down dusty operations.

- Positioning employees upwind of possible hazards.

- Evaluate new technologies and other control measures before using them on a large scale.

- Use any reasonable combination of controls and personal protective equipment (PPE) to reduce and maintain employee exposure at or below the PELs, published exposure levels, or dose levels when controls are not:

- Feasible;

OR

- Effective.

- Make sure PPE is NOT used as a replacement control.

- PPE should be used only as a supplement to controls.

Note: For those hazardous substances without PELs or published exposure levels, use other published literature and material safety data sheets (MSDSs) to help decide what level of protection is appropriate. For more information about MSDSs, see WAC 296-800-180 in the *Safety and Health Core Rules* book.

You must:

- Use employee rotation to reduce exposure below ionizing radiation PELs or dose limits, when that is the **only** feasible means of protecting employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-17005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-180 Drum and container handling.

Your responsibility:

To handle drums and containers in ways that minimize the hazard to employees.

You must:

Handle drums and containers safely

WAC 296-843-18005.

Handle drums and containers suspected of containing shock-sensitive (explosive) wastes safely

WAC 296-843-18010.

Maintain worker safety in drum and container opening areas

WAC 296-843-18015.

Ship and transport drums and containers safely

WAC 296-843-18020.

IMPORTANT:

- Containers or drums containing shock-sensitive (explosive) or potentially shock-sensitive wastes require special handling precautions.

- Handle, transport, label, and dispose of drums and containers according to this chapter and other United States Department of Transportation (DOT), WISHA, EPA, and Washington department of ecology regulations for:

- Drums.
- Containers.
- Hazardous substances.
- Contaminated soils.
- Liquids, and other residues.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-180, filed 1/5/04, effective 5/1/04.]

WAC 296-843-18005 Handle drums and containers safely.**Preparation for moving drums and containers:****You must:**

- Assess hazards to employees, such as radioactive waste, before handling drums and containers.
- Consider unlabeled drums and containers to contain hazardous substances and handle them accordingly, until the contents are positively identified, labeled, and assessed for hazards.
 - Inspect and make sure drums and containers are sound before moving them.
 - If it is not practical to inspect drums without moving them, move drums and containers to an accessible location and inspect prior to further handling.
 - Remove soil or other materials covering drums or containers with caution to prevent rupture.
 - Use ground-penetrating systems or other types of detection systems or devices to estimate the location and depth of buried drums or containers.
 - Use the sampling plan and procedures included in the site-specific HASP to sample the contents of containers and drums.

Moving drums and containers:**You must:**

- Warn all employees exposed to drum movement operations about the potential hazards associated with the contents of the drums or containers prior to moving them.
- Minimize movement of drums or containers.
- Select, position, and operate tools and material handling equipment to prevent the ignition of flammable vapors.
- Handle tanks and vaults containing hazardous substances with the same precautions as for drums and containers, taking into account the size of tank or vault.

Handling spills and leaks:**You must:**

- Contain and isolate the entire volume of a hazardous substance in a drum or container when a spill occurs.
- Have available and use both of the following in areas where spills, leaks, or ruptures may occur:
 - United States Department of Transportation (DOT) specified salvage drums or containers.
 - Suitable quantities of proper absorbent materials.
- Empty drums and containers, that cannot be moved without rupturing, leaking, or spilling, into a sound container.
 - Use a pump or other device classified for the material being transferred.
- Have fire-extinguishing equipment on-hand to control fires in their initial stage.

Reference: For further information, see the safety and health core rules, WAC 296-800-300, Portable fire extinguishers.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-18005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-18010 Handle drums and containers suspected of containing shock-sensitive (explosive) wastes safely.**You must:**

- Allow only essential employees in the transfer area.
- Communicate as follows:

- Signal the beginning and end of shock-sensitive (explosive) waste handling activities with an alarm system that is capable of being perceived above background light and noise.

- Maintain continuous communications throughout the handling operation:

- Between the employee-in-charge of the immediate handling area AND the site safety and health supervisor AND the command post.

- Using portable radios, hand signals, or telephones, as appropriate.

- Prevent the use of communication equipment or methods that could cause shock-sensitive (explosive) materials to explode.

- Provide material handling equipment with explosive containment devices or shields to protect equipment operators from exploding containers.

- Do not move bulging or swollen drums or containers until the cause for excess pressure is determined and you can move the drum or container safely.

- Consider packaged laboratory wastes or laboratory waste packs shock-sensitive or explosive until the contents have been characterized.

- Make sure laboratory waste packs are opened only:

- When necessary.

- By a person knowledgeable in the inspection, classification, and segregation of the containers within the pack.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-18010, filed 1/5/04, effective 5/1/04.]

WAC 296-843-18015 Maintain worker safety in drum and container opening areas.**You must:**

- Keep employees who are not involved in opening drums or containers a safe distance from the opening area.

- Use appropriate shielding between the employee and the drums or containers, when excess interior pressure cannot be relieved from a remote location.

- Provide an explosion-resistant barrier that does not interfere with the work to protect employees working near or adjacent to drum or container opening operations from accidental explosions.

- Position controls for drum or container opening equipment, monitoring equipment, and fire suppression equipment behind the explosion-resistant barrier. Prohibit employees from standing on or working from drums or containers.

Reference: The shipment of shock-sensitive (explosive) waste may be prohibited under United States Department of Transportation (DOT) regulations. You and your shipper should refer to title 49 CFR.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 04-02-053, § 296-843-18015, filed 1/5/04, effective 5/1/04.]

WAC 296-843-18020 Ship and transport drums and containers safely.**You must:**

- (1) Identify and classify drum and container contents prior to packaging for shipment.

- (2) Provide staging areas:

- Each staging area must have adequate entry and exit routes.

- The number of drum or container staging areas must be kept to the minimum needed to identify and classify materials safely and prepare them for transport.

(3) Permit bulking of hazardous wastes only after a thorough characterization of the wastes has been completed.

- Note:** Handle, transport, label, and dispose of drums and containers according to this chapter and other United States Department of Transportation (DOT), WISHA, EPA, and Washington department of ecology regulations for:
- Drums.
 - Containers.
 - Hazardous substances.
 - Contaminated soils.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-18020, filed 1/5/04, effective 5/1/04.]

WAC 296-843-190 Personal protective equipment (PPE).

Your responsibility:

To use PPE to protect employees when feasible controls do not remove the hazardous exposure.

You must:

Provide and use appropriate PPE
WAC 296-843-19005.

Reference: For additional information about developing a PPE plan, see the PPE user guide found at <http://www.ini.wa.gov/wisha/publications/PPEGuide/PPEload.htm>.

Note: The manufacturer's information on PPE may be used to meet your PPE plan requirements. For example, the manufacturer's procedures for putting on and taking off PPE may be attached to the site-specific health and safety plan (HASP).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-190, filed 1/5/04, effective 5/1/04.]

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:

(2009 Ed.)

- 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 Note: You may decrease the level of protection when information indicates this will not increase employee exposure to safety or health hazards
There is a substantial possibility that skin absorption or contact with a hazardous substance may: <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 	Use totally encapsulating chemical protective (TECP) suits and make sure they will protect employees from the hazards <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% 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
There is a substantial possibility that employee exposure to hazardous substances will either:	Use a positive-pressure SCBA or an airline respirator with an escape SCBA

If	Then
<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 	<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.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-19005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-200 Training, briefings, and information.

Your responsibility:

To make sure employees and subcontractors have the training and information needed to work safely.

You must:

Inform workers and employers about the hazardous waste site

WAC 296-843-20005.

Train workers, supervisors and managers before work begins on the site

WAC 296-843-20010.

Provide additional training to your managers and supervisors

WAC 296-843-20015.

Training for postemergency response

WAC 296-843-20020.

Make sure your employees receive written documentation of training

WAC 296-843-20025.

Provide refresher training to employees

WAC 296-843-20030.

Use qualified trainers

WAC 296-843-20035.

IMPORTANT:

If law enforcement personnel participate in clean-up activities, they must receive appropriate hazardous waste clean-up training as described in this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-200, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20005 Inform workers, contractors and subcontractors about the hazardous waste site.

You must:

- Inform employees, contractors, and subcontractors or their representatives, about:

- The nature, level, and degree of exposure to hazardous substances they're likely to encounter.
- All site-related emergency response procedures.
- Any identified potential fire, explosion, health, safety, or other hazards.

- Conduct briefings for employees, contractors, and subcontractors, or their representatives as follows:

- A preentry briefing before any site activity is started.
- Additional briefings, as needed, to make sure that the site-specific HASP is followed.
- Make sure all employees working on the site are:
 - Informed of any risks identified.
 - Trained on how to protect themselves and other workers against the site hazards and risks.
- Update all information to reflect current site activities and hazards.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20010 Train workers, supervisors and managers before work begins on the site.

IMPORTANT:

- The eighty-hour training requirement does NOT apply to law enforcement personnel entering illicit drug labs, securing the premises, and obtaining evidence. Attendance at a forty-hour training course, such as presented by the criminal justice training commission, is acceptable.
- These training requirements do not apply to workers engaged in limited postemergency response activities provided they meet the conditions described in WAC 296-843-20020.

You must:

- Make sure workers have received twenty-four-, forty- or eighty-hour training as required by Table 3 before participating in hazardous waste operations.
- Make sure workers also receive site-specific training that thoroughly covers at least the following:
 - The personnel responsible for employee safety and health.
 - Safety, health, and other hazards known or suspected at the site.
 - Use of personal protective equipment.
 - Work practices to minimize worker's risk from the hazards.
 - Use of engineering and other controls and equipment on the site.
 - Medical surveillance provided.
 - Recognition of signs and symptoms that might indicate overexposure to site hazards.
 - The contents of the site-specific health and safety plan (HASP) required by this chapter.

- Make sure workers also receive site-specific training that thoroughly covers at least the following:

- The personnel responsible for employee safety and health.
- Safety, health, and other hazards known or suspected at the site.
- Use of personal protective equipment.
- Work practices to minimize worker's risk from the hazards.
- Use of engineering and other controls and equipment on the site.
- Medical surveillance provided.
- Recognition of signs and symptoms that might indicate overexposure to site hazards.
- The contents of the site-specific health and safety plan (HASP) required by this chapter.

Note: The site-specific training can be provided as part of the twenty-four-, forty- or eighty-hour training or as part of the employee briefings provided all training and information requirements of WAC 296-843-200 are met.

**Table 3
Training Requirements**

If	Then	Notes
Work and exposures require use of atmosphere supplying respirators	Provide eighty hours of training and three days of supervised on-site field experience	Eighty-hour training may be fulfilled as follows:

If	Then	Notes
		<ul style="list-style-type: none"> One eighty-hour training session with emphasis on hazards requiring the use of atmosphere-supplying respirators and of chemical protective clothing <p>OR</p> <ul style="list-style-type: none"> One forty-hour training class as described below and an additional forty hours of training that emphasizes hazards requiring the use of atmosphere-supplying respirators and of chemical protective clothing <p>Refresher training, previous courses, supervised field experience, and previous work experience may count towards the additional forty hours, if it improves the worker's competency to use respirators and chemical protective clothing ensembles and procedures</p>
Work and exposures may exceed the PEL or require protective clothing but do not require atmosphere supplying respirators	Provide forty hours of training and three days of supervised on-site field experience	Workers with twenty-four hours of training may become forty hour trained with sixteen hours of off-site training and two additional days of supervised on-site field experience
Workers are occasionally on-site to perform specific limited tasks and unlikely to be exposed above PELs or other published exposure limits	Provide twenty-four hours of training and one day of supervised on-site field experience	
Workers are regularly on-site but work in areas fully characterized and monitored, with exposure under the PELs or other published exposure limits: <ul style="list-style-type: none"> No need for respirators No health hazards No possibility of an emergency 	Provide twenty-four hours of training and one day of supervised on-site field experience	
Workers are at TSD facilities under normal operations (this does not include corrective actions cleanup at these facilities)	Provide twenty-four hours of training and one day of supervised on-site field experience	

If	Then	Notes
Employees perform emergency response activities	Train workers to a level of competence in site emergencies, consistent with their assigned duties, to protect themselves and other employees	
Workers qualify for limited postemergency response clean-up training	Provide at least eight hours of training	See WAC 296-843-20020, Training for postemergency response, for detailed training information
Workers have been previously trained (includes equivalent training)	Provide site-specific training, briefings and information required by this chapter and supervised field experience on the site of one day for twenty-four-hour and three days for forty- or eighty-hour trained workers	Document equivalent training and work experience as required by WAC 296-843-20025

Note: When calculating "training hours," WISHA assumes a "normal" workday of eight hours with sufficient time for lunch and other breaks.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20010, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20015 Provide additional training to your managers and supervisors.

You must:

- Make sure the following receive appropriate training:
 - On-site managers.
 - Supervisors responsible for hazardous waste operations.
 - Supervisors who directly supervise employees in hazardous waste operations.
 - Make sure such supervisors and on-site managers receive the same training as that required by the workers they supervise (see WAC 296-843-20010).
 - Make sure such supervisors and managers receive a minimum of eight additional hours of specialized training including the following information:
 - Written site-specific health and safety plan (HASP):
 - Training plan.
 - Personal protective equipment (PPE) plan.
 - Spill containment plan.
 - Emergency management procedures to use when a release of hazardous substances occurs.
 - Federal, state, and local agencies to be contacted if there is a release of hazardous substances.
 - Sampling and monitoring plan (including procedures and techniques for monitoring health hazards).
 - Managing hazardous wastes and their disposal.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20015, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20020 Training for postemergency response.

You must:

- Provide workers who participate only in limited postemergency response clean-up operations with a minimum of eight hours of training, when these conditions are met:

– Cleanup is at a site that is a hazardous waste operation only because of an emergency response.

– Clean-up work is directly supervised by someone who has completed at least forty hours of training in hazardous waste operations as required in this chapter.

– Written documentation is maintained at the work site supporting less than twenty-four hours of training.

– The work:

■ Is performed in an area that has been monitored and fully characterized by a qualified person as an area where employee exposure cannot exceed PELs or other published exposure levels.

■ Does not require using respiratory protection.

■ Does not require entry into permit-required confined spaces.

■ Involves minimal health risks from skin exposure and absorption that are effectively controlled by PPE.

– Workers have received training in your emergency response plan and hazard communication program.

Reference: For additional information, see WAC 296-843-160, Emergency response, and WAC 296-800-170, Employer chemical hazard communication.

You must:

• Make sure workers complete any other safety and health training needed to perform assigned clean-up tasks in a safe and healthful manner.

– Training may include topics such as the following:

■ Safety hazards and controls.

■ The content and availability of the site-specific health and safety plan.

■ Decontamination procedures.

■ Operating procedures related to assigned clean-up tasks.

■ PPE use and limitations.

■ Hands-on exercises for PPE and decontamination.

■ Information about heat stress and hypothermia.

• Make sure workers have been trained within the last twelve months.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20020, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20025 Make sure your employees receive written documentation of training.

You must:

• Certify and document annually that each manager, supervisor, and worker has either:

– Attended and successfully completed the training required by this section;

OR

– Demonstrated their competency.

■ Record and maintain the method used to demonstrate competency.

• Make sure your employees and supervisors who complete required training and field experience receive written training documentation authenticated by the responsible trainer.

• Provide a copy of the certification or documentation to your employee upon request.

Note: Equivalent training may include academic or work-related training that covers subjects required by this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20025, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20030 Provide refresher training to employees.

You must:

• Make sure all certified employees, supervisors, and managers receive eight hours of refresher training at least every twelve months that covers:

– The topics specified in WAC 296-843-200.

– Assessments or evaluations of work-related incidents.

– Any other relevant topics.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20030, filed 1/5/04, effective 5/1/04.]

WAC 296-843-20035 Use qualified trainers.

You must:

Use trainers that:

• Have demonstrated competent instructional skills.

• Demonstrate knowledge of the subject matter and have

either:

– Satisfactorily completed a training program in the subject;

OR

– Have the academic credentials and instructional experience needed for teaching the subject.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-20035, filed 1/5/04, effective 5/1/04.]

WAC 296-843-210 Medical surveillance.

Your responsibility:

To provide medical surveillance for employees that work in hazardous waste operations.

You must:

Provide medical surveillance for your employees

WAC 296-843-21005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-210, filed 1/5/04, effective 5/1/04.]

WAC 296-843-21005 Provide medical surveillance for your employees.

You must:

• Establish a medical surveillance plan for all employees who meet any of the following:

– Are or may be exposed to hazardous substances or health hazards for at least thirty days a year, at or above the permissible exposure limits (PELs) or other published exposure levels.

– Wear a respirator for at least thirty days a year.

– Are injured, become ill, or develop signs or symptoms of possible overexposure to hazardous substances or health hazards.

– Are hazardous materials team (HAZMAT) members.

Reference: Employees who use respirators less than thirty days a year are required to have a respirator medical evaluation as outlined by chapter 296-842 WAC, Respirators. Completion of a medical examination required by this section will meet the requirement for a respirator medical evaluation.

You must:

• Make sure medical examinations, consultations, and procedures are:

- Scheduled according to Table 4, Medical Examination Schedule.
- Performed or supervised by a licensed physician.
- Available:
 - At a reasonable time and place.
 - Without loss of pay.
 - Without cost to employees.

Note: Examples of costs include: Mileage, gas, bus fare, and time spent outside normal work hours.

**Table 4
Medical Examination Schedule**

If a worker	Then provide an examination
Is assigned to work that is covered by this chapter	Before work assignment begins
Continues to work in hazardous waste operations	At least once every twelve months, unless the attending physician decides a different interval, up to twenty-four months or less than twelve months, is appropriate
Needs to be examined more frequently based on the examining physician's medical judgment	At an interval less than twelve months
Is reassigned to an area where their work is not covered OR Employment is terminated	As soon as possible, unless he or she was examined within the past six months
Has an incident that results in injury or illness OR Develops signs or symptoms of possible overexposure to hazardous substances and health hazards OR Has been exposed above the permissible exposure limits or published exposure levels	As soon as possible
Requires follow-up examinations or consultations because of medical necessity for an exposure incident or injury	When determined by the examining physician

You must:

- Make sure the medical examination includes the following information for each affected employee:
 - A medical and work history, with special emphasis on symptoms related to handling hazardous substances and health hazards.
 - Information about fitness for duty including the ability to wear any personal protective equipment (PPE) under conditions that may be expected at the workplace.
 - Any additional information that is determined by the examining physician.

Note: The physician should consult the NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities <http://www.cdc.gov/niosh/85-115.html>.

You must:

- Provide complete information to the examining physician, including:
 - A copy of WAC 296-843-210.
 - Medical evaluation information required by chapter 296-842 WAC, Respirators.
 - A description of the employee's duties that relate to hazardous substance exposure.
 - The actual or anticipated hazardous substance exposure levels for the employee.
 - A description of the PPE the employee uses or could use.
 - Information available from previous medical examinations.
 - Instruction to the physician that the physician's written opinion NOT include specific findings or diagnoses that are not related to occupational exposures.

Note: You are NOT required to send duplicate information to the physician for each employee.

You must:

- Obtain the physician's written medical opinion that includes the following information:
 - Whether medical conditions were found that would increase the employee's risk for impairment during emergency response work or respirator use.
 - Limitations of the employee's assigned work, if any.
 - Examination and test results, if the employee requests this information.
 - A statement that the employee has been confidentially informed of medical examination results (including medical conditions requiring followup required by WAC 296-843-210).
- Provide the employee with a copy of the physician evaluation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-02-053, § 296-843-21005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-220 Recordkeeping and information access.

Your responsibility:

To keep records and make them accessible to employees.

You must:

- Make your records accessible WAC 296-843-22005.
- Keep medical surveillance records for your employees WAC 296-843-22010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-02-053, § 296-843-220, filed 1/5/04, effective 5/1/04.]

WAC 296-843-22005 Make your records accessible.

You must:

- Allow your written health and safety plan (HASP) and all other written plans required by this chapter to be inspected and copied by:
 - Employees or their designated representative.
 - Site contractors or their designated representatives.
 - Subcontractors or their designated representatives.
 - Personnel of any federal, state, or local agency with regulatory authority over the site.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 04-02-053, § 296-843-22005, filed 1/5/04, effective 5/1/04.]

WAC 296-843-22010 Keep medical surveillance records for your employees.**You must:**

- Keep medical surveillance records for each affected employee that include:
 - The employee's name and Social Security number.
 - Physicians' written opinions including recommended limitations and results of examinations and tests.
 - Any employee medical complaints regarding hazardous substance exposures.
 - A copy of all information given to the examining physician (except a copy of this chapter).
- Keep each employee's records for at least the duration of his or her employment plus thirty years.

Reference: For additional requirements on medical and exposure records, see chapter 296-62 WAC, Part B, Access to records.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-22010, filed 1/5/04, effective 5/1/04.]

WAC 296-843-300 Definitions.**Buddy system**

A system of organizing employees into work groups so that each employee is assigned to observe another employee in the same work group. The purpose of this system is to provide rapid assistance to employees in the event of an emergency.

Clean-up operation

An operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared up, or in any other manner processed or handled with the goal of making the site safer for people or the environment.

Contamination reduction zone

The buffer zone between the exclusion and the clean zone.

Decontamination

The removal of hazardous substances from employees and equipment, to the extent necessary, to avoid foreseeable adverse health effects.

Emergency response or responding to emergencies

An organized response to an anticipated release of a hazardous substance that is, or could become, an uncontrolled release.

Exclusion zone

A controlled area at a site, where contamination occurs, that is a risk to human health or the environment.

Exposure or exposed

Employee contact 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.

Facility

Any building structure, installation, equipment, pipe, or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft;

OR

Any site or area where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise located (not including any boat, ship or barge).

Hazardous substance

Any of the following substances that could adversely affect an exposed employee's health or safety:

- Substances defined under section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or "Superfund" Act (found at: <http://www.epa.gov>).
- Biological or other disease-causing agents released that could reasonably be expected to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions, including malfunctions in reproduction, or physical deformations in a person or their offspring when the person:
 - Is directly exposed to the agent in the environment.
 - Directly ingests, inhales, or assimilates the agent from the environment.
 - Indirectly ingests the agent through a food chain.
- Substances listed by the United States Department of Transportation as hazardous materials under Title 49 (Transportation) in the Code of Federal Regulations (CFR), Part 172, section 101 and appendices (found at: <http://www.nara.gov>, search for "List of CFR subjects").
- Hazardous wastes as defined in this chapter.

Hazardous waste

Any substance designated by the department of ecology as a dangerous or extremely hazardous waste by chapter 173-303 WAC, Dangerous waste regulations.

Hazardous waste site

A hazardous waste site is any facility or location within the scope of this chapter.

Hazardous materials team (HAZMAT team)

A group of employees who are expected to perform responses to releases, or possible releases, of hazardous substances for the purpose of control and stabilization. As a result of their duties, HAZMAT team members may have close contact with hazardous substances.

Health hazard

A chemical, mixture, biological agent, or physical agent that may cause health effects in short- or long-term exposed employees based on statistically significant evidence from at least one study conducted using established scientific principles. Health hazards include:

- Carcinogens.
- Toxic or highly toxic agents.
- Reproductive toxins.
- Irritants.
- Corrosives.
- Sensitizers.
- Hepatotoxins (liver toxins).
- Nephrotoxins (kidney toxins).
- Neurotoxins (nervous system toxins).
- Substances that act on the hematopoietic system (blood or blood-forming system).
- Substances that can damage the lungs, skin, eyes, or mucous membranes.
- Hot or cold conditions.

IDLH or immediately dangerous to life or health

Any 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.

Incidental release

A release that can be safely controlled at the time of the release and does not have the potential to become an uncontrolled release.

An example of a situation that results in an incidental release:

A tanker truck is receiving a load of hazardous liquid when a leak occurs. The driver knows the only hazard from the liquid is minor skin irritation. The employer has trained the driver on procedures and provided equipment to use for a release of this quantity. The driver puts on skin protection and stops the leak. A spill kit is used to contain, absorb, and pick up the spilled material for disposal.

Material safety data sheet (MSDS)

Written, printed, or electronic information (on paper, microfiche, or on-screen) that informs manufacturers, distributors, employers or employees about a hazardous chemical, its hazards and protective measures as required by chapter 296-839 WAC. Content and distribution of material safety data sheets (MSDSs) and label information.

Oxygen deficiency

An atmosphere where the percentage of oxygen by volume is less than 19.5%.

Permissible exposure limit (PEL)

Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are specified in applicable WISHA rules.

Published exposure level

Exposure limits published in "National Institute for Occupational Safety and Health (NIOSH) Recommendations for Occupational Safety and Health" (DHHS publication #92-100, 1992).

If an exposure limit is not published by NIOSH, then "published exposure level" means the exposure limits published by the American Conference of Governmental Industrial Hygienists (ACGIH) in "TLVs and BEIs-Threshold Limit Values for Chemical Substances and Physical Agents" (1999 edition).

Postemergency response

The stage of the emergency response where the immediate threat from the release has been stabilized or eliminated, and cleanup of the site has started. For more information, see the definition for "emergency response."

Site safety and health supervisor (or official)

The individual present at a hazardous waste site who is responsible to the employer and has the authority and knowledge necessary to establish the site-specific health and safety plan and verify compliance with applicable safety and health requirements.

Site work zones

Zones established at a hazardous waste site before clean-up work begins to control work on the site and access to the site. The work zones are: Exclusion zone, contamination reduction zone, and clean zone.

Uncontrolled hazardous waste site

An area where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Examples include: Former municipal,

(2009 Ed.)

county, or state landfills, locations where illegal or poorly managed waste disposal has taken place, or property of generators or former generators of hazardous substance waste (surface impoundments, landfills, dumps, and tank or drum farms).

Uncontrolled release

A release where significant safety and health risks could be created. Releases of hazardous substances that are either incidental or couldn't create a safety or health hazard (i.e., fire, explosion, or chemical exposure) aren't considered to be uncontrolled releases.

Examples of conditions that could create a significant safety and health risk:

- Large-quantity releases.
- Small releases that could be highly toxic.
- Potentially contaminated individuals arriving at hospitals.

- Airborne exposures that could exceed a WISHA permissible exposure limit or a published exposure limit and employees aren't adequately trained or equipped to control the release.

Example of an uncontrolled release:

A forklift driver knocks over a container of a solvent-based liquid, releasing the contents onto the warehouse floor. The driver has been trained to recognize the vapor is flammable and moderately toxic when inhaled. The driver hasn't been trained or provided appropriate equipment to address this type of spill. In this situation, it isn't safe for the driver to attempt a response. The driver needs to notify someone of the release so an emergency response can be initiated.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 04-02-053, § 296-843-300, filed 1/5/04, effective 5/1/04.]

Chapter 296-848 WAC**ARSENIC****WAC**

296-848-100	Scope.
296-848-200	Basic rules.
296-848-20010	Preventive practices.
296-848-20025	Washing facilities.
296-848-20060	Exposure evaluations.
296-848-20070	Notification.
296-848-20090	Exposure records.
296-848-300	Training, exposure monitoring, and medical monitoring.
296-848-30005	Training.
296-848-30010	Periodic exposure evaluations.
296-848-30030	Medical evaluations.
296-848-30080	Medical records.
296-848-400	Exposure control areas.
296-848-40005	Exposure control plan.
296-848-40020	Exposure controls.
296-848-40025	Exposure control areas.
296-848-40030	Clean-up facilities and lunchrooms.
296-848-40040	Personal protective equipment (PPE).
296-848-40045	Respirators.
296-848-500	Definitions.
296-848-60010	Health information about inorganic arsenic.
296-848-60020	Medical guidelines.

WAC 296-848-100 Scope. This chapter applies to all occupational exposure to inorganic arsenic.

Definitions:

Inorganic arsenic means elemental arsenic (As), copper aceto-arsenite, and inorganic compounds containing arsenic

(measured as As), except arsine. Inorganic compounds do not contain the element carbon.

Exposure is the contact an employee has with inorganic arsenic, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Helpful tool:

Arsenic contamination in soil; information and guidance for employers.

Use this tool if you have employees who work with soil. It will help you find out if this rule is applicable to your employee's exposure to soil.

- Exemptions:**
- This chapter does not apply to any of the following:
 - Exposures during agricultural operations.
 - Pesticide applications, including the treatment of wood with preservatives.
 - Use of wood treated with inorganic arsenic.
 - Arsine, a gas identified by Chemical Abstract Service (CAS) Registry No. 7784-42-1.
 - Inorganic arsenic present in a form and handled in such a way that airborne exposures could not occur. For example, inorganic arsenic present in glass is fused in the material. Due to the fused form, airborne exposure can not occur when the glass is scored and subsequently broken.

All requirements in this chapter will not apply to every workplace with an occupational exposure. The following steps will show you which requirements apply to your workplace.

Step 1: Follow requirements in the basic rules sections, WAC 296-848-20010 through 296-848-20090.

- This includes completing an exposure evaluation, as specified in Exposure evaluations, WAC 296-848-20060, to:
 - Obtain employee eight-hour exposure monitoring results of airborne inorganic arsenic;

AND

– Determine if employee exposure monitoring results are above, at, or below these values:

■ Eight-hour time-weighted average (TWA₈). 10 micrograms per cubic meter (µg/m³).

■ Eight-hour action level (AL). 5 µg/m³.

Step 2: Use employee exposure monitoring results from Step 1 and follow Table 1 to find out which additional sections of this chapter apply to your workplace.

**Table 1
Sections That Apply To Your Workplace**

If:	Then continue to follow the Basic Rules, and these additional requirements:
<ul style="list-style-type: none"> • Employee exposure monitoring results are above the TWA₈ 	<ul style="list-style-type: none"> • Training, exposure monitoring, and medical monitoring, WAC 296-848-30005 through 296-848-30080; AND • Exposure control areas, WAC 296-848-40005 through 296-848-40045.
<ul style="list-style-type: none"> • Employee exposure monitoring results are: <ul style="list-style-type: none"> – At or below the TWA₈; AND – At or above AL 	<ul style="list-style-type: none"> • Training, exposure monitoring, and medical monitoring, WAC 296-848-30005 through 296-848-30080.

**Table 1
Sections That Apply To Your Workplace**

If:	Then continue to follow the Basic Rules, and these additional requirements:
<ul style="list-style-type: none"> • Employee exposure monitoring results are below the AL; AND • Eye or skin irritation from exposure to inorganic arsenic cannot occur 	<ul style="list-style-type: none"> • No additional requirements apply if exposures remain stable.
<ul style="list-style-type: none"> • Employees could experience eye or skin irritation from exposure to inorganic arsenic 	<ul style="list-style-type: none"> • Training in WAC 296-848-30005. • Washing, showering, and changing in WAC 296-848-40030. • Personal protective equipment (PPE) in WAC 296-848-40040.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 06-02-060, § 296-848-100, filed 1/3/06, effective 4/1/06; 05-01-173, § 296-848-100, filed 12/21/04, effective 5/1/05.]

WAC 296-848-200 Basic rules.

Summary:

Your responsibility:

To measure and minimize employee exposure to inorganic arsenic.

IMPORTANT:

The sections listed in basic rules apply to all employers covered by the scope of this chapter, WAC 296-848-100. To find additional sections that may apply to you, go to the Scope, WAC 296-848-100, and follow Table 1.

- Contents
- Preventive practices
WAC 296-848-20010.
- Washing facilities
WAC 296-848-20025.
- Exposure evaluations
WAC 296-848-20060.
- Notification
WAC 296-848-20070.
- Exposure records
WAC 296-848-20090.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-200, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20010 Preventive practices.

You must:

(1) Effectively communicate the hazards of inorganic arsenic by doing both of the following:

- Keep container labels free of statements that contradict or detract from the labels' hazard warning.

Note: You may use labels required by other laws, rules, or ordinances in addition to, or in combination with, labels required by this section.

You must:

- Make sure shipping containers, storage containers, and products containing inorganic arsenic are labeled, tagged, or marked with this warning:

Danger
 Contains Inorganic Arsenic
 Cancer Hazard
 Harmful if Inhaled or Swallowed
 Use Only with Adequate Ventilation
 or
 Respiratory Protection

Note: • You should keep containers tightly covered when not in use to help prevent unnecessary exposure and accidental spills.

• Contaminated items should be handled and disposed of to prevent further exposure in the workplace. For example, vacuuming or wet wiping contaminated equipment helps prevent the release of dust into the air.

Reference: • Additional requirements are found in other chapters:
 – For spills, leaks, or other releases, go to Emergency response, chapter 296-824 WAC.
 – For labeling go to:
 • The Safety and health core rules, chapter 296-800 WAC, and find the section, Label containers holding hazardous chemicals, WAC 296-800-17025;
AND
 • Material safety data sheet and label preparation, chapter 296-839 WAC.

You must:

(2) Establish safe and effective housekeeping and maintenance practices by doing all the following:

• Develop and keep a written housekeeping and maintenance plan that lists appropriate frequencies for:

– Housekeeping operations;

AND

– Cleaning and maintaining dust collection equipment.

• Keep surfaces free of accumulations of inorganic arsenic, to the degree feasible.

• When cleaning floors and other accessible surfaces:

– Use vacuuming or other cleaning methods that minimize the release of inorganic arsenic into the air.

– Do not use compressed air.

– Select vacuums that have high efficiency particulate air (HEPA) filters.

– Use and empty vacuums in a way that minimizes the release of inorganic arsenic back into the workplace.

Note: • Shoveling or brushing may be used only when vacuuming or other cleaning methods have not been effective.

• Using non-HEPA vacuums will increase inorganic arsenic contamination in air and on area surfaces.

You must:

• Maintain ventilation systems, including dust collection equipment, to make sure they are effective. Do all of the following:

– Perform periodic inspections for effectiveness.

– Periodically clean the equipment.

– Keep a note of the most recent inspection for effectiveness, and cleaning or maintenance.

(3) Prevent eye or skin contact with:

• Arsenic trichloride;

AND

• Liquid or particulate forms of inorganic arsenic when contact could cause eye or skin irritation.

Note: Arsenic trichloride is corrosive and can be quickly absorbed through skin.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-20010, filed 12/21/04, effective 5/1/05.]

(2009 Ed.)

WAC 296-848-20025 Washing facilities.

You must:

• Provide washing facilities for employees exposed to inorganic arsenic.

References: For additional washing facility requirements, go to another chapter, the Safety and health core rules, chapter 296-800 WAC, and find the section titled, Provide convenient and clean washing facilities, WAC 296-800-23025.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-20025, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20060 Exposure evaluations.

IMPORTANT:

• This section applies when workplace operations create potential airborne exposure to inorganic arsenic.

• When you conduct an exposure evaluation in a workplace where an employee uses a respirator, the protection provided by the respirator is not considered.

• Following this section will fulfill the requirements to identify and evaluate respiratory hazards found in chapter 296-841 WAC, Airborne contaminants.

You must:

(1) Conduct an employee exposure evaluation to accurately determine airborne concentrations of inorganic arsenic by completing Steps 1 through 5 of the Exposure Evaluation Process, each time any of the following apply:

• No evaluation has been conducted.

• Changes have occurred in any of the following areas that may result in new or increased exposures:

– Production.

– Processes.

– Exposure controls such as ventilation systems or work practices.

– Personnel.

• You have any reason to suspect new or increased exposure may occur.

(2) Provide affected employees and their designated representatives an opportunity to observe exposure monitoring during Step 4 of the Exposure Evaluation Process.

• Make sure observers do not interfere with exposure measurements.

• Make sure observers are entitled to:

– An explanation of your exposure measurement and monitoring procedures;

– Observe all tasks of exposure measurement performed at the workplace;

AND

– Receive a copy of the exposure measurement results when you obtain them; or are allowed to record the exposure measurement results, if made during observations.

• Make sure observers who enter areas with inorganic arsenic exposure:

– Are provided with and use the same protective clothing, respirators, and other personal protective equipment (PPE) that employees working in the area are required to use;

AND

– Follow safety and health requirements that apply.

Exposure Evaluation Process

IMPORTANT:

Following the Exposure Evaluation Process is not necessary when you have documentation conclusively demonstrat-

ing inorganic arsenic exposures for a particular operation and material, cannot exceed the action level (AL) during any conditions reasonably anticipated. Documentation can be based on quantitative information such as soil test results OR qualitative information such as observations of how inorganic arsenic-containing materials are handled.

– Retain this documentation for as long as you rely on it.

Step 1: Identify all employees who have potential airborne exposure to inorganic arsenic in your workplace.

Step 2: Select employees from those identified in Step 1 who will have their eight-hour exposures monitored.

• Make sure the exposures of the employees selected represent eight-hour exposures for all employees identified in Step 1, including each job classification, work area, and shift.

Note: • A written description of the procedure used for obtaining representative employee exposure monitoring results needs to be kept as part of your exposure records required by this chapter in Exposure records, WAC 296-848-20090. This description can be created while completing Steps 2 through 4 of this exposure evaluation process.

Step 3: Determine how you'll obtain employee exposure monitoring results.

• Select and use a method that meets the following criteria for accuracy:

– $\pm 25\%$, with a confidence level of 95%, when concentrations are potentially at or above an eight-hour time-weighted average of 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$);

OR

– $\pm 35\%$, with a confidence level of 95%, when concentrations are potentially between the eight-hour time-weighted averages of 5 $\mu\text{g}/\text{m}^3$ and 10 $\mu\text{g}/\text{m}^3$.

Note: • Here are examples of methods that meet this accuracy requirement:
– OSHA Method ID105 found by going to <http://www.osha.gov/dts/sltc/methods/toc.html>.
– NIOSH method 7901 found by going to <http://www.cdc.gov/niosh/homepage.html> and linking to the NIOSH Manual of Analytical Methods.

Step 4: Obtain employee exposure monitoring results by collecting air samples representing employees identified in Step 1.

• Sample at least one shift representative of the eight-hour exposure, for each employee selected in Step 2.

• Make sure samples are collected from each selected employee's breathing zone.

Note: • You may use any sampling method that meets the accuracies specified in Step 3. Examples of these methods include:
– Real-time monitors that provide immediate exposure monitoring results.
– Equipment that collects samples that are sent to a laboratory for analysis.
• The following are examples of methods for collecting samples representative of eight-hour exposures.
– Collect one or more continuous samples, for example, a single eight-hour sample or four two-hour samples.
– Take a minimum of 4 to 7 brief samples, such as fifteen-minute samples, during the work shift and at times selected randomly.
• For work shifts longer than eight hours, monitor the continuous eight-hour portion of the shift expected to have the highest average exposure concentration.

Step 5: Have the samples you collected analyzed to obtain monitoring results representing eight-hour exposures.

• Go to the Scope of this chapter, WAC 296-848-100, and compare employee exposure monitoring results to the

values found in Step 1 and follow Step 2 to determine if additional sections of this chapter apply.

Note: • You may contact your local WISHA consultant for help:
– Interpreting data or other information.
– Determining eight-hour employee exposure monitoring results.
• To contact a WISHA consultant:
– Go to the Safety and health core rules, chapter 296-800 WAC;
AND
– Find the Resources section, and under "Other Resources," find *Service Locations for Labor and Industries*.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-06-005, § 296-848-20060, filed 2/22/07, effective 4/1/07; 05-01-173, § 296-848-20060, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20070 Notification.

You must:

• Provide written notification of exposure monitoring results, including notification about whether exposures exceed the permissible exposure limit (PEL), to employees represented by your exposure evaluation, within five business days after the monitoring results become known to you.

– In addition, when employee exposure monitoring results are above the permissible exposure limit (PEL), provide written notification of all the following within fifteen business days after these exposure monitoring results become known to you.

■ Corrective actions being taken and a schedule for completion;

AND

■ Any reason why exposures cannot be lowered to below the PEL.

Note: • You can notify affected employees either individually or post the notifications in areas readily accessible to affected employees.
• When notifying employees about corrective actions, your notification may refer them to a separate document that is available and provides the required information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-20070, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20090 Exposure records.

You must:

• Establish and keep complete and accurate records for all exposure monitoring conducted under this chapter. Make sure the record includes, at least:

– The name, Social Security number or other unique identifier, and job classification of the employee sampled and all other employees represented by the sampled employee.

– A description of the methods used to obtain exposure monitoring results and evidence of the method's accuracy.

– A description of the procedure used to obtain representative employee exposure monitoring results.

– The date, number, duration, location, and the result of each sample taken.

– Any environmental conditions that could affect exposure concentration measurements.

Note: It's useful to record any personal protective equipment worn by the employee in addition to the type of respirator worn.

You must:

• Keep exposure monitoring records for at least thirty years.

Reference: • To see additional requirements for employee exposure records including access and transfer requirements, go to

another chapter, Employee medical and exposure records, chapter 296-802 WAC.
 • Exposure monitoring records need to be kept longer than thirty years for employees participating in medical monitoring. Go to Medical records, WAC 296-848-30080, found within this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-20090, filed 12/21/04, effective 5/1/05.]

WAC 296-848-300 Training, exposure monitoring, and medical monitoring.

Summary:

Your responsibility:

To detect any significant changes in employee health and exposure monitoring results.

IMPORTANT:

• These sections apply when skin or eye irritation could occur or when employee exposure monitoring results are either:

– At or above the action level (AL) of 5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for inorganic arsenic;

OR

– Above the permissible exposure limit (PEL) of 10 $\mu\text{g}/\text{m}^3$ for inorganic arsenic.

Contents

Training

WAC 296-848-30005.

Periodic exposure evaluations

WAC 296-848-30010.

Medical evaluations

WAC 296-848-30030.

Medical records

WAC 296-848-30080.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-300, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30005 Training.

You must:

• Train employees:
 – Who are exposed above the action level (AL) of 5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air;

OR

– Who could experience eye or skin irritation from exposure.

• Provide training:

– At the time of initial assignment;

AND

– At least every twelve months after initial training.

• Make sure training and information includes all of the following:

– A review of WAC 296-848-100 through 296-848-40045, and 296-848-500.

– The following health information about inorganic arsenic:

• Inorganic arsenic is a poison and can affect your body if it's swallowed or inhaled.

• Exposure to airborne concentrations of inorganic arsenic may cause lung cancer and can be a skin irritant.

• Arsenic trichloride can be absorbed readily through your skin and is especially dangerous.

• Wash hands thoroughly before eating or smoking to help minimize your risk for swallowing inorganic arsenic.

(2009 Ed.)

– The purpose for medical evaluations and a description of how you are fulfilling the medical evaluation requirements of this chapter found in Medical evaluations, WAC 296-848-30030.

• Make a copy of this chapter readily available to all employees required to be trained under this section.

Reference:

• To see additional training and information requirements in other chapters, go to the:

– Respirators rule, chapter 296-842 WAC.

– Safety and health core rules, chapter 296-800 WAC, and find the section titled, Inform and train your employees about hazardous chemicals in your workplace, WAC 296-800-17030.

• When following these requirements, include specific information about potential exposures to inorganic arsenic, such as the types of operations, locations, quantities, exposure sources, exposure controls, inorganic arsenic use, and storage.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-153, § 296-848-30005, filed 1/23/07, effective 6/1/07; 05-01-173, § 296-848-30005, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30010 Periodic exposure evaluations.

Exemption:

• Periodic exposure evaluations aren't required if exposure monitoring results conducted to fulfill requirements in Exposure evaluation, WAC 296-848-20060, are below the action level (AL).

You must:

• Obtain employee exposure monitoring results as specified in Table 2 by repeating Steps 2, 4, and 5 of the Exposure Evaluation Process found within this chapter, in Exposure evaluations, WAC 296-848-20060.

Note:

If you document that one work shift consistently has higher exposure monitoring results than another for a particular operation, then you limit sample collection to the work shift with higher exposures and can use results to represent all employees performing the operation on other shifts.

**Table 2
 Periodic Exposure Evaluation Frequencies**

If 8-hour employee exposure monitoring results:	Then:
Are between the: – Action level (AL) of 5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$); AND – Permissible exposure limit (PEL) of 10 $\mu\text{g}/\text{m}^3$	Conduct additional exposure evaluations at least every six months for the employees represented by the monitoring results.
Are above the PEL	Conduct additional exposure evaluations at least every three months for the employees represented by the monitoring results.
For employees previously above the PEL, have decreased: – To a concentration between the PEL and AL; AND – The decrease is demonstrated by two consecutive exposure evaluations made at least seven days apart	You may decrease your evaluation frequency to every six months for the employees represented by the monitoring results.

Table 2
Periodic Exposure Evaluation Frequencies

If 8-hour employee exposure monitoring results:	Then:
Have decreased to below the AL; AND The decrease is demonstrated by two consecutive exposure evaluations made at least seven days apart	You may stop periodic employee exposure evaluations for employees represented by the monitoring results.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-173, § 296-848-30010, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30030 Medical evaluations.

IMPORTANT:

• Medical evaluations conducted under this section will satisfy the medical evaluation requirement found in another chapter, Respirators, chapter 296-842 WAC.

You must:

• Make medical evaluations available to current employees who have been, are, or will be exposed to inorganic arsenic concentrations above the AL:

– At least thirty days in any twelve-month period;

OR

– A total of ten years or more of combined employment with you or previous employers with at least thirty days of exposure per year.

• Make medical evaluations available at no cost to employees.

– Pay all costs, including travel costs and wages associated with any time spent outside of the employee's normal work hours.

• Make medical evaluations available at reasonable times and places.

• Make medical evaluations available by completing Steps 1 through 6 of the Medical Evaluation Process for each employee covered.

Note:

• Employees who wear respirators need to be medically evaluated to make sure the respirator will not harm them, before they are assigned work in areas requiring respirators. Employees who decline to receive medical examination and testing to monitor for health effects caused by inorganic arsenic are not excluded from receiving a separate medical evaluation for a respirator use.

• If employers discourage participation in medical monitoring for health effects caused by inorganic arsenic, or in any way interfere with an employee's decision to continue with this program, this interference may represent unlawful discrimination under RCW 49.17.160, Discrimination against employee filing, instituting proceeding, or testifying prohibited—Procedure—Remedy.

Helpful tool:

Declination form for nonemergency related medical evaluations.

You may use this optional form to document employee decisions to decline participation in the medical evaluation process for exposure to inorganic arsenic. To see this form, go to the Resources section within this chapter.

Medical Evaluation Process

Step 1: Identify employees who qualify, as stated above, for medical evaluations.

Step 2a: Make medical evaluations available for employees identified in Step 1 at the following times:

• Initially, when employees are assigned to work in an area where exposure monitoring results are, or will likely be, above the action level for at least thirty days in a twelve-month period.

• Periodically as specified in Table 3.

• When employment with exposure ends, if the employee has not had an evaluation within the six-month period before exposure ends. Include in these evaluations the same content as specified in Table 4 for initial evaluations, excluding a chest X ray.

Table 3
Frequencies for Periodic Medical Evaluations

For:	Provide periodic medical evaluations every:
Employees less than forty-five years old with less than ten years of exposure above the AL	Twelve months;
Employees forty-five or older; AND Employees with more than ten years of exposure above the AL	Six months; AND Twelve months to obtain a fourteen by seventeen-inch posterior-anterior chest X ray for monitoring purposes, unless the LHCP has determined a different frequency for periodic X rays.

Step 2b: Provide appropriate medical examination and emergency treatment when an employee identified in Step 1 develops signs or symptoms commonly associated with inorganic arsenic exposure.

Step 3: Select a licensed health care professional (LHCP) who will conduct or supervise examinations and procedures.

Step 4: Make sure the LHCP receives all of the following before the medical evaluation is performed:

• A copy of this chapter.

• A description of the duties of the employee being evaluated and how these duties relate to inorganic arsenic exposure.

• The anticipated or representative exposure monitoring results for the employee being evaluated.

• A description of the personal protective equipment (PPE) each employee being evaluated uses or will use.

• Information from previous employment-related examinations when this information is not available to the examining LHCP.

• Instructions that the written opinions the LHCP provides you be limited to the following information:

– Results from examinations and tests.

– The LHCP's opinion about whether or not medical conditions were found that would increase the employee's risk for impairment from exposure to inorganic arsenic.

– Any recommended limitations for:

■ Inorganic arsenic exposure;

AND

■ Use of respirators or other PPE.

– A statement that the employee has been informed of medical results and medical conditions caused by inorganic arsenic exposure requiring further examination or treatment.

Step 5: Make the medical evaluation available to the employee. Make sure it includes the content listed in Table 4, Content of Medical Evaluations.

Step 6: Obtain the LHCP's written opinion for the employee's medical evaluation and give a copy to the employee.

- Make sure the written opinion is limited to the information specified for written opinions in Step 4.

Note: If the written opinion contains specific findings or diagnoses unrelated to occupational exposure, send it back and obtain a revised version without the additional information.

Table 4
Content of Medical Evaluations

When conducting:	Include:
An initial evaluation	<ul style="list-style-type: none"> • A work history and medical history including: <ul style="list-style-type: none"> – Smoking history. – The presence and degree of respiratory symptoms such as breathlessness, cough, sputum production, and wheezing. • A physical examination that includes: <ul style="list-style-type: none"> – A fourteen by seventeen-inch posterior-anterior chest X ray and the International Labor Office UICC/Cincinnati (ILO U/C) rating. – A nasal and skin examination. • Additional examinations the licensed healthcare professional (LHCP) believes appropriate based on the employee's exposure to inorganic arsenic or respirator use.
Periodic evaluations for employees less than forty-five years old with less than ten years of exposure above the action level (AL)	<ul style="list-style-type: none"> • The same content as specified for initial evaluations repeated every twelve months.
Periodic evaluations for employees: <ul style="list-style-type: none"> • Forty-five or older; OR <ul style="list-style-type: none"> • With more than ten years of exposure above the AL 	<ul style="list-style-type: none"> • The following content repeated every six months: <ul style="list-style-type: none"> – A work history and medical history including: <ul style="list-style-type: none"> ■ Smoking history. ■ The presence and degree of respiratory symptoms such as breathlessness, cough, sputum production, and wheezing. – A physical examination that includes a nasal and skin examination.

Table 4
Content of Medical Evaluations

When conducting:	Include:
	<ul style="list-style-type: none"> – Additional examinations the LHCP believes appropriate based on the employee's exposure to inorganic arsenic or respirator use. • A physical examination, repeated every twelve months, that obtains a fourteen by seventeen-inch posterior-anterior chest X ray and the International Labor Office UICC/Cincinnati (ILO U/C) rating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-153, § 296-848-30030, filed 1/23/07, effective 6/1/07; 05-01-173, § 296-848-30030, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30080 Medical records.

IMPORTANT:

• This section applies when a medical evaluation is performed, or any time a medical record is created for an employee exposed to inorganic arsenic.

You must:

• Establish and maintain complete and accurate medical records for each employee receiving a medical evaluation and make sure the records include all the following:

- The employee's name and Social Security number, or other unique identifier.
- A description of the employee's duties.
- A copy of the licensed health care professional's (LHCP's) written opinions.

– The anticipated or representative employee exposure monitoring results provided to the LHCP for the employee.

• Maintain medical evaluation records for the duration of employment plus thirty years.

Note: • Your medical provider may keep these records for you. Other medical records, such as the employee's medical history or X ray, need to be kept as a confidential record by the medical provider and accessed only with the employee's consent.

Reference: • To see additional requirements for employee medical record, including access and transfer requirements, go to Employee medical and exposure records, chapter 296-802 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-173, § 296-848-30080, filed 12/21/04, effective 5/1/05.]

WAC 296-848-400 Exposure control areas.

Summary:

Your responsibility:

To protect employees from exposure to inorganic arsenic by using feasible exposure controls and appropriate respirators.

IMPORTANT:

These sections apply when employee exposure monitoring results are above the permissible exposure limit (PEL) of 10 micrograms per cubic meter (µg/m³) of air.

- Contents
- Exposure control plan
- WAC 296-848-40005.

Exposure controls
WAC 296-848-40020.
Exposure control areas
WAC 296-848-40025.
Clean-up facilities and lunchrooms
WAC 296-848-40030.
Personal protective equipment
WAC 296-848-40040.
Respirators
WAC 296-848-40045.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-400, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40005 Exposure control plan.

IMPORTANT:

Use of employee rotation to control exposures is not advisable since inorganic arsenic is a known carcinogen.

You must:

- Establish and implement a complete written exposure control plan that includes at least the following, for exposure control areas:

- A description of each operation releasing inorganic arsenic, for example:

- Crew size.
- Current exposure controls.
- Materials processed.
- Machinery used.
- Operating procedures.
- Maintenance practices.

- Exposure evaluation data.

- A report of the technology considered for exposure controls.

- Engineering plans and studies used as a basis for selecting exposure controls.

- A detailed schedule for implementing:

- Feasible exposure controls, if immediate implementation is not possible.

- Changes to enhance current exposure controls, when necessary.

- An analysis of the effectiveness of the exposure controls considered, when controls will not reduce exposures to or below the permissible exposure limit (PEL).

- Other relevant information.

- Review and update your exposure control plan at least every six months to keep it current.

- Implement exposure controls on the quickest schedule feasible if controls will not reduce exposure to or below the PEL.

- Provide a copy of your exposure control plan to affected employees and their designated representatives, when they ask to review or copy it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-40005, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40020 Exposure controls.

IMPORTANT:

- Use of employee rotation to control exposures is not advisable since inorganic arsenic is a known carcinogen.

- Respirators and other personal protective equipment (PPE) do not substitute for feasible exposure controls.

[Title 296 WAC—p. 3050]

You must:

- Use feasible exposure controls to reduce exposures to or below the permissible exposure limit (PEL), or as low as achievable.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-06-005, § 296-848-40020, filed 2/22/07, effective 4/1/07; 05-01-173, § 296-848-40020, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40025 Exposure control areas.

You must:

- Establish temporary or permanent exposure control areas where airborne concentrations of inorganic arsenic are above the permissible exposure limit (PEL) by doing all the following:

- Distinguish the boundaries of exposure control areas from the rest of the workplace in any way that minimizes employee access.

- Allow only authorized personnel to enter exposure control areas.

- Post signs at access points to exposure control areas that include this warning:

<p>DANGER Inorganic Arsenic Cancer Hazard Authorized Personnel Only No Smoking or Eating Respirator Required</p>

- Make sure signs are kept clean and well lit so they are easy to read.

- Keep signs and areas near them free of statements that contradict or detract from their message.

Note: This requirement does not prevent you from posting signs required by other laws, rules, or ordinances.

You must:

- Make sure employees entering exposure control areas have an appropriate respirator.

- Prevent all of the following activities from occurring in exposure control areas unless they are conducted in required lunchrooms, change rooms, or showers:

- Eating food or drinking beverages.
- Smoking.
- Chewing tobacco or gum.
- Applying cosmetics.

Note: • You may use permanent or temporary enclosures, caution tape, ropes, painted lines on surfaces, or other materials to visibly distinguish exposure control areas or separate them from the rest of the workplace.

• When distinguishing exposure control areas, you should consider factors such as:

- The level and duration of airborne exposure.
- Whether the area is permanent or temporary.
- The number of employees in adjacent areas.

Reference: To see other requirements for respirators within this chapter, go to Respirators, WAC 296-848-40045.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-40025, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40030 Clean-up facilities and lunchrooms.**You must:**

- Provide the following facilities for employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas:

- Clean change rooms with separate storage for street clothes and personal protective equipment (PPE).

- Shower facilities.

- Make sure employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas:

- Shower at the end of the work shift;

AND

- Wash their hands and face before eating.

- Provide lunchrooms for employees working in exposure control areas that are:

- Located so they are readily accessible to the employees.

- Temperature controlled.

- Under positive pressure compared to surrounding areas.

- Provided with a filtered air supply.

Note: Lunchrooms may be located within exposure control areas, but are considered separate from the exposure control area.

- Do the following when exposures in exposure control areas exceed an eight-hour time-weighted average of 100 micrograms of arsenic per cubic meter of air ($\mu\text{g}/\text{m}^3$):

- Provide facilities for employees working in exposure control areas where they can remove excess contamination from protective clothing and shoes.

- Make sure employees vacuum protective clothing and clean or change shoes before entering showers, change rooms, or lunchrooms.

Reference: To see additional requirements for hygiene facilities:

- Go to the Safety and health core rules, chapter 296-800 WAC.
- Find Drinking water, bathrooms, washing facilities, and waste disposal, WAC 296-800-230.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-173, § 296-848-40030, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40040 Personal protective equipment (PPE).**You must:**

- Provide, 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.

(2009 Ed.)

- 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. 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 respirators 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.

[Title 296 WAC—p. 3051]

- 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/m³.
 - 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, 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.]

WAC 296-848-500 Definitions.**Action level**

An airborne concentration of inorganic arsenic of 5 micrograms per cubic meter (µg/m³) of air calculated as an eight-hour time-weighted average.

Authorized personnel

Individuals specifically permitted by the employer to enter the exposure control area to perform duties, or to observe employee exposure evaluations as a designated representative.

Breathing zone

The space around and in front of an employee's nose and mouth, forming a hemisphere with a 6- to 9-inch radius.

CAS (Chemical Abstract Service) number

CAS numbers are internationally recognized and used on material safety data sheets (MSDSs) and other documents to identify substances. For more information see <http://www.cas.org/about>.

Day

Any part of a calendar day.

Designated representative

Any one of the following:

- Any individual or organization to which an employee gives written authorization.
- A recognized or certified collective bargaining agent without regard to written employee authorization.

- The legal representative of a deceased or legally incapacitated employee.

Emergency

Any event that could or does result in the unexpected significant release of inorganic arsenic. Examples of emergencies include equipment failure, container rupture, or control equipment failure.

Exposure

The contact an employee has with inorganic arsenic, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Inorganic arsenic

Elemental arsenic (As), copper aceto-arsenite, and inorganic compounds containing arsenic (measured as As), except arsine. Inorganic compounds do not contain the element carbon.

Licensed health care professional (LHCP)

An individual whose legally permitted scope of practice allows him or her to provide some or all of the healthcare services required for medical evaluations.

Permissible exposure limits (PELs)

PELs are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are also specified in WISHA rules found in other chapters. The PEL for inorganic arsenic is an eight-hour time-weighted average (TWA₈) of 10 micrograms per cubic meter (µg/m³).

Time-weighted average (TWA₈)

An exposure limit averaged over an eight-hour period that must not be exceeded during an employee's workday.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-173, § 296-848-500, filed 12/21/04, effective 5/1/05.]

WAC 296-848-60010 Health information about inorganic arsenic.

- Make this section readily available to employees as required in Training, WAC 296-848-30005.
- Provide this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-848-30030.

Table 5**General Health Information About Inorganic Arsenic**

What is inorganic arsenic?
In this chapter, "inorganic arsenic" means: <ul style="list-style-type: none"> – The element arsenic; – Arsenic-containing compounds that don't contain the element carbon; – Copper aceto-arsenite. Arsine is a gaseous inorganic arsenic compound not addressed by requirements in this chapter. It's addressed in a separate chapter, Respiratory hazards, chapter 296-841 WAC.
How does inorganic arsenic get into my body?
Inorganic arsenic enters your body when you:

Table 5

General Health Information About Inorganic Arsenic

- Breathe in (**inhale**) airborne particles such as dusts, fume, sprays, or other aerosols that contain inorganic arsenic. You will also inhale inorganic arsenic particles when you smoke tobacco products that have become contaminated from contact with inorganic arsenic at work. Some compounds, including arsenic trichloride, can be inhaled as a vapor;
- Swallow (**ingest**) food, drink, cosmetics such as lip balm, sweat and other substances that become contaminated from contact with inorganic arsenic at work.

Inorganic arsenic particles brought home on your clothes, shoes, or body can be inhaled or ingested by household members.

Some inorganic arsenic compounds enter your body when **eye or skin contact** occurs. Arsenic trichloride is one example of a compound that is readily **absorbed** through the eyes and skin.

What happens after inorganic arsenic enters my body?

Once inorganic arsenic enters your body, some of it is changed into a less harmful organic form by the liver. Both the organic and inorganic forms leave your body in urine. Most of the arsenic will be gone within several days, although some will remain in your body for several months and even longer.

Why is medical monitoring necessary?

Although exposure to inorganic arsenic is associated with various health effects, the most serious health effects are **lung and skin cancer**. The medical monitoring requirements in this chapter are established to minimize your risk for these diseases.

To learn more about the medical monitoring process, see Medical evaluation, WAC 296-848-30030.

What health effects and symptoms are linked with exposure to inorganic arsenic?

Exposure to inorganic arsenic is associated with various health effects ranging from **temporary local** effects such as skin irritation to **lasting systematic** effects due to gradual (chronic) or sudden (acute) poisoning. Such effects should not occur if the requirements in this chapter are followed.

Skin Health Effects:

Arsenic trioxide, arsenic trichloride, and other trivalent compounds can cause **skin irritation** from direct contact.

- The following moist mucous membranes are most sensitive to irritation:
 - Eye and inner eyelid (conjunctiva);
 - Linings inside the nose, mouth, and respiratory system.
- Other sites most vulnerable irritation also include:
 - Eyelids;
 - Angles (the space between 2 planes) of the ears, nose, and mouth;
 - Moist and macerated (softened by moisture) areas of skin;
 - Wrists;
 - Genitalia, if personal hygiene is poor.

Table 5

General Health Information About Inorganic Arsenic

Inorganic arsenic is also capable of causing keratoses (**small corns or warts**), especially on palms and soles.

Trivalent arsenic compounds are **corrosive** to skin:

- Brief contact won't cause irritation, but prolonged contact causes localized engorgement (hyperemia) which later forms vesicular (blister-like) or pustular (pimple-like) eruptions.
- Exposure can create perforations (holes) in the nasal septum (the tissue dividing the nasal cavity in half).

Arsenic trioxide and arsenic pentoxide exposure have been linked to **skin sensitization** (acquired sensitivity or allergy) **and contact dermatitis** (inflammation due to allergic or irritant reaction).

Acute Poisoning Effects:

Acute poisoning is usually linked to ingestion, not inhalation, of inorganic arsenic. Cases of acute poisoning **rarely** occur in occupational settings and inhalation-related cases are exceedingly rare.

When acute poisoning is due to **ingestion**, the following gastrointestinal symptoms develop within 1/2 to 4 hours:

- Tightening (constriction) of the throat followed by difficulty or inability to swallow (dysphagia), pain in the region above the belly button (epigastric pain), vomiting, and watery diarrhea. Blood may appear in vomit and stools;
- Shock may develop due to severe fluid loss when the amount of inorganic arsenic swallowed is sufficiently high. Death can occur in 24 hours.

When acute poisoning is due to inhalation:

- The following symptoms develop first:
 - Cough;
 - Chest pain;
 - Shortness of breath (dyspnea);
 - Giddiness;
 - Headache;
 - Extreme general weakness.
- Gastrointestinal symptoms will follow.

Chronic Poisoning Effects:

Cases of chronic poisoning caused by **ingestion** are also rare. Symptoms are:

- Weight loss;
- Nausea and diarrhea alternating with constipation;
- Skin pigmentation and eruptions;
- Hair loss;
- Numbness in hands and feet, "pins and needles" sensation, muscle weakness, and other symptoms resulting from peripheral neuritis;
- Horizontal white lines (striations) on fingernails and toenails.

Inhalation of inorganic arsenic is the most common cause of chronic poisoning in occupational settings. Symptoms associated with this condition are divided into 3 phases.

- 1st phase, earliest symptoms:
 - Weakness;
 - Loss of appetite;
 - Some nausea;
 - Occasional vomiting;
 - Sense of heaviness in the stomach;

Table 5

General Health Information About Inorganic Arsenic

<ul style="list-style-type: none"> ■ Some diarrhea. <p>– 2nd phase symptoms:</p> <ul style="list-style-type: none"> ■ Inflammation of the eyes and inner eyelid (conjunctivitis); ■ Inflammation, accompanied by an abundant discharge from mucous membranes (a catarrhal state) of the nose, larynx, and respiratory passage; ■ Symptoms associated with the common cold (Coryza), hoarseness, and mild tracheobronchitis may occur; ■ Skin lesions are common (eczematoid and allergic in type). Perforations (holes) in the nasal septum (the tissue dividing the nasal cavity in half) are the most typical lesions of the upper respiratory tract. <p>– 3rd phase symptoms (related to peripheral neuritis):</p> <ul style="list-style-type: none"> ■ Numbness in hands and feet, "pins and needles" sensation, muscle weakness. ■ In severe cases, motor paralyzes occur: Initially affecting the toe extensors and the peronei (outer portion of the lower leg). ■ "Wrist drop" or "foot drop" (resulting from paralysis of flexor muscles of feet and hands) only occurs in the most severe cases.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-153, § 296-848-60010, filed 1/23/07, effective 6/1/07.]

WAC 296-848-60020 Medical guidelines.

- Make this section readily available to employees as required in Training, WAC 296-848-30005.
- Provide this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-848-30030.

Table 6

Medical Guidelines

For Evaluating Employees With Exposure

<p>Part 1: DOSH's Requirements</p> <p>In addition to requiring employers to train employees and protect them from inorganic arsenic exposure, this chapter (the Arsenic rule) requires employers to monitor their employees' health with assistance from licensed health care professionals (LHCPs).</p> <ul style="list-style-type: none"> • For employees who will use respirators, the LHCP will also need to provide the employer with a written medical opinion clearing the employee for workplace respirator use. <p>These guidelines were designed to support an informed partnership between the LHCP and the employer when monitoring the health of employees exposed to inorganic arsenic.</p> <p>The employer initiates this partnership by providing the LHCP with a copy of the chapter and other supporting information about the employee and job conditions. The LHCP can then become familiar with the medical monitoring requirements found in WAC 296-848-30030 and 296-848-30080, which address:</p>

Table 6

Medical Guidelines

For Evaluating Employees With Exposure

<ul style="list-style-type: none"> • Frequency and content for routine (initial and periodic) medical examinations and consultations; • Emergency and other unplanned medical follow-up; • Medical opinions; • Medical records retention and content.
<p>Part 2: Inorganic Arsenic Toxicology</p> <p>Health information about inorganic arsenic, WAC 296-848-50020 provides basic information about the health effects and symptoms associated with inorganic arsenic exposure.</p> <p>In addition, consider the following information:</p> <p>Acute Poisoning</p> <p>Exfoliative dermatitis and peripheral neuritis may develop in patients who survive health effects due to acute poisoning (by ingestion).</p> <p>Acute toxic symptoms of trivalent arsenical poisoning are caused by severe inflammation of the mucous membranes and greatly increased permeability of the blood capillaries.</p> <p>Acute and Chronic Poisoning</p> <p>In cases of acute and chronic poisoning, toxic effects to the myocardium (the middle layer of the heart) reported on EKG changes are now largely discounted and are attributed to electrolyte disturbances concomitant with arsenicalism. Arsenic has a depressant effect upon bone marrow, with disturbances of both red blood cell production (erythropoiesis) and myelopoiesis.</p> <p>Chronic Poisoning</p> <p>Cases of chronic poisoning caused by ingestion are generally linked to patients taking prescribed medications. However, sputum from inhaled inorganic arsenic can be swallowed in addition to other ingested inorganic arsenic due to hand-to-mouth transfer.</p> <p>Skin lesions are usually melanotic and keratotic and may occasionally take the form of an intradermal cancer of the squamous cell type, but without infiltrative properties. Chronic hepatitis and cirrhosis have been described. Liver damage is still debated and as yet the question is unanswered.</p> <p>Polyneuritis may be the prominent feature, but more frequently there are numbness and parasthenias of "glove and stocking" distribution. Horizontal white lines (striations) on the fingernails and toenails are commonly seen and are considered a diagnostic accompaniment of arsenical polyneuritis.</p> <p>References:</p> <ul style="list-style-type: none"> • Other sources for toxicology information include: <ul style="list-style-type: none"> – ToxFAQs™ and the Toxicological Profile for Arsenic. Both of these free documents are available from the Agency for Toxic Substances and Disease Registry (ATSDR) and can be obtained by: <ul style="list-style-type: none"> ■ Visiting http://www.atsdr.cdc.gov/toxprofiles OR ■ Calling 1-888-422-8737.

**Table 6
Medical Guidelines
For Evaluating Employees With Exposure**

<ul style="list-style-type: none"> - A variety of technical resources on arsenic, available from the National Institutes for Occupational Safety and Health (NIOSH) by visiting http://www.cdc.niosh/topics/chemicals.html
<p>Part 3: Clinical Evaluation of Employees Exposed to Inorganic Arsenic</p> <p>IMPORTANT:</p> <ul style="list-style-type: none"> • When an employee will use a respirator during work, the LHCP will need to determine whether the employee can safely wear a respirator and what limitations, if any, apply. <p>Guidance for Physical Examinations</p> <p>In addition to its immediate diagnostic usefulness, a patient's initial examination will provide a baseline for comparing future test results.</p> <p>This chapter establishes the minimum content for medical examinations. Additional tests such as lateral and oblique X rays or pulmonary function test may be useful. You should also include palpation of superficial lymph nodes and a complete blood count when employees are exposed to any of the following compounds:</p> <ul style="list-style-type: none"> - Copper aceto-arsenite; - Potassium arsenite; - Sodium arsenite; - Other arsenicals associated with lymphatic cancer. <p>Arsenic trioxide and other inorganic arsenical dusts don't give rise to radiological evidence or pneumoconiosis.</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-153, § 296-848-60020, filed 1/23/07, effective 6/1/07.]

**Chapter 296-849 WAC
BENZENE**

WAC

296-849-100	Scope.
296-849-110	Basic rules.
296-849-11010	Preventive practices.
296-849-11020	Exposure control areas.
296-849-11030	Exposure evaluations.
296-849-11040	Personal protective equipment (PPE).
296-849-11050	Training.
296-849-11065	Exposure monitoring observation.
296-849-11070	Notification.
296-849-11090	Exposure records.
296-849-120	Exposure and medical monitoring.
296-849-12010	Periodic exposure evaluations.
296-849-12030	Medical evaluations.
296-849-12050	Medical removal.
296-849-12080	Medical records.
296-849-130	Rules for exposure control areas.
296-849-13005	Exposure control plan.
296-849-13020	Exposure controls.
296-849-13045	Respirators.
296-849-190	Definitions.
296-849-60010	Health information about benzene.
296-849-60020	Medical guidelines for benzene.

WAC 296-849-100 Scope. This chapter applies to all occupational exposure to benzene.

Definition:

Exposure is the contact an employee has with benzene, whether or not protection is provided by respirators or other

(2009 Ed.)

personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

- Exemptions:** This chapter does not apply to any of the following:
- Liquids, vapors, mixtures in containers or pipelines, and gas in natural gas processing plants when benzene content is 0.1% or less.
 - Gasoline and other fuels containing benzene once they leave the final bulk wholesale facility and are being:
 - Transported;
 - Sold;
 - Distributed;
 - Stored;
 - Dispensed either:
 - Outdoors;
 - OR
 - Indoors four hours or less a day.
 - Used as a fuel.
 - Oil and gas drilling, production, and servicing operations.
 - Solid materials that contain only trace amounts of benzene.
 - Coke ovens.

All requirements in this chapter will not apply to every workplace with an occupational exposure. The following will show you which requirements apply to your workplace.

Step 1: If any of your work tasks are listed in Table 1, follow Table 1.

- Go to Step 2a if you have additional work tasks or other exposures that are not covered in Table 1.

**Table 1
Requirements that Apply to Specific Tasks**

If employees do any of the following:	Then the only requirements in this chapter that apply to those tasks are:
Load and unload benzene at bulk storage facilities that use vapor control systems for all loading and unloading operations.	<ul style="list-style-type: none"> • The labeling requirement found in Preventive practices, WAC 296-849-11010.
Perform tasks around sealed transport pipelines carrying gasoline, crude oil, or other liquids containing more than 0.1% benzene.	<ul style="list-style-type: none"> • This requirement found in Training, WAC 296-849-11050: <ul style="list-style-type: none"> - Make sure training and information includes specific information on benzene for each hazard communication training topic. For the list of hazard communication training topics, go to the Safety and health core rules, chapter 296-800 WAC, and find Inform and train your employees about hazardous chemicals in your workplace, WAC 296-800-17030.
Work with, or around, sealed containers of liquids containing more than 0.1% benzene.	<ul style="list-style-type: none"> • Emergency requirements found in Medical evaluations, WAC 296-849-12030.

[Title 296 WAC—p. 3055]

If employees do any of the following:	Then the only requirements in this chapter that apply to those tasks are:
	<ul style="list-style-type: none"> • Requirements found in Medical records, WAC 296-849-12080. • Respirator requirements found in Respirators, WAC 296-849-13045.

Step 2a: Follow requirements in the basic rules sections, WAC 296-849-11010 through 296-849-11090, for tasks **not** listed in Table 1.

- This includes completing an exposure evaluation, as specified in Exposure evaluations, WAC 296-849-11030, to:
 - Obtain employee fifteen-minute and eight-hour exposure monitoring results of airborne benzene;

AND

- Determine if employee exposure monitoring results are above, at, or below these values:

- Eight-hour time-weighted average (TWA₈). 1 parts per million (ppm).
- Fifteen-minute short-term exposure limit (STEL). . . . 5 ppm.
- Eight-hour action level (AL). 0.5 ppm.

Step 2b: Use employee exposure monitoring results from Step 2a and follow Table 2 to find out which additional sections of this chapter apply to your workplace.

**Table 2
Section Application**

If employee exposure monitoring results are:	Then continue to follow the basic rules, and these additional requirements:
<ul style="list-style-type: none"> • Above the TWA₈ or STEL 	<ul style="list-style-type: none"> • Exposure and medical monitoring, WAC 296-849-12010 through 296-849-12080; AND • Exposure control areas, WAC 296-849-13005 through 296-849-13045.
<ul style="list-style-type: none"> • At or below the TWA₈ or STEL; AND • At or above AL 	<ul style="list-style-type: none"> • Exposure and medical monitoring, WAC 296-849-12005 through 296-849-12080.
<ul style="list-style-type: none"> • Below the AL and STEL 	<ul style="list-style-type: none"> • No additional requirements apply.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-849-100, filed 1/24/07, effective 4/1/07; 05-13-152, § 296-849-100, filed 6/21/05, effective 8/1/05; 05-01-172, § 296-849-100, filed 12/21/04, effective 3/1/05.]

WAC 296-849-110 Basic rules.

Summary:

Your responsibility:

To measure and minimize employee exposure to benzene.

IMPORTANT:

To determine which requirements to follow for your work tasks, go to Table 1 in the scope of this chapter, WAC 296-849-100.

Contents:

- Preventive practices
WAC 296-849-11010.
- Exposure control areas
WAC 296-849-11020.
- Exposure evaluations
WAC 296-849-11030.
- Personal protective equipment (PPE)
WAC 296-849-11040.
- Training
WAC 296-849-11050.
- Exposure monitoring observation
WAC 296-849-11065.
- Notification
WAC 296-849-11070.
- Exposure records
WAC 296-849-11090.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-110, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11010 Preventive practices.

You must:

- Make sure containers of benzene in the workplace are labeled, tagged, or marked with this warning:

DANGER
CONTAINS BENZENE
CANCER HAZARD

Note: You should keep containers tightly covered when not in use to prevent unnecessary exposure and accidental spills.

- References:** Additional requirements are found in other chapters as follows:
- For spills, leaks, or other releases of benzene, go to Emergency response, chapter 296-824 WAC.
 - For labeling go to:
 - The Safety and health core rules, chapter 296-800 WAC, and find the section Label containers holding hazardous chemicals, WAC 296-800-17025;
 - AND**
 - Material safety data sheet and label preparation, chapter 296-839 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-11010, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11020 Exposure control areas.

You must:

- Establish temporary or permanent exposure control areas where airborne concentrations of benzene are above, or can be reasonably expected to be above, the permissible exposure limits (PELs) for benzene by doing all the following:
 - Post signs at access points to exposure control areas that include this warning:

DANGER
Benzene
Cancer Hazard
Flammable - No Smoking

Authorized Personnel Only
Respirator Required

– Distinguish the boundaries of exposure control areas from the rest of the workplace in any way that minimizes employee access.

– Allow only authorized personnel to enter exposure control areas.

- Note:**
- You may use permanent or temporary enclosures, caution tape, ropes, painted lines on surfaces, or other materials to visibly distinguish exposure control areas or separate them from the rest of the workplace.
 - When distinguishing exposure control areas you should consider factors such as:
 - The level and duration of airborne exposure.
 - Whether the area is permanent or temporary.
 - The number of employees in adjacent areas.

Reference: If exposure control areas are established, go to Respirators, WAC 296-849-13045.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-172, § 296-849-11020, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11030 Exposure evaluations.

IMPORTANT:

• When you conduct an exposure evaluation in a workplace where an employee uses a respirator, the protection provided by the respirator is not considered.

• Following this section will fulfill the requirements to identify and evaluate respiratory hazards found in chapter 296-841 WAC, Airborne contaminants.

You must:

• Conduct an employee exposure evaluation to accurately determine airborne concentrations of benzene by completing Steps 1 through 7 of the exposure evaluation process, each time any of the following apply:

– No evaluation has been conducted.

■ You have up to thirty days to complete an evaluation once benzene is introduced into your workplace.

– Changes have occurred in any of the following areas that may result in new or increased exposures:

■ Production.

■ Processes.

■ Exposure controls such as ventilation systems or work practices.

■ Personnel.

– You have any reason to suspect new or increased exposure may occur.

– Spills, leaks, or other releases have been cleaned up.

Note: As part of your exposure evaluation after cleanup, you will make sure exposure monitoring results have returned to prerelease levels.

Exposure evaluation process.

IMPORTANT:

• If you are evaluating employee exposures during cleaning and repair of barges and tankers that contained benzene:

- Collect samples that effectively measure benzene concentrations that employees may be exposed to;

AND

– Skip to Step 7.

• Following the exposure evaluation process is not necessary when you have documentation conclusively demonstrating benzene exposures for a particular operation and material cannot exceed the action level (AL) during any conditions reasonably anticipated.

– Documentation can be based on data or qualitative information, such as information about:

■ The material.

■ How the material is handled.

■ The work conditions.

– Retain this documentation for as long as you rely on it.

Step 1: Identify all employees who have potential airborne exposure to benzene in your workplace.

Step 2: Identify operations where fifteen-minute exposures could exceed benzene's short-term exposure limit (STEL) of 5 parts per million (ppm).

• Include operations where it is reasonable to expect high, fifteen-minute exposures, such as operations where:

– Tanks are opened, filled, unloaded, or gauged.

– Containers or process equipment are opened.

– Benzene is used as a solvent for cleaning.

Note: You may use monitoring devices such as colorimetric indicator tubes or real-time monitors to screen for activities where employee exposure monitoring results could be high.

Step 3: Select employees from those working in the operations you identified in Step 2 who will have their fifteen-minute exposures measured.

Step 4: Select employees from those identified in Step 1 who will have their eight-hour exposures monitored.

• Make sure the exposures of the employees selected represent eight-hour exposures for **all** employees identified at Step 1, including each job classification, work area, and shift.

Note: A written description of the procedure used for obtaining representative employee exposure monitoring results needs to be kept as part of your exposure records required by this chapter in Exposure records, WAC 296-849-11090. This description can be created while completing Steps 3 through 6 of this exposure evaluation process.

Step 5: Determine how you will obtain employee monitoring results.

• Select and use a method that is accurate to $\pm 25\%$, with a confidence level of 95%.

Note:

- Here are examples of methods that meet this accuracy requirement:
 - OSHA Method 12 for air samples, found by going to <http://www.osha.gov/dts/sltc/methods/toc.html>.
 - NIOSH Method 1500, found by going to <http://www.cdc.gov/niosh/homepage.html> and link to the *NIOSH Manual of Analytical Methods*.

Step 6: Obtain employee exposure monitoring results by collecting air samples representing employees identified at Step 1.

• Collect fifteen-minute samples from employees selected at Step 3.

• Sample at least one shift representative of the eight-hour exposure for each employee selected at Step 4.

• Make sure samples are collected from each selected employee's breathing zone.

• Collecting area samples is permitted after emergency releases.

Note:

- You may use any sampling method that meets the accuracy specified in Step 5. Examples of these methods include:
 - Real-time monitors that provide immediate exposure monitoring results.
 - Equipment that collects samples that are sent to a laboratory for analysis.
 - The following are examples of methods of monitoring representative of eight-hour exposures:

- Collect one or more continuous samples, for example, a single eight-hour sample or four two-hour samples.
- Take a minimum of five brief samples, such as fifteen-minute samples, during the work shift and at times selected randomly.
- For work shifts longer than eight hours, monitor the continuous eight-hour portion of the shift expected to have the highest average exposure concentration.

Step 7: Have the samples you collected analyzed to obtain monitoring results representing eight-hour and fifteen-minute exposures.

• Go to the scope of this chapter, WAC 296-849-100, and compare employee exposure monitoring results to the **values** found in Step 2a and follow Step 2b to determine if additional sections of this chapter apply.

- Note:**
- You may contact your local WISHA consultant for help:
 - Interpreting data or other information.
 - Obtaining eight-hour or fifteen-minute employee exposure monitoring results.
 - To contact a WISHA consultant:
 - Go to another chapter, the Safety and health core rules, chapter 296-800 WAC, and find the resources section, and under "other resources," find service location for labor and industries.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-849-11030, filed 2/20/07, effective 4/1/07; 05-13-152, § 296-849-11030, filed 6/21/05, effective 8/1/05; 05-01-172, § 296-849-11030, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11040 Personal protective equipment (PPE).

You must:

• Make sure employees use appropriate PPE as protection from skin or eye contact with liquid benzene.

Note: Harmful amounts of benzene can enter the body through skin and eye contact.

Reference: To see additional personal protective equipment requirements, go to the Safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-172, § 296-849-11040, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11050 Training.

You must:

• Provide training and information to employees:

- At the time of initial assignment to a work area where benzene is present;

AND

– At least every twelve months after initial training for employees exposed to airborne concentrations at or above the action level (AL) of 0.5 parts per million (ppm).

• Make sure training and information includes all of the following:

– Specific information on benzene for each hazard communication training topic. For the list of hazard communication training topics, go to the Safety and health core rules, chapter 296-800 WAC, and find Inform and train your employees about hazardous chemicals in your workplace, WAC 296-800-17030;

AND

– An explanation of the contents of this chapter and guidance about where to find a copy of it;

AND

– A description of the medical evaluation requirements of this chapter found in:

■ Medical evaluations, WAC 296-849-12030;

[Title 296 WAC—p. 3058]

AND

■ Medical removal, WAC 296-849-12050.

Reference: To see additional training and information requirements in other chapters, go to the:

- Respirators rule, chapter 296-842 WAC, and find the Training section, WAC 296-842-16005.
- Safety and health core rules, chapter 296-800 WAC, and find the section titled, Inform and train your employees about hazardous chemicals in your workplace, WAC 296-800-17030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-153, § 296-849-11050, filed 1/23/07, effective 6/1/07; 05-01-172, § 296-849-11050, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11065 Exposure monitoring observation.

You must:

(1) Provide affected employees and their designated representatives an opportunity to observe exposure monitoring during Step 6 of the exposure evaluation process found in Exposure evaluations, WAC 296-849-11030.

(2) Make sure observers who enter areas with benzene exposure:

• Are provided with and use the same protective clothing, respirators, and other personal protective equipment (PPE) that employees working in the area are required to use;

AND

• Follow safety and health requirements that apply.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-172, § 296-849-11065, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11070 Notification.

You must:

• Provide written notification of exposure monitoring results to the employees represented by your exposure evaluation within five business days after the monitoring results become known to you.

– In addition, when employee exposure monitoring results are above a permissible exposure limit (PEL), provide written notification of all of the following within fifteen business days after these exposure monitoring results become known to you:

■ Corrective actions being taken and a schedule for completion;

AND

■ Any reason why exposures cannot be lowered to below the PELs for benzene.

Note:

- You can notify employees either individually or post the notifications in areas readily accessible to affected employees.
- Posted notification may need specific information that allows affected employees to determine which monitoring results apply to them.
- Notification may be in any written form, such as handwritten or e-mail.
- Notification may be limited to the required information, such as exposure monitoring results.
- When notifying employees about corrective actions, your notification may refer them to a separate document that's available and provides the required information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-172, § 296-849-11070, filed 12/21/04, effective 3/1/05.]

WAC 296-849-11090 Exposure records.**You must:**

• Establish and keep complete and accurate records for all exposure monitoring conducted under this chapter. Make sure the record includes at least:

- The name, Social Security number, or other unique identifier, and job classification of the employee sampled and all other employees represented by the sampled employee.
- The type of respirator worn, if any.
- A description of the methods used to obtain exposure monitoring results.
- A description of the procedure used to obtain representative employee exposure monitoring results.
- The date, number, duration, and the result of each sample taken.

Note: It is useful to record any personal protective equipment worn by the employee, in addition to the type of respirator worn.

You must:

• Keep exposure monitoring records for at least thirty years.

Reference:

- To see additional requirements for employee exposure records including access, and transfer requirements, go to another chapter, Employee medical and exposure records, chapter 296-802 WAC.
- Exposure monitoring records need to be kept longer than thirty years for employees participating in medical monitoring, go to Medical records, WAC 296-849-30080, found within this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-11090, filed 12/21/04, effective 3/1/05.]

WAC 296-849-120 Exposure and medical monitoring.**Summary:****Your responsibility:**

To detect any significant changes in employee health and exposure monitoring results.

IMPORTANT:

These sections apply when employee exposure monitoring results are either:

- At or above the action level (AL) of 0.5 parts per million (ppm) for benzene;
- OR**
- Above either of the permissible exposure limits for benzene.

Contents

Periodic exposure evaluations

WAC 296-849-12010.

Medical evaluations

WAC 296-849-12030.

Medical removal

WAC 296-849-12050.

Medical records

WAC 296-849-12080.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-120, filed 12/21/04, effective 3/1/05.]

WAC 296-849-12010 Periodic exposure evaluations.

Exemption: Periodic exposure evaluations aren't required if exposure monitoring results conducted to fulfill requirements in Exposure evaluation, WAC 296-849-11030, are below the action level (AL) and short-term exposure limit (STEL).

You must:

• Obtain employee exposure monitoring results as specified in Table 3, by repeating Steps 3, 4, 6, and 7 of the exposure evaluation process found within this chapter, in Exposure evaluations, WAC 296-849-11030.

Note: If you document that one work shift consistently has higher exposure monitoring results than another for a particular operation, then you can limit sample collection to the work shift with higher exposures and use results to represent all employees performing the operation on other shifts.

Table 3
Periodic Exposure Evaluation Frequencies

If exposure monitoring results	Then
<ul style="list-style-type: none"> – Are between the: AL of 0.5 ppm AND – Eight-hour time-weighted average (TWA₈) of 1 ppm 	Conduct additional exposure evaluations at least every twelve months for the employees represented by the monitoring results.
Are above the TWA ₈	Conduct additional exposure evaluations at least every six months for the employees represented by the monitoring results.
<ul style="list-style-type: none"> Have decreased to a concentration between the AL and TWA₈; AND The decrease is demonstrated by two consecutive exposure evaluations, made at least seven days apart. 	You may decrease your evaluation frequency to every twelve months for employees represented by the monitoring results.
Are above the short-term exposure limit (STEL) of 5 ppm	Repeat as often as necessary to evaluate employee exposure.
<ul style="list-style-type: none"> Have decreased to below the AL and the STEL AND The decrease is demonstrated by two consecutive evaluations, made at least seven days apart. 	You may stop periodic exposure evaluations for employees represented by the monitoring results.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-13-152, § 296-849-12010, filed 6/21/05, effective 8/1/05; 05-01-172, § 296-849-12010, filed 12/21/04, effective 3/1/05.]

WAC 296-849-12030 Medical evaluations.**IMPORTANT:**

Medical evaluations conducted under this section will satisfy the medical evaluation requirement found in Respirators, chapter 296-842 WAC.

You must:

• Provide the relevant medical follow-up specified in Tables 4 and 5 to any employee exposed to benzene during an emergency.

• Make medical evaluations available to current employees who meet the following criteria:

- Potential or actual exposure to benzene at or above the action level (AL) for at least thirty days in any twelve-month period.

- Potential or actual exposure to benzene at or above either permissible exposure limit (PEL) for at least ten days in a twelve-month period.

- Past exposure to concentrations above 10 ppm benzene for at least thirty days in a twelve-month period before November 11, 1988.

- Current or past work as a tire building machine operator using solvents containing more than 0.1% benzene during tire building operations.

You must:

- Make medical evaluations available at no cost to employees.

- Pay all costs, including travel costs and wages associated with any time spent outside of the employee's normal work hours;

- Make medical evaluations available at reasonable times and places;

- Make medical evaluations available by completing Steps 1 through 6 of the medical evaluation process for each employee covered.

- Note:**
- Employees who wear respirators need to be medically evaluated to make sure the respirator will not harm them, before they are assigned work in areas requiring respirators. Employees who decline to receive medical examination and testing to monitor for health effects caused by benzene are not excluded from receiving a separate medical evaluation for a respirator use.
 - If employers discourage participation in medical monitoring for health effects caused by benzene, or in any way interfere with an employee's decision to continue with this program, this interference may represent unlawful discrimination under RCW 49.17.160, Discrimination against employee filing, instituting proceeding, or testifying prohibited—Procedure—Remedy.

Helpful tool:

Declination form for nonemergency related medical evaluations.

- You may use this optional form to document employee decisions to decline participation in the medical evaluation process for exposure to benzene.

Medical evaluation process:

Step 1: Identify employees who qualify, as stated above, for medical evaluations.

Step 2: Make medical evaluations available for employees identified in Step 1 at the following times:

- Initially, before the employee starts a job or task assignment where benzene exposure will occur.
- Every twelve months from the initial medical evaluation.
- Whenever the employee develops signs or symptoms commonly associated with toxic benzene exposure.
- After benzene exposure from an emergency.

Step 3: Select a licensed health care professional (LHCP) who will conduct or supervise medical evaluations and make sure:

- Individuals who conduct pulmonary function tests have completed a training course in spirometry sponsored by an appropriate governmental, academic, or professional institution, if they are not licensed physicians;

AND

- Your LHCP uses an accredited laboratory, such as one accredited by a nationally or state-recognized organization, to conduct laboratory tests.

Step 4: Make sure the LHCP receives all of the following before the medical evaluation is performed:

- A copy of this chapter.
- A description of the duties of the employee being evaluated and how these duties relate to benzene exposure.
- The anticipated or representative exposure monitoring results for the employee being evaluated.
- A description of the personal protective equipment (PPE) each employee being evaluated uses or will use.
- Information from previous employment-related examinations when this information is not available to the examining LHCP.

- Instructions that the written opinions the LHCP provides, be **limited to** the following information:

- Specific records, findings, or diagnosis relevant to the employee's ability to work around benzene.
- The occupationally relevant results from examinations and tests.

- A statement about whether or not medical conditions were found that would increase the employee's risk for impairment from exposure to benzene.

- Any recommended limitations for benzene exposure.

- Whether or not the employee can use respirators and any recommended limitations for respirator or other PPE use.

- A statement that the employee has been informed of medical results and medical conditions caused by benzene exposure requiring further explanation or treatment.

Step 5: Provide the medical evaluation to the employee. Make sure it includes the content listed in Table 4, Content of medical evaluations, and Table 5, Medical follow-up requirements.

Step 6: Obtain the LHCP's written opinion for each employee's medical evaluation and give a copy to the employee within fifteen days of the evaluation date.

- Make sure the written opinion is limited to the information specified for written opinions in Step 4.

Note: If the written opinion contains specific findings or diagnoses unrelated to occupational exposure, send it back and obtain a revised version without the additional information.

IMPORTANT:

These tables apply when conducting medical evaluations, including medical follow-up for employees exposed to benzene during emergencies.

**Table 4
Content of Medical Evaluations**

When conducting	Include
An initial evaluation	<ul style="list-style-type: none"> • A detailed history including: <ul style="list-style-type: none"> - Past work exposure to benzene or other hematological toxins; - Exposure to marrow toxins outside of current employment; - Exposure to ionizing radiation; - Family history of blood dyscrasias including hematological neoplasms;

When conducting	Include
	<ul style="list-style-type: none"> – History of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities, and abnormal function of formed blood elements; – History of renal or liver dysfunction; – History of medications routinely taken. • A complete physical examination: – Include a pulmonary function test and specific evaluation of the cardiopulmonary system if the employee is required to use a respirator for at least thirty days a year. • A complete blood count including a: <ul style="list-style-type: none"> – Leukocyte count with differential; – Quantitative thrombocyte count; – Hematocrit; – Hemoglobin; – Erythrocyte count and indices (MCV, MCH, MCHC). • Additional tests the examining LHCP determines are necessary based on alterations in the components of the blood or other signs that may be related to benzene exposure. • Medical follow-up as required in Table 5.
Annual evaluations	<ul style="list-style-type: none"> • An updated medical history covering: <ul style="list-style-type: none"> – Any new exposure to potential marrow toxins; – Changes in medication use; – Any physical signs associated with blood disorders. • A complete blood count including a: <ul style="list-style-type: none"> – Leukocyte count with differential; – Quantitative thrombocyte count; – Hematocrit; – Hemoglobin; – Erythrocyte count and indices (MCV, MCH, MCHC). • Additional tests that the examining LHCP determines necessary, based on alterations in the components of the blood or other

When conducting	Include
	<ul style="list-style-type: none"> – signs that may be related to benzene exposure. • A pulmonary function test and specific evaluation of the cardiopulmonary system every three years if the employee is required to use a respirator for at least thirty days a year. • Medical follow-up as required in Table 5.
Evaluations triggered by employee signs and symptoms commonly associated with the toxic effects of benzene exposure	<ul style="list-style-type: none"> • An additional medical examination that addresses elements the examining LHCP considers appropriate.
Evaluations triggered by employee exposure during an emergency	<ul style="list-style-type: none"> • A urinary phenol test performed on the exposed employee's urine sample within seventy-two hours of sample collection. – The urine sample must be collected at the end of the work shift associated with the emergency; – The urine specific gravity must be corrected to 1.024. • Medical follow-up as required in Table 5. <p>Reference: Employees who are not covered by medical evaluation requirements in this chapter may be covered by medical evaluation requirements in other chapters such as Emergency response, chapter 296-824 WAC.</p>

Table 5
Medical Follow-up Requirements

If	Then
<ul style="list-style-type: none"> • The complete blood count test result is normal. 	<ul style="list-style-type: none"> • No further evaluation is required.
<ul style="list-style-type: none"> • The complete blood count test shows any of the following abnormal conditions: <ul style="list-style-type: none"> – A leukocyte count less than 4,000 per mm³ or an abnormal differential count; 	<ul style="list-style-type: none"> • Repeat the complete blood count within two weeks: <ul style="list-style-type: none"> – If the abnormal condition persists, refer the employee to a hematologist or an internist for follow-up medical examination and evaluation, unless the LHCP has good reason to believe it is unnecessary;

If	Then
<p>OR</p> <ul style="list-style-type: none"> - A thrombocyte (platelet) count that is either: <ul style="list-style-type: none"> ■ More than 20% below the employee's most recent values; OR ■ Outside the normal limit (95% C.I.) according to the laboratory; - The hematocrit or hemoglobin level is either of the following, and can not be explained by other medical reasons: <ul style="list-style-type: none"> ■ Below the normal limit (outside the 95% C.I.), as determined by the laboratory for the particular geographical area; OR ■ Persistently decreasing compared to the employee's preexposure levels. 	<ul style="list-style-type: none"> - The hematologist or internist will determine what follow-up tests are necessary; <p>AND</p> <ul style="list-style-type: none"> • Follow the requirements found in Medical removal, WAC 296-849-12050.
<p>Results from the urinary phenol test conducted during an emergency evaluation show phenol levels less than 75 mg/L.</p>	<ul style="list-style-type: none"> • No further evaluation is required.
<p>Results from the urinary phenol test conducted during an emergency evaluation show phenol levels equal or more than 75 mg/L.</p>	<ul style="list-style-type: none"> • Provide a complete blood count monthly for three months. Include a: <ul style="list-style-type: none"> - Leukocyte count with differential; - Thrombocyte count; - Erythrocyte count; <p>AND</p> <ul style="list-style-type: none"> • If any of the abnormal conditions previously listed in this table for complete blood count results are found: <ul style="list-style-type: none"> - Provide the employee with periodic examinations, if directed by the LHCP; <p>AND</p>

If	Then
	<ul style="list-style-type: none"> - Refer the employee to a hematologist or an internist for follow-up medical examination and evaluation unless the LHCP has good reason to believe a referral is unnecessary; <p>AND</p> <ul style="list-style-type: none"> - Follow the requirements found in Medical removal, WAC 296-849-12050; <p>AND</p> <ul style="list-style-type: none"> - The hematologist or internist will determine what follow-up tests are necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-153, § 296-849-12030, filed 1/23/07, effective 6/1/07; 05-13-152, § 296-849-12030, filed 6/21/05, effective 8/1/05; 05-01-172, § 296-849-12030, filed 12/21/04, effective 3/1/05.]

WAC 296-849-12050 Medical removal.

IMPORTANT:

This section applies when an employee is referred to a hematologist or an internist for follow-up medical examination and evaluation required in Table 5, Medical follow-up requirements found in Medical evaluations, WAC 296-849-12030.

You must:

(1) Remove the employee from areas where benzene exposure is above the action level (AL) by doing either of the following:

- Transfer the employee to a job currently available that:
 - The employee qualifies for, or could be trained for in a short period of time;

AND

- Will keep the employee's exposure to benzene as low as possible and never above the AL;

OR

- Remove the employee from the workplace until either:
 - A job becomes available that:
 - The employee qualifies for, or could be trained for in a short period of time;

AND

■ Will keep the employee's exposure to benzene as low as possible and never above the AL;

OR

- The employee is returned to work or permanently removed from benzene exposure as determined by completing the medical evaluation process for removed employees.

(2) Maintain the employee's current pay rate, seniority, and other benefits.

signs that may be related to benzene exposure.

Note: If you must provide medical removal benefits and the employee will receive compensation for lost pay from other sources, you may reduce your medical removal benefit obligation to offset the amount provided by these sources. Examples of other sources are:

- Public or employer-funded compensation programs;

- Employment by another employer, made possible by the employee's removal.

You must:

(3) Complete Steps 1 through 4 of the medical evaluation process for removed employees, **within six months** of the date the licensed health care professional (LHCP) refers an employee to a hematologist or internist for follow-up.

- Make sure all examinations and evaluations are provided at no cost to the employee.
 - Make examinations and evaluations available at reasonable times and places;

AND

- Pay for travel costs and wages, including any time spent outside of the employee's normal work hours.

Medical evaluation process for removed employees:

Step 1: Make sure the following is provided to the hematologist or internist:

- The information you provided to the LHCP in Step 4 of Medical evaluations, WAC 296-849-12030;
- The employee's medical record as described in Medical records, WAC 296-849-12080.

Note: The examining LHCP may provide this information for you.

Step 2: Provide the employee an examination and evaluation by a hematologist or internist.

- When the examination and evaluation is completed, you and the employee must be informed, in writing, of the referring LHCP's decision to continue **or** end the employee's removal from benzene exposure.
 - Include the following in the LHCP's decision if removal of the employee continues:
 - The expected time period for removal to continue;

AND

- Requirements for future medical examinations to review the decision.

- If the LHCP recommends the employee **end removal** and return to the usual job with benzene exposure, **skip Steps 3 and 4.**

Step 3: Provide further medical examination and evaluation to the employee when the LHCP's decision from Step 2 informs you that medical removal must continue.

Note: • During this step the LHCP, in consultation with the hematologist or internist, decides whether the employee:

- May return to their usual job;

OR

- Should be permanently removed from exposures that exceed the AL.

- If the LHCP recommends the employee return to their usual job, skip Step 4.

Step 4: When the LHCP recommends permanent removal for the employee, make sure all the following conditions are met:

- The employee has an opportunity to transfer to another job that is currently available (or will become available);
- The job is one the employee qualifies for, or could be trained for in a short period of time;
- There is no reduction in the employee's current pay rate, seniority, and other benefits;
- The employee's benzene exposures will be as low as possible, but never more than the AL.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-12050, filed 12/21/04, effective 3/1/05.]

(2009 Ed.)

WAC 296-849-12080 Medical records.**IMPORTANT:**

This section applies when a medical evaluation is performed, or any time a medical record is created for an employee exposed to benzene.

You must:

- Establish and maintain complete and accurate medical records for each employee receiving a medical evaluation and make sure the records include **all** the following:
 - The employee's name and Social Security number, or other unique identifier;
 - A copy of the licensed health care professional's (LHCP's) written opinions including written decisions and recommendations for the employee removed from exposure;
 - A copy of the information required in Step 4 of the medical evaluation process, found in WAC 296-849-12030, **except** for the copy of this chapter and the appendices listed.
 - Maintain medical evaluation records for the duration of employment plus thirty years.

Note: Your medical provider may keep these records for you. Other medical records such as an employee's medical history, need to be kept as a confidential record by the medical provider and accessed only with the employee's consent.

Reference: To see additional employee medical record requirements, including access and transfer requirements, go to another chapter, Employee medical and exposure records, chapter 296-802 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-12080, filed 12/21/04, effective 3/1/05.]

WAC 296-849-130 Rules for exposure control areas.**Summary:****Your responsibility:**

To protect employees from exposure to benzene by using feasible exposure controls and appropriate respirators.

IMPORTANT:

These sections apply when existing or potential employee exposure monitoring results are above either of the following permissible exposure limits (PELs):

- The eight-hour time-weighted average (TWA₈) of 1 part per million (ppm);

OR

- The fifteen-minute short-term exposure limit (STEL) of 5 ppm.

Contents:

Exposure control plan

WAC 296-849-13005.

Exposure controls

WAC 296-849-13020.

Respirators

WAC 296-849-13045.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-130, filed 12/21/04, effective 3/1/05.]

WAC 296-849-13005 Exposure control plan.

Exemption: This section does not apply to the cleaning and repair of barges and tankers that contained benzene.

You must:

- Establish and implement a written exposure control plan for exposure control areas that include a schedule for developing and implementing feasible exposure controls to reduce benzene exposure to, or below, the PELs.

[Title 296 WAC—p. 3063]

Note: Respirators and other personal protective equipment (PPE) help protect employees from exposures, but are **not** substitutes for feasible exposure controls.

You must:

- Review and update your exposure control plan as needed, based on the most recent exposure evaluation results.
- Provide a copy of your exposure control plan to affected employees and their designated representatives when they ask to review or copy it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-849-13005, filed 2/20/07, effective 4/1/07; 05-01-172, § 296-849-13005, filed 12/21/04, effective 3/1/05.]

WAC 296-849-13020 Exposure controls.

IMPORTANT:

Respirators and other personal protective equipment (PPE) do **not** substitute for feasible exposure controls.

You must:

- Use feasible exposure controls to reduce exposures, as specified in Table 6.

**Table 6
Exposure Control Requirements**

If:	Then you must use feasible controls to:
You have operations where employees clean and repair barges or tankers which have contained benzene	Keep all employee exposure concentrations below 10 parts per million (ppm).
You can document that benzene is used for less than thirty days a year in the workplace	Reduce eight-hour employee exposure monitoring results to a time-weighted average of 10 ppm or less. Note: If employee exposure monitoring results are between 1 and 10 ppm, you are permitted to use respirators or a combination of respirators and feasible controls to protect employees.
Employees are exposed to benzene above a PEL for at least thirty days a year	Reduce eight-hour employee exposure concentrations to the TWA ₈ of 1 ppm or less; AND Reduce fifteen-minute employee exposure concentrations to the STEL of 5 ppm or less.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-05-062, § 296-849-13020, filed 2/20/07, effective 4/1/07; 05-01-172, § 296-849-13020, filed 12/21/04, effective 3/1/05.]

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.

[Title 296 WAC—p. 3064]

You must:

- Provide respirators 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, 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.]

WAC 296-849-190 Definitions.

Action level an airborne concentration of benzene of 0.5 parts per million (ppm) calculated as an eight-hour time-weighted average.

Authorized personnel individuals specifically permitted by the employer to enter the exposure control area to per-

form necessary duties, or to observe employee exposure evaluations as a designated representative.

Benzene liquid benzene, benzene vapor, and benzene in liquid mixtures and the vapors released by these liquids.

The chemical abstract service (CAS) registry number for benzene is 71-43-2. CAS numbers are internationally recognized and used on material safety data sheets (MSDSs) and other documents to identify substances. For more information see <http://www.cas.org/about>.

Breathing zone the space around and in front of an employee's nose and mouth, forming a hemisphere with a 6- to 9-inch radius.

Bulk wholesale storage facility any bulk terminal or bulk plant where fuel is stored before its delivery to wholesale customers.

Container any container, except for pipes or piping systems, that contains benzene. It can be any of the following:

- Barrel;
- Bottle;
- Can;
- Cylinder;
- Drum;
- Reaction vessel;
- Storage tank.

Day any part of a calendar day.

Designated representative any of the following:

- Any individual or organization to which an employee gives written authorization;
- A recognized or certified collective bargaining agent without regard to written employee authorization;

OR

- The legal representative of a deceased or legally incapacitated employee.

Emergency any event that could or does result in the unexpected significant release of benzene. Examples of emergencies include equipment failure, container rupture, or control equipment failure.

Exposure the contact an employee has with benzene, whether or not protection is provided by respirators or other personal protective equipment (PPE). Contact can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Licensed health care professional (LHCP) an individual whose legally permitted scope of practice allows him or her to provide some or all of the health care services required for medical evaluations.

Permissible exposure limits (PELs) PELs are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are also specified in various WISHA rules found in other chapters. The PELs for benzene are the:

- Eight-hour time-weighted average (TWA₈) of 1 part per million (ppm);

AND

- Fifteen-minute short-term exposure limit (STEL) of 5 ppm.

Short-term exposure limit (STEL) an exposure limit averaged over a fifteen-minute period that must not be exceeded during any part of an employee's workday.

Time-weighted average (TWA₈) an exposure limit averaged over an eight-hour period that must not be exceeded during an employee's workday.

Vapor control systems equipment that controls the vapor displaced when chemicals are loaded and unloaded from truck or storage tanks. It also processes or balances the vapor back into the truck or storage tanks.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-172, § 296-849-190, filed 12/21/04, effective 3/1/05.]

WAC 296-849-60010 Health information about benzene.

- Include an explanation of the contents of this section to employees as required in Training, WAC 296-849-11050.

- Provide a copy of this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-849-12030.

Table 7
General Health Information About Benzene

What is benzene?
Benzene is a clear, colorless liquid with a pleasant, sweet odor. It evaporates into air very quickly. The odor of benzene does not provide adequate warning of its hazard. In this chapter, "benzene " means: <ul style="list-style-type: none"> – Liquid benzene, benzene vapor, and benzene in liquid mixtures and the vapor released by these liquids. The CAS Registry Number that identifies benzene is 71-43-2. Synonyms for benzene include: Benzol, benzole, coal naphtha, cyclohexatriene, phenyl hydride, pyrobenzol. Benzin, petroleum benzin, and benzine are chemicals that do not contain benzene.
How am I exposed to benzene?
Benzene exposure occurs when you: <ul style="list-style-type: none"> – Breath in (inhale) vapor or liquid particles (from actions such as spraying or splashing) containing benzene; – Have skin or eye contact with liquid or vapor containing benzene. Benzene is absorbed through the skin. Absorption occurs more rapidly with abraded skin or when benzene is present in solvents (as an ingredient or contaminant) which are readily absorbed; – Swallow (ingest) benzene.
What happens after I'm exposed to benzene?
Some benzene that enters your body will be absorbed into the bloodstream. Once in the bloodstream, benzene travels throughout your body and can be temporarily stored in the bone marrow and fat. Benzene is converted to products, called metabolites, in the liver and bone marrow. Some of the harmful effects of benzene exposure are caused by these metabolites. Most of the metabolites of benzene leave the body in the urine within 48 hours after exposure.
Why is medical monitoring necessary?
Medical monitoring is necessary to detect changes in your body's blood-forming system, including the bone marrow. These changes can occur due to repeated or prolonged, unprotected exposure to benzene, even at relatively low

Table 7
General Health Information About Benzene

<p>concentrations. Such changes can lead to various blood disorders, ranging from anemia to leukemia, an irreversible, fatal disease. Many of these disorders may occur without symptoms.</p> <p>Benzene is classified as a confirmed human carcinogen (Group 1) by the International Agency for Research on Cancer (IARC).</p> <p>To learn more about the medical monitoring process, see Medical evaluation, WAC 296-849-12030.</p> <p>What health effects are linked to benzene exposure?</p> <p>Unprotected exposure to benzene is associated with various health effects including symptoms and diseases associated with either short-term (acute) exposure or long-term exposure (chronic).</p> <p>Acute effects from inhaling high vapor concentrations: An initial stimulatory effect on the central nervous system (brain and spinal cord) can occur, characterized by exhilaration, nervous excitation (irritability), and/or giddiness. This may be followed by a period of depression, drowsiness, or fatigue. Headache, dizziness, nausea, or a feeling of intoxication may develop. A sensation of tightness in the chest may occur, accompanied by breathlessness. Ultimately the victim may lose consciousness. In severe inhalation cases, tremors, convulsions, and death may follow due to respiratory paralysis or circulatory collapse in a few minutes to several hours.</p> <p>Acute effects from inhaling liquid benzene: Aspiration of small amounts of liquid benzene immediately causes pulmonary edema (excessive accumulation of fluid in lung tissues) and hemorrhage of pulmonary tissue.</p> <p>Skin contact: Direct contact may cause redness (erythema). Benzene has a defatting action on skin. Repeated or prolonged contact may result in any of the following:</p> <ul style="list-style-type: none"> – Primary irritation; – Dry skin; – Scaling dermatitis (inflammation); – Development of secondary skin infections. <p>Effects on the eyes and mucous membranes: Localized effects from vapor or liquid contact on the eye are slight. High concentrations of benzene are irritating to eyes (causing a stinging sensation) and mucous membranes of the nose and respiratory tract.</p> <p>Effects due to prolonged exposure: The blood forming (hematopoietic) system is the main target for benzene's toxic effects. These effects can vary from anemia to leukemia, an irreversible, fatal disease. Many of the toxic effects may occur without symptoms. Most importantly, prolonged exposure to small quantities of benzene vapor is damaging to the blood forming system. This damage has occurred at concentrations of benzene that may not cause irritation of mucous membranes or unpleasant sensory effects.</p> <p>Early signs and symptoms are varied and often not readily noticed and nonspecific. These include:</p>

Table 7
General Health Information About Benzene

<ul style="list-style-type: none"> – Subjective complaints of headache, dizziness, and loss of appetite may precede or follow clinical signs; – Rapid pulse and low blood pressure, in addition to a physical appearance of anemia, may accompany a subjective complaint of shortness of breath and excessive tiredness. <p>Other symptoms may occur as the condition progresses:</p> <ul style="list-style-type: none"> – Bleeding from the nose, gums, or mucous membranes; AND – Development of purpuric spots (small bruises).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-153, § 296-849-60010, filed 1/23/07, effective 6/1/07.]

WAC 296-849-60020 Medical guidelines for benzene.

- Include an explanation of the contents of this section to employees as required in Training, WAC 296-849-11050.
- Provide a copy of this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-849-12030.

Table 8
Medical Guidelines For Evaluating Employees Exposed to Benzene

<p>Part 1: Becoming familiar with medical requirements in this chapter</p> <p>In addition to requiring employers to train employees and protect them from exposure to benzene, this chapter (the Benzene rule) requires employers to monitor their employees' health with assistance from licensed health care professionals (LHCPs).</p> <ul style="list-style-type: none"> • For employees who will use respirators, the LHCP will also need to provide the employer with a written medical opinion clearing the employee for workplace respirator use. <p>These guidelines were designed to support an informed partnership between the LHCP and the employer when monitoring the health of employees exposed to benzene. The employer initiates this partnership by providing the LHCP with a copy of the chapter and other supporting information about the employee and job conditions. The LHCP can then become familiar with the medical monitoring requirements found in WAC 296-849-12030 through 296-849-12080, which address:</p> <ul style="list-style-type: none"> • Frequency and content for routine (initial and periodic) medical examinations and consultations; • Emergency and other unplanned medical follow-up; • Medical opinions; • Employee medical removal; • Medical records retention and content. <p>Part 2: Benzene toxicology</p> <p>Benzene is primarily an inhalation hazard. Systematic absorption may cause depression of the hematopoietic system, pancytopenia, aplastic anemia, and leukemia. Clinical evidence of leukopenia, anemia, and thrombocytopenia,</p>

Table 8
Medical Guidelines For Evaluating Employees Exposed to Benzene

<p>singly or in combination, has been frequently reported among the first signs.</p> <p>Health information about benzene, WAC 296-848-50010, provides basic information about the health effects and symptoms associated with benzene exposure.</p> <p>Reference:</p> <ul style="list-style-type: none"> • Other sources for toxicology information include: <ul style="list-style-type: none"> – ToxFAQs™ and the Toxicological Profile for Benzene. This free document is available from the Agency for Toxic Substances and Disease Registry (ATSDR) and can be obtained by: <ul style="list-style-type: none"> ■ Visiting http://www.atsdr.cdc.gov/toxprofiles OR <ul style="list-style-type: none"> ■ Calling 1-888-422-8737 – A variety of technical resources on benzene from the National Institutes for Occupational Safety and Health (NIOSH) by visiting http://www.cdc.niosh/topics/chemicals.html
<p>Part 3: Treatment of acute toxic effects</p> <p>When providing assistance to someone contaminated with benzene, make sure you are adequately protected and do not risk being overcome by benzene vapor. Remove the patient from exposure immediately. Give oxygen or artificial resuscitation, if indicated. Flush eyes, wash skin if contaminated and remove all contaminated clothing. Recovery from mild exposures is usually rapid and complete. Symptoms of intoxication may persist following severe exposures.</p>
<p>Part 4: Preventive considerations</p> <p>The principal effects of benzene exposure which form the basis for the requirements in this chapter are pathological changes in the hematopoietic system, reflected by changes in the peripheral blood and manifesting clinically as pancytopenia, aplastic anemia, and leukemia. Consequently, the medical monitoring program is designed to observe, on a regular basis, blood indices for early signs of these effects, and although early signs of leukemia are not usually available, emerging diagnostic technology and innovative regimes make consistent surveillance for leukemia, as well as other hematopoietic effects, essential. Symptoms and signs of benzene toxicity can be nonspecific. Only a detailed history and appropriate investigative procedure will enable a physician to rule out or confirm conditions that place the employee at increased risk. Bone marrow may appear normal, aplastic, or hyperplastic, and may not, in all situations, correlate with peripheral blood forming tissues. Because of variations in the susceptibility to benzene morbidity, there is no "typical" blood picture. The onset of effects of prolonged benzene exposure may be delayed for many months or years after the actual exposure has ceased and identification or correlation with benzene exposure must be sought out in the occupational history. There are special provisions for medical tests in the event of hematologic abnormalities or for emergency situations.</p>

Table 8
Medical Guidelines For Evaluating Employees Exposed to Benzene

<ul style="list-style-type: none"> – This chapter specifies that blood abnormalities that persist must be referred "unless the physician has good reason to believe such referral is unnecessary." Examples of conditions that could make a referral unnecessary despite abnormal blood limits are iron or folate deficiency, menorrhagia, or blood loss due to some unrelated medical abnormality. – Blood values that require referral to a hematologist or internist are noted under Part 5: Hematology guidelines.
<p>Part 5: Hematology guidelines</p> <p>The following guidelines are established to assist the examining LHCP with regard to which laboratory tests are necessary and when to refer an employee to the specialist. A minimum battery of tests is to be performed using strictly standardized methods.</p> <p>Basic tests</p> <ul style="list-style-type: none"> • The following must be determined by an accredited laboratory: <ul style="list-style-type: none"> – Red and white cell counts; – Platelet counts; – White blood cell differential; – Hematocrit; – Red cell indices. • The normal ranges for the red cell and white cell counts are influenced by altitude, race, and sex, and therefore should be determined by the accredited laboratory in the specific area where the tests are performed. • Either a decline from an absolute normal or an individual's baseline to a subnormal value or a rise to a supra-normal value, are indicative of potential toxicity, particularly if all blood parameters decline. <ul style="list-style-type: none"> – The normal total white blood count is approximately 7,200/mm³ plus or minus 3,000; – For cigarette smokers the white count may be higher and the upper range may be 2,000 cells higher than normal for the laboratory; – In addition, infection, allergies and some drugs may raise the white cell count; – The normal platelet count is approximately 250,000 with a range of 140,000 to 400,000. Counts outside this range should be regarded as possible evidence of benzene toxicity. • Certain abnormalities found through routine screening are of greater significance in the benzene-exposed worker and require prompt consultation with a specialist, namely: <ul style="list-style-type: none"> – Thrombocytopenia; – A trend of decreasing white cell, red cell, or platelet indices in an individual over time is more worrisome than an isolated abnormal finding at one test time. The importance of trend highlights the need to compare an individual's test results to baseline and/or previous periodic tests;

Table 8

Medical Guidelines For Evaluating Employees Exposed to Benzene

- A constellation or pattern of abnormalities in the different blood indices is of more significance than a single abnormality. A low white count not associated with any abnormalities in other cell indices may be a normal statistical variation, whereas if the low white count is accompanied by decreases in the platelet and/or red cell indices, such a pattern is more likely to be associated with benzene toxicity and merits thorough investigation;
 - Anemia, leukopenia, macrocytosis or an abnormal differential white blood cell count should alert the physician to further investigate and/or refer the patient if repeat tests confirm the abnormalities. If routine screening detects an abnormality, follow-up tests which may be helpful in establishing the etiology of the abnormality are the peripheral blood smear and the reticulocyte count;
 - The extreme range of normal for reticulocytes is 0.4 to 2.5 percent of the red cells, the usual range being 0.5 to 1.2 percent of the red cells, but the typical value is in the range of 0.8 to 1.0 percent;
 - A decline in reticulocytes to levels of less than 0.4 percent is to be regarded as possible evidence (unless another specific cause is found) of benzene toxicity requiring accelerated surveillance. An increase in reticulocyte levels to about 2.5 percent may also be consistent with (but is not as characteristic of) benzene toxicity.

Additional tests**1. Peripheral blood smears:**

- Collecting the sample: As with reticulocyte count, the smear should be with fresh uncoagulated blood obtained from a needle tip following venipuncture or from a drop of earlobe blood (capillary blood). If necessary, the smear may, under certain limited conditions, be made from a blood sample anticoagulated with EDTA (but never with oxalate or heparin).
- Prepping the smear: When the smear is to be prepared from a specimen of venous blood which has been collected by a commercial Vacutainer type tube containing neutral EDTA, the smear should be made as soon as possible after the venesection. A delay of up to twelve hours is permissible between the drawing of the blood specimen into EDTA and the preparation of the smear if the blood is stored at refrigerator (not freezing) temperature.
- Minimum mandatory observations:
 - The differential white blood cell count;
 - Description of abnormalities in the appearance of red cells;
 - Description of any abnormalities in the platelets;

Table 8

Medical Guidelines For Evaluating Employees Exposed to Benzene

- A careful search must be made throughout of every blood smear for immature white cells such as band forms (in more than normal proportion, i.e., over 10 percent of the total differential count), any number of metamyelocytes, myelocytes, or myeloblasts. Any nucleate or multinucleated red blood cells should be reported. Large "giant" platelets or fragments of megakaryocytes must be recognized;
 - An increase in the proportion of band forms among the neutrophilic granulocytes is an abnormality deserving special mention, for it may represent a change which should be considered as an early warning of benzene toxicity in the absence of other causative factors (most commonly infection). Likewise, the appearance of metamyelocytes, in the absence of another probable cause, is to be considered a possible indication of benzene-induced toxicity;
 - An upward trend in the number of basophils, which normally do not exceed about 2.0 percent of the total white cells, is to be regarded as possible evidence of benzene toxicity. A rise in the eosinophil count is less specific but also may be suspicious of toxicity if it rises above 6.0 percent of the total white count;
 - The normal range of monocytes is from 2.0 to 8.0 percent of the total white count with an average of about 5.0 percent. About 20 percent of individuals reported to have mild but persisting abnormalities caused by exposure to benzene show a persistent monocytosis. The findings of a monocyte count which persists at more than 10 to 12 percent of the normal white cell count (when the total count is normal) or persistence of an absolute monocyte count in excess of 800/mm³ should be regarded as a possible sign of benzene-induced toxicity;
 - A less frequent but more serious indication of benzene toxicity is the finding in the peripheral blood of the so-called "pseudo" (or acquired) Pelger-Huet anomaly. In this anomaly many, or sometimes the majority, of the neutrophilic granulocytes possess two round nuclear segments - less often one or three round segments - rather than three normally elongated segments. When this anomaly is not hereditary, it is often but not invariably predictive of subsequent leukemia. However, only about two percent of patients who ultimately develop acute myelogenous leukemia show the acquired Pelger-Huet anomaly. Other tests

Table 8
Medical Guidelines For Evaluating Employees Exposed to Benzene

<p>that can be administered to investigate blood abnormalities are discussed below; however, such procedures should be undertaken by the hematologist.</p> <p><u>2. Sucrose water test and Ham test:</u></p> <ul style="list-style-type: none"> An uncommon sign, which cannot be detected from the smear, but can be elicited by a "sucrose water test" of peripheral blood, is transient paroxysmal nocturnal hemoglobinuria (PNH), which may first occur insidiously during a period of established aplastic anemia, and may be followed within one to a few years by the appearance of rapidly fatal acute myelogenous leukemia. Clinical detection of PNH, which occurs in only one or two percent of those destined to have acute myelogenous leukemia, may be difficult; if the "sucrose water test" is positive, the somewhat more definitive Ham test, also known as the acid-serum hemolysis test, may provide confirmation. <p>Important clinical findings</p> <p>1. Individuals documented to have developed acute myelogenous leukemia years after initial exposure to benzene may have progressed through a preliminary phase of hematologic abnormality. In some instances pancytopenia (i.e., a lowering in the counts of all circulating blood cells of bone marrow origin, but not to the extent implied by the term "aplastic anemia") preceded leukemia for many years.</p> <ul style="list-style-type: none"> Depression of a single blood cell type or platelets may represent a harbinger of aplasia or leukemia. The finding of two or more cytopenias, or pancytopenia in a benzene-exposed individual, must be regarded as highly suspicious of more advanced although still reversible, toxicity. "Pancytopenia" coupled with the appearance of immature cells (myelocytes, myeloblasts, erythroblasts, etc.), with abnormal cells (pseudo Pelger-Huet anomaly, atypical nuclear heterochromatin, etc.), or unexplained elevations of white blood cells must be regarded as evidence of benzene overexposure unless proved otherwise. Many severely aplastic patients manifested the ominous findings of: <ul style="list-style-type: none"> 5 to 10 % myeloblasts in the marrow; Occasional myeloblasts and myelocytes in the blood; 20 to 30 monocytes. It is evident that isolated cytopenias, pancytopenias, and even aplastic anemias induced by benzene may be reversible and complete recovery has been reported on cessation of exposure. However, since any of these abnormalities is serious, the employee must immediately be removed from any possible exposure to benzene vapor. <ul style="list-style-type: none"> Certain tests may substantiate the employee's prospects for progression or regression. One such test would be an examination of the bone marrow, but the decision to perform a bone marrow

Table 8
Medical Guidelines For Evaluating Employees Exposed to Benzene

<p>aspiration or needle biopsy is made by the hematologist.</p> <p>2. The findings of basophilic stippling in circulating red blood cells (usually found in one to five percent of red cells following marrow injury), and detection in the bone marrow of what are termed "ringed sideroblasts" must be taken seriously, as they have been noted in recent years to be premonitory signs of subsequent leukemia.</p> <p>3. Recently peroxidase-staining of circulating or marrow neutrophil granulocytes, employing benzidine dihydrochloride, have revealed the disappearance of, or diminution in, peroxidase in a sizable proportion of the granulocytes, and this has been reported as an early sign of leukemia. However, relatively few patients have been studied to date. Granulocyte granules are normally strongly peroxidase positive. A steady decline in leukocyte alkaline phosphatase has also been reported as suggestive of early acute leukemia. <ul style="list-style-type: none"> Peroxidase and alkaline phosphatase staining are usually undertaken when the index of suspicion for leukemia is high. </p> <p>4. Exposure to benzene may cause an early rise in serum iron, often but not always associated with a fall in the reticulocyte count. Thus, serial measurements of serum iron levels may provide a means of determining whether or not there is a trend representing sustained suppression of erythropoiesis.</p> <p>5. Measurement of serum iron, determination of peroxidase and of alkaline phosphatase activity in peripheral granulocytes can be performed in most pathology laboratories.</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-153, § 296-849-60020, filed 1/23/07, effective 6/1/07.]

Chapter 296-855 WAC ETHYLENE OXIDE

WAC

296-855-100	Scope.
296-855-200	Basic rules.
296-855-20010	Preventive practices.
296-855-20020	Exposure control areas.
296-855-20040	Personal protective equipment (PPE).
296-855-20050	Exposure evaluations.
296-855-20060	Notification.
296-855-20070	Exposure records.
296-855-20080	Documentation records.
296-855-20090	Training.
296-855-300	Exposure and medical monitoring.
296-855-30010	Periodic exposure monitoring.
296-855-30030	Medical evaluations.
296-855-30080	Medical records.
296-855-400	Exposure control.
296-855-40010	Exposure control plan.
296-855-40030	Exposure controls.
296-855-40040	Respirators.
296-855-500	Definitions.

WAC 296-855-100 Scope. This chapter applies to all occupational exposure to ethylene oxide.

Definition:

- Ethylene oxide* (EtO) is an organic chemical represented by the Chemical Abstract Service (CAS) registry

number 75-21-8. It is a flammable colorless gas that is commonly used to sterilize medical equipment and as a fumigant for certain agricultural products. It is also used as an intermediary in the production of various chemicals such as ethylene glycol, automotive antifreeze, and polyethylene.

- *Exposure* is the contact an employee has with EtO, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, or skin and eye contact.

Some of the requirements in this chapter may not apply to every workplace with an occupational exposure to EtO. The following steps will show which requirements apply to your workplace based on employee exposure monitoring results.

- Step one:** Follow requirements in the basic rules section, WAC 296-855-20010 through 296-855-20090.
- Step two:** Use employee exposure monitoring results from the exposure evaluations required by, Exposure evaluations, WAC 296-855-20050, and follow Table 1 to find out which additional sections of this chapter apply to your workplace.
- Step three:** You need only follow Exposure records, WAC 296-855-20070 and Medical records, WAC 296-855-30080 if you have documentation conclusively demonstrating that employee exposure for ethylene oxide and the operation where it's used, cannot exceed the AL or STEL during any conditions reasonably anticipated.
 - Such documentation can be based on observations, data, calculations, and previous air monitoring results.

Table 1
Sections That Apply to Your Workplace

If:	Then continue to follow the basic rules, and the additional requirements in:
Employee exposure monitoring results are below the AL and STEL	No additional requirements if exposures remain stable
Employee exposure monitoring results are above the PELs Note: PEL refers to both the STEL and TWA	<ul style="list-style-type: none"> • Exposure and medical monitoring, WAC 296-855-30010 through 296-855-30080; <p>AND</p> <ul style="list-style-type: none"> • Exposure control, WAC 296-855-40005 through 296-855-40045
Employee exposure monitoring results are above the AL; AND Below the STEL	Exposure and medical monitoring, WAC 296-855-30010 through 296-855-30080

Table 1
Sections That Apply to Your Workplace

If:	Then continue to follow the basic rules, and the additional requirements in:
When there is a possibility of an emergency release of EtO	Establish a written emergency response plan and a means of alerting potentially exposed employees as found in Exposure control plan, WAC 296-855-40005

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-100, filed 8/23/05, effective 1/1/06.]

WAC 296-855-200 Basic rules.

Summary:

Your responsibility:

To evaluate employee exposure and protect employee from ethylene oxide.

IMPORTANT:

- The requirements in basic rules apply to all employers covered by the scope of this chapter, WAC 296-855-100. Additional sections may apply to you, based on employee exposure monitoring results. Turn to the Scope, WAC 296-855-100, and follow Table 1.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-200, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20010 Preventive practices.

You must:

- Make sure that all containers of EtO whose contents are capable of causing employee exposure above the action level or above the STEL are labeled, tagged, or marked with this warning:

Danger
Contains Ethylene Oxide
Cancer Hazard and Reproductive Hazard

AND

A warning stating that breathing airborne concentrations of EtO is hazardous.

- Keep container labels free of statements that contradict or detract from the labels' hazard warning.

Note:

- EtO is highly flammable and should be kept in a tightly covered container, and in a cool, well-ventilated area away from any type of ignition source.

You must:

- Make sure warning labels remain on containers of EtO when these containers are transported.

Exemption:

- Reaction vessels, storage tanks, and pipes or piping systems are not considered to be containers and do not require labeling.
- Labeling requirements do not apply when EtO:
 - Is used as a pesticide as defined by the Federal Insecticide, Fungicide, and Rodenticides Act (7 U.S.C. 136 et seq.);

AND

 - Meets the Environmental Protection Agency labeling requirements for pesticides.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-20010, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20020 Exposure control areas.**You must:**

• Establish temporary or permanent exposure control areas where airborne concentrations of ethylene oxide (EtO) exceed or could exceed the permissible exposure limits (PELs) by doing all the following:

– Clearly identify the boundaries of exposure control areas in any way that minimizes employee access.

– Post signs at access points to exposure control areas that:

■ Are easy to read (for example, they are kept clean and well lit).

AND

■ Include this warning:

DANGER
ETHYLENE OXIDE
CANCER AND REPRODUCTIVE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING MAY BE
REQUIRED TO BE WORN IN THIS AREA

• Keep signs and areas near them free of statements that contradict or detract from their message.

Note: • This requirement does not prevent you from posting other signs.

You must:

• Allow only authorized personnel to enter exposure control areas.

Note: • When identifying the boundaries of exposure control areas you should consider factors such as:

- The level and duration of airborne exposure.
- Whether the area is permanent or temporary.
- The number of employees in adjacent areas.

• You may use permanent or temporary enclosures, caution tape, ropes, painted lines on surfaces, or other materials to visibly distinguish exposure control areas or separate them from the rest of the workplace.

You must:

• Make sure employees entering exposure control areas have appropriate respirators available for use.

• Prevent all of the following activities from occurring in exposure control areas:

- Eating food.
- Drinking beverages.
- Smoking.
- Chewing tobacco or gum.
- Applying cosmetics.
- Storing food, beverages, or cosmetics.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-20020, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20040 Personal protective equipment (PPE).**You must:**

• Make sure employees wear appropriate PPE as protection from skin or eye contact with ethylene oxide (EtO), liquid EtO, or EtO solutions.

• Provide appropriate PPE at no cost to employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-20040, filed 8/23/05, effective 1/1/06.]

(2009 Ed.)

WAC 296-855-20050 Exposure evaluations.**IMPORTANT:**

This section applies when there is a potential for airborne exposure to ethylene oxide (EtO) in your workplace.

When you conduct an exposure evaluation in a workplace where an employee uses a respirator, the protection provided by the respirator is not considered.

Following this section will also meet the requirements to identify and evaluate respiratory hazards found in chapter 296-841 WAC, Airborne contaminants.

You must:

• Conduct an employee exposure evaluation to accurately determine airborne concentrations of EtO by completing Steps one through seven of the exposure evaluation process, each time any of the following apply:

– No evaluation has been conducted.

– Changes have occurred in any of the following areas that may result in new or increased employee exposures:

■ Production.

■ Processes.

■ Personnel.

■ Exposure controls such as ventilation systems or work practices.

– You have any reason to suspect new or increased employee exposure may occur.

• Provide affected employees and their designated representatives an opportunity to observe any exposure monitoring during Step six of the exposure evaluation process.

• Make sure observers entering areas with EtO exposure:

– Are provided with and use the same protective clothing, respirators, and other personal protective equipment (PPE) that employees working in the area are required to use;

AND

– Follow all safety and health requirements that apply.

Exposure evaluation process

Step one: Identify all employees who have potential exposure to airborne ethylene oxide (EtO) in your workplace.

Step two: Identify operations where employee exposures could exceed EtO's fifteen-minute short-term exposure limit (STEL) of five parts per million (ppm).

Step three: Select employees from those working in the operations you identified in Step two who will have their STEL exposures measured.

Step four: Select employees from those identified in Step one who will have their eight-hour exposures monitored.

• Make sure the exposures of the employees selected represent eight-hour exposures for all employees identified in Step one including each job classification, work area, and shift.

• If you expect all employee exposures to be below the action level (AL), you can choose to limit your selection to those employees reasonably believed to have the highest exposures. If you find these employees' exposure to be above the AL, then you'll need to repeat Step four to represent all employees identified in Step one.

Note: You can use Steps three through six of this process to create a written description of the procedure used for obtaining representative employee exposure monitoring results,

which is a requirement in Exposure records, WAC 296-855-20070.

- Exemption:**
- You can skip Steps four through seven if you have documentation conclusively demonstrating that employee exposure for a particular material and the operation where it's used, cannot exceed the AL or STEL during any conditions reasonably anticipated.
 - Such documentation can be based on observations, data, calculations, and previous air monitoring results. Previous air monitoring results:
 - Must meet the accuracy required by Step five.
 - May be from outside sources, such as industry or labor studies.
 - Must be based on data that represents conditions being evaluated in your workplace.

- Step five:** Determine how you will obtain accurate employee exposure monitoring results. Select and use an air monitoring method with a confidence level of ninety-five percent, that's accurate to:
- \pm twenty-five percent when concentrations are potentially above the AL or eight-hour time-weighted average of one part per million (ppm).
 - \pm thirty-five percent when concentrations are potentially above the AL of 0.5 ppm or the STEL of five ppm.

- Note:** Here are examples of air monitoring methods that meet this accuracy requirement:
- OSHA Method thirty found by going to: <http://www.osha.gov/dts/sltc/methods/toc.html>.
 - NIOSH Method thirty eight hundred found by going to: <http://www.cdc.gov/niosh/homepage.html> and linking to the NIOSH Manual of analytical methods.

- Step six:** Obtain employee monitoring results by collecting air samples representing employees identified in Steps three and four.
- Collect STEL samples for employees and operations selected in Step three.
 - Collect samples representing the eight-hour exposure, for at least one shift, for each employee selected in Step four.
 - Make sure samples are collected from each selected employee's breathing zone.

- Note:**
- You may use any sampling method that meets the accuracy specified in Step five. Examples of these methods include:
 - Real-time monitors that provide immediate exposure monitoring results.
 - Equipment that collects samples that are sent to a laboratory for analysis.
 - The following are examples of methods for collecting samples representative of eight-hour exposures.
 - Collect one or more continuous samples, such as a single eight-hour sample or four two-hour samples.
 - Take a minimum of five brief samples, such as five fifteen-minute samples, during a work shift at randomly selected times.
 - For work shifts longer than eight hours, monitor the continuous eight-hour portion of the shift expected to have the highest average exposure concentration.

- Step seven:** Have the samples you collected analyzed to obtain monitoring results for eight-hour and STEL exposures.
- Determine if employee exposure monitoring results are above or below the following values:
 - Eight-hour time-weighted average (TWA₈) of one ppm.
 - Fifteen-minute short-term exposure limit (STEL) of five ppm.
 - Eight-hour action level (AL) of 0.5 ppm.

- Note:**
- You may contact your local WISHA consultant for help:
 - Interpreting data or other information.

– Determining eight-hour or fifteen-minute employee exposure monitoring results.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-06-005, § 296-855-20050, filed 2/22/07, effective 4/1/07; 05-17-168, § 296-855-20050, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20060 Notification.

You must:

- Provide written notification of exposure monitoring results to employees represented by your exposure evaluation, within five business days after monitoring results become known to you.
 - In addition, when employee exposure monitoring results are above either the TWA₈ or STEL permissible exposure limit (PEL), provide written notification of all the following within fifteen business days after the results become known to you:
 - Corrective actions being taken and a schedule for completion;
- AND**
- Any reason why exposures can not be lowered to below the PELs.

- Note:**
- You can either notify employees individually or post the notifications in areas readily accessible to affected employees.
 - Posted notification may need specific information that allows affected employees to determine which monitoring results apply to them.
 - Notification may be:
 - In any written form, such as hand-written or e-mail.
 - Limited to the required information, such as exposure monitoring results.
 - When notifying employees about corrective actions, your notification may refer them to a separate document that is available and provides the required information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-17-168, § 296-855-20060, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20070 Exposure records.

You must:

- Establish and keep complete and accurate records for all exposure monitoring evaluations conducted under this chapter. Make sure the record includes, at least:
 - The name, unique identifier, and job classification of:
 - The employee sampled;
- AND**
- All other employees represented by the sampled employee.
 - A description of the methods used to obtain exposure monitoring results and evidence of the methods' accuracy.
 - The operation being monitored for employee exposure to EtO.
 - A description of the procedure used to obtain representative employee exposure monitoring results.
 - The date, number, duration, location, and the result of each sample taken.
 - Any environmental conditions that could affect exposure concentration measurements.
 - Any personal protective equipment (PPE) worn by the employee including the type of respirator.

- Note:**
- You can use Steps three through six of the exposure evaluation process in Exposure evaluations, WAC 296-855-20050, to create a description of the procedure you used for obtaining representative employee exposure monitoring results.

You must:

- Keep exposure monitoring records for at least thirty years.

Reference:

- To see additional requirements for employee exposure records including access, and transfer requirements, go to another chapter, Employee medical and exposure records, chapter 296-802 WAC.
- Exposure monitoring records need to be kept longer than thirty years for employees participating in medical monitoring, go to Medical records, WAC 296-849-12080.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-20070, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20080 Documentation records.

You must:

- Keep documentation you develop, of the processing, use, or handling of products made from or containing EtO, that conclusively demonstrates that the action level or STEL for EtO cannot be exceeded under any foreseeable conditions of use.
 - Include the following in the documentation record:
 - The product that is the subject of the documentation;
 - The source of the data;
 - Any testing protocol, results of testing, and/or analysis of the product for the release of EtO;
 - A description of the operation where the product is used and how the data support your conclusion; and
 - Other data relevant to the operations, materials, processing, or employee exposures covered by your conclusion.
 - Maintain the documentation record for as long as you rely on your conclusion that the action level and STEL cannot be exceeded.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-20080, filed 8/23/05, effective 1/1/06.]

WAC 296-855-20090 Training.

You must:

- Train employees who are potentially exposed above the:
 - Action level (AL) 0.5 parts per million (ppm);
- OR**
- Fifteen-minute short-term exposure limit (STEL) of five ppm.
- Provide training:
 - At the time of initial assignment;
- AND**
- Then at least every twelve months.
- Make sure training and information includes all of the following:
 - The requirements of this chapter.
 - The location and availability of this chapter.
 - The purpose of medical evaluations and a description of your medical evaluation program required in Medical evaluations, WAC 296-855-30030 in this chapter.
 - Monitoring procedures and observations to detect the presence or release of EtO.
 - The physical and health hazards of EtO.
 - Actions employees can take to protect themselves from EtO exposure such as work practices, emergency procedures, and PPE.

(2009 Ed.)

- The details of your hazard communication program required by another chapter, Employer chemical hazard communication, WAC 296-800-170.

- Operations in employee work areas where EtO is present.

- The following information found in the General occupational health standards, chapter 296-62 WAC:

- The Substance safety data sheet, WAC 296-62-07383 Appendix A.

- The Substance technical guidelines, WAC 296-62-07385 Appendix B.

- Medical surveillance guidelines, WAC 296-62-07387 Appendix C.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-20090, filed 8/23/05, effective 1/1/06.]

WAC 296-855-300 Exposure and medical monitoring.

Summary:

Your responsibility:

To monitor employee health and workplace exposures to ethylene oxide (EtO).

IMPORTANT:

- These sections apply when employee exposure monitoring results are either above the:

- Action level (AL) of 0.5 parts per million (ppm);

OR

- Short-term exposure limit (STEL) of five ppm.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-300, filed 8/23/05, effective 1/1/06.]

WAC 296-855-30010 Periodic exposure monitoring.

Exemption: Periodic employee exposure monitoring is not required if exposure monitoring results conducted to fulfill requirements in Exposure evaluation, WAC 296-855-20050, are below the action level (AL).

You must:

- Obtain employee exposure monitoring results according to the frequency specified in Table 2, Periodic Exposure Evaluation Frequencies.

Note: • If you documented that one work shift consistently has higher exposure monitoring results than another for a particular operation, then you may limit sample collection to the work shift with higher exposures and use those results to represent all employees performing the operation on other shifts.

**Table 2
Periodic Exposure Evaluation Frequencies**

If employee exposure monitoring results:	Then:
Are between the: • Action level (AL) of 0.5 parts per million (ppm); AND • TWA ₈ of 1 ppm	Conduct additional exposure monitoring at least every 6 months.
Are above the TWA ₈ ; OR Above the STEL	Conduct additional exposure monitoring at least every 3 months.

[Title 296 WAC—p. 3073]

Table 2
Periodic Exposure Evaluation Frequencies

If employee exposure monitoring results:	Then:
Have been obtained at least every 3 months; AND Have 2 consecutive monitoring results, taken at least 7 days apart, showing 8-hour employee exposure monitoring results that have dropped below the TWA _s , but remain at or above the AL	You may decrease your evaluation frequency for the TWA _s to every 6 months.
Have 2 consecutive evaluations, taken at least 7 days apart, showing 8-hour employee exposure monitoring results that have dropped below the AL and STEL	You may stop periodic exposure evaluations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-30010, filed 8/23/05, effective 1/1/06.]

WAC 296-855-30030 Medical evaluations.

IMPORTANT:

Medical evaluations meeting all requirements of this section will fulfill the medical evaluation requirement found in another chapter, Respirators, chapter 296-842 WAC.

Employees who wear respirators need to be medically evaluated to make sure the respirator will not harm them, before they are assigned work in areas requiring respirators.

You must:

- Make medical evaluations available to current employees:
 - Who have been, are, or may be exposed above the action level (AL) for at least thirty days in any twelve-month period.
 - Exposed to EtO during an emergency situation.
 - Wanting medical advice on EtO exposure and reproductive health.
 - Whenever the employee develops signs and symptoms commonly associated with ethylene oxide.
 - At no cost including travel costs and wages associated with any time spent obtaining the medical evaluation.
 - At reasonable times and places.
- Complete Steps one through four of the medical evaluation process at the following times:
 - Initially, when employees are assigned to work in an area where exposure monitoring results are, or will likely be, above the action level (AL) for at least thirty days in a twelve-month period.
 - Every twelve months for employees exposed above the AL for at least thirty days in the preceding year unless the examining physician determines that they should be provided more frequently.
 - When employment with exposure ends, if the employee has not had an evaluation within the six-month period before exposure ends.

[Title 296 WAC—p. 3074]

- Note:**
- Employees who decline to receive medical examination and testing to monitor for health effects caused by EtO are not excluded from receiving a separate medical evaluation for respirator use.
 - If employers discourage participation in medical monitoring for health effects caused by EtO, or in any way interfere with an employee's decision to continue with this program, this interference may represent unlawful discrimination under RCW 49.17.160, Discrimination against employee filing complaint, instituting proceedings, or testifying prohibited—Procedure—Remedy.

Helpful tool: Declination form for nonemergency related medical evaluations

You may use this optional form to document employee decisions to decline participation in the medical evaluation process for exposure to ethylene oxide (EtO). To see this form, go to the resources section within this chapter.

Medical evaluation process

Step one: Select an appropriate licensed health care professional (LHCP) who will conduct or supervise examinations and procedures.

- If the LHCP is not a licensed physician, make sure individuals who conduct pulmonary function tests have completed a training course in spirometry sponsored by an appropriate governmental, academic, or professional institution.

Step two: Make sure the LHCP receives all of the following information before the medical evaluation is performed:

- A copy of:
 - This chapter.
 - The following information found in the General occupational health standards, chapter 296-62 WAC:
 - The Substance safety data sheet, WAC 296-62-07383(1) Appendix A.
 - The Substance technical guidelines, WAC 296-62-07385(2) Appendix B.
 - Medical surveillance guidelines, WAC 296-62-07387(3) Appendix C.
 - A description of the duties of the employee being evaluated and how these duties relate to EtO exposure.
 - The anticipated or representative exposure monitoring results for the employee being evaluated.
 - A description of the personal protective equipment (PPE) and respirators each employee being evaluated uses or will use.
 - Information from previous employment-related examinations when this information is not available to the examining LHCP.
 - Instructions that the written opinions the LHCP provides you be limited to the following information:
 - Whether or not medical conditions were found that would increase the employee's risk for impairment from exposure to EtO.
 - Any recommended limitations for EtO exposure and use of respirators or other PPE.
 - A statement that the employee has been informed of medical results and medical conditions caused by EtO exposure requiring further examination or treatment.

Step three: Make medical evaluations available to the employee. Make sure they include the content listed in Table 3, Content of Medical Evaluations.

Step four: Obtain the LHCP's written opinion for the employee's medical evaluation and make sure the employee receives a copy within five business days after you receive the written opinion.

- Make sure the written opinion is limited to the information specified for written opinions in Step two.

Note: • If the written opinion contains specific findings or diagnoses unrelated to occupational exposure, send it back and obtain a revised version without the additional information.

Table 3
Content of Medical Evaluations

When conducting:	Include:
An initial and annual evaluation	<ul style="list-style-type: none"> • A work history and medical history that includes emphasis on: <ul style="list-style-type: none"> – Pulmonary, hematological, neurological, reproductive systems; AND – The eyes and skin. • A physical examination that includes emphasis on: <ul style="list-style-type: none"> – Pulmonary, hematological, neurological, and reproductive systems; AND – The skin and eyes. • A complete blood count including a: <ul style="list-style-type: none"> – White cell count with differential – Red cell count – Hematocrit – Hemoglobin. • Additional examinations the licensed health care professional (LHCP) believes appropriate based on the employee's exposure to ethylene oxide (EtO) or respirator use. • Additional testing: <ul style="list-style-type: none"> – Pregnancy test, and laboratory evaluation for fertility if requested by employee and approved by evaluating LHCP.
Evaluations due to termination of employment	<ul style="list-style-type: none"> • The same content as specified for initial and annual evaluations.
Evaluations due to reassignment to an area where EtO exposure is below the AL	<ul style="list-style-type: none"> • The same content as specified for initial and annual evaluations. • As determined by the LHCP.
Evaluations due to exposure during an emergency	<ul style="list-style-type: none"> • The same content as specified for initial and annual evaluations.

Table 3
Content of Medical Evaluations

When conducting:	Include:
Evaluations triggered by employee signs and symptoms commonly associated with overexposure to EtO or a request for reproductive advice	<ul style="list-style-type: none"> • The content of medical examinations and consultations will be determined by the examining LHCP. <ul style="list-style-type: none"> – Pregnancy test, and laboratory evaluation for fertility if requested by employee and approved by evaluating LHCP.
Evaluations determined necessary by LHCP for exposed employees	<ul style="list-style-type: none"> • The content of medical examinations and consultations will be determined by the examining LHCP.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-30030, filed 8/23/05, effective 1/1/06.]

WAC 296-855-30080 Medical records.

IMPORTANT:

This section applies when a medical evaluation is performed, or any time a medical record is created for an employee exposed to ethylene oxide (EtO).

You must:

- Establish and maintain complete and accurate medical records for each employee receiving a medical evaluation for EtO and make sure the records include all the following:
 - The employee's name and unique identifier.
 - Any employee medical complaints related to EtO.
 - A description of the employee's duties.
 - A copy of the licensed health care professional's (LHCP's) written opinions.
 - The anticipated or representative employee exposure monitoring results provided to the LHCP for the employee.
 - A copy of the information required in Step two of the medical evaluation process, found in WAC 296-855-30030, except the copy of this chapter and the appendices.
 - Maintain medical records for the duration of employment plus thirty years.

Note: • Your medical provider may keep these records for you. Other medical records, such as the employee's medical history or X rays, need to be kept as confidential records by the medical provider.

Reference: For additional requirements that apply to employee exposure records including access and transfer requirements, go to, Employee medical and exposure records, chapter 296-802 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-30080, filed 8/23/05, effective 1/1/06.]

WAC 296-855-400 Exposure control.

Summary:

Your responsibility:

To protect employees from exposure to ethylene oxide (EtO) by using feasible exposure controls and appropriate respirators.

IMPORTANT:

- These sections apply when employee exposure monitoring results are above either of the following permissible exposure limits (PELs):

– The eight-hour time-weighted average (TWA₈) of one part per million (ppm);

OR

– The fifteen-minute short-term exposure limit (STEL) of five ppm.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-400, filed 8/23/05, effective 1/1/06.]

WAC 296-855-40010 Exposure control plan.**You must:**

• Establish and implement a written exposure control plan to reduce employee exposure to EtO below both TWA₈ and the STEL by the use of feasible exposure controls. Include at least the following in your plan:

– A schedule for periodic leak detection surveys.
– Make sure employee rotation is not included as a method to control employee exposure.

• Establish a written plan for emergency situations for each work area where there is a possibility of an emergency from a release of EtO. The plan must include, at a minimum:

– Emergency escape:

■ Procedures.

■ Route assignments.

– Emergency evacuation plans and procedures to account for all employees after emergency evacuation has been completed.

– Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.

– Requirements for the use of respiratory protection as required in WAC 296-855-40045.

– Rescue and medical duties for those employees who will perform them.

– The preferred means of reporting fires and other emergencies.

– Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

• Establish an employee alarm system that meets the requirements of Employee alarm systems, WAC 296-800-31070 in the safety and health core rules.

– The employee alarm system must be distinctive and recognizable as a signal to perform actions designated under the emergency response plan.

• Review your exposure control plan at least every twelve months and update as needed to reflect your current workplace conditions.

• Provide a copy of your exposure control plan to affected employees and their designated representatives, when they ask to review or copy it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-40010, filed 8/23/05, effective 1/1/06.]

WAC 296-855-40030 Exposure controls.**IMPORTANT:**

The use of an employee rotation schedule to control employee exposure to ethylene oxide (EtO) is prohibited.

Respirators and other personal protective equipment (PPE) are not exposure controls.

You must:

• Use feasible exposure controls to:

– Reduce exposure to, or below, the permissible exposure limit (PELs);

OR

– To reduce exposure to the lowest achievable level above the PELs.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-06-005, § 296-855-40030, filed 2/22/07, effective 4/1/07; 05-17-168, § 296-855-40030, filed 8/23/05, effective 1/1/06.]

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 respirators 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.

– 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. 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.]

WAC 296-855-500 Definitions.**Action level:**

An airborne concentration of ethylene oxide (EtO) of 0.5 parts per million, calculated as an eight-hour time-weighted average.

Authorized personnel:

Individuals specifically permitted by the employer to enter the exposure control area to perform necessary duties, or to observe employee exposure evaluations.

Breathing zone:

The space around and in front of an employee's nose and mouth, forming a hemisphere with a six- to nine-inch radius.

CAS (Chemical Abstract Service) number:

CAS numbers are internationally recognized and used on material safety data sheets (MSDSs) and other documents to identify substances. For more information see <http://www.cas.org/about>.

Container:

Any container, except for pipes or piping systems that contains ethylene oxide. It can be any of the following:

- Barrel.
- Bottle.
- Can.
- Cylinder.
- Drum.
- Reaction vessel.
- Storage tank.

Day:

Any part of a calendar day.

Director:

The director means the director of the department of labor and industries or their designee.

Emergency:

Any event that could or does result in the unexpected significant release of ethylene oxide. Examples of emergencies include equipment failure, container rupture, or control equipment failure.

Ethylene oxide (EtO):

Is an organic chemical represented by the CAS registry number 75-21-8. EtO is a flammable colorless gas and is commonly used to sterilize medical equipment and as a fumigant for certain agricultural products. It is also used as an intermediary in the production of various chemicals such as ethylene glycol, automotive antifreeze, and polyurethane.

Exposure:

The contact an employee has with ethylene oxide, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Licensed health care professional (LHCP):

An individual whose legally permitted scope of practice allows him or her to provide some or all of the health care services required for medical evaluations.

Permissible exposure limits (PELs):

PELs are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are specified in applicable WISHA rules. The PELs for ethylene oxide (EtO) are:

- Eight-hour time-weighted average (TWA₈) of one part per million (ppm);

AND

- Fifteen-minute short-term exposure limit (STEL) of five ppm.

Short term exposure limit (STEL):

An exposure limit averaged over a short time period (usually fifteen minutes) that must not be exceeded during any part of an employee's workday.

Time-weighted average (TWA₈):

An exposure limit averaged over an eight-hour period that must not be exceeded during an employee's workday.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-168, § 296-855-500, filed 8/23/05, effective 1/1/06.]

(2009 Ed.)

Chapter 296-856 WAC**FORMALDEHYDE****WAC**

296-856-100	Scope.
296-856-200	Basic rules.
296-856-20010	Preventive practices.
296-856-20020	Training.
296-856-20030	Personal protective equipment (PPE).
296-856-20040	Employee protective measures.
296-856-20050	Exposure evaluations.
296-856-20060	Notification.
296-856-20070	Exposure records.
296-856-300	Exposure and medical monitoring.
296-856-30010	Periodic exposure evaluations.
296-856-30020	Medical and emergency evaluations.
296-856-30030	Medical removal.
296-856-30040	Multiple LHCP review.
296-856-30050	Medical records.
296-856-400	Exposure control areas.
296-856-40010	Exposure controls.
296-856-40020	Establishing exposure control areas.
296-856-40030	Respirators.
296-856-500	Definitions.

WAC 296-856-100 Scope. This chapter applies to all occupational exposure to formaldehyde. Formaldehyde includes formaldehyde gas, its solutions, and materials that release formaldehyde.

Definitions:

Formaldehyde is an organic chemical with the formula of HCHO, represented by the chemical abstract service (CAS) registry number 50-00-0. Examples of primary uses of formaldehyde and its solutions are as follows:

- An intermediate in the production of:
 - Resins.
 - Industrial chemicals.
- A bactericide or fungicide.
- A preservative.
- A component in the production of end-use consumer items such as cosmetics, shampoos, and glues.

Exposure is the contact an employee has with formaldehyde, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Some of the requirements in this chapter may not apply to every workplace with an occupational exposure to formaldehyde. At a minimum, you need to:

- Follow requirements in the basic rules sections, WAC 296-856-20010 through 296-856-20070.
- Use employee exposure monitoring results required by Exposure evaluation, WAC 296-856-20060.
- Follow Table 1 to find out which additional sections of this chapter apply to your workplace.

[Title 296 WAC—p. 3077]

Table 1
Sections That Apply To Your Workplace

If	Then continue to follow the basic rules, and the additional requirements in
<ul style="list-style-type: none"> Employee exposure monitoring results are above the 8-hour time weighted average (TWA₈) or short-term exposure limit (STEL) 	<ul style="list-style-type: none"> Exposure and medical monitoring, WAC 296-856-30010 through 296-856-30050; AND Exposure control areas, WAC 296-856-40010 through 296-856-40030.
<ul style="list-style-type: none"> Employee exposure monitoring results are: <ul style="list-style-type: none"> Below the TWA₈ and STEL; AND Above the action level (AL) 	<ul style="list-style-type: none"> Exposure and medical monitoring, WAC 296-856-30010 through 296-856-30050
<ul style="list-style-type: none"> Employee exposure monitoring results are below the AL and STEL 	<ul style="list-style-type: none"> Exposure and medical monitoring, WAC 296-856-30020 through 296-856-30050

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-100, filed 4/4/06, effective 9/1/06.]

WAC 296-856-200 Basic rules.

Your responsibility:

To measure and minimize employee exposure to formaldehyde.

IMPORTANT:

• The requirements in basic rules apply to all employers covered by the scope of this chapter. Additional sections may apply to you. Turn to the scope and follow Table 1 in that section to determine the additional sections of this chapter that apply to you.

Section contents:

Preventive practices
WAC 296-856-20010.

Training
WAC 296-856-20020.

Personal protective equipment (PPE)
WAC 296-856-20030.

Employee protective measures
WAC 296-856-20040.

Exposure evaluations
WAC 296-856-20050.

Notification
WAC 296-856-20060.

Exposure records
WAC 296-856-20070.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-200, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20010 Preventive practices.

You must:

• Make sure containers of gasses, solutions, or materials composed of greater than 0.1 percent formaldehyde, **and**

[Title 296 WAC—p. 3078]

capable of releasing formaldehyde at concentrations greater than 0.1 ppm to 0.5 ppm, are properly labeled, tagged, or marked with all of the following:

- That the product contains formaldehyde.
- The name and address of the responsible party (for example manufacturer, importer, or employer).
- A statement that the physical and health hazard information can be obtained from you, and from the material safety data sheet (MSDS).

• Label, tag, or mark containers and materials capable of releasing formaldehyde at levels above 0.5 ppm as follows:

– Include the words on the label "Potential Cancer Hazard."

– Follow the requirements for labels found in the following separate chapters:

■ The safety and health core rules, employer chemical hazard communications, WAC 296-800-170.

■ Material safety data sheet and label preparation, chapter 296-839 WAC.

You must:

• Make sure you have a housekeeping and maintenance program to detect leaks and spills by doing at least the following:

- Regular visual inspections.
- Preventive maintenance of equipment, that includes surveys for leaks, at regular intervals.

– In areas where spills could occur, make resources available to contain the spills, decontaminate the area affected, and dispose of waste.

- Promptly repair leaks and clean up spills.
- Train employees who will clean spills and repair leaks, about the methods for cleanup and decontamination.

– Make sure employees who will clean up spills and repair leaks, have the appropriate personal protective equipment and respirators.

– Dispose of waste from spills or leaks in sealed containers marked with information that states the contents contain formaldehyde and the hazards associated with formaldehyde exposure.

– Develop and implement appropriate procedures to minimize injury and loss of life if there is a possibility of an emergency, such as an uncontrolled release of formaldehyde.

Note: Following the requirements of a separate chapter, Emergency response, chapter 296-824 WAC, will meet the requirements for emergency procedures.

• Provide emergency washing facilities, for formaldehyde exposures, as required by a separate chapter, the safety and health core rules, First aid, WAC 296-800-150, as follows:

– Emergency showers in the immediate work areas where skin contact to solutions of 1 percent or greater of formaldehyde could occur.

– Emergency eye wash in the immediate work area where an eye contact to solutions of 0.1 percent or greater of formaldehyde could occur.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20010, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20020 Training.

Exemption: Training is not required for employees when you have conclusive documentation that they cannot be exposed to formaldehyde at airborne concentrations above 0.1 parts per million (ppm).

You must:

- Provide training and information to employees exposed to formaldehyde at all of the following times:
 - At the time of initial assignment to a work area where there is formaldehyde exposure.
 - Whenever there is a new exposure to formaldehyde in their work area.
 - At least every twelve months after initial training.
- Make sure training includes at least the following:
 - The contents of this chapter and MSDS for formaldehyde.
 - The purpose of medical evaluations and a description of how you are fulfilling the medical evaluation requirements of this chapter.
 - The health hazards and signs and symptoms associated with formaldehyde exposure, including:
 - Cancer hazard.
 - Skin and respiratory system irritant and sensitizer.
 - Eye and throat irritation.
 - Acute toxicity.
 - How employees will immediately report any signs or symptoms suspected to be from formaldehyde exposure.
 - Descriptions of operations where formaldehyde is present.
 - Explanations of safe work practices to limit employee exposure to formaldehyde for each job.
 - The purpose, proper use, and limitations of personal protective clothing.
 - Instructions for the handling of spills, emergencies, and clean-up procedures.
 - An explanation of the importance of exposure controls, and instructions in the use of them.
 - A review of emergency procedures, including the specific duties or assignments of each employee in the event of an emergency.
 - The purpose, proper use, limitations, and other training requirements for respiratory protection, as required by a separate chapter, Respirators, chapter 296-842 WAC.
- Make sure any written training materials are readily available to your employees at no cost.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20020, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20030 Personal protective equipment (PPE).**You must:**

- Provide PPE at no cost to employees and make sure employees wear the equipment.
 - Make sure that employees do not take contaminated clothing or other PPE from the workplace.
- Select PPE that is appropriate for your workplace based on at least the following:
- The form of formaldehyde, such as gas, solution, or material.
 - The conditions of use.
 - The hazard to be prevented.

(2009 Ed.)

- Provide full body protection for entry into areas where formaldehyde exposure could exceed 100 parts per million (ppm) or when airborne concentrations are unknown.

- Protect employees from all contact with liquids containing one percent or more of formaldehyde by providing chemical protective clothing that is impervious to formaldehyde and other personal protective equipment, such as goggles and face shields, as appropriate for the operation.

- Make sure when face shields are worn, employees also wear chemical safety goggles if there could be eye contact with formaldehyde.

- Make sure contaminated clothing and other PPE is cleaned or laundered before it is used again.

- Repair or replace clothing and other PPE as needed to maintain effectiveness.

- Make sure storage areas for ventilating contaminated clothing and PPE are established to minimize employee exposure to formaldehyde.

- Make sure storage areas and containers for contaminated clothing and PPE have labels or signs with the following warning:

DANGER
Formaldehyde-contaminated (clothing) or equipment
Avoid inhalation and skin contact

You must:

- Make sure that only employees trained to recognize the hazards of formaldehyde remove personal protective equipment (PPE) and clothing from storage areas for the purposes of disposal, cleaning, or laundering.

- Inform any person who launders, cleans, or repairs contaminated clothing or other PPE, of the hazards of formaldehyde and procedures to safely handle the clothing and equipment.

- Provide change rooms for employees who are required to change from work clothes into protective clothing to protect them from skin contact with formaldehyde.

- Make sure change rooms have separate storage facilities for street clothes and protective clothing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20030, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20040 Employee protective measures.**You must:**

- Implement appropriate protective measures while you conduct your exposure evaluation.

- Employees performing activities with exposure to airborne formaldehyde that could exceed the 0.75 ppm, 8-hour time weighted average (TWA₈), or the 2 ppm 15-minute short-term exposure limit (STEL), need to follow the requirements in WAC 296-856-30010 through 296-856-40030 of this chapter.

Reference: For respirator requirements, turn to Respirators, WAC 296-856-40060.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20040, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20050 Exposure evaluations.**IMPORTANT:**

- This section applies when there is a potential for an employee to be exposed to airborne formaldehyde in your workplace.

- When you conduct an exposure evaluation in a workplace where an employee uses a respirator, the protection provided by the respirator is not considered.

- Following this section will fulfill the requirements to identify and evaluate respiratory hazards found in a separate chapter, Respiratory hazards, chapter 296-841 WAC.

You must:

- Conduct an employee exposure evaluation to accurately determine airborne concentrations of formaldehyde by completing Steps 1 through 7 of the exposure evaluation process, each time any of the following apply:

- No evaluation has been conducted.

- Changes have occurred in any of the following areas that may result in new or increased employee exposures:

- Production.

- Processes.

- Exposure controls, such as ventilation systems or work practices.

- Personnel.

- Equipment.

- You have any reason to suspect new or increased employee exposure may occur.

- You receive a report of employee developing signs and symptoms associated with formaldehyde exposure.

You must:

- Provide affected employees or their designated representatives an opportunity to observe exposure monitoring required by this chapter.

- Make sure observers entering areas with formaldehyde exposure:

- Are provided with and use the same protective clothing, respirators, and other personal protective equipment (PPE) that employees working in the area are required to use;

AND

- Follow any safety and health requirements that apply.

Exposure evaluation process:

Exemption:

- Exposure monitoring is not necessary if you have documentation conclusively demonstrating that employee exposure for a particular material and the operation where it is used, cannot exceed the action level (AL) or short-term exposure limit (STEL) during any conditions reasonably anticipated.

- Such documentation can be based on observations, data, calculations, and previous air monitoring results. Previous air monitoring results:

- Must meet the accuracy required by Step 5.

- Must be based on data that represents conditions being evaluated in your workplace.

- May be from outside sources, such as industry or labor studies.

Step 1: Identify all employees who have potential exposure to airborne formaldehyde in your workplace.

Step 2: Identify operations where employee exposures could exceed the 15-minute short-term exposure limit (STEL) for formaldehyde of 2 parts per million (ppm).

Note: You may use monitoring devices such as colorimetric indicator tubes or real-time monitors to screen for activities where employee exposures could exceed the STEL.

Step 3: Select employees from those working in the operations you identified in Step 2 who will have their 15-minute exposures monitored.

Step 4: Select employees from those identified in Step 1 who will have their 8-hour exposures monitored.

- Make sure the exposures of the employees selected represent 8-hour exposures for all employees identified in Step 1, including each job activity, work area, and shift.

- If you expect exposures to be **below** the action level (AL), you may limit your selection to those employees reasonably believed to have the highest exposures.

- If you find any of those employees' exposure to be **above** the AL, then you need to repeat monitoring to include each job activity, work area, and shift.

Reference: A written description of the procedure used for obtaining representative employee exposure monitoring results needs to be kept as part of your exposure records, as required by Exposure records, WAC 296-856-20070.

- This description can be created while completing Steps 3 through 6 of this exposure evaluation process.

Step 5: Determine how you will obtain accurate employee exposure monitoring results. Select and use an air monitoring method with a confidence level of 95 percent, that is accurate to:

- ±25 percent when concentrations are potentially above the TWA of 0.75 parts per million (ppm).

- ±25 percent when concentrations are potentially above the STEL of 2 ppm.

- ±35 percent when concentrations are potentially above the AL.

Note:

- Here are examples of air monitoring methods that meet this accuracy requirement:

- OSHA Method 52 found at <http://www.osha.gov/dts/sltc/methods/toc.html>.

- NIOSH methods: 2016, 2514, 3500, 2539, and 5700, found at <http://www.cdc.gov/niosh/homepage.html> and linking to the NIOSH Manual of Analytical Methods.

- Direct reading methods found at <http://www.osha.gov/SLTC/formaldehyde/index.html>

Step 6: Obtain employee exposure monitoring results by collecting air samples to accurately determine the formaldehyde exposure of employees identified in Steps 3 and 4.

- Make sure samples are collected from each selected employee's breathing zone.

Note:

- You may use any sampling method that meets the accuracy specified in Step 5. Examples of these methods include:

- Real-time monitors that provide immediate exposure monitoring results.

- Equipment that collects samples that are sent to a laboratory for analysis.

- The following are examples of methods for collecting samples representative of 8-hour exposures.

- Collect one or more continuous samples, such as a single 8-hour sample or four 2-hour samples.

- Take a minimum of 5 brief samples, such as five 15-minute samples, during the work shift at randomly selected times.

- For work shifts longer than 8 hours, monitor the continuous 8-hour portion of the shift expected to have the highest average exposure concentration.

Step 7: Have the samples you collected analyzed to obtain employee exposure monitoring results for 8-hour and short-term exposure limits (STEL) exposures.

- Determine if employee exposure monitoring results are above or below the following values:

- 8-hour action level (AL) of 0.5 ppm.

- 8-hour time-weighted average (TWA₈) of 0.75 ppm.
- 15-minute short-term exposure limit (STEL) of 2 ppm.

Reference: To use the monitoring results to determine which additional chapter sections apply to employee exposure in your workplace, turn to the Scope, WAC 296-856-100, and follow Table 1 in that section.

Note:

- You may contact your local WISHA consultant for help with:
 - Interpreting data or other information.
 - Determining 8-hour employee exposure monitoring results.
- To contact a WISHA consultant:
 - Go to the safety and health core rules, chapter 296-800 WAC;

AND

- Find the resources section, and under "other resources," find service locations for labor and industries.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20050, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20060 Notification.

You must:

- Provide written notification of exposure monitoring results to employees represented by your exposure evaluation, within five business days after the results become known to you.

- In addition, when employee exposure monitoring results are above the permissible exposure limits (PEL), of either the 8-hour time weighted average (TWA₈) or the 15-minute short-term exposure limit (STEL), provide written notification of both of the following within fifteen business days after the results become known to you:

- Corrective actions being taken and a schedule for completion.

- Any reason why exposures cannot be lowered to below the PEL.

Note:

- You can notify employees either individually or post the notifications in areas readily accessible to affected employees.
- Posted notification may need specific information that allows affected employees to determine which monitoring results apply to them.
- Notification may be:
 - In any written form, such as handwritten or e-mail.
 - Limited to the required information, such as exposure monitoring results.
- When notifying employees about corrective actions, your notification may refer them to a separate document that is available and provides the required information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20060, filed 4/4/06, effective 9/1/06.]

WAC 296-856-20070 Exposure records.

You must:

- Establish and keep complete and accurate records for all exposure monitoring conducted under this chapter. Make sure the record includes at least the following:

- The name, unique identifier, and job classification of both:

- The employee sampled;

AND

- All other employees represented by the sampled employee.

- An estimate of the exposure for each employee "represented" by this monitoring.

- A description of the methods used to obtain exposure monitoring results and evidence of the method's accuracy.

(2009 Ed.)

- Any environmental conditions that could affect exposure concentration measurements.

- A description of the procedure used to obtain representative employee exposure monitoring results.

- The operation being monitored.

- The date, number, duration, location, and the result of each sample taken.

- The type of protective devices worn.

- Maintain documentation that conclusively demonstrates that employee exposure for formaldehyde and the operation where it is used cannot exceed the action level or the 15-minute short-term exposure limit, during any reasonable anticipated conditions.

- Such documentation can be based on observations, data, calculation, and previous air monitoring results.

- Keep exposure monitoring records for at least thirty years.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-20070, filed 4/4/06, effective 9/1/06.]

WAC 296-856-300 Exposure and medical monitoring.

Your responsibility:

To monitor employee health and workplace exposures to formaldehyde.

Section contents:

Periodic exposure evaluations

WAC 296-856-30010.

Medical and emergency evaluations

WAC 296-856-30020.

Medical removal

WAC 296-856-30030.

Multiple LHCP review

WAC 296-856-30040.

Medical records

WAC 296-856-30050.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-300, filed 4/4/06, effective 9/1/06.]

WAC 296-856-30010 Periodic exposure evaluations.

Exemption: Periodic employee exposure monitoring is not required if exposure monitoring results conducted to fulfill requirements in this chapter, Exposure evaluations, WAC 296-856-20050, are below both the action level (AL) and 15-minute short-term exposure limit (STEL).

You must:

- Obtain employee exposure monitoring results as specified in Table 2 by repeating Steps 1 and 7 of the exposure evaluation process found within this chapter, in Exposure evaluations, WAC 296-856-20050.

Note: If you document that one work shift consistently has higher exposure monitoring results than another for a particular operation, then you may limit sample collection to the work shift with higher exposures and use those results to represent all employees performing the operation on other shifts.

Table 2
Periodic Exposure Evaluation Frequencies

If employee exposure monitoring results	Then
Are above the action level (AL) of 0.5 ppm	Conduct additional exposure monitoring at least every six months for the employees represented by the monitoring results
Are above the short-term exposure limit (STEL) of 2 ppm	Repeat exposure monitoring at least once a year, or more often as necessary to evaluate employee exposure
Have decreased to below the AL and the STEL	You may stop periodic employee exposure monitoring for employees represented by the monitoring results. Note: You need to monitor again if there is a change in any of the following that may result in new or increased employee exposures:
AND	<ul style="list-style-type: none"> • Production • Processes • Exposure controls, such as ventilation systems or work practices • Personnel • Equipment
The decrease is demonstrated by two consecutive exposure evaluations made at least seven days apart	

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-30010, filed 4/4/06, effective 9/1/06.]

WAC 296-856-30020 Medical and emergency evaluations.

IMPORTANT:

• Medical evaluations completed to meet the respirator use requirements of this section also need to meet the requirements found in a separate chapter, Respirators, medical evaluations, WAC 296-842-140.

You must:

- Make medical evaluations available to current employees who:
 - Are exposed to formaldehyde concentrations above the action level (AL) or short-term exposure limit (STEL).
 - Are exposed to formaldehyde during an emergency situation.
 - Develops signs and symptoms commonly associated with formaldehyde exposure.
- Make medical examinations available to current employees as deemed necessary by the LHCP after reviewing the medical disease questionnaire for employees that are presently not required to wear a respirator.
- Complete Steps 1 through 4 of the medical evaluation process at the following times:
 - Initially, when employees are assigned to work in an area where exposure monitoring results are above the action level (AL) or above the STEL.

– At least every twelve months from the initial medical evaluation for employees exposed to formaldehyde above the action level (AL) or the STEL.

– Whenever the employee develops signs and symptoms commonly associated with formaldehyde.

Note: Signs and symptoms are rarely associated with formaldehyde concentrations in air less than 0.1 parts per million (ppm), and in materials at concentration levels less than 0.1 percent.

You must:

- Make medical evaluations available:
 - At no cost to employees, including travel costs and wages associated with any time spent obtaining the medical evaluation.
 - At reasonable times and places.

Note:

- Employees who decline to receive a medical evaluation to monitor for health effects caused by formaldehyde are not excluded from receiving a separate medical evaluation for respirator use.
- If employers discourage participation in medical monitoring for health effects caused by formaldehyde, or in any way interferes with an employee's decision to continue with this program, this interference may represent unlawful discrimination under RCW 49.17.160, Discrimination against employee filing complaint, instituting proceedings, or testifying prohibited—Procedure—Remedy.

Medical evaluation process:

Step 1: Select a licensed healthcare professional (LHCP) who will conduct or supervise examinations and procedures.

– If the LHCP is not a licensed physician, make sure individuals who conduct pulmonary function tests, have completed a training course in spirometry, sponsored by an appropriate governmental, academic, or professional institution.

Note: The LHCP must be a licensed physician or supervised by a physician.

Step 2: Make sure the LHCP receives all of the following information before the medical evaluation is performed:

- A copy of this chapter.
- The helpful tools: *Substance Technical Guideline for Formalin, Medical Surveillance, and Medical Disease Questionnaire*.
 - A description of the duties of the employee being evaluated and how these duties relate to formaldehyde exposure.
 - The anticipated or representative exposure monitoring results for the employee being evaluated.
 - A description of the personal protective equipment (PPE) and respiratory protection each employee being evaluated uses or will use.
 - Information in your possession from previous employment-related examinations when this information is not available to the examining LHCP.
 - A description of the emergency and the exposure, when an examination is provided due to an exposure received during an emergency.
 - Instructions that the written opinions the LHCP provides to you, does **not** include any diagnosis or other personal medical information, **and** is limited to the following information:
 - The LHCP's opinion about whether or not medical conditions were found that would increase the employee's risk for impairment from exposure to formaldehyde.

■ Any recommended limitations for formaldehyde exposure and use of respirators or other PPE.

■ A statement that the employee has been informed of medical results and medical conditions caused by formaldehyde exposure requiring further examination or treatment.

Step 3: Make a medical evaluation available to the employee. Make sure it includes the content listed in Table 3, Content of Medical Evaluations.

Step 4: Obtain the LHCP's written opinion for the employee's medical evaluation and make sure the employee receives a copy within five business days after you receive the written opinion.

– Make sure the written opinion is limited to the information specified for written opinions in Step 2.

Note: If the written opinion contains specific findings or diagnoses unrelated to occupational exposure, send it back and obtain a revised version without the additional information.

Table 3
Content of Medical Evaluations

When conducting an	Include
Initial OR Annual evaluation	<ul style="list-style-type: none"> • A medical disease questionnaire that provides a work and medical history with emphasis on: <ul style="list-style-type: none"> – Upper or lower respiratory problems – Allergic skin conditions or dermatitis – Hyper reactive airway diseases – Eyes, nose, and throat irritation • Physical examinations deemed necessary by the LHCP, that include at a minimum: <ul style="list-style-type: none"> – Examinations with emphasis on evidence of irritation or sensitization of skin, eyes, and respiratory systems, and shortness of breath – Counseling, provided by the LHCP to the employee as part of the medical examination if the LHCP determines that the employee has a medical condition that may be aggravated by formaldehyde exposure • Pulmonary function tests for respirator users, that include at a minimum: <ul style="list-style-type: none"> – Forced vital capacity (FVC) – Forced expiratory volume in one second (FEV1) – Forced expiratory flow (FEF)
Emergency exposure evaluation	<ul style="list-style-type: none"> • A medical examination that includes a work history with emphasis on evidence of upper or lower respiratory problems, allergic conditions, skin reaction or hypersensitivity, and any evidence of eye, nose, or throat irritation

When conducting an	Include
	<ul style="list-style-type: none"> • Additional examinations the licensed healthcare professional (LHCP) believes appropriate, based on the employee's exposure to formaldehyde
Evaluation of reported signs and symptoms	<ul style="list-style-type: none"> • A medical disease questionnaire that provides a work and medical history with emphasis on: <ul style="list-style-type: none"> – Upper or lower respiratory problems – Allergic skin conditions or dermatitis – Hyper reactive airway diseases – Eyes, nose, and throat irritation • A physical examination if considered necessary by the LHCP that includes at a minimum: <ul style="list-style-type: none"> – Examinations with emphasis on evidence of irritation or sensitization of skin, eyes, respiratory systems, and shortness of breath – Counseling if the LHCP determines that the employee has a medical condition that may be aggravated or caused by formaldehyde exposure

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-30020, filed 4/4/06, effective 9/1/06.]

WAC 296-856-30030 Medical removal.

Exemption: Medical removal or restrictions do not apply when skin irritation or skin sensitization occurs from products that contain less than 0.05 percent of formaldehyde.

IMPORTANT:

• This section applies when an employee reports irritation of the mucosa of the eye or the upper airways, respiratory sensitization, dermal irritation, or skin sensitization from formaldehyde exposure.

• When determining the content of formaldehyde in materials that employees have exposure to, you may use documentation, such as manufacturer's data, or independent laboratory analyses.

You must:

• Complete Steps 1 through 4 of the medical evaluation process for removal of employees, in this section, for employees that report signs and symptoms of formaldehyde exposure.

Note: When the employee is exposed to products containing less than 0.1 percent formaldehyde, the LHCP can assume, absent of contrary evidence, that employee signs and symptoms are not due to formaldehyde exposure.

Medical evaluation process for removal of employees:

Step 1: Provide the employee with a medical evaluation by an LHCP selected by the employer.

Step 2: Based on information in the medical questionnaire the LHCP will determine if the employee will receive an examination as described in Table 3, Content of Medical

Evaluations, in Medical and emergency evaluations, WAC 296-856-30020.

– If the LHCP determines that a medical examination is not necessary, there will be a two-week evaluation and correction period to determine whether the employee's signs and symptoms resolve without treatment, from the use of creams, gloves, first-aid treatment, personal protective equipment, or industrial hygiene measures that reduce exposure.

■ If before the end of the two-week period the employee's signs or symptoms worsen, immediately refer them back to the LHCP.

■ If signs and symptoms persist after the two-week period, the LHCP will administer a physical examination as outlined in Table 3, Content of Medical Evaluations, in Medical and emergency evaluations, WAC 296-856-30020.

Step 3: Promptly follow the LHCP's restrictions or recommendations. If the LHCP recommends removal from exposure, do either of the following:

– Transfer the employee to a job currently available that:

■ The employee qualifies for, or could be trained for, in a short period of time (up to six months);

AND

■ Will keep the employee's exposure to as low as possible, and never above the AL of 0.5 parts per million.

– Remove the employee from the workplace until either:

■ A job becomes available that the employee qualifies for, or could be trained for in a short period of time **and** will keep the employee's exposure to as low as possible and never above the AL;

OR

■ The employee is returned to work or permanently removed from formaldehyde exposure, as determined by completing Steps 1 through 3 of the medical evaluation process for removal of employees, in this section.

Step 4: Make sure the employee receives a follow-up examination within six months from being removed from the formaldehyde exposure by the LHCP. At this time, the LHCP will determine if the employee can return to their original job status, or if the removal is permanent.

You must:

• Maintain the employee's current pay rate, seniority, and other benefits if:

– You move them to a job that they qualify for, or could be trained in a short period of time, and will keep the employee's exposure to as low as possible and never above the AL;

OR

– In the case there is no such job available, then until they are able to return to their original job status or after six months, which ever comes first.

Note:

- If you must provide medical removal benefits and the employee will receive compensation for lost pay from other sources, you may reduce your medical removal benefit obligation to offset the amount provided by these sources.
- Examples of other sources are:
 - Public or employer-funded compensation programs.
 - Employment by another employer, made possible by the employee's removal.

• Make medical evaluations available:

– At no cost to employees, including travel costs and wages associated with any time spent obtaining the medical examinations and evaluations.

– At reasonable times and places.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-30030, filed 4/4/06, effective 9/1/06.]

WAC 296-856-30040 Multiple LHCP review.

IMPORTANT:

• This section applies each time a medical examination or consultation is performed to determine whether medical removal or restriction is required.

You must:

• Promptly notify employees that they may seek a second medical opinion from an LHCP of their choice, each time a medical examination or consultation is conducted by an LHCP selected by the employer to evaluate medical removal.

– At a minimum, this notification must include the details of your multiple physician review process.

Note: Notification may be provided in writing or by verbal communication.

You must:

• Complete requirements in the multiple LHCP review process once you have been informed of an employee's decision to seek a second medical opinion.

• Pay for and complete the multiple LHCP review process for employees who:

– Inform you in writing or by verbal communication that they will seek a second medical opinion.

– Initiate steps to make an appointment with the LHCP they select. This LHCP will be referred to as the second LHCP.

– Fulfill the previous actions to inform you, and initiate steps for an appointment, within fifteen days from receiving either your notification or the initial LHCP's written opinion, whichever is received later.

Note: This process allows for selection of a second LHCP and, when disagreements between LHCPs persist, for selection of a third LHCP.

Multiple LHCP review process:

Step 1: Make sure the information required by Step 4 of the medical evaluation process is received by the second LHCP. This process is located in the section, Medical and emergency evaluations, WAC 296-856-30020.

– This requirement also applies when a third LHCP is selected.

Step 2: Allow the second LHCP to:

– Review findings, determinations, or recommendations from the original LHCP you selected;

AND

– Conduct medical examinations, consultations, and laboratory tests as necessary to complete their review.

Step 3: Obtain a written opinion from the second LHCP and make sure the employee receives a copy within five business days from the date you receive it. If findings, determinations, and recommendations in the written opinion are:

– Consistent with the written opinion from the initial LHCP, you can end the multiple physician review process. Make sure you follow the LHCP's recommendations.

– Inconsistent with the written opinion from the initial LHCP, then you and the employee must make sure efforts are made for the LHCPs to resolve any disagreements.

■ If the LHCPs quickly resolve disagreements, you can end the multiple physician review process. Make sure you follow the LHCP's recommendations.

■ If disagreements are not resolved within thirty business days, continue to Step 4.

Step 4: You and the employee must work through your respective LHCPs to agree on the selection of a third LHCP, or work together to designate a third LHCP to:

– Review findings, determinations, or recommendations from the initial and second LHCP;

AND

– Conduct medical examinations, consultations, and laboratory tests as necessary to resolve disagreements between the initial and second LHCP.

Step 5: Obtain a written opinion from the third LHCP and make sure the employee receives a copy within five business days from the day you receive it.

– Follow the third LHCP's recommendations, unless you and the employee agree to follow recommendations consistent with at least one of the three LHCPs.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-30040, filed 4/4/06, effective 9/1/06.]

WAC 296-856-30050 Medical records.

IMPORTANT:

• This section applies when a medical evaluation is performed or any time a medical record is created for an employee exposed to formaldehyde.

You must:

• Establish and maintain complete and accurate medical records for each employee receiving a medical evaluation for formaldehyde and make sure the records include all the following:

- The employee's name and unique identifier.
 - A description of any health complaints that may be related to formaldehyde exposure.
 - A copy of the licensed healthcare professional's (LHCP's) written opinions.
 - Exam results.
 - Medical questionnaires.
- Maintain medical records for the duration of employment plus thirty years.

Note:

- Employee medical records need to be maintained in a confidential manner. The medical provider may keep these records for you.
- Medical records may only be accessed with the employee's written consent.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-30050, filed 4/4/06, effective 9/1/06.]

WAC 296-856-400 Exposure control areas.

Your responsibility:

To control employee exposure to airborne formaldehyde and protect employees by using appropriate respirators.

IMPORTANT:

• These sections apply when employee exposure monitoring results are above the permissible exposure limit (PEL):

- The 8-hour time-weighted average (TWA₈) of 0.75 parts per million (ppm);

OR

(2009 Ed.)

– The 15-minute short-term exposure limit (STEL) of two parts per million (ppm).

Section contents:

Exposure controls

WAC 296-856-40010.

Establishing exposure control areas

WAC 296-856-40020.

Respirators

WAC 296-856-40030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-400, filed 4/4/06, effective 9/1/06.]

WAC 296-856-40010 Exposure controls.

IMPORTANT:

• Respirators and other personal protective equipment (PPE) are **not** exposure controls.

You must:

• Use feasible exposure controls to reduce employee exposures to a level below the permissible exposure limit (PEL) or to as low a level as achievable.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-40010, filed 4/4/06, effective 9/1/06.]

WAC 296-856-40020 Establishing exposure control areas.

You must:

• Establish temporary or permanent exposure control areas where airborne concentrations of formaldehyde are above either the 8-hour time weighted average (TWA₈) or the 15-minute short-term exposure limit (STEL), by doing at least the following:

– Clearly identify the boundaries of exposure control areas in any way that minimizes employee access.

– Post signs at access points to exposure control areas that:

■ Are easy to read (for example, they are kept clean and well lit);

AND

■ Include this warning:

DANGER
Formaldehyde
Irritant and Potential Cancer Hazard
Authorized Personnel Only

Note: This requirement does not prevent you from posting other signs.

You must:

• Allow only employees, who have been trained to recognize the hazards of formaldehyde exposure, to enter exposure control areas.

Note:

- When identifying the boundaries of exposure control areas you should consider factors such as:
 - The level and duration of airborne exposure.
 - Whether the area is permanent or temporary.
 - The number of employees in adjacent areas.
- You may use permanent or temporary enclosures, caution tape, ropes, painted lines on surfaces, or other materials to visibly distinguish exposure control areas or separate them from the rest of the workplace.

You must:

• Inform other employers at multi-employer work sites of the exposure control areas, and the restrictions that apply to those areas.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-08-087, § 296-856-40020, filed 4/4/06, effective 9/1/06.]

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.

– 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 employees, appropriate respirators 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.

[Title 296 WAC—p. 3086]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 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.]

WAC 296-856-500 Definitions.

Action level

An airborne concentration of formaldehyde of 0.5 parts per million of air calculated as an 8-hour time-weighted average.

Authorized personnel

Individuals specifically permitted by the employer to enter the exposure control area to perform duties, or to observe employee exposure evaluations as a designated representative.

Breathing zone

The space around and in front of an employee's nose and mouth, forming a hemisphere with a six- to nine-inch radius.

CAS (chemical abstract service) number

CAS numbers are internationally recognized and used on material safety data sheets (MSDSs) and other documents to identify substances. For more information see <http://www.cas.org>

Canister or cartridge (air-purifying)

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.

Container

Any container, except for pipes or piping systems that contains formaldehyde. It can be any of the following:

- Barrel.
- Bottle.
- Can.
- Cylinder.
- Drum.
- Reaction vessel.
- Shipping containers.
- Storage tank.

Designated representative

Any one of the following:

- Any individual or organization to which an employee gives written authorization.
- A recognized or certified collective bargaining agent without regard to written employee authorization.
- The legal representative of a deceased or legally incapacitated employee.

Emergency

Any event that could or does result in the unexpected significant release of formaldehyde. Examples of emergencies include equipment failure, container rupture, or control equipment failure.

Exposure

The contact an employee has with formaldehyde, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Formaldehyde

An organic chemical with the formula of HCHO, represented by the chemical abstract service (CAS) registry num-

(2009 Ed.)

ber 50-00-0. Examples of primary uses of formaldehyde and its solutions are as follows:

- An intermediate in the production of:
 - Resins.
 - Industrial chemicals.
- A bactericide or fungicide.
- A preservative.
- A component in the manufacture of end-use consumer items such as cosmetics, shampoos, and glues.

Licensed healthcare professional (LHCP)

An individual whose legally permitted scope of practice allows him or her to provide some or all of the healthcare services required for medical evaluations.

Permissible exposure limits (PELs)

PELs are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are also specified in WISHA rules found in other chapters. The PEL for formaldehyde is an 8-hour time-weighted average (TWA₈) of 0.75 parts per million (ppm) and a 15-minute short-term exposure limit of 2 ppm.

Short-term exposure limit (STEL)

An exposure limit averaged over a 15-minute period that must not be exceeded during an employee's workday.

Time-weighted average (TWA₈)

An exposure limit averaged over an 8-hour period that must not be exceeded during an employee's workday.

Uncontrolled release

A release where significant safety and health risks could be created. Releases of hazardous substances that are either incidental or could not create a safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be uncontrolled releases.

Examples of conditions that could create a significant safety and health risk are:

- Large-quantity releases.
- Small releases that could be highly toxic.
- Potentially contaminated individuals arriving at hospitals.
- Airborne exposures that could exceed a WISHA permissible exposure limit or a published exposure limit and employees are not adequately trained or equipped to control the release.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-08-087, § 296-856-500, filed 4/4/06, effective 9/1/06.]

Chapter 296-860 WAC

RAILROAD CLEARANCES AND WALKWAYS IN PRIVATE RAIL YARDS AND PLANTS

(Formerly chapter 296-28 WAC)

WAC

296-860-100	Scope.
296-860-200	Maintain safe clearances and walkways.
296-860-20010	Post warning signs and train employees about clearances approved before April 3, 1961.
296-860-20020	Construct and maintain rail yard walkways for employee safety.
296-860-20030	Install radiation detectors according to manufacturer's specifications.
296-860-20040	Maintain overhead clearances.
296-860-20050	Maintain side clearances.
296-860-20060	Maintain clearances between tracks.
296-860-20070	Move excessive height or width rail car loads with care.

(2009 Ed.)

296-860-20080	Follow these requirements to conduct narrow gauge rail operations.
296-860-300	Definitions.

WAC 296-860-100 Scope.

IMPORTANT:

This chapter applies to all railroad clearances and walkways in rail yards and plants including logging railroad yards such as mill yards, maintenance yards and sorting yards.

If you are uncertain about which WISHA requirements to follow, you must comply with those that best protect employees' safety and health. Contact your local L&I office if you need assistance in making this decision.

Exemptions:

• These exemptions apply to chapter 296-860 WAC, Railroad clearances and walkways in private rail yards and plants, and do not require a department variance:

– You may move the following equipment, using less than the minimum standard clearances, if the situation is unavoidable and you have taken all reasonable steps to protect your employees:

■ Track construction or maintenance materials

■ Special work equipment used for railroad construction, maintenance or operations

■ Any railroad equipment during emergencies.

– You may have overhead or side clearances less than the minimum standard clearances required in this chapter if they were legally created before April 3, 1961.

Note: If a building, structure, or facility constructed before April 3, 1961, is relocated or reconstructed, the clearance requirements in this chapter apply unless the department grants a variance.

– Tracks built before April 3, 1961:

■ May be extended according to the legal track clearance requirements in effect when they were originally constructed

■ Are exempt from the track clearance requirements in WAC 296-860-20060, Table 5.

– Chapter 296-54 WAC, Safety standards—Logging operations, regulates all logging railroads or any rail operations related to logging, except for yard clearances.

Other rules that may apply to your workplace

The *WISHA Safety & Health Core Rules* book, chapter 296-800 WAC, contains the basic requirements that apply to employers in Washington. It also contains:

• An introduction that lists important information you should know, including a section on building, fire and electrical codes

• A resource section that includes a complete list of all WISHA rules

Other WISHA rules may apply to you, depending upon the activities and operations of your workplace. Contact your local L&I office if you are uncertain about which WISHA requirements pertain to you.

• To access the *Safety & Health Core Rules* book online: <http://www.lni.wa.gov/wisha/corerules/default.htm>

• For a CD or paper copy contact us:

Labor and Industries

P.O. Box 44620

Olympia, WA 98504-4620

Telephone: 1-800-4be-safe (1-800-423-7233)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-860-100, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-100, filed 8/21/02, effective 10/1/02.]

WAC 296-860-200 Maintain safe clearances and walkways.

SUMMARY

Your responsibility:

To prevent injuries and fatalities to employees by maintaining safe railroad clearances and walkways in your rail yards and plants.

You must:

Post warning signs and train employees about clearances approved before April 3, 1961

WAC 296-860-20010

Construct and maintain rail yard walkways for employee safety

WAC 296-860-20020

Install radiation detectors according to manufacturer's specifications

WAC 296-860-20030

Maintain overhead clearances

WAC 296-860-20040

Maintain side clearances

WAC 296-860-20050

Maintain clearances between tracks

WAC 296-860-20060

Move excessive height and/or width rail car loads with care

WAC 296-860-20070

Conduct narrow gauge rail operations according to the requirements of this section

WAC 296-860-20080.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-200, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20010 Post warning signs and train employees about clearances approved before April 3, 1961.

You must:

(1) Post warning signs near tracks with clearances approved before April 3, 1961, so employees are aware of the minimal clearances and their potential hazards. The signs must:

- Be highly visible
- Be easy to read
- Alert employees to the danger of railway equipment operating on your yard and plant tracks.

(2) Include in your employee safety and health training information about:

- Any minimal clearances and their location
- Potential hazards associated with them
- The location of any clearance warning signs.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-20010, filed 8/21/02, effective 10/1/02.]

[Title 296 WAC—p. 3088]

WAC 296-860-20020 Construct and maintain rail yard walkways for employee safety.

Important:

• You have two years from October 01, 2002, (the effective date of this rule), to comply with the construction requirements of this section, unless the department determines during an inspection that your walkways create a serious safety hazard.

• If you are not sure a serious safety hazard exists in your workplace, you can request a free consultation from the department by calling your local L&I office.

Construction of walkways

You must:

• Build walkways in rail yard areas where employees regularly work on the ground.

• Construct rail yard walkways that can be maintained in a safe condition:

- With reasonably smooth walking surfaces
- That will not interfere with track drainage.

• Use any of the following materials when constructing your walkway:

– Crushed material that does not exceed 1 1/2 inches in size. For this rule, "1 1/2 inches in size" means one of the following (percentages refer to weight measurement and sieve size standard in the industry):

Percentage of material passing through a sieve opening	Sieve opening size
100	1 1/2 inch square
90 - 100	1 inch square
40 - 80	3/4 inch square
15 - 60	1/2 inch square
0 - 30	3/8 inch square
0 - 10	#4
0 - 5	#8
0 - 0.5	#200

Smaller crushed material is preferred and should be used where drainage and durability is not an issue. Crushed material that is 3/4 inch or less in size is recommended for switching leads in yards.

• Asphalt, concrete, planking, grating, or other similar material.

• Natural materials such as gravel or dirt.

You must:

• Construct walkways wide enough for employees to safely perform their duties

• Construct walkways with a grade or slope in any direction with not more than one inch of elevation for each eight inches of horizontal length, unless it is geographically impractical.

Maintenance of walkways

You must:

• Keep all walkways clear of vegetation, debris, mud, or other obstructions that create a potential hazard for employees.

• Remove all standing water from all walkways as soon as reasonably possible.

• Reopen walkways temporarily closed for a construction project within thirty days after the project is completed.

(2009 Ed.)

You must:

- Repair walkways that have been damaged and temporarily closed because of an emergency within thirty days after the emergency ends.

Definition:

Emergency: Any unforeseen occurrence endangering life, limb, or property.

- Obtain a department variance before permanently removing any bridge or trestle walkway from use after October 1, 2002 (the effective date of this rule).

Note: The requirements for filing a variance are located in the Safety and health core rules and chapter 296-900 WAC, Administrative rules.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-860-20020, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 02-17-106, § 296-860-20020, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20030 Install radiation detectors according to manufacturer's specifications.

IMPORTANT.

This section applies only to those private yards and plants where the installation of radiation detectors beside railroad tracks is required due to the nature of the business; for example, scrap metal yards.

You must:

- Install radiation detectors beside the railroad tracks in your yard and/or plant according to the manufacturer's specifications.

- Post signs on each radiation detector installed less than eight feet six inches from the centerline of the track:

- Warning employees that the side clearances between the detector and the track centerline are less than the required standard minimum side clearances found in this chapter

- Prohibiting employees from riding on the side of any rail car passing through the detector.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050, 02-17-106, § 296-860-20030, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20040 Maintain overhead clearances.

Exemption:

Engine houses and car shops are exempt from the overhead clearance requirements of this section.

You must:

- Make sure overhead railroad clearances are at least twenty-two feet six inches unless a clearance requirement found in Table 1 applies.

Note:

- Clearance requirements are based on the assumption that generally used rail equipment in private yards and plants is no more than ten feet ten inches wide by fifteen feet six inches high.

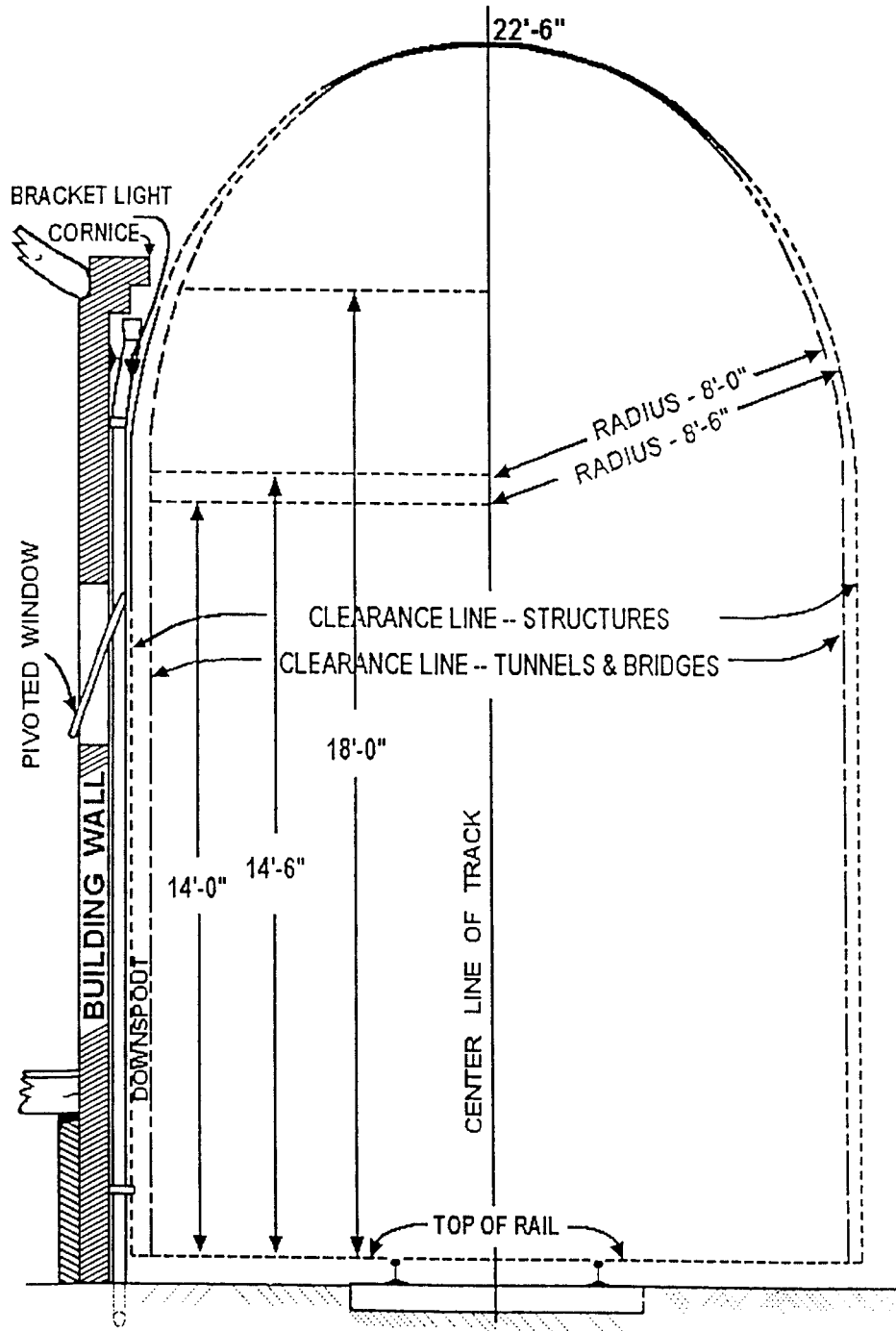
- WAC 296-860-20070 regulates the use of any rail equipment that exceeds the above dimensions.

- Minimum vertical clearances for all overhead wires are specified in Parts 1, 2, and 3 of the National Electrical Safety Code (NESC) as referenced in WAC 296-45-045, electrical workers safety rules, NESC applicable. See NESC 231 and 232.

Table 1 - Minimum Overhead Clearances for Buildings, Structures, Tunnels, and Bridges

If your overhead clearance involves:	Then the minimum overhead clearance requirements are:
An entirely enclosed building	18 feet when tracks end inside an entirely enclosed building. Also: <ul style="list-style-type: none"> • The department must approve any reduction from 22 feet 6 inches before the reduction takes place. • If an overhead clearance is less than 22 feet 6 inches, all cars, locomotives or other equipment must come to a full stop before entering the building. • See Illustration 1.
All other structures	Defined by the half-circumference of a circle whose: <ul style="list-style-type: none"> • Radius is 8 feet 6 inches AND • Center is located on a line perpendicular to the track's centerline and 14 feet above the top of the highest rail. • See Illustration 1.
Tunnels, over-crossings, and bridges	Defined by the half-circumference of a circle whose: <ul style="list-style-type: none"> • Radius is 8 feet AND • Center is located on a line perpendicular to the track's centerline and 14 feet 6 inches above the top of the highest rail. • See Illustration 1.

Illustration 1 - Minimum Overhead Clearances for Buildings, Structures, Tunnels, and Bridges



[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-860-20040, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-20040, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20050 Maintain side clearances.

You must:

- Make sure side clearances are at least eight feet six inches from the track centerline unless clearance requirements found in Tables 2, 3, or 4 apply.

Note: All side clearances in Tables 2, 3, and 4 that reference "the track centerline" are based on the assumption that private

rail operations generally use track that is standard gauge width (4 feet 8 1/2 inches).

Table 2 - Minimum Side Clearance for Platforms

If Your Platform Type is:	Then the Minimum Clearance Requirements Between the Track Centerline and a Platform Edge are:
Type 1 Platforms with heights of 8 inches or less above the top of the rail.	4 feet 8 inches See Illustration 2.
Type 2 Platforms with heights of 4 feet or less above the top of the rail.	7 feet 3 inches See Illustration 2.
Type 3 Platforms with heights of 4 feet 6 inches or less above the top of the rail and the platforms are used primarily for loading and/or unloading refrigerator cars.	8 feet See Illustration 2.
Type 4 Icing platforms and supports.	7 feet 3 inches See Illustration 2.
Type 5 Retractable platforms attached to permanent structures.	When not in use, use the clearance requirements for a platform of its height.
Type 6 Platforms that are a combination of Types 1 through 3. (Only Types 1 through 3 platforms can be combined.)	Platforms may be combined if the Type 1 platform has a level surface no more than 4 feet 8 inches from the track centerline to the face of the platform wall with which it is combined.

Illustration 2 - Minimum Side Clearances for Platforms

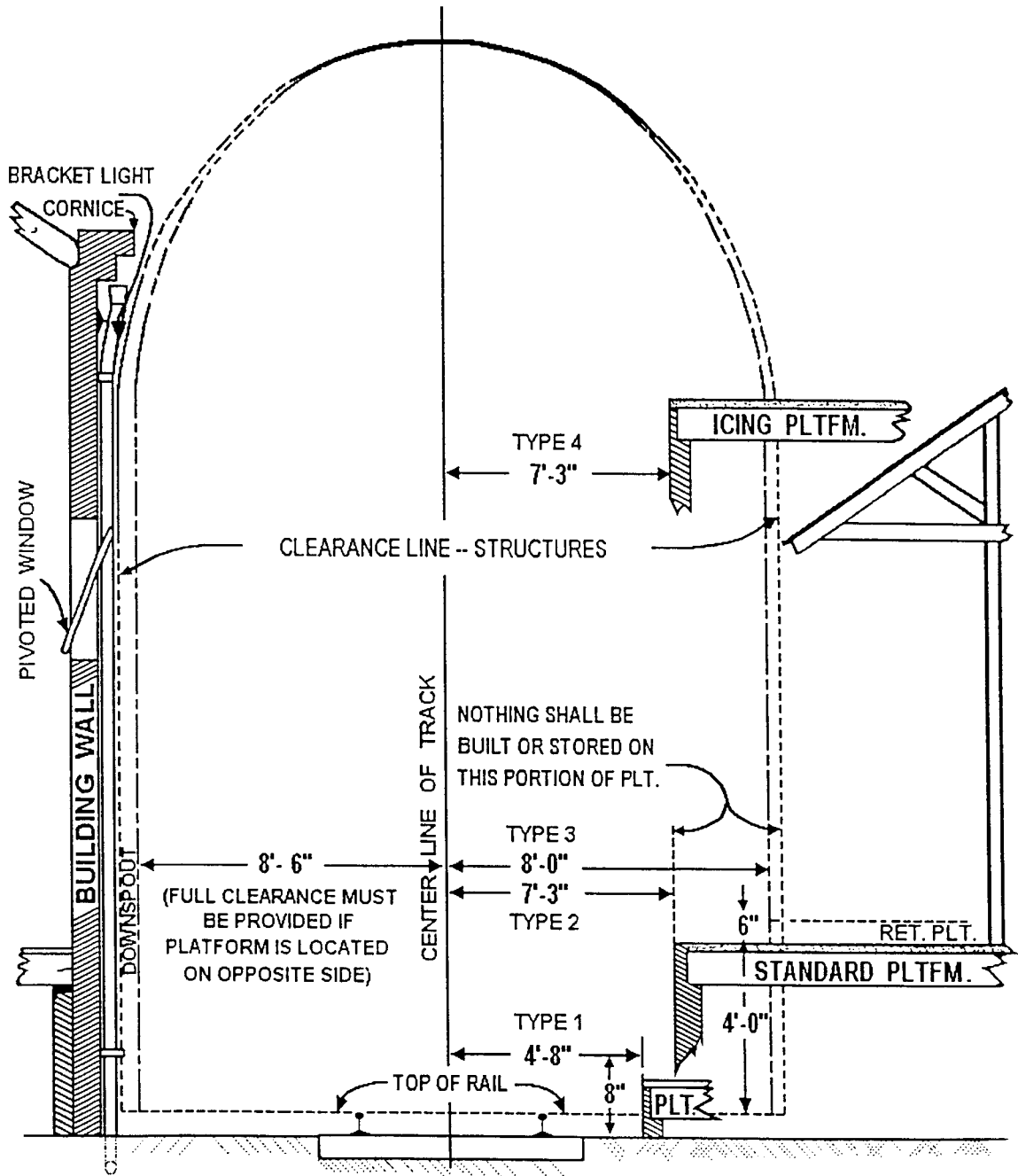


Table 3 - Minimum Side Clearances for Bridges, Tunnels and Related Structures

- Exemption:** • Except for handrail and water barrel clearances, the clearance requirements in Table 3 do not apply to bridge decks where railroad employees couple or uncouple cars on a switching lead unless the department approves them.
- Note:** • The requirements for filing a variance are located in the Safety and health core rules and chapter 296-900 WAC, Administrative rules.

If your side clearance requirement involves:	Then the minimum side clearance requirements between the track centerline and the bridge, tunnel or related structure are:
Bridge and tunnel sides - lower section	8 feet
Bridge and tunnel sides - upper section	Defined by the half-circumference of a circle whose: <ul style="list-style-type: none"> • Radius is 8 feet AND • Center is located on a line perpendicular to the track's centerline and 14 feet 6 inches above the top of the highest rail. • See Illustration 3.
Related structures on bridges and in tunnels - lower section structures (or portions of them) that are no more than 4 feet above the top of the rail. For example: <ul style="list-style-type: none"> • Refuge platforms on bridges and trestles. • Water columns, oil columns, and block signals. • Cattle chutes. 	Defined by lines extending: <ul style="list-style-type: none"> • 5 feet laterally from the track centerline to a point level with the top of the rail and then diagonally upward to another point 4 feet above the top of the rail AND • 8 feet laterally from the track centerline to a point 4 feet above the top of the rail. • See Illustration 3A. The shaded portion of the illustration designates the area that must be free of refuge platforms, water columns, oil columns, block signals and cattle chutes.
Hand rails and water barrels	7 feet 6 inches
Fences of cattle guards	6 feet 9 inches

Illustration 3A - Minimum Side Clearance for Certain Structures in or on the Lower Sections of Bridges and Tunnels

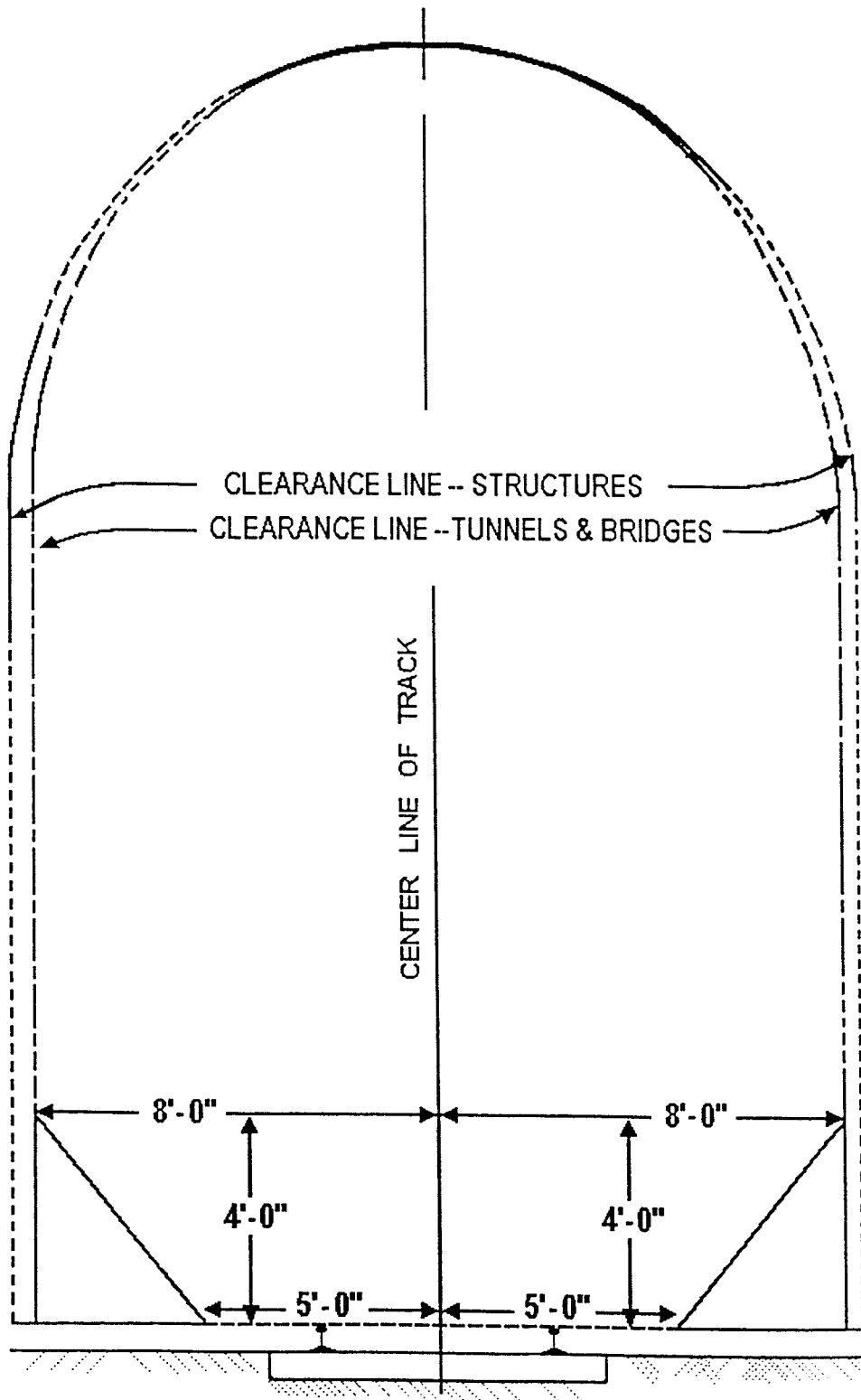


Table 4 - Other Minimum Side Clearance Requirements*

- Note:**
- The department must approve all minimum clearances for car pulling units and related structures.
 - The requirements for filing a variance are located in the Safety and health core rules and chapter 296-900 WAC, Administrative rules.

If your side clearance requirement involves:	Then the minimum side clearance requirements from the track centerline are:
Type A Engine house and car repair shop doors.	7 feet 6 inches
Type B Interlocking mechanism, switch boxes, and other similar devices projecting no more than 4 feet above the top of the rail.	3 feet
Type C Poles supporting trolley contact.	8 feet 3 inches
Type D Signals and switch stands no more than 3 feet high and located between tracks where it is not possible to allow other clearances required in this chapter.	6 feet
Type E Signals and switch stands other than those described in Type B and Type D.	8 feet
Type F Material, merchandise, inventory, storage bins or equipment stacked or stored on ground or platforms adjacent to tracks.	8 feet 6 inches Note: This requirement does not apply to: <ul style="list-style-type: none"> • Railroad maintenance operations • Emergency situations • Local conditions that make compliance impossible.
Type G Space adjacent to curved track.	Increased to equal tangent track clearances. As a general rule, side clearances on curved track should be increased 1-1/2" for each degree of curvature.

*Table 4 does not have an accompanying illustration.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-860-20050, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-20050, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20060 Maintain clearances between tracks.

You must:

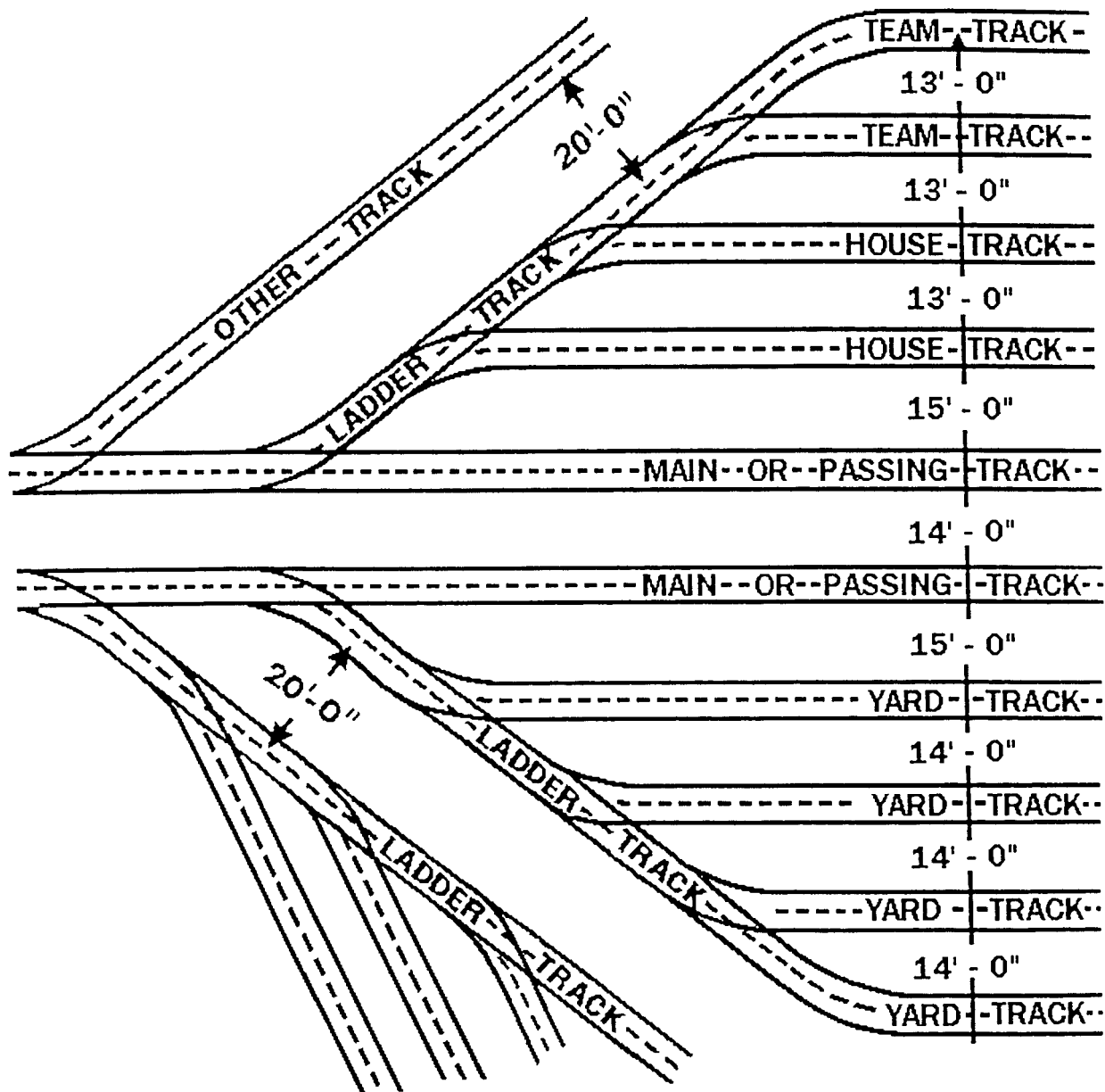
- Comply with the track clearance requirements in Table 5.

Table 5 - Minimum Standard Gauge Track Clearances

If your track clearance involves:	Then the minimum clearance requirements between centerlines of standard gauge parallel tracks are:
Main or passing tracks used for transporting cars, locomotives, motors, or like equipment	14 feet
Any tracks adjacent to main or passing tracks	15 feet
Team, house, or industry tracks	13 feet
Yard tracks	14 feet
Ladder and other tracks	20 feet

- Note:** The following illustration will help you understand the track clearance requirements discussed in this section and WAC 296-860-20080 regulating narrow gauge rail operations.

STANDARD GAUGE TRACK CLEARANCES



[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-20060, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20070 Move excessive height or width rail car loads with care.

Note: This section regulates rail cars whose dimensions exceed ten feet ten inches wide by fifteen feet six inches high.

You must:

- Make sure your yard supervisor is given advanced notice regarding the arrival of any excess height or width cars so they can safeguard any employees working in the yard.
- Make sure no one is allowed to ride on the:
 - Roof of any excessive height car
 - Side of any excessive width car
 - Side of any car with a load extending more than five feet five inches from the car's centerline.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-20070, filed 8/21/02, effective 10/1/02.]

WAC 296-860-20080 Follow these requirements to conduct narrow gauge rail operations.

You must:

- Base your clearance measurements upon your widest narrow gauge cars.
- Make sure the distance between the cars and objects on narrow gauge track is equal to or greater than the distance required between ten foot ten inch wide cars and other cars or objects on standard gauge track.
- Comply with all other applicable requirements in this chapter.

[Title 296 WAC—p. 3097]

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-20080, filed 8/21/02, effective 10/1/02.]

WAC 296-860-300 Definitions. The following definitions apply to this chapter.

Car width - Twice the distance from the centerline of a railroad car to its extreme outside part.

Common carrier - All railroads, railroad companies, street railroads, street railroad companies, corporations, partnerships, persons, cities or towns that own, operate, manage, or control any public use enterprise within Washington state that transports people or property for hire.

Department - The Washington state department of labor and industries.

Emergency - Any unforeseen occurrence that endangers life, limb, or property.

Icing platforms - Structures used to ice, precool, heat, ventilate or service private railroad cars that handle commodities requiring these services.

Over-crossing - Any point or place where a highway, road, or ramp carrying vehicular traffic crosses a private rail yard or track by passing above it.

Overhead clearance - The perpendicular distance between the top of the highest rail and the lowest point of an overhead structure or obstruction.

Private rail operation - A nonrailroad company operating railroad facilities, structures, tracks and equipment in the company's yard or plant. Chapter 296-860 WAC applies to:

- Any equipment, facility or structure owned or operated by the company
- AND
- The construction and reconstruction of tracks or structures adjacent to any facility or structure owned or operated by the company.

Railroad - Every public use railroad, other than street railroads, operated to transport people or property for hire. This definition also includes all bridges, ferries, tunnels, equipment, switches, spurs, tracks, stations, and terminal facilities of every kind that are used, operated, controlled, or owned by or in connection with any such public use railroad.

Side clearance - The shortest distance between the centerline of a track and a structure or other track side obstructions such as downspouts, ladders, equipment, piles of material or inventory, etc.

Track clearance - The shortest distance between the centerlines of adjacent railroad tracks.

Walkways - Pathways located alongside or in the vicinity of a railroad track, or on a trestle or bridge, providing space so a private railroad employee can perform duties associated with the track, trestle, or bridge.

[Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. 02-17-106, § 296-860-300, filed 8/21/02, effective 10/1/02.]

Chapter 296-863 WAC

FORKLIFTS AND OTHER POWERED INDUSTRIAL TRUCKS

WAC

296-863-100	Scope.
296-863-200	Design, construction, and equipment.
296-863-20005	Make sure PITs meet design and construction requirements.

[Title 296 WAC—p. 3098]

296-863-20010	Meet these requirements when modifying or altering PITs.
296-863-20015	Make sure PITs are properly labeled.
296-863-20020	Protect operators from falling objects.
296-863-20025	Provide fall protection on order pickers.
296-863-20030	Provide directional lights on PITs when required.
296-863-20035	Make sure liquefied petroleum gas (LPG) fueled PITs meet these requirements.
296-863-20040	Meet these requirements when converting gasoline fuel PITs to liquefied petroleum gas (LPG) fuel.
296-863-300	Inspection, repair, maintenance, and servicing.
296-863-30005	Make sure PITs are in safe working condition.
296-863-30010	Inspect your PITs.
296-863-30015	Meet these requirements when repairing PITs.
296-863-30020	Maintain your PITs properly.
296-863-30025	Service gasoline fueled PITs safely.
296-863-30030	Service liquefied petroleum gas (LPG) fueled PITs safely.
296-863-30035	Make sure battery charging areas are safe.
296-863-30040	Service batteries for electric PITs safely.
296-863-400	Operations.
296-863-40005	Protect employees around PITs.
296-863-40010	Operate PITs safely.
296-863-40015	Make sure PIT loads are carried safely.
296-863-40020	Meet these requirements when the operator leaves the normal operating position.
296-863-40025	Meet these requirements when operating near railroad tracks.
296-863-40030	Meet this requirement when using motorized hand trucks.
296-863-40035	Meet these requirements when using elevators.
296-863-40040	Meet these requirements when using dockboards (bridge plates).
296-863-40045	Meet these requirements when loading or unloading railroad cars with a PIT.
296-863-40050	Meet these requirements when loading or unloading highway trucks with PITs.
296-863-40055	Meet these additional requirements when operating liquefied petroleum gas (LPG) fueled PITs.
296-863-40060	Make sure work platforms and PITs used to lift people meet these requirements.
296-863-40065	Operate PITs using elevated work platforms safely.
296-863-500	Hazardous (classified) locations.
296-863-50005	Use the appropriate PITs in hazardous (classified) locations.
296-863-600	Training.
296-863-60005	Make sure PIT operators are trained.
296-863-60010	Retrain PIT operators as required.
296-863-60015	Evaluate PIT operators performance.
296-863-700	Definitions.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-863-10005	Scope. [Statutory Authority: RCW 49.17.010, 49.17-040, 49.17.050, 49.17.060. 04-19-051, § 296-863-10005, filed 9/14/04, effective 2/1/05.] Decodified by 07-03-163, filed 1/24/07, effective 4/1/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. Recodified as WAC 296-863-100.
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WAC 296-863-100 Scope. This chapter applies to powered industrial trucks that use electric motors or internal combustion engines. This includes, but is not limited to:

- Fork trucks.
- Forklifts.
- Tractors.
- Platform lift trucks.
- Motorized hand trucks.
- Other specialized industrial trucks.

Definition:

A powered industrial truck (PIT) is a mobile, power-driven vehicle used to carry, push, pull, lift, stack, or tier material.

Exemption: This chapter does not apply to:

- Compressed air-powered industrial trucks.
- Nonflammable compressed gas-operated industrial trucks.

(2009 Ed.)

- Vehicles covered by chapter 296-307 WAC, Safety standards for agriculture.
- Vehicles intended primarily for earth moving or over-the-road hauling.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, recodified as § 296-863-100, filed 1/24/07, effective 4/1/07; 04-19-051, § 296-863-10005, filed 9/14/04, effective 2/1/05.]

WAC 296-863-200 Design, construction, and equipment.

Summary:

Your responsibility:

To make sure PITs are properly designed, constructed, and equipped.

You must:

Design and construction

Make sure PITs meet design and construction requirements

WAC 296-863-20005.

Meet these requirements when modifying or altering PITs

WAC 296-863-20010.

Labeling

Make sure PITs are properly labeled

WAC 296-863-20015.

Equipment

Protect operators from falling objects

WAC 296-863-20020.

Provide fall protection on order pickers

WAC 296-863-20025.

Provide directional lights when required

WAC 296-863-20030.

Liquefied petroleum gas (LPG) PITs

Make sure liquefied petroleum gas (LPG) fueled PITs meet these requirements

WAC 296-863-20035.

Meet these requirements when converting gasoline fuel PITs to liquefied petroleum gas (LPG) fuel

WAC 296-863-20040.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-200, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20005 Make sure PITs meet design and construction requirements.

You must:

• Make sure PITs meet American National Standards Institute (ANSI) design and construction requirements.

• Make sure PITs manufactured **before** March 1, 2000, meet the requirements of ANSI B56.1-1969, Safety Standards for Powered Industrial Trucks.

• Make sure PITs manufactured **on or after** March 1, 2000, meet the requirements of ANSI B56.1-1993, Safety Standards for Powered Industrial Trucks.

• Make sure rough terrain forklift trucks manufactured on or after January 1, 2005, meet the design and construction requirements of ANSI B56.6-1992, Safety Standard for Rough Terrain Forklift Trucks.

Note: There may be a nameplate on the PIT or a statement in the instruction manual indicating that the PIT meets the requirement of the appropriate ANSI standard. If in doubt, check with the manufacturer.

ANSI B56.1-1993 and B56.6-1992 are available by:

– Purchasing copies by writing:

American National Standards Institute

11 West 42nd Street

New York, NY 10036

OR

– Contacting the ANSI web site at www.ansi.org.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-20005, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20010 Meet these requirements when modifying or altering PITs.

You must:

Have written approval from the PIT manufacturer before making any modifications to the PIT that:

– Change the relative position of the various parts of the PIT from what they were when originally received from the manufacturer.

– Add extra parts not provided by the PIT manufacturer.

– Eliminate any parts.

– Affect capacity or safe operation.

Exemption: This does not apply to converting PITs from gasoline to LPG fuel.

You must:

• Make sure any modifications or additions to the PIT are shown on the plates, tags, or decals to reflect any changes in the PITs:

– Capacity.

– Operation.

– Maintenance instructions.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-20010, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20015 Make sure PITs are properly labeled.

You must:

• Make sure all PIT nameplates as well as any stickers, stencils or marks that relate to the stability and safety of the PIT are:

– In place.

– Legible.

Note: PITs should have a nameplate installed by the manufacturer that contains at least the following information:

– Model and serial number.

– Approximate weight of the PIT.

– Certification that the manufacturer has met the mandatory requirements of ANSI B56.1 Safety Standards for Powered Industrial Trucks.

– Type designation to show the PIT meets the applicable requirements of a nationally recognized testing laboratory.

You must:

• Make sure PITs approved for hazardous (classified) locations have a label or some other identifying mark indicating acceptance by a nationally recognized testing laboratory.

• Make sure PITs with front-end attachments, including fork extensions, are marked to:

– Identify the attachment.

– Show the approximate combined weight of the PIT and attachment.

– Show the maximum capacity of the PIT with attachments at their highest elevation and the load laterally centered.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-20015, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20020 Protect operators from falling objects.**You must:**

- Use an overhead guard to protect operators from falling objects such as small packages, boxes, and bagged material.

Exemption: A high lift rider truck may be operated without the guard, providing all of the following conditions are met:

- Vertical movement of the lifting mechanism is restricted to seventy-two inches (1800 mm) or less from the ground.
- The high lift rider truck will operate only in an area where:
 - The top of a tiered load will not be more than one hundred twenty inches (3000 mm) high.
 - The bottom of a tiered load will not be more than seventy-two inches (1800 mm) high.
 - Only stable loads are handled.
 - The operator is protected from objects falling from high stack areas.

Note: The overhead guard is not intended to withstand the impact of a maximum capacity load of the PIT.

You must:

- Equip all high lift rider trucks with overhead guards that meet the design and construction requirements of American National Standards Institute (ANSI) B56.1-1993, Safety Standards for Powered Industrial Trucks.
- Use a vertical load backrest extension to keep all or any part of the load from falling backwards towards the operator if the load presents a hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-20020, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20025 Provide fall protection on order pickers.**You must:**

- Make sure order pickers have either:
 - Standard guardrails on all open sides;

OR

– A safety harness and lanyard that are connected to a tie off point that has been approved by the PIT manufacturer.

- Make sure personal fall arrest equipment meets the requirements of WAC 296-24-88050, Appendix C—Personal fall arrest systems.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-863-20025, filed 1/24/07, effective 4/1/07; 04-19-051, § 296-863-20025, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20030 Provide directional lights on PITs when required.**You must:**

- Provide PITs with directional lighting if the general lighting is less than two lumens per square foot.

Note:

- Lighting levels can be measured with a light meter.
- Conversion information: One foot-candle = one lumen incident per square foot = 10.76 lux.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-20030, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20035 Make sure liquefied petroleum gas (LPG) fueled PITs meet these requirements.**You must:**

- Use fuel containers that meet **either** of the following minimum requirements:
 - A U.S. Department of Transportation (USDOT) approved container authorized for LP-gas service that has a minimum service pressure of two hundred forty pounds per square inch gage (psig);

[Title 296 WAC—p. 3100]

OR

– A container Type 250 that has a design pressure of 312.5 psig.

- Make sure fuel containers do not use variable liquid-level gages that require venting fuel to the atmosphere.

• Make sure the fuel system of PITs **used inside buildings:**

- Has an approved automatic shutoff valve, located ahead of the inlet of the gas-air mixer, that will stop the flow of fuel to the mixer if the engine stops;

AND

– Use not more than two LP-gas fuel containers.

• Make sure the fuel system of PITs **used outdoors** has an approved automatic shutoff valve, located ahead of the inlet of the gas-air mixer, that will stop the flow of fuel to the mixer if both:

- The ignition is OFF.
- The engine is not running.

Note: You may use an atmospheric type regulator (zero governor) as a shutoff valve if the PIT is used outdoors.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-20035, filed 9/14/04, effective 2/1/05.]

WAC 296-863-20040 Meet these requirements when converting gasoline fuel PITs to liquefied petroleum gas (LPG) fuel.**You must:**

- Make sure PITs originally approved to use gasoline for fuel that are then converted to LPG fuel:

– Meet the requirements for LP or LPS designated PITs;

AND

– Are converted using only approved equipment.

Definitions:

• **LP** refers to liquefied petroleum gas-powered trucks that, in addition to meeting all the requirements for type G trucks, have minimum acceptable safeguards against inherent fire hazards.

• **LPS** refers to liquefied petroleum gas powered trucks that in addition to meeting the requirements for LP type trucks, have additional exhaust, fuel, and electrical systems safeguards.

Note:

- Tables 1, 2, and 3 list the types of PITs and the locations where they can be used safely.
- The description of the component parts of the conversion system and the recommended method of installation on specific PITs are contained in the "Listed by Report" provided by the testing laboratory.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-20040, filed 9/14/04, effective 2/1/05.]

WAC 296-863-300 Inspection, repair, maintenance, and servicing.**Summary:****Your responsibility:**

To make sure PITs are kept in safe condition and properly serviced.

References:

- Appropriate respiratory protection may need to be used when operating PITs. See chapter 296-841 WAC, Respiratory hazards, for more information.
- Appropriate PPE may need to be worn. See WAC 296-800-160 in the *Safety and Health Core Rules* for more information.

You must:**Inspect, repair and maintain PITs**

Make sure PITs are in safe working condition

WAC 296-863-30005.

Inspect your PITs

WAC 296-863-30010.

Meet these requirements when repairing PITs

WAC 296-863-30015.

Maintain your PITs properly

WAC 296-863-30020.

Service your PITs

Service gasoline fueled PITs safely

WAC 296-863-30025.

Service liquefied petroleum gas (LPG) fueled PITs safely

WAC 296-863-30030.

Make sure battery charging areas are safe

WAC 296-863-30035.

Service batteries for electric PITs safely

WAC 296-863-30040.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-300, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30005 Make sure PITs are in safe working condition.**You must:**

- Remove any PIT from service that is not in safe operating condition.
- Immediately remove PITs from service that have any of the following problems, and do not return them to service until the cause of the problem has been eliminated:
 - A leak in the fuel system.
 - A clogged water muffler screen or other muffler part.
 - An exhaust system that is emitting hazardous sparks or flames.
 - A part that is hotter than its normal operating temperature thus creating a hazardous condition.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-30005, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30010 Inspect your PITs.**You must:**

- Inspect PITs according to the manufacturer's instructions.
 - Inspect PITs at these times:
 - Daily before being put into service;
- AND**
- After each shift, if the PIT is used on a continuous (twenty-four-hour) basis.

Note: You can designate someone on the off-going shift, on-coming shift, or some other person to do the inspection.

You must:

- Report and correct any deficiencies noted during the inspection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-30010, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30015 Meet these requirements when repairing PITs.**You must:**

- Make sure repairs are made by authorized persons.

- Make sure replacement parts are equivalent to the parts used in the original design.

- Make sure repairs are not made in Class I, II, or III locations. See Tables 1, 2, and 3 for more information.

Definitions:

Class I locations are areas where flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

Class II locations are areas where the presence of combustible dust could be sufficient to produce explosions.

Class III locations are areas where the presence of easily ignitable fibers are suspended in the air but are not in large enough quantities to produce ignitable mixtures.

You must:

- Make sure fuel and ignition system repairs that involve fire hazards are made only in locations designated for such repairs.

- Disconnect the battery before starting repairs to a PIT electrical system.

- Close the fuel container shutoff valve before repairing an LP-gas fueled PIT in a garage.

Exemption: The container shutoff valve may be left open if it is necessary to run the engine.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-19-051, § 296-863-30015, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30020 Maintain your PITs properly.**You must:**

- Maintain PITs according to this chapter and the manufacturer's instructions.
- Keep PITs:
 - Clean.
 - Free of excess lint, oil, and grease.
- Take appropriate precautions to protect employees from the hazards associated with the cleaning agents or solvents used.
 - Precautions could include methods such as ventilation.
- Make sure solvents used for cleaning PITs have a flash point of 100° Fahrenheit or more.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-863-30020, filed 1/24/07, effective 4/1/07; 04-19-051, § 296-863-30020, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30025 Service gasoline fueled PITs safely.**You must:**

- Handle and store liquid fuels, such as gasoline and diesel fuel, according to the National Fire Protection Association Flammable and Combustible Liquids Code (NFPA No. 30-1996).

Note: National Fire Protection Association codes are available by: Purchasing copies by writing:
National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471
OR
Contacting the NFPA web site at www.nfpa.org.

You must:

- Stop the engine before filling a fuel tank.
- Avoid spilling fuel during servicing.
- Make sure you do **not** use open flames to check the gasoline level in fuel tanks.

- Do the following before restarting the engine after fueling:
 - Put on the fuel tank cap.
 - Make sure spilled oil or fuel is completely washed away or evaporated.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-30025, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30030 Service liquefied petroleum gas (LPG) fueled PITs safely.

You must:

- Handle and store liquefied petroleum gas fuel according to the National Fire Protection Association Storage and Handling of Liquefied Petroleum Gases (NFPA No. 58-1998).
 - Shut down the engine while fueling.
 - Fuel PITs equipped with permanently mounted fuel containers outdoors.
 - Make sure filling fuel containers from industrial bulk storage containers is done at least:
 - Ten feet from the nearest masonry-walled building.
 - Twenty-five feet from the nearest building or other construction.
 - Twenty-five feet from any building opening.
 - Make sure PITs are stored or serviced inside garages only when:
 - There are no leaks in the fuel system;

AND

- The fuel tanks are not filled beyond the maximum filling density specified in WAC 296-24-47505 (12)(a), Storage and handling of liquefied petroleum gases.

Reference: See chapter 296-24 WAC, Part F-1, for LPG charging equipment requirements and maximum filling density and LPG service stations.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-30030, filed 9/14/04, effective 2/1/05.]

WAC 296-863-30035 Make sure battery charging areas are safe.

You must:

- Make sure battery charging areas are designated and provided with all of the following:
 - Means to flush and neutralize spilled electrolyte.
 - Fire protection.
 - Ventilation that is adequate to disperse fumes from gassing batteries.
- Prohibit smoking in battery charging areas.
- Take precautions to prevent open flames, sparks, or electric arcs in battery charging areas.
- Protect battery charging equipment from being damaged by PITs.
- Provide at least one of the following to handle batteries:
 - Conveyor.
 - Overhead hoist.
 - Other equivalent material handling equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-30035, filed 9/14/04, effective 2/1/05.]

[Title 296 WAC—p. 3102]

WAC 296-863-30040 Service batteries for electric PITs safely.

You must:

- Make sure PITs are properly positioned with the brake on before charging or changing batteries.
- Make sure you do **not** use open flames to check the electrolyte level in storage batteries.
 - Do the following when charging batteries:
 - Make sure vent caps are functioning.
 - Open the battery or compartment covers to dissipate heat.
 - Pour acid into water, never pour water into acid.
 - Provide a carboy tilter or siphon to handle electrolyte.
 - Keep tools and other metallic objects away from the top of uncovered batteries.
 - Make sure reinstalled batteries are properly positioned and secured.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-30040, filed 9/14/04, effective 2/1/05.]

WAC 296-863-400 Operations.

Summary:

Your responsibility:

To operate your PITs safely.

You must:

General operations

Protect employees around PITs

WAC 296-863-40005.

Operate PITs safely

WAC 296-863-40010.

Make sure PIT loads are carried safely

WAC 296-863-40015.

Meet these requirements when the operator leaves the normal operating position

WAC 296-863-40020.

Meet these requirements when operating near railroad tracks

WAC 296-863-40025.

Special operations

Meet this requirement when using motorized hand trucks

WAC 296-863-40030.

Meet these requirements when using elevators

WAC 296-863-40035.

Meet these requirements when using dockboards (bridge plates)

WAC 296-863-40040.

Meet these requirements when loading or unloading railroad cars with a PIT

WAC 296-863-40045.

Meet these requirements when loading or unloading highway trucks with PITs

WAC 296-863-40050.

Liquefied petroleum gas (LPG) fueled PITs

Meet these additional requirements when operating liquefied petroleum gas (LPG) fueled PITs

WAC 296-863-40055.

Personnel lifting

Make sure work platforms and PITs used to lift people meet these requirements

WAC 296-863-40060.

Operate PITs using elevated work platforms safely
WAC 296-863-40065.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-400, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40005 Protect employees around PITs.

You must:

- Make sure operators use restraint devices, such as seat-belts or lap-bars, when they are provided on the PIT.
- Make sure you do not allow people:
 - Under the elevated part of any PIT, whether it is loaded or empty;
 - To put any part of their body between the uprights of the mast;
- OR**
- Outside the running lines of the PIT.
- Make sure you do not allow unauthorized people to ride on PITS.
- Make sure people riding on PITs have a safe place to ride.
- Make sure you do not allow stunt driving or horseplay.
- Make sure PITs are not driven up to anyone in front of a bench or other fixed object.
- Make sure access to fire aisles, stairways, and fire equipment is kept clear.
- Make sure there is sufficient headroom under overhead installations such as lights, pipes, and sprinkler systems to safely operate PITs.

Reference: PIT operations may cause the airborne concentration levels of carbon monoxide gas to increase. You have to keep the concentration levels below the levels specified in chapter 296-841 WAC, Respiratory hazards.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40005, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40010 Operate PITs safely.

You must:

- Operate PITs according to the manufacturer's instructions.
- Make sure PIT operators do all of the following:
 - Obey all traffic regulations, including authorized workplace speed limits.
 - Yield the right of way to ambulances, fire trucks, and other vehicles in emergency situations.
 - Keep a safe distance of approximately three truck lengths from the PIT ahead.
 - Look in the direction they are going and keep a clear view of their path of travel.
 - Slow down and sound the horn at cross aisles and other locations where vision is obstructed.
 - Do not pass other PITs traveling in the same direction at intersections, blind spots, or other dangerous locations.
 - Keep a safe distance from the edge of ramps or platforms while on any of the following:
 - Elevated docks.
 - Elevated platforms.
 - Freight cars.
- Make sure operators keep PITs under control at all times, including doing all of the following:

(2009 Ed.)

- Drive at a speed that allows the PIT to be stopped safely.
- Drive more slowly on wet or slippery floors.
- Reduce speed to a safe level while turning.
- Avoid driving over loose objects.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40010, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40015 Make sure PIT loads are carried safely.

You must:

- (1) Make sure loads are stable, safe and within the rated load capacity of the PIT.
- (2) Do both of the following when picking up a load:
 - Place the load engaging means under the load as far as possible.
 - Tilt the mast carefully backwards to stabilize the load.
- (3) Make sure not to tilt the load engaging means forward when it is elevated unless:
 - Picking up a load;
- OR**
- Depositing a load on a rack or stack.
- (4) Do both of the following when traveling with a load:
 - Keep the load trailing if it obstructs the operator's forward view.
 - Travel with the load upslope when climbing or descending slopes of more than ten percent.
- (5) Do both of the following when climbing a slope:
 - Tilt the load and load engagement means backwards if necessary to stabilize the load;

AND

- Raise the load and load engagement means only as far as necessary to clear the surface.
- (6) Make sure PITS with attachments are operated as partially loaded trucks, even if they are **not** carrying a load.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40015, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40020 Meet these requirements when the operator leaves the normal operating position.

You must:

- Make sure operators do the following when getting off the PIT:
 - Fully lower the load engaging means.
 - Neutralize the controls.
 - Set the brakes.
- Make sure operators do the following when leaving a PIT unattended:
 - Fully lower the load engaging means.
 - Neutralize the controls.
 - Shut off power.
 - Set the brakes.
 - Block the wheels, if parked on an incline.

Note: A PIT is unattended when the operator:

- Is more than twenty-five feet away;

OR

- Can not see the PIT.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40020, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40025 Meet these requirements when operating near railroad tracks.**You must:**

- Make sure PITs are driven diagonally across railroad tracks, whenever possible.
- Make sure PITs are parked eight feet six inches or more from the center of any railroad tracks.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40025, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40030 Meet this requirement when using motorized hand trucks.**You must:**

- Make sure motorized hand trucks enter elevators and other confining areas with the load end forward.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40030, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40035 Meet these requirements when using elevators.**You must:**

- Do both of the following when driving PITs onto an elevator:
 - Approach slowly.
 - Enter the elevator squarely after the elevator car is leveled.
- Do all the following after the PIT is positioned on the elevator:
 - Neutralize the controls.
 - Shut off the power.
 - Set the brakes.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40035, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40040 Meet these requirements when using dockboards (bridge plates).**You must:**

- Make sure dockboards are not overloaded:
 - Make sure they are strong enough to carry the load imposed on them.
 - Make sure loads do not exceed the dockboard's rated capacity.
- Do the following when using dockboards:
 - Drive slowly and carefully over dockboards.
 - Properly secure dockboards before driving on them.
- Make sure powered dockboards meet the design and construction requirements of U.S. Department of Commerce Commercial Standard CS 202-56 (1961) "Industrial Lifts and Hinged Loading Ramps."
 - Do the following when using portable dockboards:
 - Use anchors or other devices that will prevent slipping.
 - Make sure they have handholds or other effective means for safe handling.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40040, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40045 Meet these requirements when loading or unloading railroad cars with a PIT.**You must:**

- Check the railroad car flooring for breaks or weakness before driving on it.

[Title 296 WAC—p. 3104]

- Set the brakes and use wheel stops or other recognized positive protection to keep railcars from moving:

- During loading or unloading operations;

OR

- While dockboards (bridge plates) are in position.

- Meet these requirements when using PITs to open or close freight car doors:

- The PIT has to have an approved device specifically designed to open and close doors.

- The device has to be designed so that force will be applied to the door parallel to door travel.

- The PIT operator has to be trained to use the device and have full view of the operation.

- People must be kept clear while the door is being moved.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40045, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40050 Meet these requirements when loading or unloading highway trucks with PITs.**You must:**

- Check the truck or trailer flooring for breaks or weakness before driving on it.
- Prevent movement of trucks or trailers during loading or unloading by:

- Setting the brakes;

AND

- Chocking or blocking the wheels.

- Exemptions:**
- You can use mechanical means instead of wheel chocks or blocks to secure the trailer to the loading dock.
 - Wheel chocks or blocks are not required when:
 - The mechanical means prevents the trailer from moving away from the dock.
 - The mechanical equipment is used and maintained as recommended by the manufacturer.
 - Damaged mechanical equipment is immediately removed from service.

- Note:** You may need to use fixed jacks to keep a semi-trailer that is not coupled to a tractor from up ending during loading or unloading.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40050, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40055 Meet these additional requirements when operating liquefied petroleum gas (LPG) fueled PITs.**You must:**

- Make sure you do not park PITs near:
 - Sources of heat, open flames, or similar ignition sources;

OR

- Open pits, such as service pits, that do not have adequate ventilation.

- Make sure PITs stored inside a garage do not have:
 - A leak in the fuel system.
 - Fuel containers filled beyond the maximum filling capacity.

- Reference:** See WAC 296-24-47505(12), Storage and handling of liquefied petroleum gases, for maximum filling capacities.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40055, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40060 Make sure work platforms and PITs used to lift people meet these requirements.**You must:**

- Make sure work platforms:
 - Are securely fastened to the lifting carriage or forks.
 - Have standard guardrails and toeboards on all sides.
- Guard the area between the platform and the PIT mast to prevent employee contact with chains or other shear points.
 - Make sure PITs used to elevate a work platform have a lift mechanism that can not drop faster than one hundred thirty five feet per minute in the event of a system failure.
 - Make sure the lifting carriage or forks are prevented from tilting.

Note: Examples of how this may be accomplished are the use of:

- A control lever that prevents the inadvertent movement; or
- Use of a strap or other device to hold the control lever in position.

You must:

- Make sure PITs with controls (vertical only or horizontal and vertical) that can be elevated with the lifting carriage or forks, have a way for people on the platform to shut off power to the PIT.

Note: You can find the minimum requirements for standard railings of various types of construction in WAC 296-24-75011, Railings, toeboards and cover specifications.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40060, filed 9/14/04, effective 2/1/05.]

WAC 296-863-40065 Operate PITs using elevated work platforms safely.**You must:**

- Make sure the PIT operator:
 - Is attending the lift equipment when workers are on the platform.
 - Is in the normal operating position while raising or lowering the platform.

Note: A PIT is unattended when the operator:

- Is more than twenty-five feet away;

OR

- Cannot see the PIT.

You must:

- Make sure the operator does **not** move the PIT from one point to another while workers are on the platform.
 - The operator may inch or maneuver the PIT at very low speed with workers on the platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-40065, filed 9/14/04, effective 2/1/05.]

WAC 296-863-500 Hazardous (classified) locations.**Summary:****Your responsibility:**

To use PITs safely in hazardous (classified) locations.

You must:

Use the appropriate approved PITs in hazardous (classified) locations

WAC 296-863-50005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-500, filed 9/14/04, effective 2/1/05.]

(2009 Ed.)

WAC 296-863-50005 Use the appropriate PITs in hazardous (classified) locations.**You must:**

- Make sure PITS are used in hazardous (classified) locations as follows:
 - PITS authorized to be used in Class 1 locations are shown in Table 1, Approved PIT Use in Class 1 Locations.
 - PITS authorized to be used in Class 2 locations are shown in Table 2, Approved PIT Use in Class 2 Locations.
 - PITS authorized to be used in Class 3 locations are shown in Table 3, Approved PIT Use in Class 3 Locations.
- PITS authorized to be used in unclassified locations are:

– Approved PITS designated as Type D, E, G, or LP;

AND

– PITs that meet the requirements of a Type D, E, G, or LP PIT.

Definitions:

- An unclassified location is an area that is not designated as a Class 1, 2, or 3 location.
- Designations means a code used to show the different types of hazardous (classified) locations where PITs can be safely used:

- **D** refers to trucks that are diesel engine powered that have minimum safeguards against inherent fire hazards.

- **DS** refers to diesel powered trucks that, in addition to meeting all the requirements for type D trucks, are provided with additional safeguards to the exhaust, fuel and electrical systems.

- **DY** refers to diesel powered trucks that have all the safeguards of the DS trucks and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature limitation features.

- **E** refers to electrically powered trucks that have minimum acceptable safeguards against inherent fire hazards.

- **ES** refers to electrically powered trucks that, in addition to all of the requirements for the E trucks, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.

- **EE** refers to electrically powered trucks that have, in addition to all of the requirements for the E and ES type trucks, have their electric motors and all other electrical equipment completely enclosed.

- **EX** refers to electrically powered trucks that differ from E, ES, or EE type trucks in that the electrical fittings and equipment are designed, constructed and assembled to be used in atmospheres containing flammable vapors or dusts.

- **G** refers to gasoline powered trucks that have minimum acceptable safeguards against inherent fire hazards.

- **GS** refers to gasoline powered trucks that are provided with additional exhaust, fuel, and electrical systems safeguards.

- **LP** refers to liquefied petroleum gas-powered trucks that, in addition to meeting all the requirements for type G trucks, have minimum acceptable safeguards against inherent fire hazards.

- **LPS** refers to liquefied petroleum gas-powered trucks that in addition to meeting the requirements for LP type trucks, have additional exhaust, fuel, and electrical systems safeguards.

- Note:**
- Tables 1, 2, and 3 show the type of approved PITs that can be used in the appropriate divisions and groups.
 - PITs cannot be used in divisions and groups that do not have a PIT designation listed.

- Approved PITs will be marked or labeled with the designation of the PIT. See WAC 296-863-20010, Make sure PITs are properly labeled.

Table 1
Approved PIT Use in Class 1 Locations

Class 1							
Locations in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures.							
Division 1				Division 2			
Conditions exist continuously, intermittently, or periodically under normal operating conditions.				Conditions may occur accidentally, for example, due to a puncture of a storage drum.			
<u>Group A</u>	<u>Group B</u>	<u>Group C</u>	<u>Group D</u>	<u>Group A</u>	<u>Group B</u>	<u>Group C</u>	<u>Group D</u>
Acetylene	Hydrogen	Ethyl ether	Acetone Alcohols Benzene Gasoline Lacquer solvent	Acetylene	Hydrogen	Ethyl ether	Acetone Alcohols Benzene Gasoline Lacquer solvent
No PIT type can be used	No PIT type can be used	No PIT type can be used	Use this PIT type: EX	No PIT type can be used	No PIT type can be used	No PIT type can be used	Use this PIT type: DS DY ES EE EX GS LPS

Table 2
Approved PIT Use in Class 2 Locations

Class 2					
Locations which are hazardous because of the presence of combustible dust.					
Division 1			Division 2		
Explosive mixture may be present under normal operating conditions, or where failure of equipment may cause the condition to exist simultaneously with arcing or sparking of electrical equipment, or where dusts of an electrically conducting nature may be present.			Explosive mixture not normally present, but where deposits of dust may cause heat rise in electrical equipment, or where such deposits may be ignited by arcs or sparks from electrical equipment.		
<u>Group E</u>	<u>Group F</u>	<u>Group G</u>	<u>Group E</u>	<u>Group F</u>	<u>Group G</u>
Metal dust	Carbon black Coal dust Coke dust	Grain dust Flour dust Starch dust Organic dust	Metal dust	Carbon black Coal dust Coke dust	Grain dust Flour dust Starch dust Organic dust
No PIT type can be used	Use this PIT type: EX	Use this PIT type: EX	No PIT type can be used	Use this PIT type: EX DY EE	Use this PIT type: DS DY ES EE EX GS LPS

Table 3
Approved PIT Use in Class 3 Locations

Class 3 Locations where easily ignitable fibers or flyings are present but not likely to be in suspension in quantities sufficient to produce ignitable mixtures.	
Division 1	Division 2
Locations in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.	Locations in which easily ignitable fibers are stored or handled (except in the process of manufacture).
Use this PIT type: DY EE EX	Use this PIT type: DS DY E ES EE EX GS LPS

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-863-50005, filed 1/24/07, effective 4/1/07; 04-19-051, § 296-863-50005, filed 9/14/04, effective 2/1/05.]

WAC 296-863-600 Training.

Summary:

Your responsibility:

To make sure PIT operators are competent.

You must:

Operator training

Make sure PIT operators are trained

WAC 296-863-60005.

Retrain PIT operators as required

WAC 296-863-60010.

Evaluate PIT operators performance

WAC 296-863-60015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-600, filed 9/14/04, effective 2/1/05.]

WAC 296-863-60005 Make sure PIT operators are trained.

You must:

- Make sure employees successfully complete an operator training program before operating PITs. The only time a trainee can operate a PIT is:

- Under the direct supervision of a person who has the knowledge, training, and experience to train and evaluate operators;

AND

- When operating the PIT does not endanger the trainee or other employees.

- Make sure training is done by you or someone you designate that has the knowledge, training, and experience to:

- Conduct the training;

AND

- Evaluate trainee competence.

- Make sure your operator training program consists of:

- Formal instruction.

- Such as lecture and discussion, interactive computer learning, video tapes, and written material.

- Practical training.

- Such as demonstrations done by the trainer and practical exercises performed by trainees.

- Evaluation of trainee performance.

- Make sure the initial operator training program covers the subjects in Table 4, Required Training Topics.

Note: If an operator has previously received training specified in Table 4, Required Training Topics, additional training in that topic is not required if:

- The training was appropriate to the PIT and working conditions in your workplace;

AND

- The employee has passed a PIT performance evaluation within the last three years.

Table 4
Required Training Topics

Topics related to powered industrial truck	Topics related to your workplace
• Operating instructions,	• Surface conditions where the PIT will be operated
• Warnings and precautions for the types of PIT the operator will be authorized to operate	• Composition of loads to be carried and load stability
• Differences between the PIT and the automobile	• Load manipulation, stacking, and unstacking
• PIT controls and instrumentation: Where they are located, what they do, and how they work	• Pedestrian traffic in areas where the PIT will be operated
• Engine or motor operation	• Narrow aisles and other restricted places where the PIT will be operated
• Steering and maneuvering	• Use of door opening and closing devices
• Visibility (including restrictions due to loading)	• Hazardous (classified) locations where the PIT will be operated
• Fork and attachment adaptation, operation, and use limitations	• Ramps and other sloped surfaces that could affect the PITs stability
• PIT capacity	• Closed environments and other areas where insufficient ventilation or poor PIT maintenance could cause a buildup of carbon monoxide or diesel exhaust
• PIT stability	• Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation
• Any PIT inspection and maintenance that the operator will be required to perform	
• Refueling	
• Charging and recharging of batteries	
• Operating limitations	

Topics related to powered industrial truck	Topics related to your workplace
<ul style="list-style-type: none"> Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of PIT that the employee is being trained to operate 	

You must:

- Keep written records of operator training and evaluations that include the following information:
 - Name of the operator.
 - Date of the training.
 - Date of the evaluation.
 - Name of the person giving the training or evaluation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-60005, filed 9/14/04, effective 2/1/05.]

WAC 296-863-60010 Retrain PIT operators as required.**You must:**

- Provide PIT operators refresher training if **any** of the following occur:
 - The operator is involved in an accident or near-miss incident.
 - The operator is seen operating the PIT in an unsafe manner.
 - An evaluation shows the operator is not operating the PIT safely.
 - The operator is assigned to drive a different type or modified PIT.
 - Conditions in the workplace change that could affect safe operation of the PIT.

Note: Refresher training is required only in those topics where the operator has been found deficient.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-60010, filed 9/14/04, effective 2/1/05.]

WAC 296-863-60015 Evaluate PIT operators performance.**You must:**

- Evaluate PIT operators performance at each of these times:
 - As part of their initial training program.
 - After refresher training to determine the effectiveness of the training.
 - At least once every three years.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-19-051, § 296-863-60015, filed 9/14/04, effective 2/1/05.]

WAC 296-863-700 Definitions.

ANSI is an acronym for the American National Standards Institute.

Authorized person (maintenance) means a person who has been designated to perform maintenance on a PIT.

Authorized person (training) means a person approved or assigned by the employer to perform training for powered industrial truck operators.

[Title 296 WAC—p. 3108]

Approved means listed or approved by a nationally recognized testing laboratory or a federal agency that issues approvals for equipment such as the Mine Safety and Health Administration (MSHA); the National Institute for Occupational Safety and Health (NIOSH); Department of Transportation; or U.S. Coast Guard, which issue approvals for such equipment.

Bridge plate (dockboard) means a device used to span the distance between rail cars or highway vehicles and loading platforms.

Classified location or hazardous location means areas that could be hazardous because of explosive or flammable atmospheres. These locations are broken down into the following categories:

- Class I** locations are areas where flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.

- Class II** locations are areas where the presence of combustible dust could be sufficient to produce explosions.

- Class III** locations are areas where the presence of easily ignitable fibers are suspended in the air but are not in large enough quantities to produce ignitable mixtures.

Counterweight means a weight used to counteract or the load being carried by the truck, or to increase the load carrying capacity of a truck.

Designations means a code used to show the different types of hazardous (classified) locations where PITs can be safely used:

- D** refers to trucks that are diesel engine powered that have minimum safeguards against inherent fire hazards.

- DS** refers to diesel powered trucks that, in addition to meeting all the requirements for type D trucks, are provided with additional safeguards to the exhaust, fuel and electrical systems.

- DY** refers to diesel powered trucks that have all the safeguards of the DS trucks and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature limitation features.

- E** refers to electrically powered trucks that have minimum acceptable safeguards against inherent fire hazards.

- ES** refers to electrically powered trucks that, in addition to all of the requirements for the E trucks, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.

- EE** refers to electrically powered trucks that have, in addition to all of the requirements for the E and ES type trucks, have their electric motors and all other electrical equipment completely enclosed.

- EX** refers to electrically powered trucks that differ from E, ES, or EE type trucks in that the electrical fittings and equipment are designed, constructed and assembled to be used in atmospheres containing flammable vapors or dusts.

- G** refers to gasoline powered trucks that have minimum acceptable safeguards against inherent fire hazards.

- GS** refers to gasoline powered trucks that are provided with additional exhaust, fuel, and electrical systems safeguards.

- LP** refers to liquefied petroleum gas-powered trucks that, in addition to meeting all the requirements for type G trucks, have minimum acceptable safeguards against inherent fire hazards.

• **LPS** refers to liquefied petroleum gas powered trucks that in addition to meeting the requirements for LP type trucks, have additional exhaust, fuel, and electrical systems safeguards.

Electrolyte means a chemical, usually acid, that is mixed with water to produce electricity.

Flammable liquid means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99% or more of the total volume of the mixture.

Flashpoint means the minimum temperature at which a liquid gives off enough vapor to ignite.

Front-end attachment means a device that is attached to the forks or lifting device of the truck.

Lanyard means a flexible line of webbing, rope, or cable used to secure a harness to an anchor point.

Listed by report means a report listing the field assembly, installation procedures, or both, for a UL listed product that does not have generally recognized installation requirements.

Liquefied petroleum gas means any gas that is composed predominantly of the following hydrocarbons, or mixtures of them; propane, propylene, butanes (normal butane or iso-butane), and butylenes.

Load engaging means a device attached to a powered industrial truck and used to manipulate or carry a load.

Motorized hand truck means a powered truck with wheeled forks designed to go under or between pallets and is controlled by a walking or riding operator.

Nationally recognized testing laboratory means an organization recognized by the Occupational Safety and Health Administration that conducts safety tests on equipment and materials.

Order picker means a truck controlled by an operator who is stationed on a platform that moves with the load engaging means.

Powered industrial truck (PIT) means a mobile, power-driven vehicle used to carry, push, pull, lift, stack, or tier material.

Rough terrain forklift truck means a truck intended to be used on unimproved natural terrain and at construction sites.

Safety harness (full body harness) means a configuration of connected straps to distribute a fall arresting force over at least the thighs, shoulders and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration devices.

Tie-off point (anchorage) means a secure point to attach a lanyard that meets the requirements of WAC 296-24-87035, Appendix—C Personal fall arrest systems.

Vertical load backrest extension means a device that extends vertically from the fork carriage frame.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-863-700, filed 1/24/07, effective 4/1/07; 04-19-051, § 296-863-700, filed 9/14/04, effective 2/1/05.]

(2009 Ed.)

Chapter 296-864 WAC

SPLIT (MULTIPIECE) RIM AND SINGLE-PIECE RIM WHEELS

WAC

296-864-100	Scope.
296-864-200	Wheel components.
296-864-20005	Make sure wheel components are compatible.
296-864-20010	Make sure rim wheels are serviced safely.
296-864-20015	Make sure damaged wheel components are not used.

SPLIT (MULTIPIECE) RIM AND SINGLE-PIECE RIM WHEELS

296-864-300	Restraint devices.
296-864-30005	Use a restraining device.
296-864-30010	Make sure the restraint device meets these requirements.
296-864-30015	Provide charts or rim manuals.
296-864-400	Service split rim wheels safely.
296-864-40005	Establish a safe operating procedure for split rim wheels.
296-864-40010	Follow these procedures for demounting split rim wheels.
296-864-40015	Follow these procedures when working on split rim wheels and components.
296-864-40020	Follow these procedures for inflating split rim wheels.
296-864-500	Service single-piece rim wheels safely.
296-864-50005	Establish a safe operating procedure for single-piece rim wheels.
296-864-50010	Follow these procedures for demounting single-piece rim wheels.
296-864-50015	Follow these procedures when working on single-piece rim wheels and components.
296-864-50020	Follow these procedures for inflating single-piece rim wheels.
296-864-600	Employee training.
296-864-60005	Train employees who service rim wheels.
296-864-60010	Make sure employees demonstrate and retain the ability to service rim wheels safely.
296-864-700	Definitions.

WAC 296-864-100 Scope.

Note: This rule is intended to protect employees from hazards associated with the exploding separation of rim wheel components.

This chapter applies to the protection of employees who service split rim wheels and single-piece rim wheels used on large vehicles. For example:

- Trucks;
- Tractors;
- Trailers;
- Buses;

AND

- Off-road machines.

Exemption: This chapter does not apply to the servicing of rim wheels used on:

- Automobiles;

OR

- Tires designated as light truck (LT).

Note: The tire designation can be found on the sidewall of the tire.

Definition:

Split rim wheel or multipiece rim wheel, means a wheel made up of two or more parts. One of the parts is a side ring or locking ring that holds the tire on the wheel when the tire is inflated.

Single-piece rim wheel means a single part holds the tire, forms part of the air chamber and is the point where the wheel is attached to the vehicle axle.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 04-20-079, § 296-864-100, filed 10/5/04, effective 2/1/05.]

WAC 296-864-200 Wheel components.

Summary:

Your responsibility:

To make sure rim wheels are serviced safely.

You must:

Make sure wheel components are compatible

WAC 296-864-20005.

Make sure rim wheels are serviced safely

WAC 296-864-20010.

Make sure damaged wheel components are not used

WAC 296-864-20015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-200, filed 10/5/04, effective 2/1/05.]

WAC 296-864-20005 Make sure wheel components are compatible.

You must:

- Make sure tires and rim wheels are compatible before assembly.

- Make sure split rim wheel components are not interchanged, except as provided in:

- The Occupational Safety and Health Administration (OSHA) and National Highway Traffic Safety Administration (NHTSA) charts, "*Demounting and Mounting Procedures for Truck/Bus Tires*" and "*Multi-Piece Rim Matching Chart*,"

OR

- The rim manual for that component.

Note: Reprints of these charts, "*Demounting and Mounting Procedures for Truck/Bus Tires*" and "*Multi-Piece Rim Matching Chart*," are available:

- Through the WISHA Training and Outreach office at 360-902-5638.

- Through the OSHA area offices. The address and telephone number of the nearest OSHA area office can be obtained by looking in the local telephone directory under U.S. Government, U.S. Department of Labor, Occupational Safety and Health Administration.

- From the OSHA web site at <http://www.osha.gov/pls/publications/pubindex.continue>.

- Through U.S. Postal Service at:

Publications Office
U.S. Department of Labor
Room N3101
Washington D.C. 20210.
Telephone: 202-523-9667.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-20005, filed 10/5/04, effective 2/1/05.]

WAC 296-864-20010 Make sure rim wheels are serviced safely.

You must:

- Inspect split rim wheel components and single-piece wheels prior to assembly.

- Make sure the following are free of any dirt, surface rust, scale or loose or flaked rubber build-up prior to mounting and inflation:

- Rim flanges;

- Rim gutters;

- Rings;

- Bead seating surfaces;

AND

- The bead areas of tires.

- Make sure you do not heat any rim wheels at any time.

- Make sure you do not repair any rim wheel that is:

- Cracked;

- Broken;

- Bent;

OR

- Damaged.

[Title 296 WAC—p. 3110]

Note: Repair includes activities such as striking with a hammer and heating rim wheel components.

- Provide and make sure that an air line assembly consisting of the following components is used for inflating tires:

- A clip-on chuck;

- An in-line valve with a pressure gauge or a presettable regulator;

AND

- A sufficient length of hose between the clip-on chuck and the in-line valve, if one is used, to allow the employee to stand outside the trajectory.

Reference: For additional requirements relating to compressed air tools, see WAC 296-807-140, Compressed air tools, in portable power tools.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-20010, filed 10/5/04, effective 2/1/05.]

WAC 296-864-20015 Make sure damaged wheel components are not used.

You must:

- Make sure any wheel or wheel component that is bent out of shape, pitted from corrosion, broken or cracked is:

- Not used;

- Marked or tagged unserviceable;

AND

- Removed from the service area.

- Replace damaged or leaky valves.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-20015, filed 10/5/04, effective 2/1/05.]

SPLIT (MULTIPIECE) RIM AND SINGLE-PIECE RIM WHEELS

WAC 296-864-300 Restraint devices.

Your responsibility:

To make sure your restraint devices are safe.

You must:

Use a restraining device

WAC 296-864-30005.

Make sure the restraint device meets these requirements

WAC 296-864-30010.

Provide charts or rim manuals

WAC 296-864-30015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-300, filed 10/5/04, effective 2/1/05.]

WAC 296-864-30005 Use a restraining device.

You must:

- Use a restraining device for inflating tires on split rim wheels.

- Use a restraining device or barrier for inflating tires on single-piece wheels.

Exemption: A restraining device or barrier is not required for single-piece rim wheels, if the rim wheel will be bolted onto a vehicle during inflation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-30005, filed 10/5/04, effective 2/1/05.]

WAC 296-864-30010 Make sure the restraint device meets these requirements.

You must:

- Make sure the restraining device or barrier can withstand a rim wheel separation that occurs at one hundred fifty percent of the maximum tire pressure specified.
 - Make sure the restraining devices and barriers will contain any components that may be thrown out during a wheel separation of any rim wheel.
 - Make sure restraining devices and barriers are visually inspected:
 - Prior to each day's use;
- AND**
- After any separation of the rim wheel components or sudden release of air.
 - Make sure any restraining device or barrier that shows damage is immediately removed from service. Examples of damage include:
 - Cracks at welds;
 - Cracked or broken components;
 - Bent or sprung components caused by mishandling, abuse, tire explosion or rim wheel separation;
 - Pitting of components due to corrosion;
- OR**
- Other structural damage that would decrease its effectiveness.
 - Make sure restraining devices or barriers removed from service are not used until they are repaired and reinspected.
 - Make sure restraining devices or barriers that need structural repair are not used until they are certified by either:
 - The manufacturer;
- OR**
- A registered professional engineer.

Note: The certification needs to show that the barrier can withstand a force of one hundred fifty percent of the maximum tire pressure in the event of wheel separation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-30010, filed 10/5/04, effective 2/1/05.]

WAC 296-864-30015 Provide charts or rim manuals.

You must:

- Provide current charts or rim manuals containing instructions for the types of wheels being serviced in the service area.
- Provide and use only tools recommended in the rim manual for the specific type of rim wheel being serviced.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-30015, filed 10/5/04, effective 2/1/05.]

WAC 296-864-400 Service split rim wheels safely.

Your responsibility:

To establish and use procedures to service split rim wheels safely.

You must:

- Establish a safe operating procedure for split rim wheels WAC 296-864-40005.
- Follow these procedures for demounting split rim wheels WAC 296-864-40010.
- Follow these procedures when working on split rim wheels and components WAC 296-864-40015.

(2009 Ed.)

Follow these procedures for inflating split rim wheels WAC 296-864-40020.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-400, filed 10/5/04, effective 2/1/05.]

WAC 296-864-40005 Establish a safe operating procedure for split rim wheels.

You must:

- Establish a safe operating procedure for servicing split rim wheels that includes the procedures in WAC 296-864-40010 through 296-864-40020.
- Instruct employees in that procedure.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-40005, filed 10/5/04, effective 2/1/05.]

WAC 296-864-40010 Follow these procedures for demounting split rim wheels.

You must:

- Follow the relevant procedures in Table 1, Procedures for Deflating Split Rim Wheels.

**Table 1
Procedures for Demounting Split Rim Wheels**

During these times	Then
Demounting rim wheels.	Make sure tires are completely deflated before demounting by removal of the valve core.
During either of the following situations: <ul style="list-style-type: none"> – The tire has been driven underinflated at eighty percent or less of its recommended pressure; 	Deflate the tires completely by removing the valve core, before a rim wheel is removed from the axle.
<p>OR</p> <ul style="list-style-type: none"> – There is obvious or suspected damage to the tire or wheel components. 	

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-40010, filed 10/5/04, effective 2/1/05.]

WAC 296-864-40015 Follow these procedures when working on split rim wheels and components.

You must:

- Follow the relevant procedures in Table 2, Procedures for Working on Split Rim Wheels and Components.

**Table 2
Procedures for Working on Split Rim Wheels and Components**

During these times	Then
A split rim wheel is in a restraining device.	Make sure employees do not rest or lean any part of the body or equipment on or against the restraining device.

[Title 296 WAC—p. 3111]

Table 2
Procedures for Working on Split Rim Wheels and Components

During these times	Then
Assembly of the wheel and inflation of the tire.	Apply rubber lubricant to bead and rim mating surfaces, unless the tire or wheel manufacturer recommends against it.
After tire inflation.	Do both of the following: Inspect the tire and wheel components while still within the restraining device; AND Make sure that they are properly seated and locked.
When adjusting the tire or wheel components.	Deflate the tire by removal of the valve core before the adjustment is made.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-40015, filed 10/5/04, effective 2/1/05.]

WAC 296-864-40020 Follow these procedures for inflating split rim wheels.

You must:

- Follow the relevant procedures in Table 3, Procedures for Inflating Split Rim Wheels.

Table 3
Procedures for Inflating Split Rim Wheels

During these times	Then
Split rim wheels are being inflated.	Make sure employees stay out of the trajectory.
When all of the following occur: A tire on a vehicle has more than eighty percent of the recommended pressure; AND Remote control inflation equipment is used; AND No employees are in the trajectory during inflation.	The tire may be inflated while the rim wheel is on the vehicle.
Assembly of the wheel and inflation of the tire.	Apply rubber lubricant to bead and rim mating surfaces, unless the tire or wheel manufacturer recommends against it.
Inflating tires outside of a restraining device.	Make sure you do not exceed 5 psi (pounds per square inch) to seat the bead.
The tire is pressurized.	Make sure you don't correct the seating of side and lock rings by hammering, striking or forcing the components.

- Note:**
- Employees should stay out of the trajectory as much as possible while installing the split rim wheel onto the vehicle.
 - The trajectory may deviate from its expected path.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-40020, filed 10/5/04, effective 2/1/05.]

WAC 296-864-500 Service single-piece rim wheels safely.

Your responsibility:

To establish and use procedures to service single-piece rim wheels safely.

You must:

Establish a safe operating procedure for single-piece rim wheels

WAC 296-864-50005.

Follow these procedures for demounting single-piece rim wheels

WAC 296-864-50010.

Follow these procedures when working on single-piece rim wheel components

WAC 296-864-50015.

Follow these procedures for inflating single-piece rim wheels

WAC 296-864-50020.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-500, filed 10/5/04, effective 2/1/05.]

WAC 296-864-50005 Establish a safe operating procedure for single-piece rim wheels.

You must:

- Establish a safe operating procedure for servicing single-piece rim wheels that includes the procedures in WAC 296-864-50010 through 296-864-50020.
- Instruct employees in that procedure.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-50005, filed 10/5/04, effective 2/1/05.]

WAC 296-864-50010 Follow these procedures for demounting single-piece rim wheels.

You must:

- Follow the relevant procedures in Table 4, Procedures for Demounting Single-Piece Wheel Components.

Table 4
Procedures for Demounting Single-Piece Rim Wheels

During these times	Then
At all times.	Make sure mounting and demounting of the tire is done only from the narrow ledge side of the wheel.
When demounting rim wheels.	Make sure tires are completely deflated before demounting by removal of the valve core.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-50010, filed 10/5/04, effective 2/1/05.]

WAC 296-864-50015 Follow these procedures when working on single-piece rim wheels and components.

You must:

- Follow the relevant procedures in Table 5, Procedures for Working on Single-Piece Wheel Components.

**Table 5
Procedures for Working on Single-Piece Rim Wheel Components**

During these times	Then
At all times.	Avoid damaging the tire beads while mounting tires on wheels.
At all times.	Make sure tires are mounted only on compatible wheels of matching bead diameter and width.
Before assembly of the rim wheel.	Apply rubber lubricant to bead and wheel mating surfaces, unless the tire or wheel manufacturer recommends against the use of any rubber lubricant.
When using a tire changing machine.	Make sure the tire is inflated only to the minimum pressure necessary to force the tire bead onto the rim ledge while on the tire changing machine.
When using a bead expander.	Make sure it is removed: – Before the valve core is installed; AND – As soon as the rim wheel becomes airtight (the tire bead slips onto the bead seat).

Note: You should not inflate tires above 40 psi to seat the bead.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-50015, filed 10/5/04, effective 2/1/05.]

WAC 296-864-50020 Follow these procedures for inflating single-piece rim wheels.

You must:

- Inflate tires only when contained within a restraining device or bolted on the vehicle with the lug nuts fully tightened.
- Make sure tires are not inflated when any flat, solid surface is in the trajectory and within one foot of the sidewall.
- Make sure employees stay out of the trajectory when inflating a tire.
- Make sure, when inflating tires, that the inflation pressure stamped in the sidewall isn't exceeded unless the manufacturer recommends a higher pressure.
- Make sure tires aren't inflated above the maximum pressure recommended by the manufacturer to seat the tire bead firmly against the rim flange.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-50020, filed 10/5/04, effective 2/1/05.]

(2009 Ed.)

WAC 296-864-600 Employee training.

Your responsibility:

To train employees to service split rim and single-piece rim wheels.

You must:

Train employees who service rim wheels
WAC 296-864-60005.

Make sure employees demonstrate and retain the ability to service rim wheels safely

WAC 296-864-60010.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-600, filed 10/5/04, effective 2/1/05.]

WAC 296-864-60005 Train employees who service rim wheels.

You must:

- Train all employees who service rim wheels.
- Make sure that employees do not service any rim wheel until they have been trained and instructed in:
 - Correct procedures of servicing the type of wheel being worked on;

AND

– The safe operating procedures described in:

- WAC 296-864-400, Service split rim wheels safely;

AND

■ WAC 296-864-500, Service single-piece rim wheels safely.

- Make sure the training program explains the hazards involved in servicing those rim wheels and the safety procedures to be followed.

- Make sure the training program includes, at a minimum, the applicable data from the:

- Charts;
- Rim manuals;

AND

- Contents of this standard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-60005, filed 10/5/04, effective 2/1/05.]

WAC 296-864-60010 Make sure employees demonstrate and retain the ability to service rim wheels safely.

You must:

- Make sure that each employee demonstrates the ability to service rim wheels safely, including performing the following tasks for the specified type of rim wheel in Table 6.

**Table 6
Required Training Tasks**

Required Task	Split Rim	Single-Piece Rim
Demounting and deflation of tires.	X	X
Inspection and identification of the rim wheel components.	X	X
Hazards of mixing 16" and 16.5" tires and rims.		X
Mounting of tires.	X	X
Inflation of tires with a restraining device or other safeguard required by this section.	X	X

[Title 296 WAC—p. 3113]

**Table 6
Required Training Tasks**

Required Task	Split Rim	Single-Piece Rim
Use of the restraining device or barrier, and other equipment required by this section.	X	X
Handling of rim wheels.	X	X
Inflation of the tire when a rim wheel is mounted on a vehicle.		X
The hazards associated with standing in front of a split rim or single-piece rim wheel: – During inflation of the tire; – During inspection of the rim wheel following inflation; AND – Installation and removal of rim wheels.	X	X

You must:

- Make sure any employee that is unable to read the charts or rim manual is effectively trained on their contents.
- Evaluate each employee's ability to perform these tasks and to service rim wheels safely.
- Provide additional training as necessary to make sure that each employee maintains his or her proficiency.

Helpful tool:

Training checklist

The optional training checklist can help you monitor the training status of your employees. You can find this checklist in the resources section of this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-60010, filed 10/5/04, effective 2/1/05.]

WAC 296-864-700 Definitions.

Barrier means a fence, wall or other object placed between a single-piece rim wheel and an employee during tire inflation that will contain the components if the air in the tire is suddenly released.

Charts means:

- The United States Department of Labor, Occupational Safety and Health Administration publications entitled "*Demounting and Mounting Procedures for Truck/Bus Tires*" and "*Multi-Piece Rim Matching Chart*";
- The National Highway Traffic Safety Administration (NHTSA) publications entitled "*Demounting and Mounting Procedures for Truck/Bus Tires*" and "*Multi-Piece Rim Matching Chart*";

OR

- Any other poster that contains at least the same instructions, safety precautions and other information contained in the charts applicable to the types of wheels being serviced.

Demounting means deflating and taking apart a tire and rim wheel.

Installing a rim wheel means the transfer and attachment of an assembled rim wheel onto a vehicle axle hub.

Mounting a tire means the putting together of the wheel and tire components to form a rim wheel, including inflation.

Restraining device is a cage or rack that will hold all rim wheel components during an explosive separation of a

multi-piece rim wheel or during the sudden release of air in a single-piece rim wheel.

Rim manual is a publication containing instructions from the manufacturer or other qualified organization for correct mounting, demounting, maintenance, and safety precautions for the type of wheel being serviced.

Service or servicing means the mounting and demounting of rim wheels, and related activities such as inflating, deflating, installing, removing, and handling.

Service area means any place where an employee services rim wheels.

Single-piece rim wheel means a single part holds the tire, forms part of the air chamber and is the point where the wheel is attached to the vehicle axle.

Split rim wheel or multi-piece rim wheel means a wheel made up of two or more parts. One of the parts is a side ring or locking ring that holds the tire on the wheel when the tire is inflated.

Trajectory means the path that a rim wheel component may travel during an explosive separation or the sudden release of air.

Wheel means that portion of a rim wheel that attaches to the axle of a vehicle and also contains the inflated tire or tire and tube.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 04-20-079, § 296-864-700, filed 10/5/04, effective 2/1/05.]

**Chapter 296-865 WAC
MOTOR VEHICLES**

WAC

296-865-100	Scope.
296-865-200	All motor vehicles.
296-865-20005	Motor vehicle operation.
296-865-20010	Transportation of passengers.
296-865-20015	Motor vehicle equipment.
296-865-300	Trucks and trailers.
296-865-30005	Truck operation.
296-865-30010	Dump trucks.
296-865-30015	Semitruck brakes.
296-865-30020	Truck and trailer loads.
296-865-400	Definitions.

WAC 296-865-100 Scope. This chapter applies to all motor vehicles and semitrucks used on public or private roadways.

Definition:

Motor vehicle means any vehicle, machine, tractor, trailer, or any combination of these that is driven by mechanical power and used on the roadways in the transportation of people or materials.

This section does not apply to:

- Powered industrial trucks (forklifts) covered by another chapter, Powered industrial trucks, chapter 296-863 WAC;
- Construction equipment covered by another chapter, Safety standards for construction work, chapter 296-155 WAC;
- Logging trucks covered by another chapter, Logging operations, chapter 296-54 WAC;

AND

- Agricultural equipment covered by another chapter, Safety standards for agriculture, chapter 296-307 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-100, filed 8/10/05, effective 10/1/05.]

WAC 296-865-200 All motor vehicles.

Your responsibility:

To make sure all motor vehicle occupants are safe and equipment is safe to use.

Motor vehicle operation

WAC 296-865-20005.

Transportation of passengers

WAC 296-865-20010.

Motor vehicle equipment

WAC 296-865-20015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-200, filed 8/10/05, effective 10/1/05.]

WAC 296-865-20005 Motor vehicle operation.

You must:

- Allow only drivers who are qualified to operate a motor vehicle.
- Allow only drivers who have a current motor vehicle operator's license to operate motor vehicles on public roadways.
- Make sure employees follow any site-specific rules and posted speed limits when operating motor vehicles on roadways privately owned and maintained.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-20005, filed 8/10/05, effective 10/1/05.]

WAC 296-865-20010 Transportation of passengers.

You must:

- Transport all passengers safely.
- Make sure all employees use seat belts, if the vehicle is equipped with seat belts.

Exemption: This does not apply to emergency medical workers during the treatment of a patient in an ambulance.

You must:

- Make sure vehicles used to transport employees are, at all times:
 - Well equipped;
 - Covered against the weather;
- AND**
- Maintained in good mechanical condition.
- Make sure when transporting sharp tools that could present a hazard to employees in the vehicle that you provide compartments or (cargo) screens strong enough to retain the tools.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-20010, filed 8/10/05, effective 10/1/05.]

WAC 296-865-20015 Motor vehicle equipment.

You must:

- Make sure all equipment operated on public roadways meets all of the state of Washington motor vehicle laws.
- Make sure all parts and accessories are safe to use.
- Make sure all motor vehicle equipment meets the specification or requirements in Table 1.

(2009 Ed.)

**Table 1
Motor Vehicle Equipment**

If you have this type of equipment:	Then make sure the equipment is:
Seats	Properly secured; AND Available for every employee in the vehicle.
Tires	Safe to use.
Exhaust systems	Designed to eliminate the exposure of exhaust gases and fumes; AND Installed and maintained in proper condition.
Fire extinguishers	Provided when the vehicle is: – At least 26,000 pounds (manufacturer's gross weight); AND – Only used in the state of Washington.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-20015, filed 8/10/05, effective 10/1/05.]

WAC 296-865-300 Trucks and trailers.

Your responsibility:

To make sure all trucks and trailers are operated and maintained safely.

Truck operation

WAC 296-865-30005.

Dump trucks

WAC 296-865-30010.

Semitruck brakes

WAC 296-865-30015.

Truck and trailer loads

WAC 296-865-30020.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-300, filed 8/10/05, effective 10/1/05.]

WAC 296-865-30005 Truck operation.

You must:

- Make sure truck drivers operate equipment at a safe speed at all times for roadway conditions.
- Make sure truck drivers either:
 - Sound their horn before starting to back and intermittently during the entire backing operation;

OR

– Have a working automatic reverse signal alarm that is audible:

■ Above the surrounding noise level;

AND

■ No less than fifteen feet from the rear of the vehicle.

- Make sure, during the backing of trucks where vision is obstructed, a signal person is stationed at a point giving a clear view of the rear of the truck and the operator of the truck at all times.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-30005, filed 8/10/05, effective 10/1/05.]

WAC 296-865-30010 Dump trucks.

You must:

- Make sure dump trucks have a device installed on the frame that will hold the bed in the raised position when employees are working underneath.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-30010, filed 8/10/05, effective 10/1/05.]

WAC 296-865-30015 Semitruck brakes.

You must:

- Make sure semitrucks are equipped with brakes that will safely hold the maximum load on maximum grades.

Note: Trailers may use air brakes or other types of brake equipment approved by the Washington state patrol.

You must:

- Test brakes before descending a steep grade.
- Follow the requirements in Table 2, Truck Braking Requirements.

**Table 2
Semitruck Braking Requirements**

When	You must
You park a truck on an incline	– Turn the wheels into the curb; AND – Have at least one "driver" wheel chocked on each side, independent of the braking system.
Using air brakes	Cut air into the trailer brake system at the time the trailer is attached to the truck.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-30015, filed 8/10/05, effective 10/1/05.]

WAC 296-865-30020 Truck and trailer loads.

You must:

- Make sure all loads transported on trucks or trailers are:
 - Properly secured and distributed;

AND

- Limited to a safe operating load for the:

■ Condition of the roadway;

AND

■ Capacity of the bridges, trestles, and other structures.

Note: The commercial motor vehicles unit of the Washington state patrol determines how much weight can be carried on a vehicle by factoring manufacture limitations, number of axles, and other variables. For more information:

- See RCW 46.44.041, Maximum gross weights—Wheel-base and axle factors; or
- Contact the commercial motor vehicles unit of the Washington state patrol at Trucks@wsp.wa.gov.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-30020, filed 8/10/05, effective 10/1/05.]

WAC 296-865-400 Definitions. Motor vehicle means any vehicle, machine, tractor, trailer, or any combination of these that is driven by mechanical power and used on the roadways in the transportation of people or materials.

Semitruck means a truck and trailer combination designed and used primarily for carrying material and property.

Trailer means a nonmotorized vehicle designed to be towed by a motor vehicle.

Truck means any motor vehicle designed, used, or maintained primarily for the transportation of property.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-17-059, § 296-865-400, filed 8/10/05, effective 10/1/05.]

**Chapter 296-869 WAC
ELEVATING WORK PLATFORMS**

WAC

296-869-100	Scope.
296-869-200	Section contents.
296-869-20005	Design and construction.
296-869-20010	Modifications.
296-869-20015	Owned, rented, or leased aerial lifts.
296-869-20020	Operator requirements.
296-869-20025	Operator training.
296-869-20030	Operator prestart inspection.
296-869-20035	Workplace survey.
296-869-20040	Before and during use.
296-869-20045	Working from the platform.
296-869-20050	Moving the aerial lift.
296-869-20055	Aerial ladders.
296-869-300	Section contents.
296-869-30005	Manually propelled elevating work platforms.
296-869-30010	Self-propelled elevating work platforms.
296-869-30015	Boom-supported elevating work platforms.
296-869-30020	Modifications.
296-869-400	Section contents.
296-869-40005	Condition.
296-869-40010	Inspections.
296-869-40015	Repairs and adjustments.
296-869-40020	Manufacturer's safety bulletins.
296-869-40025	Inspection and repair records.
296-869-40030	Fueling and battery charging.
296-869-500	Section contents.
296-869-50005	Operator authorization and training.
296-869-50010	Specific model training.
296-869-50015	Operator training records.
296-869-600	Section contents.
296-869-60005	Intended use.
296-869-60010	Workplace survey.
296-869-60015	Hazardous locations.
296-869-60020	Set up.
296-869-60025	Travel speed.
296-869-60030	Driving.
296-869-60035	Elevating and lowering the platform.
296-869-60040	Working from the platform.
296-869-60045	Malfunctions or unsafe conditions.
296-869-700	Definitions.

WAC 296-869-100 Scope. This chapter applies to the following types of elevating work platforms:

- Aerial lifts
- Manually propelled elevating work platforms that have a platform that cannot be positioned completely beyond the base
- Self-propelled elevating work platforms that have a platform that cannot be positioned completely beyond the base
- Boom-supported elevating work platforms that have a boom-supported platform that can be positioned completely beyond the base

Exemption: This chapter does not apply to elevating work platforms used:

- By the fire services for fire combat that are covered by Safety standards for fire fighters, chapter 296-305 WAC;

OR

- For agriculture activities covered by Safety standards for agriculture, chapter 296-307 WAC

Definitions:

- Aerial lift:
 - An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.
- Aerial device:
 - A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.
- Elevating work platform:
 - A device used to position personnel, along with their necessary tools and materials, at work locations. It includes a platform and an elevating assembly and may be either:
 - Vehicle mounted;
 - OR**
 - Have an integral chassis providing mobility and a means of support
- Platform:
 - The portion of an elevating work platform intended to be occupied by personnel. It may also be called a basket, bucket, stand, or similar term.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-100, filed 9/19/06, effective 1/1/07.]

WAC 296-869-200 Section contents.**IMPORTANT:**

This section applies to the following types of vehicle-mounted aerial devices:

- Extensible-boom work platforms
- Articulating-boom work platforms
- Vertical towers
- Aerial ladders
- A combination of any of the above types of elevating work platforms

Your responsibility:

To meet these requirements when using aerial lifts.

WAC 296-869-20005

Design and construction

WAC 296-869-20010

Modifications

WAC 296-869-20015

Owned, rented, or leased aerial lifts

WAC 296-869-20020

Operator requirements

WAC 296-869-20025

Operator training

WAC 296-869-20030

Operator prestart inspection

WAC 296-869-20035

Workplace survey

WAC 296-869-20040

Before and during use

WAC 296-869-20045

Working from the platform

WAC 296-869-20050

Moving the aerial lift

WAC 296-869-20055

Aerial ladders

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-200, filed 9/19/06, effective 1/1/07.]

(2009 Ed.)

WAC 296-869-20005 Design and construction.**You must:**

- Make sure aerial lifts manufactured on or after July 1, 2006, meet the design and construction requirements of ANSI A92.2-2001, American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices.
- Make sure aerial lifts manufactured before July 1, 2006, meet the design and construction requirements of ANSI A92.2-1969, American National Standard for Vehicle-Mounted Elevating and Rotating Work Platforms.

Definition:

- Aerial lift:
 - An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.
- Aerial device:
 - A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20005, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20010 Modifications.**You must:**

- Have written approval from the manufacturer before making any modification or addition that affects the safe operation, stability, intended use, or the mechanical, hydraulic, or electrical integrity of the aerial lift. Make sure the modified aerial lift is:
 - At least as safe as it was before being modified;

AND

- Any change to the insulated portion of the aerial lift does not reduce the insulating value

Note: If the original manufacturer is no longer in business, an equivalent entity such as a nationally recognized testing laboratory may approve modification.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20010, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20015 Owned, rented, or leased aerial lifts.**IMPORTANT:**

This section applies if you own, rent, or lease an aerial lift.

You must:

- Meet the requirements of the Responsibilities of Owners, section 8, of ANSI A92.2-2001, American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices, if you own an aerial lift.
- Meet the requirements of the Responsibilities of Renters, Lessors or Lessees, section 11, of ANSI A92.2-2001, American National Standard for Vehicle-Mounted Elevating and Rotating Aerial Devices, if you rent or lease an aerial lift.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20015, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20020 Operator requirements.**You must:**

- Permit only trained and authorized personnel to operate aerial lifts.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20020, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20025 Operator training.

You must:

- Make sure personnel are trained before they are permitted to operate an aerial lift. Cover at least the following items:
 - General instruction on the inspection, application, and operation of aerial lifts
 - Include recognizing and avoiding hazards associated with their operation
 - Purpose and use of manuals
 - Include proper storage of the manuals on the vehicle when not in use
 - Prestart inspection
 - Responsibilities associated with problems or malfunctions affecting the operation of the aerial lift
 - Factors affecting stability
 - Purpose of placards and decals
 - Workplace survey
 - Safety rules and regulations pertinent to the industry
 - Authorization to operate an aerial lift
 - Operator warnings and instructions
 - Proper use of personal fall protection equipment
 - Have operator trainees actually operate the aerial lift, under the direction of a qualified person, for enough time to demonstrate proficiency.
 - Retrain an operator if evaluation and observation of the operator indicates retraining is necessary.
 - Instruct operators in all of the following before they are directed to operate an aerial lift with which they are not familiar:
 - Location of the manuals.
 - Purpose and function of all controls.
 - Safety devices and operating characteristics specific to the aerial lift

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20025, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20030 Operator prestart inspection.

You must:

- Make sure the operator does a prestart inspection of the aerial device as shown in Table 1, Operator Prestart Inspection.
- Have a qualified person examine or test any items found during the inspection that are thought to be unsafe to determine if they constitute a safety hazard.
- Replace or repair all unsafe items before use.

**Table 1
Operator Prestart Inspection**

Component or system:	Test or inspect for the following:
Operating controls and associated mechanisms	Conditions interfering with proper operation
Visual and audible safety devices	Malfunctions
Hydraulic or pneumatic systems	Visible deterioration or excessive leaks
Fiberglass and other insulating components	Visible damage or contamination
Operational and instructional markings	That they are present and legible

[Title 296 WAC—p. 3118]

Component or system:	Test or inspect for the following:
Electrical systems of or related to the aerial device	Malfunction and for signs of excessive deterioration, dirt, and moisture accumulation
Locking devices, bolts, pins, and other fasteners	That they are in-place and not loose or deformed

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20030, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20035 Workplace survey.

You must:

- Have the operator survey the area, before using an aerial lift, for hazards such as:
 - Untamped earth fills
 - Ditches
 - Drop-offs and floor obstructions
 - Debris
 - Overhead obstructions and electrical conductors
 - Weather conditions
 - Unauthorized persons in the area

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20035, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20040 Before and during use.

You must:

- Set the brakes and make sure outriggers, when used, are positioned on pads or a solid surface.
- Install wheel chocks when using the aerial lift on an incline if they can be installed safely.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20040, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20045 Working from the platform.

You must:

- Make sure boom and platform load limits specified by the manufacturer are not exceeded.
- Make sure persons stand firmly on the floor of the platform and do not:
 - Sit or climb on the edge of the platform;
 - OR**
 - Use guardrails, planks, ladders, or any other device to gain additional height or reach
- Prohibit wearing climbers when working from the platform.
- Make sure all persons on the platform wear a full body harness with a lanyard attached to either:
 - The manufacturer's recommended attachment point;
 - OR**
 - The boom or platform if the manufacturer does not specify an attachment point
- Never attach a lanyard to an adjacent pole, structure, or equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20045, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20050 Moving the aerial lift.

You must:

- Make sure the boom is properly cradled and the outriggers are in the stowed position before moving the aerial lift.

(2009 Ed.)

Exemption: The aerial lift may be moved with the boom elevated and personnel on the platform only if the equipment was specifically designed for this type of operation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20050, filed 9/19/06, effective 1/1/07.]

WAC 296-869-20055 Aerial ladders.

You must:

- Secure aerial ladders in the lower traveling position, using the locking device or other means provided by the manufacturer, before moving it for highway travel.

- Make sure all persons working from an aerial ladder wear a full body harness and lanyard attached to either:

- The manufacturer's recommended attachment point;

OR

- The ladder rail if the manufacturer does not specify an attachment point

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-20055, filed 9/19/06, effective 1/1/07.]

WAC 296-869-300 Section contents.

IMPORTANT:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To make sure elevating work platforms meet these design, construction, and equipment requirements

WAC 296-869-30005

Manually propelled elevating work platforms

WAC 296-869-30010

Self-propelled elevating work platforms

WAC 296-869-30015

Boom-supported elevating work platforms

WAC 296-869-30020

Modifications

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-300, filed 9/19/06, effective 1/1/07.]

WAC 296-869-30005 Manually propelled elevating work platforms.

IMPORTANT:

This section applies to manually propelled, integral chassis, elevating work platforms with a platform that cannot be positioned completely beyond the base.

You must:

- Make sure manually propelled elevating work platforms meet the design and construction requirements of American National Standards Institute (ANSI) A92.3-1990, American National Standard for Manually Propelled Elevating Aerial Platforms.

- Make sure the manufacturer provides instructions and markings that meet the requirements of ANSI A92.3-1990, American National Standard for Manually Propelled Elevating Aerial Platforms, on each elevating work platform.

- Make sure manuals that meet the requirements of ANSI A92.3-1990, American National Standard for Manually Propelled Elevating Aerial Platforms, are:

- Provided for each elevating work platform;

AND

- Kept in the weather-resistant storage compartment provided by the manufacturer

(2009 Ed.)

Note: Required manuals include the manufacturer's operating and maintenance manuals and a manual that defines the responsibilities of dealers, owners, lessors, lessees, users, and operators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-30005, filed 9/19/06, effective 1/1/07.]

WAC 296-869-30010 Self-propelled elevating work platforms.

IMPORTANT:

This section applies to self-propelled, integral chassis, elevating work platforms with a platform that cannot be positioned completely beyond the base.

You must:

- Make sure self-propelled elevating work platforms manufactured on or after July 1, 2006, meet the design and construction requirements of ANSI A92.6-1999, American National Standard for Self-Propelled Elevating Work Platforms.

- Make sure self-propelled elevating work platforms manufactured before July 1, 2006 meet the design and construction requirements of ANSI A92.6-1990, American National Standard for Self-Propelled Elevating Work Platforms.

- Make sure the manufacturer provides instructions and markings that meet the requirements of ANSI A92.6-1990 or A92.6-1999, American National Standard for Self-Propelled Elevating Work Platforms, as appropriate, on each elevating work platform.

- Make sure manuals that meet the requirements of ANSI A92.6-1990 or A92.6-1999, American National Standard for Self-Propelled Elevating Work Platforms, as appropriate, are:

- Provided for each elevating work platform;

AND

- Kept in the weather-resistant storage compartment provided by the manufacturer

Note: Required manuals include the manufacturer's operating and maintenance manuals and a manual that defines the responsibilities of dealers, owners, lessors, lessees, users, and operators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-30010, filed 9/19/06, effective 1/1/07.]

WAC 296-869-30015 Boom-supported elevating work platforms.

IMPORTANT:

This section applies to self-propelled, integral chassis, elevating work platforms with a boom-supported platform that can be positioned completely beyond the base.

You must:

- Make sure boom-supported elevating work platforms meet the design and construction requirements of American National Standards Institute (ANSI) A92.5-1992, American National Standard for Boom-Supported Elevating Work Platforms.

- Make sure the manufacturer provides instructions and markings that meet the requirements of ANSI A92.5-1992, American National Standard for Boom-Supported Elevating Work Platforms, on each elevating work platform.

[Title 296 WAC—p. 3119]

• Make sure manuals that meet the requirements of ANSI A92.5-1992, American National Standard for Boom-Supported Elevating Work Platforms, are:

- Provided for each elevating work platform;

AND

– Kept in the weather-resistant storage location provided by the manufacturer

Note: Required manuals include the manufacturer's operating and maintenance manuals and a manual that defines the responsibilities of dealers, owners, lessors, lessees, users, and operators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-30015, filed 9/19/06, effective 1/1/07.]

WAC 296-869-30020 Modifications.

You must:

- Prohibit altering or disabling interlocks or other safety devices.
- Have written permission from the manufacturer before making any modification to an elevating work platform.

Note: If the original manufacturer is no longer in business, an equivalent entity such as a nationally recognized testing laboratory may approve modification.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-30020, filed 9/19/06, effective 1/1/07.]

WAC 296-869-400 Section contents.

IMPORTANT:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To inspect, repair, maintain, and service elevating work platforms to keep them in safe operating condition.

WAC 296-869-40005
Condition

WAC 296-869-40010

Inspections

WAC 296-869-40015

Repairs and adjustments

WAC 296-869-40020

Manufacturer's safety bulletins

WAC 296-869-40025

Inspection and repair records

WAC 296-869-40030

Fueling and battery charging

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-400, filed 9/19/06, effective 1/1/07.]

WAC 296-869-40005 Condition.

You must:

- Inspect and maintain elevating work platforms to keep them in proper operating condition.
- Immediately remove from service any elevating work platform that is not in proper operating condition.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-40005, filed 9/19/06, effective 1/1/07.]

WAC 296-869-40010 Inspections.

You must:

- Do a prestart inspection of the elevating work platform according to Table 2, Elevating Work Platform Inspections.
- Make sure frequent and annual inspections are done:
 - By a person qualified as a mechanic on the specific make and model of elevating work platform;

AND

- According to Table 2, Elevating Work Platform Inspections

**Table 2
Elevating Work Platform Inspections**

Type of inspection:	When required:	Items to inspect:
Prestart	<ul style="list-style-type: none"> • At the beginning of each shift. 	<ul style="list-style-type: none"> • Do a visual inspection and functional test including at least the following: <ul style="list-style-type: none"> – Operating and emergency controls – Safety devices – Personal protective devices, including fall protection – Air, hydraulic and fuel system leaks – Cables and wiring harness – Loose or missing parts – Tires and wheels – Placards, warnings, control markings, and required manuals – Outriggers, stabilizers, and other structures – Guardrail system – Items specified by the manufacturer
Frequent	<ul style="list-style-type: none"> • Elevating work platforms that have been in service three months or one hundred fifty hours, whichever comes first; 	<ul style="list-style-type: none"> • All functions and their controls for speeds, smoothness, and limits of motion

Type of inspection:	When required:	Items to inspect:
	<p>AND</p> <ul style="list-style-type: none"> • Before putting elevating work platforms back in service that have been out of service for more than three months <p>Note: Newly purchased used equipment should be given the equivalent of a frequent inspection before being put into service.</p>	<ul style="list-style-type: none"> • Emergency lowering means (manually propelled only) • Lower controls including the provisions for overriding of upper controls (self-propelled and boom-supported) • All chain and cable mechanisms for adjustment and worn or damaged parts <ul style="list-style-type: none"> • All emergency and safety devices • Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer • Visual inspection of structural components and other critical components such as fasteners, pins, shafts, turntable attachment bolts (boom-supported only), and locking devices • Placards, warnings, and control markings • Additional items specified by the manufacturer
Annual	<ul style="list-style-type: none"> • Not later than thirteen months from the date of the last annual inspection 	<ul style="list-style-type: none"> • All items specified by the manufacturer for an annual inspection

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-40010, filed 9/19/06, effective 1/1/07.]

WAC 296-869-40015 Repairs and adjustments.

You must:

- Make sure repairs to elevating work platforms are:
 - Made by a qualified person;

AND

- Done according to the manufacturer's recommendations
- Make sure the elevating work platform, before beginning adjustments or repairs, meets all of the following requirements that apply:
 - All controls in the "off" position
 - All operating features secured from inadvertent motion by brakes, blocks, or other means

- Powerplant stopped
- Means of starting is rendered inoperative
- Platform either:
 - Lowered to the full down position, if possible;

OR

- Blocked or cribbed to prevent dropping
 - Hydraulic pressure relieved from all hydraulic circuits before loosening or removing hydraulic components
 - Safety props or latches installed, where applicable
 - Other precautions as specified by the manufacturer
- Make sure replacement parts or components are identical or equivalent to the original parts or components.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-40015, filed 9/19/06, effective 1/1/07.]

WAC 296-869-40020 Manufacturer's safety bulletins.

You must:

- Meet the requirements of safety-related bulletins as received from the manufacturer, dealer, or owner.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-40020, filed 9/19/06, effective 1/1/07.]

(2009 Ed.)

WAC 296-869-40025 Inspection and repair records.

You must:

- Keep written records documenting:
 - Frequent and annual inspections you have done including:

- Date of inspection
- Deficiencies found
- Corrective action recommended
- Names of the people who did the inspection;

AND

- All repairs done on the elevating work platform, including:

- Date of repair
- Description of the work done
- Names of the people who did the repair
- Retain the records of inspections and repairs for at least:

- Three years for manually propelled and boom-supported elevating work platforms;

AND

- Four years for self-propelled elevating work platforms

Note: It is the responsibility of the owner of the elevating work platform to make sure frequent and annual inspections are done and documented. If you perform either type of inspection, or make repairs to the elevating work platform, send the appropriate records to the owner of the elevating work platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-40025, filed 9/19/06, effective 1/1/07.]

WAC 296-869-40030 Fueling and battery charging.

You must:

- Shut-down the engine while filling fuel tanks.
- Fill fuel tanks and charge batteries in areas that are:
 - Open and well-ventilated;

AND

– Free of flame, sparks, or other hazards that may cause fire or explosion

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-40030, filed 9/19/06, effective 1/1/07.]

WAC 296-869-500 Section contents.

IMPORTANT:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To properly train elevating work platform operators

WAC 296-869-50005

Operator authorization and training

WAC 296-869-50010

Specific model training

WAC 296-869-50015

Operator training records

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-500, filed 9/19/06, effective 1/1/07.]

WAC 296-869-50005 Operator authorization and training.

You must:

• Permit only trained and authorized personnel to operate elevating work platforms.

• Train operators in all of the following:

– The manufacturer's operating and maintenance manuals

– Your work instructions

– The requirements of this chapter

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-50005, filed 9/19/06, effective 1/1/07.]

WAC 296-869-50010 Specific model training.

You must:

• Make sure operators:

– Know the required manuals supplied by the manufacturer are stored in a weather resistant compartment and where the compartment is located;

AND

– Refer to the manuals when necessary

• Make sure operators do all of the following before operating an elevating work platform:

– Read and understand the manufacturer's operating instructions and your safety rules, or have them explained by a qualified person

– Understand, by reading or by having a qualified person explain, all decals, warnings, and instructions displayed on the elevating work platform

– Are instructed by a qualified person in the intended purpose and function of each control

• Have operator trainees demonstrate their knowledge and proficiency during actual operation of an elevating work platform under the following conditions:

– Under the direction of a qualified person

– In an area free of obstructions

– Using an elevating work platform that is:

■ The same model that they will be operating;

OR

■ One that has similar controls and operating characteristics

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-50010, filed 9/19/06, effective 1/1/07.]

WAC 296-869-50015 Operator training records.

You must:

• Retain records of the operators trained on each model of elevating work platform for at least:

– Three years for manually propelled and boom-supported elevating work platforms;

AND

– Four years for self-propelled elevating work platforms

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-50015, filed 9/19/06, effective 1/1/07.]

WAC 296-869-600 Section contents.

IMPORTANT:

This section applies to manually propelled, self-propelled, and boom-supported elevating work platforms.

Your responsibility:

To meet these requirements when operating elevating work platforms

WAC 296-869-60005

Intended use

WAC 296-869-60010

Workplace survey

WAC 296-869-60015

Hazardous locations

WAC 296-869-60020

Set up

WAC 296-869-60025

Travel speed

WAC 296-869-60030

Driving

WAC 296-869-60035

Elevating and lowering the platform

WAC 296-869-60040

Working from the platform

WAC 296-869-60045

Malfunctions or unsafe conditions

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-600, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60005 Intended use.

You must:

• Make sure elevating work platforms are used only for their intended purpose as specified by the manufacturer.

Note: Misuse of an elevating work platform includes, but is not limited to:

• Using the elevating work platform as a crane

• Using the platform to jack the wheels off the ground unless the machine was designed for that purpose by the manufacturer

• Operating the elevating work platform from a truck, trailer, railway car, floating vessel, scaffold, or similar equipment unless the application is approved in writing by the manufacturer

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-60005, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60010 Workplace survey.**You must:**

- Have the operator survey the area before and during use of an elevating work platform for hazards such as:
 - Drop-offs or holes
 - Slopes
 - Bumps and floor obstructions
 - Debris
 - Overhead obstructions and high voltage conductors
 - Hazardous locations
 - Inadequate surface and support to withstand the load imposed on them by the elevating work platform in all operating configurations
 - Wind and weather conditions
 - Unauthorized persons in the area
 - Other possible unsafe conditions

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-19-073, § 296-869-60010, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60015 Hazardous locations.**You must:**

- Determine the hazard classification of any area where the elevating work platform will operate using National Fire Protection Association (NFPA) 505-2002, Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations.
 - Make sure only approved elevating work platforms are used in Class I, II, or III locations.
 - Make sure elevating work platforms are used in hazardous (classified) locations as follows:
 - Elevating work platforms authorized to be used in Class 1 locations are shown in Table 3, Approved Elevating Work Platform Use in Class 1 Locations
 - Elevating work platforms authorized to be used in Class 2 locations are shown in Table 4, Approved Elevating Work Platform Use in Class 2 Locations
 - Elevating work platforms authorized to be used in Class 3 locations are shown in Table 5, Approved Elevating Work Platform Use in Class 3 Locations
 - Elevating work platforms authorized to be used in unclassified locations are:
 - Approved elevating work platforms designated as Type D, E, G, or LP;
- AND**
- Elevating work platforms that meet the requirements of Type D, E, G, or LP elevating work platforms.
 - Have operators report any hazardous atmosphere or location that becomes apparent while operating the elevating work platform.

Definitions:

- An **unclassified location** is an area that's not designated as a Class 1, 2, or 3 location.
- The **type designation** is a code to identify types of elevating work platforms. It is used to determine if an elevating work platform can be used in a specific classified or unclassified location.
 - **D** refers to elevating work platforms that are diesel engine powered that have minimum safeguards against inherent fire hazards.
 - **DS** refers to diesel powered elevating work platforms that, in addition to meeting all the requirements for type D elevating work platforms, are provided with additional safeguards to the exhaust, fuel and electrical systems.
 - **DY** refers to diesel powered elevating work platforms that have all the safeguards of the DS elevating work platforms and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature limitation features.
 - **E** refers to electrically powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.
 - **ES** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E elevating work platforms, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.
 - **EE** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E and ES type elevating work platforms, have their electric motors and all other electrical equipment completely enclosed.
 - **EX** refers to electrically powered elevating work platforms that differ from E, ES, or EE type elevating work platforms in that the electrical fittings and equipment are designed, constructed and assembled to be used in atmospheres containing flammable vapors or dusts.
 - **G** refers to gasoline powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.
 - **GS** refers to gasoline powered elevating work platforms that are provided with additional exhaust, fuel, and electrical systems safeguards.
 - **LP** refers to liquefied petroleum gas-powered elevating work platforms that, in addition to meeting all the requirements for type G elevating work platforms, have minimum acceptable safeguards against inherent fire hazards.
 - **LPS** refers to liquefied petroleum gas-powered elevating work platforms that in addition to meeting the requirements for LP type elevating work platforms, have additional exhaust, fuel, and electrical systems safeguards.

Table 3
Approved Elevating Work Platform Use in Class 1 Locations

Class 1							
Locations in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures							
Division 1				Division 2			
Conditions exist continuously, intermittently, or periodically under normal operating conditions.				Conditions may occur accidentally, for example, due to a puncture of a storage drum.			
Group A	Group B	Group C	Group D	Group A	Group B	Group C	Group D
Acetylene	Hydrogen	Ethyl ether	Acetone Alcohols Benzene Gasoline Lacquer Solvent	Acetylene	Hydrogen	Ethyl ether	Acetone Alcohols Benzene Gasoline Lacquer Solvent
No type can be used	No type can be used	No type can be used	Use this elevating work platform type: EX	No type can be used	No type can be used	No type can be used	Use this elevating work platform type: DS DY ES EE EX GS LPS

Table 4
Approved Elevating Work Platform Use in Class 2 Locations

Class 2					
Locations which are hazardous because of the presence of combustibile dust					
Division 1			Division 2		
Explosive mixture may be present under normal operating conditions, or where failure of equipment may cause the condition to exist simultaneously with arcing or sparking of electrical equipment, or where dusts of an electrically conducting nature may be present.			Explosive mixture not normally present, but where deposits of dust may cause heat rise in electrical equipment, or where such deposits may be ignited by arcs or sparks from electrical equipment.		
Group E	Group F	Group G	Group E	Group F	Group G
Metal dust	Carbon black Coal dust Coke dust	Grain dust Flour dust Starch dust Organic dust	Metal dust	Carbon black Coal dust Coke dust	Grain dust Flour dust Starch dust Organic dust
No type can be used	Use this elevating work platform type: EX	Use this elevating work platform type: EX	No type can be used	No type can be used	Use this elevating work platform type: DS DY ES EE EX GS LPS

Table 5
Approved Elevating Work Platform Use in Class 3 Locations

Class 3 Locations where easily ignitable fibers or flyings are present but not likely to be in suspension in quantities sufficient to produce ignitable mixtures	
Division 1 Locations in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.	Division 2 Locations in which easily ignitable fibers are stored or handled (except in the process of manufacture).
Use this elevating work platform type: DY EE EX	Use this elevating work platform type: DS DY E ES EE EX GS LPS

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-60015, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60020 Set up.

You must:

- Prohibit positioning the elevating work platform against another object in order to steady the platform.
- Do the following when other moving equipment or vehicles are present:
 - Take special precautions to meet the requirements of local ordinances or workplace safety standards;

AND

- Use warnings such as, but not limited to, flags, roped-off areas, flashing lights and barricades

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-60020, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60025 Travel speed. Make sure the operator limits travel speed according to conditions, including:

- Condition of the ground or support surface;
- Congestion;
- Visibility;
- Slope;
- Location of personnel;
- Other factors that may create a hazard of collision or injury to personnel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-60025, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60030 Driving.

IMPORTANT:

This section does not apply to manually propelled elevating work platforms.

You must:

- Make sure the operator does all of the following before and while driving with the platform elevated:

(2009 Ed.)

- Maintains a clear view of the path of travel
- Keeps a safe distance from obstacles, debris, drop-offs, holes, depressions, ramps, and other hazards to safe travel
- Keeps a safe distance from overhead obstacles
- Prohibit stunt driving and horseplay.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-60030, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60035 Elevating and lowering the platform.

You must:

- Have the operator make sure all of the following are done before each elevation of the platform:
 - The elevating work platform is on a surface that is within the limits specified by the manufacturer
 - Outriggers, stabilizers, extendable axes, or other stability enhancing means are used as required by the manufacturer
 - Guardrails are installed and access gates or openings are closed per the manufacturer's instructions
 - The load and its distribution on the platform and any platform extension does not exceed the manufacturer's rated capacity for the configuration being used
 - There is adequate clearance from overhead obstructions

- The minimum safe approach distance (MSAD) to energized power lines and parts listed in Table 6, Minimum Safe Approach Distance, is maintained

- All persons on the platform are wearing fall protection devices and other safety gear if required

- Prevent rope, electric cords, hoses and similar objects from becoming entangled with the platform.

- Have the operator make sure the area is clear of personnel and equipment before lowering the platform.

- Remove all personnel from a platform that has been caught, snagged, or otherwise prevented from normal motion before attempting to free it using ground controls.

Note: If possible, reverse the platform controls to free a platform that is caught, snagged, or otherwise prevented from normal motion by an adjacent structure or other obstacle.

Table 6
Minimum Safe Approach Distance

Voltage	Minimum Safe Approach Distance
Less than 300 volts (insulated lines)	3 feet (0.9 m)
Less than 300 volts (uninsulated lines)	10 feet (3.1 m)
300 volts to 50 kv	10 feet (3.1 m)
More than 50 kv	10 feet (3.1 m) + 0.4 inches (1.0 cm) for each 1 kv over 50 kv

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-60035, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60040 Working from the platform.

You must:

- Make sure persons working from the platform:
 - Keep a firm footing on the platform;
- AND**
 - Do not use guardrails, planks, ladders, or any other device to gain additional height or reach

- Make sure all persons on the platform of boom-supported elevating work platforms wear a full body harness and lanyard fixed to manufacturer provided and approved attachment points.

- Make sure the rated capacities of the platform are not exceeded when transferring loads to the platform at any height.

Note: Guardrails are the primary means of fall protection for manually propelled elevating work platforms.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-19-073, § 296-869-60040, filed 9/19/06, effective 1/1/07.]

WAC 296-869-60045 Malfunctions or unsafe conditions.

You must:

- Make sure operators, if they suspect a malfunction of the elevating work platform or encounter any hazard or potentially unsafe condition, do all of the following:

- Cease operation

- Report the problem or malfunction

- Discontinue using the elevating work platform until problems or malfunctions that affect safe operation have been corrected

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-19-073, § 296-869-60045, filed 9/19/06, effective 1/1/07.]

WAC 296-869-700 Definitions.

Aerial device:

A vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel.

Aerial ladder:

A vehicle-mounted elevating work platform consisting of a single or multiple-section extensible ladder. It may or may not have a platform at the top.

Aerial lift:

An aerial device mounted on a vehicle such as a truck, trailer, or all-terrain vehicle.

Approved:

Listed or approved by a nationally recognized testing laboratory or a federal agency that issues approvals for equipment such as the Mine Safety and Health Administration (MSHA); the National Institute for Occupational Safety and Health (NIOSH); Department of Transportation; or U.S. Coast Guard, which issue approvals for such equipment.

Articulating-boom work platform:

A vehicle-mounted elevated work platform with two or more hinged boom sections.

Boom-supported elevating work platform:

A self-propelled, integral chassis, elevating work platform with a boom-supported platform that can be positioned completely beyond the base.

Chassis:

The part of a nonvehicle-mounted elevating work platform that provides mobility and support for the elevating assembly and platform.

Elevating work platform:

A device used to position personnel, along with their necessary tools and materials, at work locations. It includes a platform and an elevating assembly. It may be vehicle mounted or have an integral chassis for mobility and as a means of support.

Extensible-boom work platform:

A vehicle-mounted elevating work platform with a telescopic or extensible boom.

Manually propelled elevating work platform:

A manually propelled, integral chassis, elevating work platform with a platform that cannot be positioned completely beyond the base.

Platform:

The portion of an elevating work platform intended to be occupied by personnel. It may also be called a basket, bucket, stand, or similar term.

Rated capacity:

The designed carrying capacity of the elevating work platform as specified by the manufacturer.

Self-propelled elevating work platform:

A self-propelled, integral chassis, elevating work platform with a platform that cannot be positioned completely beyond the base.

Type designation:

A code to identify types of elevating work platforms. It is used to determine if an elevating work platform can be used in a specific classified or unclassified location.

- **D** refers to elevating work platforms that are diesel engine powered that have minimum safeguards against inherent fire hazards.

- **DS** refers to diesel powered elevating work platforms that, in addition to meeting all the requirements for type D elevating work platforms, are provided with additional safeguards to the exhaust, fuel and electrical systems.

- **DY** refers to diesel powered elevating work platforms that have all the safeguards of the DS elevating work platforms and, in addition, any electrical equipment is completely enclosed. They are equipped with temperature limitation features.

- **E** refers to electrically powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.

- **ES** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E elevating work platforms, have additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures.

- **EE** refers to electrically powered elevating work platforms that, in addition to all of the requirements for the E and ES type elevating work platforms, have their electric motors and all other electrical equipment completely enclosed.

- **EX** refers to electrically powered elevating work platforms that differ from E, ES, or EE type elevating work platforms in that the electrical fittings and equipment are designed, constructed and assembled to be used in atmospheres containing flammable vapors or dusts.

- **G** refers to gasoline powered elevating work platforms that have minimum acceptable safeguards against inherent fire hazards.

- **GS** refers to gasoline powered elevating work platforms that are provided with additional exhaust, fuel, and electrical systems safeguards.

- **LP** refers to liquefied petroleum gas-powered elevating work platforms that, in addition to meeting all the requirements for type G elevating work platforms, have minimum acceptable safeguards against inherent fire hazards.

– **LPS** refers to liquefied petroleum gas-powered elevating work platforms that, in addition to meeting the requirements for LP type elevating work platforms, have additional exhaust, fuel, and electrical systems safeguards.

Vertical tower:

A vehicle-mounted elevating work platform having a platform that can be raised along a vertical axis.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-19-073, § 296-869-700, filed 9/19/06, effective 1/1/07.]

**Chapter 296-870 WAC
POWERED PLATFORMS**

WAC

296-870-100	Scope.
296-870-200	Section contents.
296-870-20005	Building owner certifications.
296-870-20010	Personnel requirements.
296-870-20015	Platform and hoist load limits.
296-870-20020	Obstructions and slipping hazards.
296-870-20025	Wind and adverse weather.
296-870-20030	Corrosive substances.
296-870-20035	Heat-producing processes.
296-870-20040	Fall protection.
296-870-20045	Communications.
296-870-300	Section contents.
296-870-30005	Maintenance.
296-870-30010	Initial installation and after major modification inspection and testing.
296-870-30015	Before use inspections and tests.
296-870-30020	Periodic inspections and tests.
296-870-30025	Reshacking and resocketing wire ropes.
296-870-30030	Disabling safety or electrical protective devices.
296-870-400	Section contents.
296-870-40005	General training.
296-870-40010	Emergency action plan.
296-870-40015	Certification.
296-870-500	Section contents.
296-870-50005	Design, construction, and installation.
296-870-50010	Fall protection.
296-870-50015	Electrical.
296-870-600	Section contents.
296-870-60005	Design.
296-870-60010	Stabilization systems.
296-870-60015	Intermittent stabilization system.
296-870-60020	Button guide stabilization system.
296-870-60025	Stabilization system using angulated roping and building face rollers.
296-870-60030	Cable stabilization.
296-870-60035	Electrical.
296-870-60040	Guarding roofs and other elevated areas.
296-870-60045	Moving equipment.
296-870-60050	Repair and maintenance.
296-870-60055	Communications.
296-870-700	Section contents.
296-870-70005	Design and construction.
296-870-70010	Carriages.
296-870-70015	Carriage strength and stability.
296-870-70020	Carriage traversing.
296-870-70025	Transportable outriggers.
296-870-70030	Davits.
296-870-70035	Hoisting machines.
296-870-70040	Suspended equipment strength and stability.
296-870-70045	Suspended equipment guardrail system.
296-870-70050	Suspended working platforms and manned platforms used on supported equipment.
296-870-70055	Working platform fall protection.
296-870-70060	Two- and four-point suspended working platforms.
296-870-70065	Ground-rigged working platforms.
296-870-70070	Intermittently stabilized working platforms.
296-870-70075	Button guide stabilized working platforms.
296-870-70080	Supported equipment.
296-870-70085	Suspension wire ropes and rope connections.
296-870-70090	Control circuits, power circuits and electrical protective devices.
296-870-800	Definitions.

(2009 Ed.)

WAC 296-870-100 Scope. This chapter covers permanent powered platform installations dedicated to interior or exterior building maintenance of a specific structure or group of structures.

Building maintenance includes, but is not limited to, tasks such as window cleaning, caulking, metal polishing, and reglazing.

Exemption: This chapter does not apply to suspended scaffolds covered by a separate chapter, Scaffolds, chapter 296-874 WAC.

Definition:

A powered platform **installation** consists of all the equipment and the parts of the building involved with using the powered platform for building maintenance.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-100, filed 9/19/06, effective 1/1/07.]

WAC 296-870-200 Section contents.

Your responsibility:

To meet these requirements when using powered platforms.

- WAC 296-870-20005
- Building owner certifications.
- WAC 296-870-20010
- Personnel requirements.
- WAC 296-870-20015
- Platform and hoist load limits.
- WAC 296-870-20020
- Obstructions and slipping hazards.
- WAC 296-870-20025
- Wind and adverse weather.
- WAC 296-870-20030
- Corrosive substances.
- WAC 296-870-20035
- Heat-producing processes.
- WAC 296-870-20040
- Fall protection.
- WAC 296-870-20045
- Communications.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-200, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20005 Building owner certifications.

You must:

- Obtain written certification from the building owner of any building with a powered platform installation that was completed or had major modification done after July 23, 1990, that the building and equipment meets the requirements of new installations-buildings, WAC 296-870-600 and new installations-equipment, WAC 296-870-700 of this chapter.

Note: The building owner needs to base the certification on:

- The field test of the installation done before it is first placed into service or following any major modification to an existing installation;

AND

- All other relevant available information, including but not limited to:
 - Test data
 - Equipment specifications
 - Verification by a registered professional engineer.

You must:

- Obtain written certification from the building owner that the installation:
 - Has been inspected, tested, and maintained as required by inspection, testing, and maintenance, WAC 296-870-300 of this chapter;

AND

- All fall protection anchorages meet the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20005, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20010 Personnel requirements.**You must:**

- Prohibit employees from using the installation until the building owner has provided the required written certifications.
- Make sure working platforms are operated only by persons proficient in the operation, safe use and inspection of the particular working platform.

References:

- Building owner certification requirements are found in Building owner certifications, WAC 296-870-20005.
- Training requirements for persons using platforms are found in Existing installations, WAC 296-870-400.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20010, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20015 Platform and hoist load limits.**You must:**

- Make sure the load on the working platform does not exceed the rated load stated on the platform load rating plate.
- Make sure hoists are not subjected to a load greater than one hundred twenty-five percent of their rated load.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20015, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20020 Obstructions and slipping hazards.**You must:**

- Prohibit the accumulation of tools, materials and debris on the platform that are not related to the work in progress.
- Make sure stabilizer ties are:
 - Located to allow movement along the full length of the platform without interference;

AND

- Long enough not to become entangled in rollers, hoists, or other machinery.
- Prohibit employees from working on platforms covered with snow, ice, or other slippery material.

Exemption: Employees may be on platforms as necessary to remove the slipping hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20020, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20025 Wind and adverse weather.**You must:**

- Prohibit using powered platforms in:

- Winds exceeding twenty-five miles per hour (40.2 km/hr);

OR

- Any other severe adverse weather conditions.

Exemption: Employees may use the platform during severe adverse weather conditions only to move it from an operating to a storage position.

You must:

- Have an anemometer mounted on the platform of an exterior installation to provide on-site wind velocities before and during use of the platform.

Note:

- Determine wind speed using the best available information, including on-site anemometer readings and local weather forecasts.
- The anemometer may be a portable or hand held unit which is temporarily mounted during platform use.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20025, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20030 Corrosive substances.**You must:**

- Protect the platform, wire ropes, and lifelines from damage due to acids or other corrosive substances by using the precautions recommended by any of the following:
 - Corrosive substance producer or supplier
 - Platform manufacturer
 - Other equivalent information source.
- Wash down platform members which have been exposed to acids or other corrosive substances with a neutralizing solution as recommended by the corrosive substance producer or supplier.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20030, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20035 Heat-producing processes.**You must:**

- Protect the platform members, wire ropes, and lifelines when using a heat-producing process.
- Make sure wire ropes and lifelines which have been contacted by a heat-producing process are considered to be permanently damaged and not used.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20035, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20040 Fall protection.**You must:**

- Protect employees on working platforms with a personal fall arrest system that meets the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20040, filed 9/19/06, effective 1/1/07.]

WAC 296-870-20045 Communications.**You must:**

- Make sure the voice communication system between the equipment operators and persons stationed within the building is operable and manned whenever the platform is being used.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-20045, filed 9/19/06, effective 1/1/07.]

WAC 296-870-300 Section contents.

Your responsibility:

To make sure powered platforms are inspected, tested, and maintained to keep them in safe operating condition.

WAC 296-870-30005

Maintenance.

WAC 296-870-30010

Initial installation and after major modification inspection and testing.

WAC 296-870-30015

Before use inspections and tests.

WAC 296-870-30020

Periodic inspections and tests.

WAC 296-870-30025

Reshacking and resocketing wire ropes.

WAC 296-870-30030

Disabling safety or electrical protective devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-300, filed 9/19/06, effective 1/1/07.]

WAC 296-870-30005 Maintenance.

You must:

- Make sure all parts of the equipment that affect safe operation are maintained in proper working order so they are able to perform their intended functions. This includes, but is not limited to, all of the following:

- Roof systems including roof track systems, tie-downs, or similar equipment

- Building face guiding members including T-rails, indented mullions, or equivalent guides located in the face of a building

- Brackets for cable stabilizers.

- Take out of service any equipment that is not in proper working order.

- Make sure the following parts are kept clean:

- Control or power contacts and relays;

AND

- All other parts whose proper function would be affected by dirt or other contaminants.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-30005, filed 9/19/06, effective 1/1/07.]

WAC 296-870-30010 Initial installation and after major modification inspection and testing.

You must:

- Make sure a completed powered platform installation has been inspected and tested by the building owner:

- Before it was first placed into service;

AND

- Before it was returned to service after major modification was done.

- Make sure the inspection and tests determined that:

- All parts of the installation met the applicable requirements of this chapter;

AND

- All safety and operating equipment functioned as required.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-30010, filed 9/19/06, effective 1/1/07.]

WAC 296-870-30015 Before use inspections and tests.

You must:

- Complete the inspections and tests contained in Table 1, Before Use Inspections and Tests, before allowing persons to use the platform.

**Table 1
Before Use Inspections and Tests**

What:	When:	Inspection and test requirements:
Working platforms and their components	<ul style="list-style-type: none"> • Before every use and • After each occurrence which might affect the platform's structural integrity 	Inspect for visible defects
Suspension wire ropes	<ul style="list-style-type: none"> • Before every use and • After each occurrence which might affect the wire rope's integrity 	Visible inspection by a competent person for defects and gross damage
Governors and secondary brakes	Before use each day	Test before use. If testing is not feasible, visually inspect the brake to make sure it is free to operate
Hoists	Each day before lowering personnel below the top elevation of the building	Test in the lifting direction with the intended load to make sure it has sufficient capacity to raise personnel back to the boarding level

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-30015, filed 9/19/06, effective 1/1/07.]

WAC 296-870-30020 Periodic inspections and tests.

You must:

- Make sure the building owner has completed and documented the periodic inspections and tests shown in Table 2.

- Make sure any documentation required by Table 2, Periodic Inspections and Tests, is readily available for your own review and that of the director or an authorized representative.

- Make sure suspension wire rope is used and maintained as specified in the wire rope manufacturer's recommended procedures.

- Remove from service a wire rope that has any of the following:
 - Broken wires exceeding three wires in one strand or six wires in one rope lay
 - Distortion of rope structure such as would result from crushing or kinking
 - Evidence of heat damage
 - Evidence of rope deterioration from corrosion
 - A broken wire within eighteen inches (460.8 mm) of the end attachments

- Noticeable rusting and pitting
- Evidence of core failure. This could be indicated by a lengthening of rope lay, protrusion of the rope core and a reduction in rope diameter
- More than one valley break (broken wire)
- Outer wire wear exceeds one-third of the original outer wire diameter
- Any other condition which the competent person determines has significantly affected the integrity of the rope.

Table 2
Periodic Inspections and Tests

What to inspect:	When to inspect:	Inspection and test requirements:	Building owner documentation:
Related building supporting structures	Intervals not exceeding twelve months	Inspection by a competent person	Keep a certification record of each inspection and test that includes all of the following: <ul style="list-style-type: none"> – Date of the inspection – Signature of the person who performed the inspection – Number, or other identifier, of the building support structure and equipment which was inspected
All parts of the equipment including control systems	Intervals specified by the manufacturer or supplier, but not to exceed twelve months	Inspection and test, where necessary, by a competent person to determine: <ul style="list-style-type: none"> – They are in safe operating condition and <ul style="list-style-type: none"> – Parts subject to wear, such as wire ropes, bearings, gears, and governors have not worn to such an extent as to affect the safe operation of the installation 	
Working platform	<ul style="list-style-type: none"> • Every thirty days or <ul style="list-style-type: none"> • Before each work cycle if the work cycle is more than thirty days 	Maintenance inspection and test by a competent person following procedures recommended by the manufacturer	Keep a certification record of each inspection and test that includes all of the following: <ul style="list-style-type: none"> – Date of the inspection and test – Signature of the person who performed the inspection and test – An identifier for the platform installation which was inspected
Governors and secondary brakes	Intervals specified by the manufacturer or supplier, but not to exceed twelve months	Inspection and test by a competent person. Results need to confirm: <ul style="list-style-type: none"> – The initiating device for the secondary braking system operates at the proper overspeed and <ul style="list-style-type: none"> – The secondary brake is functioning properly 	

What to inspect:	When to inspect:	Inspection and test requirements:	Building owner documentation:
		If any hoisting machine or initiating device for the secondary brake system is removed from the equipment for testing, reinspect all reinstalled and directly related components before returning the equipment installation to service	
Suspension wire ropes	<ul style="list-style-type: none"> • Once a month for ropes in service and • Before they are returned to service for ropes that have been out of service for thirty days or more 	A thorough inspection by a competent person	Keep a certification record of each monthly inspection that includes all of the following: <ul style="list-style-type: none"> – Date of the inspection – Signature of the person who performed the inspection – Number, or other identifier, of the wire rope which was inspected

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-30020, filed 9/19/06, effective 1/1/07.]

WAC 296-870-30025 Reshacking and resocketing wire ropes.

You must:

- Make sure the nondrum ends of hoisting wire ropes are reshacked or, if the rope uses poured socket fastenings, resocketed at intervals not exceeding twenty-four months.
- Make sure enough rope is cut from the end of the rope during reshacking or resocketing to remove any damaged or fatigued portions.
- Make sure resocketed ropes meet the requirements of Suspension wire ropes and rope connections, WAC 296-870-70085.
- Make sure limit switches affected by resocketed ropes are reset if necessary.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-30025, filed 9/19/06, effective 1/1/07.]

WAC 296-870-30030 Disabling safety or electrical protective devices.

You must:

- Make sure no person renders any required safety devices or electrical protective devices inoperative unless necessary for tests, inspections, or maintenance.
- Restore any disabled devices to normal operating condition immediately after the test, inspection or maintenance is completed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-30030, filed 9/19/06, effective 1/1/07.]

WAC 296-870-400 Section contents.

Your responsibility:

To train employees who operate or inspect powered platforms.

- WAC 296-870-40005
General training.
- WAC 296-870-40010
Emergency action plan.
- WAC 296-870-40015

Certification.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-400, filed 9/19/06, effective 1/1/07.]

WAC 296-870-40005 General training.

You must:

- Make sure employees are trained by a competent person.
- Train employees who operate powered platforms in all of the following:
 - Recognizing safety hazards and the preventative measures to control or minimize hazards that are associated with:
 - Using powered platforms, including those that apply to the specific platform they will be operating;
 - AND**
 - Their individual work tasks.
 - Emergency action plan procedures
 - Work procedures for operating, safely using and inspecting powered platforms.
- Provide written work procedures for operating, safely using, and inspecting working platforms to be used in employee training.

Note: Visual presentations, such as graphics and pictures, may be used instead of written work procedures if it improves employee understanding. The powered platform system components manufacturers' operating manuals can serve as the basis for these work procedures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-40005, filed 9/19/06, effective 1/1/07.]

WAC 296-870-40010 Emergency action plan.

You must:

- Make sure a written emergency action plan is developed and implemented for each kind of working platform operation that contains at least both of the following:
 - An explanation of the emergency procedures to be followed in the event of any of the following situations:
 - Power failure
 - Equipment failure

■ Other emergencies which may be encountered.

– That employees are informed about the building emergency escape routes, procedures and alarm systems.

• Review with each employee those parts of the plan they need to know to protect themselves in the event of an emergency:

– Upon initial assignment;

AND

– Whenever the plan is changed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-40010, filed 9/19/06, effective 1/1/07.]

WAC 296-870-40015 Certification.

You must:

• Certify in writing that employees have been trained in operating and inspecting a working platform.

• Make sure training certifications are:

– Prepared when the employee has completed training;

AND

– Contain all of the following:

■ Name of the person trained

■ Signature of the person who conducted the training

■ Date training was completed.

• Make sure the training certification is:

– Maintained while the employee works for you;

AND

– Kept readily available for review by the director or an authorized representative.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-40015, filed 9/19/06, effective 1/1/07.]

WAC 296-870-500 Section contents.

IMPORTANT:

This section applies to permanent powered platform installations that meet **all** of the following:

• The installation was completed between August 27, 1971, and July 24, 1990

• There has been no major modification to the installation after July 23, 1990

• The working platforms use electric-powered, winding drum type hoisting machines.

Note: • Platforms operated by other types of power and using other types of hoisting machines are allowed if they:
– Have adequate protective devices for the type of power used;

AND

– Provide reasonable safety for persons using or exposed to the equipment

• Other types of hoisting machines include, but are not limited to, machines such as traction drum hoisting machines, air powered machines, hydraulic powered machines, and internal combustion machines.

Definition:

An **existing installation** is a permanent powered platform installation that:

– Was completed before July 23, 1990;

AND

– Has had no major modification done after July 23, 1990.

Your responsibility:

To make sure powered platform installations completed between August 27, 1971, and July 24, 1990, meet these building and equipment requirements.

[Title 296 WAC—p. 3132]

WAC 296-870-50005

Design, construction, and installation.

WAC 296-870-50010

Fall protection.

WAC 296-870-50015

Electrical.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-500, filed 9/19/06, effective 1/1/07.]

WAC 296-870-50005 Design, construction, and installation.

You must:

• Make sure powered platforms designated as Type F meet all the requirements in Part II of ANSI A120.1-1970, American National Standard Safety Requirements for Powered Platforms for Exterior Building Maintenance.

Definition:

A **Type F powered platform** has both of the following characteristics:

– The working platform is suspended by at least four wire ropes and designed so that failure of any one wire rope will not substantially alter the normal position of the working platform

– Only one layer of hoisting rope is permitted on the winding drums.

You must:

• Make sure powered platforms designated as Type T meet all the requirements in Part III of ANSI A120.1-1970 American National Standard Safety Requirements for Powered Platforms for Exterior Building Maintenance except for section 28, Safety belts and lifelines.

Definition:

A **Type T powered platform** has a working platform that is suspended by at least two wire ropes. The platform will not fall to the ground if a wire rope fails, but the working platform's normal position would be upset.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-50005, filed 9/19/06, effective 1/1/07.]

WAC 296-870-50010 Fall protection.

You must:

• Make sure the fall protection system of both Type F and Type T powered platforms meet the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC.

• Make sure working platforms have permanent guardrails that meet all of the following requirements:

– Guardrails on the building side (front) of the platform have a top rail that is not less than thirty-eight inches and not more than forty-five inches high.

– Guardrails on the other three sides have a top rail that is not less than forty-five inches high.

– Top rails are able to withstand a force of at least two hundred pounds

– Guardrails have a midrail around the entire platform between the top rail and the toeboard.

Reference: Ramps and walkways that are four feet (1.2 m) or more above a lower level need to have a guardrail system. These requirements are found in Working Surfaces, Guarding Floors and Wall Openings, Ladders,

Part J-1, in the General safety and health standards, chapter 296-24 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-50010, filed 9/19/06, effective 1/1/07.]

WAC 296-870-50015 Electrical.

You must:

- Make sure electrical wiring and equipment meets the requirements of the National Electric Code, NFPA 70-1987, ANSI C1-1987, except as modified by ANSI A120.1-1970 American National Standard Safety Requirements for Powered Platforms for Exterior Building Maintenance.

- Make sure runway conductor systems are:
 - Designed for use in exterior locations;

AND

- Located to prevent contact with water or accumulated snow.

- Make sure conductors, collectors, and disconnecting means meet the requirements for cranes and hoists in Article 610 of the National Electrical Code, NFPA 70-1987, ANSI C1-1987.

- Make sure the power conductors are paralleled by a grounded conductor that meets both of the following:
 - It cannot be opened by the disconnecting means;

AND

- The system is designed to not pose a hazard to persons in the area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-50015, filed 9/19/06, effective 1/1/07.]

WAC 296-870-600 Section contents.

IMPORTANT:

This section applies to permanent powered platform installations that meet **either** of the following:

- Were completed after July 23, 1990;

OR

- Have had major modifications done to an existing installation after July 23, 1990.

Definition:

A **new installation** is a permanent powered platform installation that was completed, or an existing installation that has had major modifications done, after July 23, 1990.

Note: If affected parts of the building meet the requirements of the edition of American National Standard Institute/American Society of Mechanical Engineers ANSI/ASME A120.1, Safety Requirements for Powered Platforms for Building Maintenance, that was in effect when the powered platform installation was completed, they will be considered to meet the requirements of this section.

Your responsibility:

To make sure new powered platform installations meet these building requirements.

WAC 296-870-60005

Design.

WAC 296-870-60010

Stabilization systems.

WAC 296-870-60015

Intermittent stabilization system.

WAC 296-870-60020

Button guide stabilization system.

WAC 296-870-60025

Stabilization system using angulated roping and building face rollers.

WAC 296-870-60030

Cable stabilization.

WAC 296-870-60035

Electrical.

WAC 296-870-60040

Guarding roofs and other elevated areas.

WAC 296-870-60045

Moving equipment.

WAC 296-870-60050

Repair and maintenance.

WAC 296-870-60055

Communications.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-600, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60005 Design.

You must:

- Make sure structural supports, tie-downs, tie-in guides, anchoring devices and any affected parts of the building included in the installation are designed by, or under the direction of, a registered professional engineer experienced in such design.

- Make sure affected parts of the building are capable of sustaining all the loads imposed by the equipment.

- Make sure exterior installations are capable of withstanding prevailing climatic conditions.

- Make sure the affected parts of the building allow employees to use the equipment without being exposed to a hazardous condition.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60005, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60010 Stabilization systems.

You must:

- Make sure the exterior of each building is provided with at least one of the following stabilization systems:

- Continuous tie-in guides

- Intermittent stabilization system

- Button guide stabilization system

- System using angulated roping and building face rollers

- System equivalent to a continuous tie-in guide system

Exemption:

- Tie-in guides may be eliminated for not more than seventy-five feet (22.9 m) of the uppermost elevation of the building if:

- Using tie-in guides there is not feasible due to building design;

AND

- Angulated roping is used that provides a stabilizing force of at least ten pounds (44.4 n) under all conditions of loading.

You must:

- Make sure embedded tie-down anchors, fasteners, and affected structures are corrosion-resistant.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60010, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60015 Intermittent stabilization system.

Note: This system may be used with a continuous tie-in guide system on the same building as long as the requirements for each system are met.

You must:

- Make sure an intermittent stabilization system:
 - Keeps the equipment in constant contact with the building;

AND

- Prevents sudden horizontal movement of the platform.
- Make sure building anchors are located vertically so that:
 - The distance between anchors is not more than three floors or fifty feet (15.3 m), whichever is less;

AND

- Attaching the suspension ropes to the stabilizer ties will not cause the platform to move horizontally across the face of the building.

- Make sure the anchors are positioned horizontally on the building face so as to be symmetrical about the platform suspension ropes.

- Make sure building anchors:
 - Are easily seen by employees;

AND

- Allow a stabilizer tie attachment for each of the platform suspension ropes at each vertical interval.

- Make sure building anchors that extend beyond the face of the building have no sharp edges or points.

- Make sure building anchors do not interfere with the handling or operation of cables, suspension wire ropes and lifelines that may be in contact with the building face.

- Make sure the building anchors and components can sustain, without failure, at least four times the maximum anticipated load applied or transmitted to them.

- Make sure the building anchors and stabilizer ties can sustain the anticipated horizontal and vertical loads from winds specified for roof storage design which may act on the platform and wire ropes if the platform is stranded on the building face.

- Make sure the minimum design wind load for each anchor is three hundred pounds (1334 n) if two anchors share the wind load.

- Make sure one building anchor and stabilizer tie can sustain the wind load if either:
 - The building anchors have different spacing than the suspension wire rope;

OR

- The building requires different suspension spacings on one platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60015, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60020 Button guide stabilization system.**You must:**

- Make sure the guide buttons are:
 - Coordinated with the platform guide tracks and other platform-mounted equipment;

AND

[Title 296 WAC—p. 3134]

- Located on the building so they properly engage the guide tracks mounted on the platform.

- Make sure two guide buttons engage each guide track at all times except for the initial engagement.

- Make sure guide buttons that extend beyond the face of the building have no sharp edges or points.

- Make sure guide buttons do not interfere with the handling or operation of cables, suspension wire ropes and lifelines that may be in contact with the building face.

- Make sure guide buttons, connections, and seals are either:
 - Able to sustain, without damage, at least the weight of the platform;

- Are prevented by the guide tracks or guide track connectors from having the weight of the platform and its attachments transmitted to them.

OR

- Are prevented by the guide tracks or guide track connectors from having the weight of the platform and its attachments transmitted to them.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60020, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60025 Stabilization system using angulated roping and building face rollers.**You must:**

- Make sure a stabilization system using angulated roping and building face rollers does all of the following:
 - Keeps the equipment in continuous contact with the building face

- Prevents sudden horizontal movement of the platform

- Maintains a stabilizing force of at least ten pounds (44.4 n) against the face of the building.

- Make sure the suspended portion of the equipment is not used more than one hundred thirty feet (39.6 m) above a safe surface or ground level.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60025, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60030 Cable stabilization.**You must:**

- Make sure hanging lifelines and all other cables not in tension are stabilized after the initial two hundred feet (61 m) of vertical travel of the working platform and every two hundred feet (61 m) thereafter.

- Make sure hanging cables which are in constant tension, other than suspended wire ropes, are stabilized after an initial six hundred feet (183 m) of vertical travel of the working platform and at intervals of six hundred feet (183 m) or less thereafter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60030, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60035 Electrical.**You must:**

- Make sure, when full load is applied to the equipment power circuit, that the building electrical wiring does not allow more than a five percent voltage drop from the building service vault voltage at any power circuit outlet used by the powered platform installation.

- Make sure the equipment power circuit is provided with a disconnect switch that is all of the following:
 - Able to be locked in either the "off" or "on" position

(2009 Ed.)

– Conveniently located with respect to the primary operating area of the equipment to allow equipment operators access to the switch

– Locked in the "on" position when the equipment is being used.

• Make sure the powered platform equipment power supply is an independent electrical circuit that remains separate from all other equipment within or on the building.

Exemption: The equipment power circuit may be connected to the electrical circuit supplying power to hand tools used in conjunction with the equipment.

Note: If the building is provided with an emergency power system, the equipment power circuit may also be connected to the emergency power system.

Reference: Unless otherwise specified in this section, building electrical installations have to meet the requirements of Electrical, Part L, in the General safety and health standards, chapter 296-24 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60035, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60040 Guarding roofs and other elevated areas.

You must:

• Make sure employees working on a roof or other elevated working area four feet (1.2 m) or more above an adjacent safe surface are protected by a perimeter guarding system.

Reference: Requirements for the perimeter guarding system are found in Guarding floor and wall openings and holes, WAC 296-24-750, found in the General safety and health standards, chapter 296-24 WAC.

You must:

• Make sure the inboard face of the perimeter guard is:
– Not more than six inches (152 mm) inboard of the inside face of a barrier such as the parapet wall or roof edge curb;

AND

– Not more than eighteen inches (457 mm) from the face of the building.

• Make sure an elevated track system that is designed to be traversed by carriage-supported equipment and located four feet (1.2 m) or more above an adjacent safe surface is either:

– Provided with a walkway and guardrail system;

OR

– Has a working platform that can be lowered, as part of normal operations, to the lower safe surface.

• Make sure personnel have a safe way to access and to egress from the lower safe surface.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60040, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60045 Moving equipment.

You must:

• Make sure all carriages and carriage-supported equipment can be traversed to a safe area for storage and maintenance.

• Make sure operational areas for trackless type equipment have structural stops, such as curbs, to prevent equipment from traveling outside its intended travel area.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60045, filed 9/19/06, effective 1/1/07.]

(2009 Ed.)

WAC 296-870-60050 Repair and maintenance.

You must:

• Make sure repair or major maintenance of parts of the building that provide primary support for suspended equipment does not affect the ability of the building to meet the requirements of this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60050, filed 9/19/06, effective 1/1/07.]

WAC 296-870-60055 Communications.

You must:

• Make sure an effective two-way voice communication system is provided between the equipment operators and persons stationed within the building.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-60055, filed 9/19/06, effective 1/1/07.]

WAC 296-870-700 Section contents.

IMPORTANT:

This section applies to permanent powered platform installations that meet either of the following:

• Were completed after July 23, 1990;

OR

• Have had major modifications done to an existing installation after July 23, 1990.

Definition:

A **new installation** is a permanent powered platform installation that was completed, or an existing installation that has had major modifications done, after July 23, 1990.

Note: If the powered platform equipment meets the requirements of the edition of American National Standard Institute/American Society of Mechanical Engineers ANSI/ASME A120.1, Safety Requirements for Powered Platforms for Building Maintenance, that was in effect when the powered platform installation was completed, it will be considered to meet the requirements of this section.

Your responsibility:

To make sure equipment used with new powered platform installations meets these requirements.

WAC 296-870-70005

Design and construction.

WAC 296-870-70010

Carriages.

WAC 296-870-70015

Carriage strength and stability.

WAC 296-870-70020

Carriage traversing.

WAC 296-870-70025

Transportable outriggers.

WAC 296-870-70030

Davits.

WAC 296-870-70035

Hoisting machines.

WAC 296-870-70040

Suspended equipment strength and stability.

WAC 296-870-70045

Suspended equipment guardrail system.

WAC 296-870-70050

Suspended working platforms and manned platforms used on supported equipment.

WAC 296-870-70055

Working platform fall protection.

WAC 296-870-70060

Two- and four-point suspended working platforms.

WAC 296-870-70065

Ground-rigged working platforms.

WAC 296-870-70070

Intermittently stabilized working platforms.

WAC 296-870-70075

Button guide stabilized working platforms.

WAC 296-870-70080

Supported equipment.

WAC 296-870-70085

Suspension wire ropes and rope connections.

WAC 296-870-70090

Control circuits, power circuits and electrical protective devices.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-700, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70005 Design and construction.

IMPORTANT:

This section applies to equipment which is part of a powered platform installation, such as platforms, stabilizing components, carriages, outriggers, davits, hoisting machines, wire ropes and electrical components.

You must:

- Make sure equipment installations are designed by, or under the direction of, a registered professional engineer experienced in such design.

- Make sure the design uses a minimum live load of two hundred fifty pounds (113.6 kg) for each occupant of a suspended or supported platform.

- Make sure equipment exposed to wind when not in service is designed to withstand loads generated by winds of at least one hundred miles per hour (44.7 m/s) at thirty feet (9.2 m) above grade.

- Make sure equipment exposed to wind when in service is designed to withstand loads generated by winds of at least fifty miles per hour (22.4 m/s) for all elevations.

- Make sure elevated building maintenance equipment is suspended by one of the following:

- A carriage

- Outriggers

- Davits

- An equivalent method.

- Make sure bolted connections are self-locking or otherwise secured to prevent loosening by vibration.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70005, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70010 Carriages.

You must:

- Make sure each carriage work station is identified by location markings or position indicators.

- Make sure means are provided to lock out the power supply for the carriage.

- Make sure safe access to and egress from the carriage is provided from a safe surface.

- Make sure any carriage access gate is either:

- Self-closing and self-latching;

OR

- Provided with an interlock.

- Make sure any operating area on the carriage is protected by a guardrail system.

Reference: Guardrail system requirements are found in Suspended equipment guardrail system, WAC 296-870-70045.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70010, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70015 Carriage strength and stability.

You must:

- Make sure roof carriage system stability is obtained by using gravity, attachment to a structural support, or a combination of gravity and structural attachment.

- Never use a material that can flow as a counterweight to achieve stability.

- Make sure the stability factor against overturning for horizontal traversing of the carriage, including wind and impact effects, is not less than two.

- Make sure carriages and their anchorages can resist accidental over-tensioning of the wire ropes suspending the platform. Include in the calculation the effect of one and one-half times the stall load of the hoist.

- Make sure all parts of the powered platform installation can withstand, without damage, the forces resulting from a load equal to the stall load of the hoist and one-half of the wind load.

- Make sure roof carriages which develop the required stability against overturning by using tie-down devices secured to the building have an interlock which will prevent vertical platform movement unless the tie-down is engaged.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70015, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70020 Carriage traversing.

You must:

- Make sure carriages used to suspend powered platforms meet all of the following:

- The horizontal movement of the carriage is controlled to permit it to be moved safely and to allow accurate positioning of the platform for vertical travel or storage

- Structural stops and curbs are provided to prevent traversing of the carriage beyond its designed limits of travel

- Powered carriages are limited to a maximum traversing speed of fifty feet per minute (0.3 m/s)

- Manually propelled carriages on a smooth level surface require a horizontal force of not more than one hundred pounds (44.8 n) per person to initiate a traversing movement.

- Make sure traversing controls for a powered carriage meet all of the following:

- Controls are continuous pressure weatherproof type

- Multiple controls, if provided, only permit operation from one control station at a time

- An emergency stop device that interrupts power to the carriage drive motors is provided on each end of the carriage.

- Make sure the operating controls of suspended equipment is connected so that traversing the carriage is not possible until:

- The suspended portion of the equipment is at the uppermost designed position for traversing and free of contact with the face of the building or building guides;

AND

- All protective devices and interlocks are in the proper position to allow traversing of the carriage.
- Make sure unintentional traversing of the carriage is prevented by providing one of the following:
 - An automatically applied braking or locking system, or the equivalent, for power-traversed or power-assisted carriages
 - A manual or automatic braking or locking system, or the equivalent, for manually propelled carriages.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70020, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70025 Transportable outriggers.**You must:**

- Make sure transportable outriggers are only used when all of the following are met:
 - They are used with self-powered, ground-rigged working platforms
 - The point of suspension is not higher than three hundred feet (91.5 m) above a safe surface
 - A tie-in guide stabilization system is provided.
- Make sure each outrigger is secured with a tie down to a verified anchorage on the building and meets all of the following:
 - The outrigger is tied down during the entire time it is used
 - The outrigger is tied back with a rope equivalent in strength to the suspension rope
 - The tie-back rope is installed parallel to the centerline of the outrigger
 - The anchorage has a design stability factor against overturning or upsetting of the outrigger of not less than four.
- Make sure access to and egress from the working platform is from and to a safe surface below the point of suspension.
- Make sure each outrigger has a design stability factor to prevent rollover in the event of an accidental lateral load on the outrigger of not less than seventy percent of the rated load of the hoist.
- Make sure each outrigger is designed to support an ultimate load of not less than four times the rated load of the hoist.
- Make sure each outrigger is located so that the suspension wire ropes for two point suspended working platforms are parallel.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70025, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70030 Davits.**You must:**

- Make sure all davit installations are designed and installed to have a stability factor against overturning of not less than four.
- Make sure access to and egress from the working platform of roof rigged davit systems:
 - Is from a safe surface;

AND

- Does not require persons to climb over a building parapet or guardrail.

(2009 Ed.)

- Make sure the working platform of a roof rigged davit system has wheels, casters, or a carriage for traversing horizontally.

- Make sure ground rigged davit systems meet all of the following:

- The point of suspension is not higher than three hundred feet (91.5 m) above a safe surface
- A tie-in guide stabilization system is provided
- Access to and egress from the working platform is from a safe surface below the point of suspension.

- Make sure a rotating davit of a ground rigged davit system requires a horizontal force of forty pounds (177.9 n) or less per person to initiate a rotating movement.

- Make sure a transportable davit or part of a davit weighing more than eighty pounds (36 kg) has means provided for its transport that keep the center of gravity of the davit at or below thirty-six inches (914 mm) above the safe surface during transport.

- Make sure a transportable davit is provided with a pivoting socket or base that allows the davit to be removed or inserted:

- At a position of not more than thirty-five degrees above the horizontal;

AND

- With the complete davit inboard of the building face.
- Make sure means are provided to lock a transportable davit to its socket or base before it is used to suspend the platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70030, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70035 Hoisting machines.**You must:**

- Make sure suspended or supported equipment is raised or lowered only by a hoisting machine.

- Make sure each hoisting machine is all of the following:

- Powered only by air, electric, or hydraulic sources
- Capable of raising or lowering one hundred twenty-five percent of the rated load of the hoist
- Able to arrest any overspeed descent of the load.
- Make sure the stall load of any hoist motor is not more than three times its rated load.

- Make sure any component of a hoisting machine that needs to be lubricated for protection or proper functioning has means provided to apply the lubricant.

- Make sure winding drums, traction drums and sheaves, and directional sheaves used in conjunction with hoisting machines are compatible with, and sized for, the wire rope used.

- Make sure each winding drum:
 - Has a positive means to attach the wire rope to the drum;

AND

- The attachment can develop at least four times the rated load of the hoist.

- Make sure each hoisting machine is provided with a primary brake that is all of the following:

- Capable of stopping and holding not less than one hundred twenty-five percent of the lifting capacity of the hoist

[Title 296 WAC—p. 3137]

- Directly connected to the drive train of the hoisting machine without using belts, chains, clutches, or set screw type devices

- Automatically set when power to the prime mover is interrupted.

- Make sure each hoisting machine is provided with at least one independent secondary brake that is all of the following:

- Capable of stopping and holding not less than one hundred twenty-five percent of the lifting capacity of the hoist

- An automatic emergency type of brake that, if actuated during each stopping cycle, does not engage before the hoist is stopped by the primary brake

- Able to stop and hold the platform within a vertical distance of twenty-four inches (609.6 mm) after the brake is actuated.

Reference: Moving parts of a hoisting machine need to be enclosed or guarded as required by another chapter, Machine safety, chapter 296-806 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70035, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70040 Suspended equipment strength and stability.

You must:

- Make sure each suspended unit component is:
 - Capable of supporting, without failure, at least four times the maximum intended live load applied or transmitted to it;

AND

- Constructed of materials that will withstand the anticipated weather conditions.

Exemption: The strength requirement does not apply to suspension ropes and guardrail systems.

You must:

- Make sure each suspended unit has a load rating plate that:

- Is conspicuously located;

AND

- States the suspended unit weight and rated load.

- Make sure suspended units that do not have the suspension points at the end of the unit:

- Are continuously stable for any position or use of the live load;

AND

- Maintain at least a one and one-half to one stability factor against unit upset.

- Make sure each suspended unit has guide rollers, guide shoes, or building face rollers that compensate for variations in building dimensions and for minor horizontal out-of-level variations of the suspended unit.

- Make sure the working platform of each suspended unit is secured to the building facade by at least one of the following methods:

- Continuous engagement to building anchors

- Intermittent engagement to building anchors

- Button guide engagement

- Angulated roping and building face rollers

- A system equivalent to continuous engagement to building anchors.

[Title 296 WAC—p. 3138]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70040, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70045 Suspended equipment guardrail system.

You must:

- Make sure each working platform of a suspended unit has a guardrail system on all sides that consists of a top guardrail, midrail, and a toeboard.

- Make sure the top guardrail is:

- At least thirty-eight inches (950 mm) high;

AND

- Able to withstand at least a two hundred pound (890 n) force in any downward or outward direction.

- Make sure the midrail is able to withstand at least a seventy-five pound (333 n) force in any downward or outward direction.

- Make sure material encloses the area:

- Between the top guardrail and the toeboard on the ends and outboard side of the platform;

AND

- Between the midrail and the toeboard on the inboard side of the platform.

- Make sure the material surrounding the platform is:

- Able to withstand a load of one hundred pounds (45.4 kg) applied horizontally over any area of one square foot (.09 m²);

AND

- Has openings small enough to not allow passage of life lines and potential falling objects.

- Make sure toeboards are all of the following:

- Capable of withstanding, without failure, a force of at least fifty pounds (222 n) applied at any point in a downward or horizontal direction

- At least four inches (9 cm) from their top edge to the level of the platform floor

- Securely fastened in place at the outermost edge of the platform

- Installed so there is not more than a one-half inch (1.3 cm) gap between the bottom of the toeboard and the platform floor

- Solid or with openings not more than one inch (2.5 cm) in the greatest dimension.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70045, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70050 Suspended working platforms and manned platforms used on supported equipment.

You must:

- Make sure the width of the working platform is:

- At least twenty-four inches (610 mm);

AND

- Allows a minimum of a twelve-inch (305 mm) wide passage at or past any obstruction on the platform.

- Make sure the platform has slip-resistant flooring.

- Make sure any opening in the platform is either:

- Small enough to prevent passage of life lines, cables, and other potential falling objects;

OR

(2009 Ed.)

- Protected by material under the opening which prevents the passage of life lines, cables, and potential falling objects.

- Make sure means are provided to store any cable suspended from above the platform to keep it from accumulating on the floor of the platform.

- Make sure means are provided to secure all tools, water tanks, and other accessories to keep them from moving or accumulating on the floor of the platform.

- Make sure flammable liquids are not carried on the working platform.

- Make sure a type B-C portable fire extinguisher is provided and securely attached on all working platforms.

- Make sure operating controls for vertical travel of the platform are:

- Continuous-pressure type;

AND

- Located on the platform.

- Make sure the maximum rated speed of the platform is limited to:

- Fifty feet per minute (0.3 ms) for single speed hoists;

AND

- Seventy-five feet per minute (0.4 ms) for multispeed hoists.

- Make sure access to and egress from a working platform, except for those that land directly on a safe surface, is provided by stairs, ladders, platforms or runways.

- Make sure access gates are self-closing and self-latching.

Reference: Requirements for stairs, ladders, platforms and runways are found in other chapters:
 – Working Surfaces, Guarding Floors and Wall Openings, Ladders, Part J-1 in the General safety and health standards, chapter 296-24 WAC
 – Scaffolds, chapter 296-874 WAC
 – Ladders, portable, chapter 296-876 WAC.

You must:

- Make sure a suspended platform's suspension system restricts the platform inboard to outboard roll around its longitudinal axis to not more than fifteen degrees from the horizontal when moving the live load from the inboard to the outboard side of the platform.

Note: The roll limitation does not apply to supported equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70050, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70055 Working platform fall protection.

You must:

- Make sure a secondary wire rope suspension system which prevents the platform from falling if the primary means of support fails is provided on:

- Working platforms that contain overhead structures which restrict emergency egress;

AND

- Single-point suspended working platforms.

- Make sure each person on the working platform is provided with a fall arrest system that:

- Meets the requirements of Appendix C—Personal fall arrest system, WAC 296-24-88050, found in the General safety and health standards, chapter 296-24 WAC;

(2009 Ed.)

AND

- Uses a horizontal lifeline or direct connection anchorage on platforms that contain overhead structures which restrict emergency egress.

- Make sure platforms suspended by two or more wire ropes are provided with vertical lifelines if failure of one wire rope or suspension attachment will cause the platform to upset.

Note: Vertical lifelines are not required for the fall arrest system if a secondary wire rope suspension is used and each person is attached to a horizontal lifeline anchored to the platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70055, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70060 Two- and four-point suspended working platforms.

IMPORTANT:

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

- Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050

- Working platform fall protection, WAC 296-870-70055.

You must:

- Make sure an emergency electric operating device is provided on roof powered platforms that:

- Can be used if either the normal operating device located on the platform or the cable connected to the platform fails;

AND

- Is mounted in a secured compartment near the hoisting machine.

- Make sure the secured compartment containing the emergency electric operating device:

- Is labeled with instructions for using the emergency electric operating device;

AND

- Has means for opening the compartment mounted in:

- A break-glass receptacle near the emergency electric operating device;

OR

- An equivalent secure and accessible location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70060, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70065 Ground-rigged working platforms.

IMPORTANT:

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

- Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050

- Working platform fall protection, WAC 296-870-70055.

You must:

- Make sure, after each day's use, ground-rigged working platforms are:

- Disconnected from the power supply within the building;

AND

– Disengaged from its suspension points or secured and stored at grade.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70065, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70070 Intermittently stabilized working platforms.**IMPORTANT:**

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

- Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050;
- Working platform fall protection, WAC 296-870-70055.

You must:

- Make sure each stabilizer tie is equipped with a "quick connect - quick disconnect" device for attachment to the building anchor that:

- Cannot be accidentally disengaged;

AND

- Is resistant to adverse environmental conditions.

- Make sure the platform has a stopping device that will interrupt the hoist power supply in the event the platform contacts a stabilizer tie during its ascent.

- Make sure intermittently stabilized platforms use stabilizer ties that:

- Allow the specific attachment length needed to obtain the predetermined angulation of the suspended wire rope;

AND

- Maintain the specific attachment length at all building anchor locations.

- Make sure stabilizer ties can be attached and removed without horizontal movement of the platform.

- Make sure platform-mounted equipment and suspension wire ropes:

- Will not be damaged by the loads from the stabilizer tie or its building anchor;

AND

- Are able to withstand a load that is at least twice the ultimate strength of the stabilizer tie.

- Make sure building face rollers are placed so they do not contact exterior anchors used on the building face.

- Make sure the platform maintains continuous contact with the building face while ascending and descending.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70070, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70075 Button guide stabilized working platforms.**IMPORTANT:**

In addition to these requirements, you also need to meet the requirements of both of the following sections in this chapter:

- Suspended working platforms and manned platforms used on supported equipment, WAC 296-870-70050;
- Working platform fall protection, WAC 296-870-70055.

[Title 296 WAC—p. 3140]

You must:

- Make sure two guide tracks are mounted on the platform and provide continuous contact with the building face.

- Make sure each guide track on the platform meets all of the following:

- Engages a minimum of two guide buttons during any vertical travel of the platform after the initial button engagement

- Is sufficiently maneuverable by platform occupants to permit easy engagement of the guide buttons

- Can be easily moved into and out of its storage position on the platform.

- Make sure each guide track on the platform of a roof-rigged system has a storage position on the platform.

- Make sure load carrying components of the button guide stabilization system which transmit the load into the platform are either:

- Able to support the weight of the platform;

OR

- Are prevented by the guide track connectors or platform attachments from having the weight of the platform transmitted to the platform attachments.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70075, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70080 Supported equipment.**IMPORTANT:**

Manned platforms used on supported equipment need to meet all the requirements, except the inboard to outboard roll limitation, of suspended working platforms and manned platforms used on supported equipment, WAC 296-870-60050.

You must:

- Make sure supported equipment uses means other than friction to maintain a vertical position relative to the face of the building.

- Make sure cog wheels or equivalent means are incorporated to provide climbing traction between the supported equipment and the building guides.

- Make sure additional guide wheels or shoes are incorporated as necessary to keep the drive wheels continuously in positive engagement with the building guides.

- Make sure that, at the point where the drive wheels enter the building guides, proper alignment is maintained using launch guide mullions that are:

- Indexed to the building guides;

AND

- Retained in alignment with the building guides.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70080, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70085 Suspension wire ropes and rope connections.**You must:**

- Make sure each specific installation uses suspension wire ropes and connections or combination cable and connections meeting the specifications recommended by the hoisting machine manufacturer.

- Make sure connections are capable of developing at least eighty percent of the rated breaking strength of the wire rope.

- Make sure each suspension rope has a design factor of at least ten.

Definition:

The design factor is the ratio of the rated strength of the suspension wire rope to the rated working load. It is calculated using the following formula:

$$F = (S \times N) / W$$

Where:

F = Design factor

S = Manufacturer's rated strength of one suspension rope

N = Number of suspension ropes under load

W = Rated working load on all ropes at any point of travel.

Example:

A working platform is suspended by 4 wire ropes (N), each having a rated strength (S) of three thousand pounds. The rated working load of the platform (W) is one thousand pounds.

Calculate the design factor (F) as follows:

$$F = (S \times N) / W = (3000 \times 4) / 1000 = 12000 / 1000 = 12$$

You must:

- Make sure the minimum grade of suspension wire rope used is improved plow steel or equivalent.
 - Make sure suspension wire ropes are sized to conform with the required design factor, but never less than 5/16 inch (7.94 mm) in diameter.
 - Make sure there is not more than one reverse bend in six wire rope lays.
 - Make sure a suspension wire rope that is to be used at a specific location, and will remain at that location, has a corrosion-resistant tag that:
 - Is securely attached to one of the wire rope fastenings;
- AND**
- Bears the following wire rope information:
 - Diameter in inches or millimeters (mm)
 - Construction classification
 - Whether nonpreformed or preformed
 - Grade of material
 - Manufacturer's rated strength
 - Manufacturer's name
 - Month and year the ropes were installed
 - Name of the person or company which installed the ropes.
 - Make sure a new tag is installed at each wire rope renewal.
 - Make sure when resocketing the wire rope either:
 - The original tag is stamped with the date of resocketing;
- OR**
- The original tag is retained and a supplemental tag added that shows:
 - The date of resocketing;
- AND**
- The name of the person or company that resocketed the rope.
 - Make sure winding drum type hoists contain at least three wraps of the suspension wire rope on the drum when the suspended unit has reached the lowest possible point of its vertical travel.
 - Make sure traction drum and sheave type hoists use wire rope long enough to reach the lowest possible point of

(2009 Ed.)

vertical travel of the suspended unit, and an additional length of the wire rope of at least four feet (1.2 m).

- Make sure suspension wire rope is never lengthened or repaired.
- Make sure babbitted fastenings are never used with suspension wire rope.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060, 06-19-075, § 296-870-70085, filed 9/19/06, effective 1/1/07.]

WAC 296-870-70090 Control circuits, power circuits and electrical protective devices.

Reference: Unless otherwise specified in this chapter, make sure electrical wiring and equipment meet the requirements of Electrical, Part L in the General safety and health standards, chapter 296-24 WAC.

You must:

- Make sure electrical runway conductor systems are:
 - Designed for use in exterior locations;
- AND**
- Located so they do not come in contact with accumulated snow or water.
 - Make sure cables are protected against damage resulting from over-tensioning or other causes.
 - Make sure the control system requires the operator to follow predetermined procedures to operate suspended or supported equipment.
 - Make sure the control system has:
 - Devices included to protect the equipment against electrical overloads, three-phase reversal and phase failure;
- AND**
- A separate method that is independent of the direction control circuit to break the power circuit in case of an emergency or malfunction.
 - Make sure installations where the carriage does not have a stability factor of at least four against overturning have electrical contacts provided and connected so that the operating devices for suspended or supported equipment will only function when the carriage is located and mechanically retained at an established operating point.
 - Make sure the hoisting or suspension system has overload protection to prevent the equipment from operating in the "up" direction with a load greater than one hundred twenty-five percent of the rated load of the platform.
 - Make sure an automatic detector is provided for each suspension point that will do both of the following if a suspension wire rope becomes slack:
 - Interrupt power to all hoisting motors for travel in the "down" direction;
- AND**
- Apply the primary brakes.
- Note:** A continuous-pressure rigging-bypass switch designed for use during rigging is permitted. It can only be used during rigging.
- You must:**
- Make sure upper and lower directional switches are provided that are designed to prevent the travel of suspended units beyond safe upward and downward levels.
 - Make sure remote controlled, roof-powered manned platforms have an emergency stop switch located adjacent to each control station on the platform.

- Make sure cables which are in constant tension have overload devices which will prevent the tension in the cable from interfering with:

- The device that limits the hoist from lifting a load greater than one hundred twenty-five percent of the rated load of the platform;

AND

- The platform roll limiting device required by WAC 296-870-70050, Suspended working platforms and manned platforms used on supported equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-70090, filed 9/19/06, effective 1/1/07.]

WAC 296-870-800 Definitions.

Anemometer. An instrument for measuring wind velocity.

Angulated roping. A suspension method where the upper point of suspension is inboard from the attachments on the suspended unit, thus causing the suspended unit to bear against the face of the building.

Building face rollers. A specialized form of guide roller designed to ride on the face of the building wall to prevent the platform from abrading the face of the building and to assist in stabilizing the platform.

Building maintenance. Operations such as window cleaning, caulking, metal polishing, reglazing, and general maintenance on building surfaces.

Cable. A conductor, or group of conductors, enclosed in a weatherproof sheath, that may be used to:

- Supply electrical power or control current for equipment;

OR

- Provide voice communication circuits.

Carriage. A wheeled vehicle used for the horizontal movement and support of other equipment.

Certification. A written, signed, and dated statement confirming the performance of a requirement.

Combination cable. A cable having both steel structural members capable of supporting the platform, and copper or other electrical conductors insulated from each other and the structural members by nonconductive barriers.

Competent person. Someone who:

- Is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;

AND

- Has the authority to take prompt corrective measures to eliminate them.

Continuous pressure. Operation of a control by requiring constant manual actuation for the control to function.

Control. A system or mechanism used to regulate or guide the operation of equipment.

Davit. A device, used singly or in pairs, for suspending a powered platform from work, storage and rigging locations on the building being serviced. Unlike outriggers, a davit reacts its operating load into a single roof socket or carriage attachment.

Design factor. The ratio of the rated strength of the suspension wire rope to the rated working load. It is calculated using the following formula:

$$F = (S \times N)/W$$

Where:

F = Design factor

S = Manufacturer's rated strength of one suspension rope

N = Number of suspension ropes under load

W = Rated working load on all ropes at any point of travel.

Equivalent. Alternative design, material or method to protect against a hazard. You have to demonstrate it provides an equal or greater degree of safety for employees than the method, material or design specified in the rule.

Existing installation. A permanent powered platform installation that:

- Was completed before July 23, 1990;

AND

- Has had no major modification done after July 23, 1990.

Ground rigging. A method of suspending a working platform starting from a safe surface to a point of suspension above the safe surface.

Ground rigged davit. A davit which cannot be used to raise a suspended working platform above the building face being serviced.

Guide button. A building face anchor designed to engage a guide track mounted on a platform.

Guide roller. A rotating cylindrical member that provides continuous engagement between the suspended or supported equipment and the building guides. It may operate separately or as part of a guide assembly.

Guide shoe. A device that is similar to a guide roller but is designed to provide a sliding contact between the shoe and the building guides.

Hoisting machine. A device intended to raise and lower a suspended or supported unit.

Installation. A powered platform installation consists of all the equipment and the parts of the building involved with using the powered platform for building maintenance.

Interlock. A device designed to ensure that operations or motions occur in proper sequence.

Intermittent stabilization. A method of platform stabilization in which the angulated suspension wire ropes are secured to regularly spaced building anchors.

Lanyard. A flexible line of rope, wire rope or strap which is used to secure the body harness to a deceleration device, lifeline or anchorage.

Lifeline. A component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline). It serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Live load. The total static weight of workers, tools, parts, and supplies that the equipment is designed to support.

New installation. A permanent powered platform installation that was completed, or an existing installation that has had major modifications done, after July 23, 1990.

Operating control. A mechanism regulating or guiding the operation of equipment that makes sure the equipment operates in a specific mode.

Operating device. A push button, lever, or other manual device used to actuate a control.

Outrigger. A device, used singly or in pairs, for suspending a working platform from work, storage, and rigging

locations on the building being serviced. Unlike davits, an outrigger reacts its operating moment load as at least two opposing vertical components acting into two or more distinct roof points and/or attachments.

Poured socket. A method of providing wire rope termination in which the ends of the rope are held in a tapered socket by means of poured splter or resins.

Primary brake. A brake designed to be applied automatically whenever power to the prime mover is interrupted or discontinued.

Prime mover. The source of mechanical power for a machine.

Rated load. The manufacturer's specified maximum load.

Rated strength. The strength of wire rope, as designated by its manufacturer or vendor, based on standard testing procedures or acceptable engineering design practices.

Rated working load. The combined static weight of workers, materials, and suspended or supported equipment.

Registered professional engineer. A person who has been duly and currently registered and licensed by an authority within the United States or its territories to practice the profession of engineering.

Roof-powered platform. A powered platform having the raising and lowering mechanism located on the roof.

Roof-rigged davit. A davit used to raise the suspended working platform above the building face being serviced. This type of davit can also be used to raise a suspended working platform which has been ground rigged.

Rope. The equipment, such as wire rope, that is used to suspend a component of an equipment installation.

Safe surface. A horizontal surface that provides reasonable assurance that personnel occupying the surface will be protected from falls. This protection can be provided by location, a fall protection system, or other equivalent method.

Secondary brake. A brake designed to arrest the descent of the suspended or supported equipment in the event of an overspeed condition.

Stability factor. The ratio of the stabilizing moment to the overturning moment.

Stabilizer tie. A flexible line connecting the building anchor and the suspension wire rope supporting the platform.

Supported equipment. Building maintenance equipment that is held in or moved to its working position by means of attachment directly to the building or extensions of the building being maintained.

Suspended equipment. Building maintenance equipment that is suspended and raised or lowered to its working position by means of ropes or combination cables attached to some anchorage above the equipment.

Tie-in guides. The portion of a building that provides continuous positive engagement between the building and a suspended or supported unit during its vertical travel on the face of the building.

Transportable outriggers. Outriggers designed to be moved from one work location to another.

Type F powered platform. A powered platform that has both of the following characteristics:

- The working platform is suspended by at least four wire ropes and designed so that failure of any one wire rope

(2009 Ed.)

will not substantially alter the normal position of the working platform

- Only one layer of hoisting rope is permitted on the winding drums.

Type T powered platform. A powered platform installation that has a working platform suspended by at least two wire ropes. The platform will not fall to the ground if a wire rope fails, but the working platform's normal position would be upset.

Weatherproof. Constructed or protected so that exposure to the weather will not interfere with successful operation.

Winding drum hoist. A type of hoisting machine that accumulates the suspension wire rope on the hoisting drum.

Working platform. The suspended or supported equipment intended to provide access to the face of the building and manned by persons engaged in building maintenance.

Wrap. One complete turn of the suspension wire rope around the surface of a hoist drum.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 47.17.060. 06-19-075, § 296-870-800, filed 9/19/06, effective 1/1/07.]

Chapter 296-874 WAC

SCAFFOLDS

WAC

296-874-100	Scope.
296-874-200	General requirements for scaffolds.
296-874-20002	Make sure scaffolds are properly designed and constructed.
296-874-20004	Make sure scaffolds are erected, moved, altered, or dismantled by appropriate persons.
296-874-20006	Maintain structural integrity when intermixing scaffold components.
296-874-20008	Make sure platforms are properly planked or decked.
296-874-20010	Make sure platforms meet minimum width requirements.
296-874-20012	Meet these requirements when using shorter platforms to create a longer platform.
296-874-20014	Lay platform planks properly when the platform changes direction.
296-874-20016	Stabilize the ends of platforms.
296-874-20018	Keep platform sag within acceptable limits.
296-874-20020	Provide safe access to scaffolds.
296-874-20022	Make sure portable, hook-on, and attachable ladders meet these requirements.
296-874-20024	Make sure stairway-type ladders meet these requirements.
296-874-20026	Make sure stair towers meet these requirements.
296-874-20028	Make sure stair rails and handrails meet these requirements.
296-874-20030	Make sure ramps and walkways used to access scaffolds meet these requirements.
296-874-20032	Make sure surfaces used to access scaffolds are close enough to use safely.
296-874-20034	Inspect scaffolds and scaffold components.
296-874-20036	Make sure damaged or weakened scaffolds meet minimum strength requirements.
296-874-20038	Make sure scaffolds are properly loaded.
296-874-20040	Protect employees when moving scaffolds.
296-874-20042	Increase employee working level height on scaffolds safely.
296-874-20044	Control loads being hoisted near scaffolds.
296-874-20046	Protect employees from energized power lines.
296-874-20048	Protect employees from weather hazards.
296-874-20050	Protect employees from slipping and tripping hazards.
296-874-20052	Provide fall protection for employees on scaffolds.
296-874-20054	Provide fall protection if a scaffold is too far from the work face.
296-874-20056	Provide specific fall protection for specific types of scaffolds.
296-874-20058	Make sure personal fall arrest systems meet these requirements.

296-874-20060	Make sure vertical lifelines used with personal fall arrest systems meet these requirements.
296-874-20062	Make sure horizontal lifelines used with personal fall arrest systems meet these requirements.
296-874-20064	Make sure guardrail systems meet these requirements.
296-874-20066	Provide falling object protection.
296-874-20068	Provide additional support lines on suspended scaffolds using a canopy for falling object protection.
296-874-20070	Make sure toeboards meet these requirements.
296-874-20072	Train employees who work on a scaffold.
296-874-20074	Train employees who erect, dismantle, operate or maintain scaffolds.
296-874-20076	Retrain employees when necessary.
296-874-300	Suspended scaffolds.
296-874-30002	Make sure suspended scaffolds and scaffold components meet these strength requirements.
296-874-30004	Make sure suspended scaffold outrigger beams meet these requirements.
296-874-30006	Make sure counterweights are safe and used properly.
296-874-30008	Make sure tiebacks meet these requirements.
296-874-30010	Make sure suspended scaffold support devices meet these requirements.
296-874-30012	Make sure scaffold hoists meet these requirements.
296-874-30014	Make sure scaffold hoists retain enough suspension rope.
296-874-30016	Make sure wire rope is in good condition.
296-874-30018	Make sure wire suspension rope connections meet these requirements.
296-874-30020	Make sure wire rope clips are used properly.
296-874-30022	Prevent swaying of two-point and multipoint suspension scaffolds.
296-874-30024	Use emergency escape and rescue devices appropriately.
296-874-30026	Protect suspension ropes from heat or corrosive substances.
296-874-30028	Take precautions while welding.
296-874-30030	Prohibit use of gasoline-powered equipment on suspended scaffolds.
296-874-30032	Meet these requirements when using catenary scaffolds.
296-874-30034	Meet these requirements when using float (ship) scaffolds.
296-874-30036	Meet these requirements when using interior hung scaffolds.
296-874-30038	Meet these requirements when using multilevel suspended scaffolds.
296-874-30040	Meet these requirements when using multipoint adjustable suspension scaffolds.
296-874-30042	Meet these requirements when using needle beam scaffolds.
296-874-30044	Meet these requirements when using single-point adjustable suspension scaffolds.
296-874-30046	Meet these requirements when using two-point adjustable suspension scaffolds (swing stages).
296-874-400	Supported scaffolds.
296-874-40002	Make sure supported scaffolds and scaffold components meet strength requirements.
296-874-40004	Prevent supported scaffolds from tipping.
296-874-40006	Make sure supported scaffolds are properly supported.
296-874-40008	Provide safe access for persons erecting or dismantling supported scaffolds.
296-874-40010	Provide fall protection for persons erecting or dismantling supported scaffolds.
296-874-40012	Meet these requirements when moving mobile scaffolds.
296-874-40014	Meet these requirements when using bricklayers' square scaffolds (squares).
296-874-40018	Meet these requirements when using fabricated frame scaffolds (tubular welded frame scaffolds).
296-874-40020	Meet these requirements when using integral prefabricated scaffold access frames.
296-874-40022	Meet these requirements when using form scaffolds and carpenter's bracket scaffolds.
296-874-40024	Meet these requirements when using horse scaffolds.
296-874-40026	Meet these requirements when using ladder jack scaffolds.
296-874-40028	Meet these requirements when using outrigger scaffolds.
296-874-40030	Meet these requirements when using pole scaffolds.
296-874-40032	Meet these requirements when using pump jack scaffolds.
296-874-40034	Meet these requirements when using repair bracket scaffolds.
296-874-40036	Meet these requirements when using roof bracket scaffolds.

296-874-40038	Meet these requirements when using step, platform and trestle ladder scaffolds.
296-874-40040	Meet these requirements when using tube and coupler scaffolds.
296-874-40042	Meet these requirements when using window jack scaffolds.
296-874-500	Definitions.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-874-40016	Meet these requirements when using crawling boards (chicken ladders). [Statutory Authority: RCW 49.17.-010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40016, filed 12/7/04, effective 3/1/05.] Repealed by 07-17-026, filed 8/7/07, effective 10/6/07. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
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WAC 296-874-100 Scope. This chapter applies to suspended and supported scaffolds, including their supporting structure and anchorage points.

- Exemption:** This chapter does not apply to:
- Manually propelled elevating work platforms;
 - Self-propelled elevating work platforms;
 - Boom-supported elevating work platforms;
 - Aerial lifts;
 - Crane or derrick suspended personnel platforms;
 - Personnel platforms supported by powered industrial trucks (PITs).

Reference: Additional requirements for the following types of platforms are found in the general safety and health standards, chapter 296-24 WAC. Go to the following sections:

- For elevating work platforms and aerial lifts, go to elevating work platforms, WAC 296-24-875;
- For crane or derrick suspended personnel platforms, go to WAC 296-24-23533;
- For personnel platforms supported by powered industrial trucks (PITs), go to chapter 296-863 WAC.

Definition:

A **scaffold** is a temporary elevated platform, including its supporting structure and anchorage points, used for supporting employees or materials.

A **suspended scaffold** is one or more platforms suspended from an overhead structure by ropes or other nonrigid means.

A **supported scaffold** is one or more platforms supported by rigid means such as outrigger beams, brackets, poles, legs, uprights, posts, or frames.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-17-026, § 296-874-100, filed 8/7/07, effective 10/6/07; 05-01-054, § 296-874-100, filed 12/7/04, effective 3/1/05.]

WAC 296-874-200 General requirements for scaffolds.

Section contents:

Your responsibility:

To make sure all scaffolds meet these requirements. Make sure scaffolds are properly designed and constructed

WAC 296-874-20002.

Make sure scaffolds are erected, moved, altered, or dismantled by appropriate persons

WAC 296-874-20004.

Maintain structural integrity when intermixing scaffold components

WAC 296-874-20006.

Make sure platforms are properly planked or decked

WAC 296-874-20008.

Make sure platforms meet minimum width requirements
WAC 296-874-20010.

Meet these requirements when shorter platforms are used to create a longer platform
WAC 296-874-20012.

Lay platform planks properly when the platform changes direction
WAC 296-874-20014.

Stabilize the ends of platforms
WAC 296-874-20016.

Keep platform sag within acceptable limits
WAC 296-874-20018.

Provide safe access to scaffolds
WAC 296-874-20020.

Make sure portable, hook-on, and attachable ladders meet these requirements
WAC 296-874-20022.

Make sure stairway-type ladders meet these requirements
WAC 296-874-20024.

Make sure stair towers meet these requirements
WAC 296-874-20026.

Make sure stair rails and handrails meet these requirements
WAC 296-874-20028.

Make sure ramps and walkways used to access scaffolds meet these requirements
WAC 296-874-20030.

Make sure surfaces used to access scaffolds are close enough to use safely
WAC 296-874-20032.

Inspect scaffolds and scaffold components
WAC 296-874-20034.

Make sure damaged or weakened scaffolds meet minimum strength requirements
WAC 296-874-20036.

Make sure scaffolds are properly loaded
WAC 296-874-20038.

Protect employees when moving scaffolds
WAC 296-874-20040.

Increase employee working level height on scaffolds safely
WAC 296-874-20042.

Control loads being hoisted near scaffolds
WAC 296-874-20044.

Protect employees from energized power lines
WAC 296-874-20046.

Protect employees from weather hazards
WAC 296-874-20048.

Protect employees from slipping and tripping hazards
WAC 296-874-20050.

Provide fall protection for employees on scaffolds
WAC 296-874-20052.

Provide fall protection if the scaffold is too far from the work face
WAC 296-874-20054.

Provide specific fall protection for specific types of scaffolds
WAC 296-874-20056.

Make sure personal fall arrest systems meet these requirements

(2009 Ed.)

WAC 296-874-20058.

Make sure vertical lifelines used with personal fall arrest systems meet these requirements
WAC 296-874-20060.

Make sure horizontal lifelines used with personal fall arrest systems meet these requirements
WAC 296-874-20062.

Make sure guardrail systems meet these requirements
WAC 296-874-20064.

Provide falling object protection
WAC 296-874-20066.

Provide additional support lines on suspended scaffolds using a canopy for falling object protection
WAC 296-874-20068.

Make sure toeboards meet these requirements
WAC 296-874-20070.

Train employees who work on scaffolds
WAC 296-874-20072.

Train employees who erect, dismantle, operate or maintain scaffolds
WAC 296-874-20074.

Retrain employees when necessary
WAC 296-874-20076.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-200, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20002 Make sure scaffolds are properly designed and constructed.

You must:

- Make sure scaffolds are:
 - Designed by a qualified person;
- AND**
- Constructed according to that design.
- Prohibit the use of shore and lean-to scaffolds.

Definition:

A **qualified person** is one who has demonstrated the ability to solve problems related to the subject matter, work, or project. This can be done by having either:

- A recognized degree, certificate, or professional standing;
- OR**
- Extensive knowledge, training, and experience.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20002, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20004 Make sure scaffolds are erected, moved, altered, or dismantled by appropriate persons.

You must:

- Make sure scaffolds are erected, moved, altered, or dismantled only when the work is:
 - Supervised and directed by a competent person qualified in scaffold erection, moving, dismantling, or alteration;
- AND**
- Done by experienced and trained employees selected by the competent person.

Definition:

A **competent person** is someone who:

- Is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;

AND

- Has the authority to take prompt corrective measures to eliminate them.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20004, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20006 Maintain structural integrity when intermixing scaffold components.

You must:

- Make sure intermixed scaffold components:
 - Fit together without force;

AND

- Maintain the scaffold's structural integrity.

- Make sure a qualified person determines that modifying components in order to intermix them will result in a structurally sound scaffold.

- Make sure scaffold components made of different metals are not used together.

Exemption: Different types of metals may be used together if a competent person determines that galvanic action will not reduce the strength of any component to less than the minimum strength required.

Reference: The minimum strength requirements are found in the following sections:

- Suspended scaffolds, WAC 296-874-30002;
- Supported scaffolds, WAC 296-874-40002.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20006, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20008 Make sure platforms are properly planked or decked.

You must:

- Fully plank or deck each platform between the front uprights and the guardrail supports on all working levels of a scaffold so that there is no more than one inch (2.5 cm):

- Between adjacent units;

AND

- Between the platform and the uprights.

Exemption: • There may be more than one inch between platform units if all of the following are met:

- You can demonstrate that a wider space is necessary, such as to fit around uprights when side brackets are used to extend the platform width;
- The platform is planked or decked as fully as possible;
- The open space between the platform and the guardrail supports is nine and one-half inches (24.1 cm) or less.

• Platforms used solely as walkways or only by employees erecting or dismantling scaffolds do not have to be fully decked or planked if:

- The planking provided makes for safe working conditions;

AND

- Employees on those platforms are protected from falling.

REFERENCE		
Fall protection requirements for employees:	Are located in the following chapters:	In the following sections:
On walkways within scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-20056
Erecting or dismantling supported scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-40010

REFERENCE		
Fall protection requirements for employees:	Are located in the following chapters:	In the following sections:
Erecting or dismantling suspended scaffolds in general industry	Chapter 296-24 WAC, General safety and health standards	Part J-1 Working surfaces, guarding floors and wall openings, ladders AND Part J-3 Powered platforms
Erecting or dismantling suspended scaffolds in construction work	Chapter 296-155 WAC, Safety standards for construction work	Part C-1 Fall restraint and fall arrest AND Part K Floor openings, wall openings, and stairways

You must:

- Make sure wood platforms are not covered with an opaque finish.

Exemption: Platform edges may be covered or marked for identification.

Note: Platforms may be coated periodically with wood preservatives, fire-retardant finishes, or slip-resistant finishes if the coating does not obscure the top or bottom wood surfaces.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20008, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20010 Make sure platforms meet minimum width requirements.

You must:

- Make sure scaffold platforms meet the minimum width requirements of Table 1, Minimum Platform Width.

**Table 1
Minimum Platform Width**

Type of Scaffold	Minimum Platform Width Required
Ladder jack scaffold Pump jack scaffold Roof bracket scaffold Top plate bracket scaffold	12 inches (20 cm)
Boatswain's chair	No minimum width
All other scaffolds	18 inches (46 cm) Exemption: Platforms and walkways may be less than 18 inches (46 cm) wide if all of the following are met: • You can demonstrate that the area is so narrow that the platform or walkway cannot be at least 18 inches (46 cm) wide • The platform or walkway is as wide as feasible • Employees on those platforms or walkways are protected from falling by using guardrails or personal fall arrest systems.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20010, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20012 Meet these requirements when using shorter platforms to create a longer platform.**You must:**

- Make sure, when platforms are overlapped to create a longer platform, that:

- The overlap is over a support;

AND

- The platforms are either:

- Overlapped by at least twelve inches (30 cm);

OR

- Are nailed together or otherwise prevented from moving.

- Make sure, when platforms are butted together to create a longer platform, that each abutted platform end rests on a separate support surface.

Note: Platforms may butt together on a common support member if the member is designed to support abutting platforms, such as either:

- A "T" section;

OR

- Hook-on platforms designed to rest on common supports.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20012, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20014 Lay platform planks properly when the platform changes direction.**You must:**

- Do the following whenever platforms overlap to change direction:

- First lay the platform that rests on a bearer at an angle other than a right angle;

THEN

- Lay the platform that is perpendicular to the bearer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20014, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20016 Stabilize the ends of platforms.**You must:**

- Make sure each end of a platform:

- Is cleated or restrained by hooks or equivalent means;

OR

- Extends over the centerline of its support at least six inches (15 cm).

- Make sure the cantilevered portion of a platform meets at least one of the following:

- Is designed and installed to support employees or material without tipping;

- Has guardrails which block employee access to the cantilevered end;

- Extends over its support not more than:

- Twelve inches (30 cm) if the platform length is ten feet or less;

OR

- Eighteen inches (46 cm) if the platform length is greater than ten feet.

Note: The cantilevered portion of a platform is the portion that is not supported on one end.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20016, filed 12/7/04, effective 3/1/05.]

(2009 Ed.)

WAC 296-874-20018 Keep platform sag within acceptable limits.**You must:**

- Make sure a loaded platform does not sag more than one-sixtieth of the span.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20018, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20020 Provide safe access to scaffolds.**You must:**

- Provide scaffold platforms more than two feet (0.6 m) above or below a point of access with at least one of the following means of access:

- Portable, hook-on, or attachable ladder;

- Stairway-type ladder;

- Ladder stand;

- Stair tower (scaffold stairway or tower);

- Ramp;

- Walkway;

- Integral prefabricated scaffold access;

- Direct access from another scaffold, structure, personnel hoist, or similar surface.

- Make sure crossbraces are not used as a means of access.

Reference: For requirements about integral prefabricated scaffold access, go to WAC 296-874-40020.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20020, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20022 Make sure portable, hook-on, and attachable ladders meet these requirements.**You must:**

- Position portable, hook-on, and attachable ladders so they do not tip the scaffold.

- Make sure hook-on and attachable ladders meet all of the following:

- Specifically designed and used for that type of scaffold;

- Have rungs that are:

- Uniformly spaced;

- Not more than sixteen and three-quarters inches apart;

- At least eleven and one-half inches (29 cm) long;

- Lined up vertically between rest platforms.

- Position the bottom rung not more than twenty-four inches (61 cm) above the scaffold supporting level.

- Have rest platforms at vertical intervals not greater than twenty-four feet (7.3 m) on supported scaffolds.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20022, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20024 Make sure stairway-type ladders meet these requirements.**You must:**

- Make sure stairway-type ladders meet all of the following:

- Position the bottom step not more than twenty-four inches (61 cm) above the scaffold supporting level;

- Have rest platforms not more than twelve feet (3.7 m) apart vertically;

- Have slip-resistant surfaces on treads and landings;

- Have steps that:

- Are at least sixteen inches (41 cm) wide;

AND

- Line up vertically between rest platforms.
 - Make sure mobile ladder stands have steps that are at least eleven and one-half inches (30 cm) wide.

Definition:

A **ladder stand** is a mobile, fixed-size, self-supporting ladder consisting of a wide flat tread ladder in the form of stairs.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20024, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20026 Make sure stair towers meet these requirements.

You must:

- Make sure stair towers (scaffold stairways or towers) meet all of the following:
 - Are positioned so the bottom step is not more than twenty-four inches (61 cm) above the scaffold supporting level;
 - Are at least eighteen inches (45.7 cm) wide between stair rails;
 - Have slip-resistant surfaces on treads and landings;
 - Are installed at an angle of forty to sixty degrees from the horizontal.
- Provide a landing platform at least eighteen inches (45.7 cm) wide by eighteen inches (45.7 cm) long at each level.
- Provide guardrails on the open sides and ends of each landing.

Reference: For requirements about guardrails, go to WAC 296-874-20064.

You must:

- Make sure steps meet all of the following requirements:
 - Line up vertically between rest platforms;
 - Have uniform tread depth, within one-quarter inch (0.6 cm), for each flight of stairs;
 - Have uniform riser height, within one-quarter inch (0.6 cm), for each flight of stairs.

Note: Riser height may have larger variations at the top step and bottom step of the entire stair system, but not at the top and bottom steps within each flight of stairs.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20026, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20028 Make sure stair rails and handrails meet these requirements.

You must:

- Provide a stair rail that meets all of the following on each side of a scaffold stairway:
 - Has a toprail and midrail;
 - Has a toprail that can serve as a handrail if a separate handrail is not provided;
 - Is at least twenty-eight inches (71 cm) but not more than thirty-seven inches (94 cm) high.

Note: Stair rail height is measured from the upper surface of the stair rail to the surface of the tread, in line with the face of the riser at the forward edge of the tread.

You must:

- Make sure stair rail systems and handrails have:
 - A surface that prevents employees from:
 - Being injured by punctures or lacerations;

OR

- Snagging their clothing.
 - Ends that do not create a projection hazard.
- Make sure handrails, and top rails that are used as handrails:
 - Provide an adequate handhold for employees to grasp to avoid falling;

AND

- Are at least three inches (7.6 cm) from other objects.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20028, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20030 Make sure ramps and walkways used to access scaffolds meet these requirements.

You must:

- Make sure ramps and walkways are not inclined at a slope steeper than one vertical in three horizontal (1:3 or twenty degrees from the horizontal).
- Make sure ramps and walkways that are inclined at a slope steeper than one vertical in eight horizontal (1:8) have cleats to provide footing which are:
 - Securely fastened to the planks;

AND

- Spaced not more than fourteen inches (35 cm) apart.

Reference: Ramps and walkways that are four feet (1.2 m) or more above a lower level need to have a guardrail system. Those requirements are found in other chapters.

– For general industry activities, go to:

■ Working surfaces, guarding floors and wall openings, Part J-1, in the general safety and health standards, chapter 296-24 WAC;

– For construction activities, go to:

■ Floor openings, wall openings, and stairways, Part K, in the safety standards for construction work, chapter 296-155 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-17-026, § 296-874-20030, filed 8/7/07, effective 10/6/07; 05-01-054, § 296-874-20030, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20032 Make sure surfaces used to access scaffolds are close enough to use safely.

You must:

- Make sure a surface used to provide access to or from a scaffold is not further from the scaffold than:
 - Fourteen inches (36 cm) horizontally;
 - Twenty-four inches (61 cm) vertically.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20032, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20034 Inspect scaffolds and scaffold components.

You must:

- Make sure scaffolds and scaffold components are inspected for visible defects by a competent person:
 - Before each work shift;
- AND
- After anything occurs that could affect the scaffold's structural integrity.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20034, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20036 Make sure damaged or weakened scaffolds meet minimum strength requirements.**You must:**

- Make sure any scaffold or scaffold component that has been damaged or weakened so that it no longer meets the minimum strength requirements of this chapter, is immediately either:
 - Repaired, replaced, or braced to meet the minimum strength requirements;

OR

- Removed from service until repaired.

Reference: For information on minimum strength requirements for suspended and supported scaffolds, go to the following sections within this chapter:

- Make sure suspended scaffolds and scaffold components meet these strength requirements, WAC 296-874-30002;
- Make sure supported scaffolds and scaffold components meet these strength requirements, WAC 296-874-40002.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20036, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20038 Make sure scaffolds are properly loaded.**You must:**

- Load scaffolds as specified in the:
 - Manufacturer's instructions;

OR

- Design of the qualified person.

- Make sure scaffolds and scaffold components do not exceed their maximum intended load or rated load, whichever is less.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20038, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20040 Protect employees when moving scaffolds. You must:

- Make sure scaffolds are not moved horizontally while employees are on them.

Exemption: A scaffold may be moved horizontally with employees on it if the scaffold:

- Has been specifically designed for such movement by a registered professional engineer;

OR

- Is a mobile scaffold that meets the requirements of the section. Meet these requirements when moving mobile scaffolds, WAC 296-874-40012.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20040, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20042 Increase employee working level height on scaffolds safely.**You must:**

- Make sure makeshift devices, such as boxes and barrels, are not used on scaffold platforms to increase the working level height for employees.

- Meet all of the following when using stilts on scaffolds:
 - Use stilts only on large area scaffolds;
 - Increase the height of a guardrail system used for fall protection by an amount equal to the height of the stilts being used;
 - Make sure scaffold platforms where stilts are used are flat and free of:
 - Pits, holes, and obstructions such as debris;

AND

AND

AND

AND

- Other tripping or falling hazards.

- Make sure stilts are:

- Properly maintained;

AND

- The original equipment is not altered without the manufacturer's approval.

- Meet all of the following when using ladders on scaffolds:
 - Use ladders only on large area scaffolds;
 - Secure the platform units to the scaffold to prevent movement;
 - Secure the scaffold against the sideways thrust exerted by the ladder if the ladder is placed against a structure that's not part of the scaffold;
 - Make sure the ladder legs are:
 - Secured to prevent them from slipping or being pushed off the platform;

- Use ladders only on large area scaffolds;

- Secure the platform units to the scaffold to prevent movement;

- Secure the scaffold against the sideways thrust exerted by the ladder if the ladder is placed against a structure that's not part of the scaffold;

- Make sure the ladder legs are:

- Secured to prevent them from slipping or being pushed off the platform;

AND

- On the same scaffold platform, or use other means, to stabilize the ladder against uneven platform deflection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20042, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20044 Control loads being hoisted near scaffolds.**You must:**

- Use a tag line or equivalent measures to control loads being hoisted onto or near a scaffold if the load could swing and contact the scaffold.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20044, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20046 Protect employees from energized power lines.**You must:**

- Make sure scaffolds are erected, moved, altered, or dismantled so that they, and any conductive material handled on them, are kept at least as far from exposed and energized power lines as shown in Table 2, Minimum Separation Distance from Energized Power Lines.

Table 2
Minimum Separation Distance from Energized Power Lines

Voltage	Minimum Separation Distance
Less than 300 volts (insulated lines)	3 feet (0.9 m)
Less than 300 volts (uninsulated lines)	10 feet (3.1 m)
300 volts to 50 kv	10 feet (3.1 m)
More than 50 kv	10 feet (3.1 m) + 0.4 inches (1.0 cm) for each 1 kv over 50 kv Note: You may use an alternative minimum separation distance of 2 times the length of the line insulator, but never less than 10 feet (3.1 m).

Exemption: Scaffolds and conductive materials handled on scaffolds may be closer to power lines than the minimum separation distance specified in Table 2 if **all** of the following are met:

- Less clearance is necessary to do the work;
- The utility company or electrical system operator has been notified of the need to work closer to the power lines;
- The utility company or electrical system operator has done at least one of the following:
 - Deenergized the lines;
 - Relocated the lines to meet the minimum separation distance requirement;
 - Installed protective coverings over the lines to prevent accidental contact.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20046, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20048 Protect employees from weather hazards.

You must:

- Prohibit work on or from scaffolds during storms or high winds unless both of the following are met:
 - A competent person has determined that it is safe for employees to be on the scaffold;
 - The employees are protected by either:
 - A personal fall arrest system;
- OR**
- Wind screens.
 - Make sure wind screens are not used unless the scaffold is secured against the anticipated wind forces.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20048, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20050 Protect employees from slip and tripping hazards.

You must:

- Make sure debris does not accumulate on platforms.
- Prohibit employees from working on scaffolds covered with snow, ice, or other slippery material.

Exemption: Employees may be on scaffolds as necessary to remove the slipping hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20050, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20052 Provide fall protection for employees on scaffolds.

You must:

- Protect each employee on a scaffold more than ten feet (3.1 m) above a lower level, from falling to the lower level, by providing either:
 - A personal fall arrest system;
- OR**
- Guardrails.

REFERENCE		
Fall protection requirements for employees:	Are located in the following chapters:	In the following sections:
On walkways within scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-20056
Erecting or dismantling supported scaffolds	Chapter 296-874 WAC, Scaffolds	WAC 296-874-40010

[Title 296 WAC—p. 3150]

REFERENCE		
Fall protection requirements for employees:	Are located in the following chapters:	In the following sections:
Erecting or dismantling suspended scaffolds in general industry	Chapter 296-24 WAC, General safety and health standards	Part J-1 Working surfaces, guarding floors and wall openings, ladders AND Part J-3 Powered platforms
Erecting or dismantling suspended scaffolds in construction work	Chapter 296-155 WAC, Safety standards for construction work	Part C-1 Fall restraint and fall arrest AND Part K Floor openings, wall openings, and stairways

You must:

- Make sure employees erecting the scaffold install the guardrail system, if required, before the scaffold is used by any other employees.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-17-026, § 296-874-20052, filed 8/7/07, effective 10/6/07; 07-03-163, § 296-874-20052, filed 1/24/07, effective 4/1/07; 05-01-054, § 296-874-20052, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20054 Provide fall protection if a scaffold is too far from the work face.

You must:

- Provide a guardrail system along the front edge of the platform, or have employees use a personal fall arrest system, if the distance from the front edge of the platform to the work face is greater than:
 - Eighteen inches (46 cm) for scaffolds used for plastering and lathing operations;
 - Fourteen inches (36 cm) for all other scaffolds.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20054, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20056 Provide specific fall protection for specific types of scaffolds.

You must:

- Use a personal fall arrest system to protect employees on the following scaffolds:
 - Boatswain's chair;
 - Catenary scaffold;
 - Float scaffold;
 - Ladder jack scaffold;
 - Needle beam scaffold.
- Use a personal fall arrest system **and** a guardrail system to protect employees on:
 - Single-point adjustable suspension scaffolds;

AND

 - Two-point adjustable suspension scaffolds.
- Protect employees working on a self-contained adjustable scaffold that has the platform:
 - Supported by the frame structure, using a guardrail system with a minimum two hundred pound toprail capacity.
 - Suspended by ropes, using:
 - A guardrail system with a minimum two hundred pound toprail capacity;

AND

 - A personal fall arrest system.

(2009 Ed.)

- Protect employees on walkways located within a scaffold by using a guardrail system that meets all of the following:

- Has a minimum two hundred pound toprail capacity;
- Is installed within nine and one-half inches (24.1 cm) of the walkway;
- Is installed along at least one side of the walkway.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-17-026, § 296-874-20056, filed 8/7/07, effective 10/6/07; 05-01-054, § 296-874-20056, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20058 Make sure personal fall arrest systems meet these requirements.

You must:

- Make sure personal fall arrest systems used on scaffolds for general industry activities, meet the requirements of personal fall arrest system, Appendix C, Part 1, WAC 296-24-88050, in powered platforms, Part J-3, found in the general safety and health standards, chapter 296-24 WAC.
- Make sure personal fall arrest systems are attached by a lanyard to one of the following:
 - Vertical lifeline;
 - Horizontal lifeline;
 - Appropriate structural member of the scaffold.

Reference: Requirements for personal fall arrest systems used on scaffolds for construction activities are in fall restraint and fall arrest, Part C-1, found in the safety standards for construction work, chapter 296-155 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-054, § 296-874-20058, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20060 Make sure vertical lifelines used with personal fall arrest systems meet these requirements.

You must:

- Make sure vertical lifelines are all of the following:
 - Fastened to a fixed, safe point of anchorage;
 - Independent of the scaffold;
 - Protected from sharp edges and abrasion.

Note: Safe points of anchorage include structural members of buildings, but do **not** include:

- Standpipes, vents, or other piping systems;
- Electrical conduit;
- Outrigger beams;
- Counterweights.

You must:

- Make sure vertical lifelines, independent support lines, and suspension ropes are **not** attached to any of the following:

- Each other;
- The same point of anchorage;
- The same point on the scaffold.

- Make sure vertical lifelines, independent support lines, and suspension ropes do not use the same point of anchorage.
- Make sure independent support lines and suspension ropes are not attached to a personal fall arrest system.

- Make sure vertical lifelines are not used with single-point or two-point adjustable suspension scaffolds that have overhead components such as overhead protection or additional platform levels.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-054, § 296-874-20060, filed 12/7/04, effective 3/1/05.]

(2009 Ed.)

WAC 296-874-20062 Make sure horizontal lifelines used with personal fall arrest systems meet these requirements.

You must:

- Equip single-point or two-point adjustable suspension scaffolds that use horizontal lifelines or structural members of the scaffold for fall protection with both of the following:
 - Additional independent support lines that are equal in number and equivalent in strength to the suspension ropes;
 - Automatic locking devices capable of stopping the scaffold from falling if one or both of the suspension ropes fail.

- Make sure horizontal lifelines are secured to either:

- Two or more structural members of the scaffold;

OR

- Looped around both the suspension ropes and independent support lines above the hoist and brake attached to the end of the scaffold.

- Make sure independent support lines and suspension ropes are **not**:

- Attached to each other or the same point on the scaffold;

- Attached to or use the same point of anchorage.

- Make sure independent support lines and suspension ropes are not attached to either:

- A personal fall arrest system;

OR

- The same point on the scaffold as a personal fall arrest system.

- Make sure, if a horizontal lifeline is used where it may become a vertical lifeline, that the device used to connect a lanyard to the horizontal lifeline is capable of locking in both directions on the lifeline.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 05-01-054, § 296-874-20062, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20064 Make sure guardrail systems meet these requirements.

You must:

- Make sure guardrails, if required, are installed along all open sides and ends of platforms.

Exemption: For employees doing overhand bricklaying operations from a supported scaffold, a guardrail is not required on the side next to the wall.

Definition:

Overhand bricklaying is the process of laying bricks and masonry units so that the surface of the wall is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. It includes mason tending and electrical installation incorporated into the brick wall.

You must:

- Make sure the height of the toprail top edge, or the equivalent member, of supported scaffolds is:

- At least thirty-six inches (0.9 m) and not more than forty-five inches (1.2 m) above the platform surface for scaffolds manufactured or first placed in service **before January 1, 2000**;

- At least thirty-eight inches (0.97 m) and not more than forty-five inches (1.2 m) above the platform surface for scaffolds manufactured or first placed in service **after January 1, 2000**.

- Make sure the height of the toprail top edge, or the equivalent member, of suspended scaffolds that require guardrails and personal fall arrest systems, is at least thirty-six inches (0.9 m) and not more than forty-five inches (1.2 m) above the platform surface.

Exemption: When conditions warrant, the height of the top edge of the toprail may be greater than forty-five inches if the guardrail system meets all other criteria of this chapter.

You must:

- Make sure the top edge of the toprail doesn't drop below the required height when the minimum load, shown in Table 3, Minimum Toprail and Midrail Strength Requirements, is used.

- Each toprail and midrail, or equivalent member, of a guardrail system must be able to withstand, without failure, the force shown in Table 3, Minimum Toprail and Midrail Strength Requirements, when the force is applied as follows:

- To the toprail in a downward or horizontal direction at any point along its top edge;
- To the midrail in a downward or horizontal direction at any point.

Note: Midrail includes screens, mesh, intermediate vertical members, solid panels, and equivalent structural members of the guardrail system.

Table 3

Minimum Toprail and Midrail Strength Requirements

Type of Scaffold	Toprail Capacity	Midrail Capacity
<ul style="list-style-type: none"> • Single-point adjustable suspension scaffolds • Two-point adjustable suspension scaffolds 	100 pounds (445 n)	75 pounds (333 n)
<ul style="list-style-type: none"> • All other scaffolds • Walkways within a scaffold 	200 pounds (890 n)	150 pounds (666 n)

You must:

- Install midrails, screens, mesh, intermediate vertical members, solid panels, or equivalent structural members as follows:

- Midrails at a height approximately midway between the top edge of the guardrail system and the platform surface;
- Screens and mesh:

- From the top edge of the guardrail system to the scaffold platform;

AND

- Along the entire opening between the supports;
- Intermediate members, such as balusters or additional rails, not more than nineteen inches (48 cm) apart.

- Make sure steel or plastic banding is not used as a toprail or midrail.

- Have a competent person inspect manila rope and plastic or other synthetic rope that is used as a toprail or midrail as frequently as necessary to make sure it continues to meet the strength requirements for a toprail or midrail.

Note: Crossbraces may be used as a toprail or midrail in a guardrail system if they meet the following requirements:

- The crossing point of the two braces is between:

- 20" and 30" above the work platform when used as a midrail.
- 38" and 48" above the work platform when used as a toprail.
- The end points at each upright are not more than 48" apart.

You must:

- Make sure guardrails have a surface that prevents:
 - Puncture and laceration injuries;

AND

- Snagging clothing.

- Make sure any rail extending beyond the post of a guardrail does not create a projection hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20064, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20066 Provide falling object protection.

Reference: Hardhats and possibly other personal protective equipment has to be used to protect employees exposed to overhead hazards.

- Those requirements are found in the safety and health core rules, chapter 296-800 WAC.
- Go to Personal protective equipment (PPE), WAC 296-800-160.

You must:

- Protect employees from being struck by tools, materials, or equipment falling from a scaffold by doing one or more of the following:

- Use a barricade to keep employees out of the area where falling objects could be a hazard;

- Install a toeboard along the edge of the platform anywhere an object could fall on an employee below;

- Install paneling or screening that covers from the top of the guardrail to the toeboard or platform anywhere the toeboard is **not** high enough to keep objects from falling off the platform;

- Install a guardrail system with openings small enough to keep potential falling objects from passing through;

- Erect a canopy structure, debris net, or catch platform over employees that does all of the following:

- Will contain or deflect falling objects;
- Is strong enough to withstand the impact forces;
- Is installed between the falling object hazard and the employees.

- Make sure potential falling objects that are too large or heavy to be contained or deflected by the falling object protection you are using are:

- Moved away from the edge of the surface they could fall from;

AND

- Secured, as necessary, to prevent falling.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20066, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20068 Provide additional support lines on suspended scaffolds using a canopy for falling object protection.

You must:

- Equip suspended scaffolds, that use a canopy for falling object protection, with additional independent support lines that meet all of the following:

- Have the same number of support lines as there are suspension ropes;

- Are equivalent in strength to the suspension ropes;
- Are not attached to the same point of anchorage as the suspension ropes.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20068, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20070 Make sure toeboards meet these requirements.

You must:

- Make sure toeboards, when used, are:
 - At least three and one-half inches (9 cm) high from the top edge of the toeboard to the platform;
 - Securely fastened along the outer edge of the platform;
 - Installed for enough distance along the platform to protect employees below;
 - Installed so the gap between the bottom of the toeboard and the platform is one-quarter inch (0.7 cm) or less;
 - Solid or with openings that are one inch (2.5 cm) or less in the largest dimension;
 - Able to withstand, without failing, a force of at least fifty pounds (222 n) applied in a downward or horizontal direction anywhere along the toeboard.

Exemption: On float (ship) scaffolds, an edging of three-quarters by one and one-half inch (2 x 4 cm) wood or the equivalent may be used instead of a toeboard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20070, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20072 Train employees who work on a scaffold. You must:

- Have a qualified person train each employee who works on a scaffold to:
 - Recognize the hazards associated with the type of scaffold they are using;

AND

- Understand the procedures to control or minimize the hazards.

- Include the following subjects in your training:

- Hazards in the work area and how to deal with them, including:

- Electrical hazards;
- Fall hazards;
- Falling object hazards;

- How to erect, maintain, and disassemble the fall protection and falling object protection systems being used;

- How to:

- Use the scaffold;
- Handle materials on the scaffold;

- The load-carrying capacity and maximum intended load of the scaffold;

- Any other requirements of this chapter that apply.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20072, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20074 Train employees who erect, dismantle, operate or maintain scaffolds.

You must:

- Have a competent person train each employee who erects, disassembles, moves, operates, repairs, maintains, or inspects scaffolds to recognize any hazards associated with the work.

(2009 Ed.)

- Make sure the training includes at least the following subjects:

- Hazards in the work area and how to deal with them;
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold being used;

- The design criteria, maximum intended load-carrying capacity and intended use of the scaffold;

- Any other requirements of this chapter that apply.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20074, filed 12/7/04, effective 3/1/05.]

WAC 296-874-20076 Retrain employees when necessary.

You must:

- Retrain employees to reestablish proficiency if you believe they lack the skill or understanding to safely erect, use, or dismantle a scaffold.

- Retraining is required in at least the following situations:

- An employee's work involving scaffolds is inadequate and indicates they lack the necessary proficiency;

- A change in **any** of the following that presents a hazard the employee has not been trained for:

- Worksite;
- Type of scaffold;
- Fall protection;
- Falling object protection;
- Other equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-20076, filed 12/7/04, effective 3/1/05.]

WAC 296-874-300 Suspended scaffolds.

Section contents:

Your responsibility:

- To meet these requirements when using suspended scaffolds.

- Make sure suspended scaffolds and scaffold components meet these strength requirements

WAC 296-874-30002.

- Make sure suspended scaffold outrigger beams meet these requirements

WAC 296-874-30004.

- Make sure counterweights are safe and used properly

WAC 296-874-30006.

- Make sure tiebacks meet these requirements

WAC 296-874-30008.

- Make sure suspended scaffold support devices meet these requirements

WAC 296-874-30010.

- Make sure scaffold hoists meet these requirements

WAC 296-874-30012.

- Make sure scaffold hoists retain enough suspension rope

WAC 296-874-30014.

- Make sure wire rope is in good condition

WAC 296-874-30016.

- Make sure wire suspension rope connections meet these requirements

WAC 296-874-30018.

- Make sure wire rope clips are used properly

WAC 296-874-30020.

Prevent swaying of two-point and multipoint suspension scaffolds

WAC 296-874-30022.

Use emergency escape and rescue devices appropriately

WAC 296-874-30024.

Protect suspension ropes from heat or corrosive substances

WAC 296-874-30026.

Take precautions while welding

WAC 296-874-30028.

Prohibit use of gasoline-powered equipment on suspended scaffolds

WAC 296-874-30030.

Meet these requirements when using catenary scaffolds

WAC 296-874-30032.

Meet these requirements when using float (ship) scaffolds

WAC 296-874-30034.

Meet these requirements when using interior hung scaffolds

WAC 296-874-30036.

Meet these requirements when using multilevel suspended scaffolds

WAC 296-874-30038.

Meet these requirements when using multipoint adjustable suspension scaffolds

WAC 296-874-30040

Meet these requirements when using needle beam scaffolds

WAC 296-874-30042.

Meet these requirements when using single-point adjustable suspension scaffolds

WAC 296-874-30044.

Meet these requirements when using two-point adjustable suspension scaffolds (swing stages)

WAC 296-874-30046.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-300, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30002 Make sure suspended scaffolds and scaffold components meet these strength requirements.

You must:

- Meet the following strength requirements:

– Suspended scaffolds must support, without failure, the total of their own weight plus four times the maximum intended load;

– Suspended scaffold components must meet the requirements contained in Table 4, Suspended Scaffold Strength Requirements.

• Surfaces that support scaffold support devices must withstand four times the rated load of the hoist.

Note: Scaffold support devices include outrigger beams, cornice hooks, parapet clamps, and similar devices.

[Title 296 WAC—p. 3154]

**Table 4
Suspended Scaffold Strength Requirements**

These scaffold components:	Must meet these strength requirements:
Adjustable scaffold – Suspension ropes, including connecting hardware	Support six times the rated load of the hoist.
Adjustable scaffold – Direct connections to roofs and floors – Counterweights used to balance the scaffold	Resist four times the tipping moment with the scaffold operating at the rated load of the hoist.
Nonadjustable scaffold – Suspension ropes, including connecting hardware	Support six times the maximum intended load applied or transmitted to the rope.
All other scaffold components	Support its own weight plus four times the maximum intended load.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30002, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30004 Make sure suspended scaffold outrigger beams meet these requirements.

You must:

• Make sure outrigger beams are made of structural metal or equivalent strength material.

• Stabilize the inboard ends of outrigger beams by using either:

– Bolts or other direct connections to the floor or roof deck;

OR

– Counterweights and tiebacks.

Exemption: Masons' multipoint adjustable scaffold outrigger beams **cannot** be stabilized by counterweights.

You must:

• Make sure, before the scaffold is used, that a competent person:

– Evaluates the direct connections;

AND

– Confirms that the supporting surfaces can support the loads placed on them.

• Make sure suspended scaffold outrigger beams are all of the following:

– Restrained to prevent moving;

– Provided with stop bolts or shackles at both ends;

– Securely fastened together with the flanges turned out when channel iron beams are used in place of I-beams;

– Set and maintained with the web in a vertical position;

– Placed so the suspension rope is centered over the stirrup.

• Place outrigger beams at a right angle (perpendicular) to their bearing support.

Exemption: Outrigger beams can be placed at other than a right angle (perpendicular) if:

• You can demonstrate that immovable obstructions make it impossible to place the beams at a right angle (perpendicular) to their bearing support;

AND

• Opposing angle tiebacks are used.

Note: The angle between the outrigger beam and the bearing support is usually the same as the angle between the outrigger beam and the face of the building or structure.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30004, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30006 Make sure counterweights are safe and used properly.

You must:

- Make sure counterweights:
 - Are made of material that cannot flow;

AND

- Have been specifically designed to be used as counterweights.

- Note:** The following cannot be used as counterweights:
- Sand, gravel and similar materials that can be easily dislocated;
 - Construction material such as masonry units and roofing felt.

You must:

- Secure counterweights to outrigger beams by mechanical means to prevent them from being accidentally detached.
- Leave counterweights attached to the outrigger beams until after the scaffold has been disassembled.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30006, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30008 Make sure tiebacks meet these requirements.

You must:

- Make sure tiebacks are equivalent in strength to the suspension ropes.
- Make sure tiebacks are secured to a structurally sound anchorage on the building or structure and installed:
 - At a right angle (perpendicular) to the face of the building or structure;

OR

- As opposing angle tiebacks.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30008, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30010 Make sure suspended scaffold support devices meet these requirements.

You must:

- Make sure suspended scaffold support devices, such as cornice hooks, roof hooks, roof irons, parapet clamps, or similar devices, are:
 - Made of steel, wrought iron, or other material of equivalent strength;
 - Supported by bearing blocks;
 - Prevented from moving by using tiebacks.

- Reference:**
- For outrigger beam requirements, go to WAC 296-874-30004;
 - For tieback requirements go to WAC 296-874-30008.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30010, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30012 Make sure scaffold hoists meet these requirements.

You must:

- Make sure the stall load of any scaffold hoist is **not** more than three times its rated load.
- Make sure the design of scaffold hoists has been tested by an independent nationally recognized testing laboratory.
- Make sure scaffold hoists have both a:
 - Normal operating brake;

- Normal operating brake;

AND

- Braking device or locking pawl which automatically engages when the hoist has an uncontrolled:

- Instantaneous change in momentum;

OR

- An accelerated overspeed.

- Prohibit use of gasoline-powered hoists on suspended scaffolds.

- Enclose the gears and brakes of power-operated hoists used on suspended scaffolds.

- Make sure manually operated hoists need a positive crank force to descend.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30012, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30014 Make sure scaffold hoists retain enough suspension rope.

You must:

- Make sure the suspension rope on winding drum hoists is long enough to wrap around the drum at least four times when the scaffold is at its lowest point of travel.

- Make sure the suspension rope on hoists that do **not** use a winding drum:
 - Is long enough to allow the scaffold to be lowered to the level below without the rope end passing through the hoist;

- Is long enough to allow the scaffold to be lowered to the level below without the rope end passing through the hoist;

OR

- Has the rope end configured, or uses other means, to prevent it from passing through the hoist.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30014, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30016 Make sure wire rope is in good condition.

You must:

- Make sure a competent person inspects each rope for defects:
 - Before each work shift;

- Before each work shift;

AND

- After anything happens that could affect the rope's integrity.

- Replace a rope if it has any of the following:
 - Physical damage which impairs the function and strength of the rope;
 - Kinks that could impair the tracking or wrapping of the rope around a drum or sheave;
 - Six randomly distributed broken wires in one rope lay;
 - Three broken wires in one strand of one rope lay;
 - Loss of more than one-third of the original diameter of the outside wires caused by abrasion, corrosion, scrubbing, flattening or peening;
 - Heat damage caused by a torch;
 - Any damage caused by contact with electrical wires;
 - Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.

- Physical damage which impairs the function and strength of the rope;

- Kinks that could impair the tracking or wrapping of the rope around a drum or sheave;

- Six randomly distributed broken wires in one rope lay;
- Three broken wires in one strand of one rope lay;

- Loss of more than one-third of the original diameter of the outside wires caused by abrasion, corrosion, scrubbing, flattening or peening;

- Heat damage caused by a torch;

- Any damage caused by contact with electrical wires;

- Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.

- Prohibit the use of repaired wire rope as suspension rope.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30016, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30018 Make sure wire suspension rope connections meet these requirements.**You must:**

- Only use eye splice thimbles connected with shackles or cover plates and bolts to join wire suspension ropes together.

- Make sure the load ends of wire suspension ropes are:
 - Equipped with proper size thimbles;

AND

- Secured by eye splicing or an equivalent means.

- Make sure all swaged attachments or spliced eyes on wire suspension rope have been made by either:

- The wire rope manufacturer;

OR

- A qualified person.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30018, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30020 Make sure wire rope clips are used properly.**You must:**

- Make sure, if wire rope clips are used on suspended scaffolds, such as on the suspension ropes or support lines, that:

- A minimum of three clips are installed;

- The distance between clips is at least six rope diameters;

- Clips are installed according to the manufacturer's recommendations.

- Retighten the clips to the manufacturer's recommendations after the initial loading.

- Inspect the clips and retighten them to the manufacturer's recommendations at the start of each work shift.

- Make sure U-bolt clips are not used at the point of suspension for any scaffold hoist.

- Make sure, if U-bolt clips are used, that:

- The U-bolt is placed over the dead end of the rope;

AND

- The saddle is placed over the live end of the rope.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30020, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30022 Prevent swaying of two-point and multipoint suspension scaffolds.**You must:**

- Tie or use other means to keep two-point and multipoint suspension scaffolds from swaying, if an evaluation by a competent person determines it is necessary.

Note: Window cleaners' anchors **cannot** be used to secure scaffolds since they are not designed to withstand the load.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30022, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30024 Use emergency escape and rescue devices appropriately.**You must:**

- Make sure devices whose sole function is to provide emergency escape and rescue are not used as working platforms.

[Title 296 WAC—p. 3156]

Note: Systems which are designed to function both as suspended scaffolds and emergency systems may be used as working platforms.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30024, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30026 Protect suspension ropes from heat or corrosive substances.**You must:**

- Shield suspension ropes from heat-producing processes.

- Make sure, when acids or other corrosive substances are used on a scaffold, that the suspension ropes are protected by at least one of the following:

- Shielding;

- Treating to protect the rope from the corrosive substances;

- Making the rope of material that the corrosive substance will not damage.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30026, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30028 Take precautions while welding.**You must:**

- Do the following to protect employees while welding on suspended scaffolds:

- Use an insulated thimble to attach each suspension wire rope to its hanging support, such as a cornice hook or outrigger;

- Insulate excess suspension wire rope and any additional independent lines to prevent grounding;

- Cover the wire suspension rope with insulating material that extends at least four feet (1.2 m) above the hoist;

- Make sure any tail line that extends below the hoist is:
 - Insulated to prevent contact with the platform;

AND

- Guided or retained so it does not become grounded.

- Cover each hoist with an insulated protective cover;

- Connect the scaffold to the structure using a grounding conductor that:

- Is at least the size of the welding process work lead;

AND

- Is not in series with the welding process or the work piece.

- Shut off the welding machine if the scaffold grounding lead becomes disconnected;

- Make sure an active welding rod or an uninsulated welding lead is not allowed to contact the:

- Scaffold;

OR

- Scaffold suspension system.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30028, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30030 Prohibit use of gasoline-powered equipment on suspended scaffolds.**You must:**

- Make sure gasoline-powered equipment is **not** used on suspended scaffolds.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30030, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30032 Meet these requirements when using catenary scaffolds.

You must:

- Make sure catenary scaffolds have:
 - No more than one platform between consecutive vertical pickups;

AND

- No more than two platforms per scaffold.
- Make sure any platform that's supported by wire ropes has hook-shaped stops placed at each end of the platform that will prevent it from falling if one of the horizontal wire ropes breaks.

- Make sure wire ropes are:

- Continuous and without splices between anchors;

AND

- Not tightened to the point that putting a load on the scaffold will overstress them.

Reference: For specific fall protection requirements for employees on catenary scaffolds, go to WAC 296-874-20056.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30032, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30034 Meet these requirements when using float (ship) scaffolds.

You must:

- Support the platform with at least two bearers.
- Make sure each bearer:
 - Projects at least six inches (15.2 cm) beyond the platform on both sides;

AND

- Is securely fastened to the platform.
- Make sure rope connections won't allow the platform to shift or slip.
- Make sure scaffolds that only have two ropes used with each float meet all of the following:
 - There are four rope ends that are securely fastened to overhead supports;
 - Each supporting rope is hitched around one end of the bearer, passed under the platform to the other end of the bearer, and hitched again;
 - There is enough rope at each end for the supporting ties.

Reference: For specific fall protection requirements for employees on float (ship) scaffolds, go to WAC 296-874-20056.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30034, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30036 Meet these requirements when using interior hung scaffolds.

You must:

- Suspend the scaffold only from the roof structure or other structural member, such as ceiling beams.
- Inspect the overhead supporting members and check to make sure they're strong enough before erecting the scaffold.
- Connect suspension ropes and cables to the overhead supporting members by:
 - Shackles, clips, or thimbles;

OR

(2009 Ed.)

- Other means that meet equivalent criteria, such as strength and durability.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30036, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30038 Meet these requirements when using multilevel suspended scaffolds.

You must:

- Equip scaffolds with additional independent support lines that meet all of the following:

- There are the same number of support lines as there are connection points for the suspension ropes;

- The support lines are equivalent in strength to the suspension ropes;

- The support lines are rigged to support the scaffold if the suspension ropes fail.

- Make sure the independent support lines and the suspension ropes are not attached to the same points of anchorage.

- Attach platform supports directly to the support stirrup and not to another platform.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30038, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30040 Meet these requirements when using multipoint adjustable suspension scaffolds.

IMPORTANT:

This requirement applies when using multipoint adjustable suspension scaffolds, stonemasons' multipoint adjustable suspension scaffolds, and masons' multipoint adjustable suspension scaffolds.

You must:

- Make sure masons' multipoint adjustable suspension scaffold connections are designed by an engineer experienced in designing this type of scaffold.

- Make sure bridges between two or more scaffolds meet all of the following:

- The scaffolds were designed to be bridged;

- The bridges are articulated;

- The hoists are properly sized.

- Make sure passage from one platform to another, without using bridges, is done only when the platforms are:

- At the same height;

AND

- Abutting.

- Suspend scaffolds from:

- Metal outriggers, brackets, wire rope slings, or hooks;

OR

- Other means that meet equivalent criteria, such as strength and durability.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30040, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30042 Meet these requirements when using needle beam scaffolds.

You must:

- Install scaffold support beams on edge.

- Use ropes or hangers for scaffold supports:

- One end of a needle beam scaffold may be supported by a permanent structural member.

[Title 296 WAC—p. 3157]

- Securely attach ropes to the needle beams.
- Arrange the support connection to prevent the needle beam from rolling or becoming displaced.
- Securely attach platform units to the needle beams with bolts or equivalent means.

Note: Cleats and overhang are not adequate means of attachment.

Reference: For specific fall protection requirements for employees on needle beam scaffolds, go to WAC 296-874-20056.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30042, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30044 Meet these requirements when using single-point adjustable suspension scaffolds.

You must:

- Make sure two scaffolds that have been combined to form a two-point adjustable suspension scaffold meet the requirements of the section. Make sure two-point adjustable suspension scaffolds (swing stages) meet these requirements, WAC 296-874-30046.

- Make sure scaffolds, where the suspension rope between the scaffold and the suspension device is not vertical, meet all of the following:

- The rigging has been designed by a qualified person;
- The scaffold is accessible to rescuers;
- The suspension rope is protected from chafing at any point where it changes direction;
- The scaffold is positioned so that swinging cannot bring the scaffold into contact with another surface.

- Make sure boatswain's chair tackle meets all of the following:

- It consists of correct size ball bearing blocks or bushed blocks;
- The blocks contain safety hooks;
- The rope is properly eye spliced;
- The rope is either:

- ■ First-grade manila rope that has a diameter of at least five-eighths inch (1.6 cm);

OR

- ■ Other rope that has equivalent characteristics, such as strength and durability.

- Make sure boatswain's chair seat slings meet all of the following:

- Are reeved through four corner holes in the seat;
- Cross each other on the underside of the seat;
- Are rigged to prevent slipping which could cause the seat to become out-of-level;
- Are made from fiber, synthetic, or other rope which have:

- ■ A diameter of at least five-eighths inch (1.6 cm);

AND

- ■ Characteristics equivalent to first grade manila rope, such as strength, slip resistance, and durability.

- Make sure the seat sling of boatswain's chairs used when a heat-producing process, such as gas or arc welding, is being conducted is at least three-eighths inch (1.0 cm) wire rope.

- Securely fasten cleats to the underside of noncross-laminated wood boatswain's chairs to prevent the board from splitting.

Reference: For specific fall protection requirements for employees on single-point adjustable suspension scaffolds, go to WAC 296-874-20056.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30044, filed 12/7/04, effective 3/1/05.]

WAC 296-874-30046 Meet these requirements when using two-point adjustable suspension scaffolds (swing stages).

IMPORTANT:

This section does not apply to two-point adjustable suspension scaffolds used as masons' or stonemasons' scaffolds.

Reference: For requirements for masons' or stonemasons' scaffolds, go to WAC 296-874-30040.

You must:

- Make sure platforms more than thirty-six inches (0.9 m) wide have been designed by a qualified person to prevent unstable conditions.

- Make sure platforms are one of the following:

- Ladder-type;
- Plank-type;
- Beam-type;
- Light-metal type.

- Make sure the design of light-metal type platforms have been tested and listed by a nationally recognized testing laboratory if they:

- Have a rated capacity of seven hundred fifty pounds or less;

OR

- Have a length of forty feet (12.2 m) or less.

- Securely fasten the platform to the hangers (stirrups) using U-bolts or other means that satisfy the section titled, Make sure suspended scaffolds and scaffold components meet these strength requirements, WAC 296-874-30002.

- Make sure fiber or synthetic ropes are used with blocks that:

- Consist of at least one double and one single block;

AND

- Have sheaves that fit the size of the rope used.

- Make sure employees move from one platform to another only when all of the following are met:

- The platforms are at the same height;
- The platforms are abutting;
- Walk-through stirrups are used that have been specifically designed to allow employee passage.

- Make sure two-point scaffolds that are bridged or otherwise connected together when being raised or lowered meet both of the following:

- The bridge connections are articulated;
- The hoists are properly sized.

Reference: For specific fall protection requirements for employees on two-point adjustable suspension scaffolds, go to WAC 296-874-20056.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-30046, filed 12/7/04, effective 3/1/05.]

WAC 296-874-400 Supported scaffolds.

Section contents:

Your responsibility:

To meet these requirements when using supported scaffolds.

Make sure supported scaffolds and scaffold components meet strength requirements

WAC 296-874-40002.

Prevent supported scaffolds from tipping

WAC 296-874-40004.

Make sure supported scaffolds are properly supported

WAC 296-874-40006.

Provide safe access for persons erecting or dismantling supported scaffolds

WAC 296-874-40008.

Provide fall protection for persons erecting or dismantling supported scaffolds

WAC 296-874-40010.

Meet these requirements when moving mobile scaffolds

WAC 296-874-40012.

Meet these requirements when using bricklayers' square scaffolds (squares)

WAC 296-874-40014.

Meet these requirements when using crawling boards (chicken ladders)

WAC 296-874-40016.

Meet these requirements when using fabricated frame scaffolds (tubular welded frame scaffolds)

WAC 296-874-40018.

Meet these requirements when using integral prefabricated scaffold access frames

WAC 296-874-40020.

Meet these requirements when using form scaffolds and carpenter's bracket scaffolds

WAC 296-874-40022.

Meet these requirements when using horse scaffolds

WAC 296-874-40024.

Meet these requirements when using ladder jack scaffolds

WAC 296-874-40026.

Meet these requirements when using outrigger scaffolds

WAC 296-874-40028.

Meet these requirements when using pole scaffolds

WAC 296-874-40030.

Meet these requirements when using pump jack scaffolds

WAC 296-874-40032.

Meet these requirements when using repair bracket scaffolds

WAC 296-874-40034.

Meet these requirements when using roof bracket scaffolds

WAC 296-874-40036.

Meet these requirements when using step, platform, and trestle ladder scaffolds

WAC 296-874-40038.

Meet these requirements when using tube and coupler scaffolds

WAC 296-874-40040.

Meet these requirements when using window jack scaffolds

WAC 296-874-40042.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-400, filed 12/7/04, effective 3/1/05.]

(2009 Ed.)

WAC 296-874-40002 Make sure supported scaffolds and scaffold components meet strength requirements.

You must:

- Make sure each supported scaffold and scaffold component can support, without failure, the total of its own weight plus at least four times the maximum intended load applied or transmitted to it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40002, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40004 Prevent supported scaffolds from tipping.

You must:

- Make sure supported scaffolds with a height to least base dimension ratio of greater than four to one are prevented from tipping by one or more of the following:

- Guying;
- Tying;
- Bracing;
- Other equivalent means.

Note: The least base dimension includes outriggers, if used.

You must:

- Install guys, ties, and braces where horizontal members support both the inner and outer legs of the scaffold.

- Install guys, ties, and braces:
 - According to the scaffold manufacturer's recommendations;

OR

- At all points where the following horizontal and vertical planes meet:

- First vertical level at a height equal to four times the least base dimension;

- Subsequent vertical levels every:

- ◆ Twenty feet (6.1 m) or less for scaffolds having a width of three feet (0.91 m) or less;

- ◆ Twenty six feet (7.9 m) or less for scaffolds more than three feet (0.91 m) wide;

- Horizontally at:

- ◆ Each end of the scaffold;

AND

- ◆ Intervals of thirty feet (9.1 m) or less.

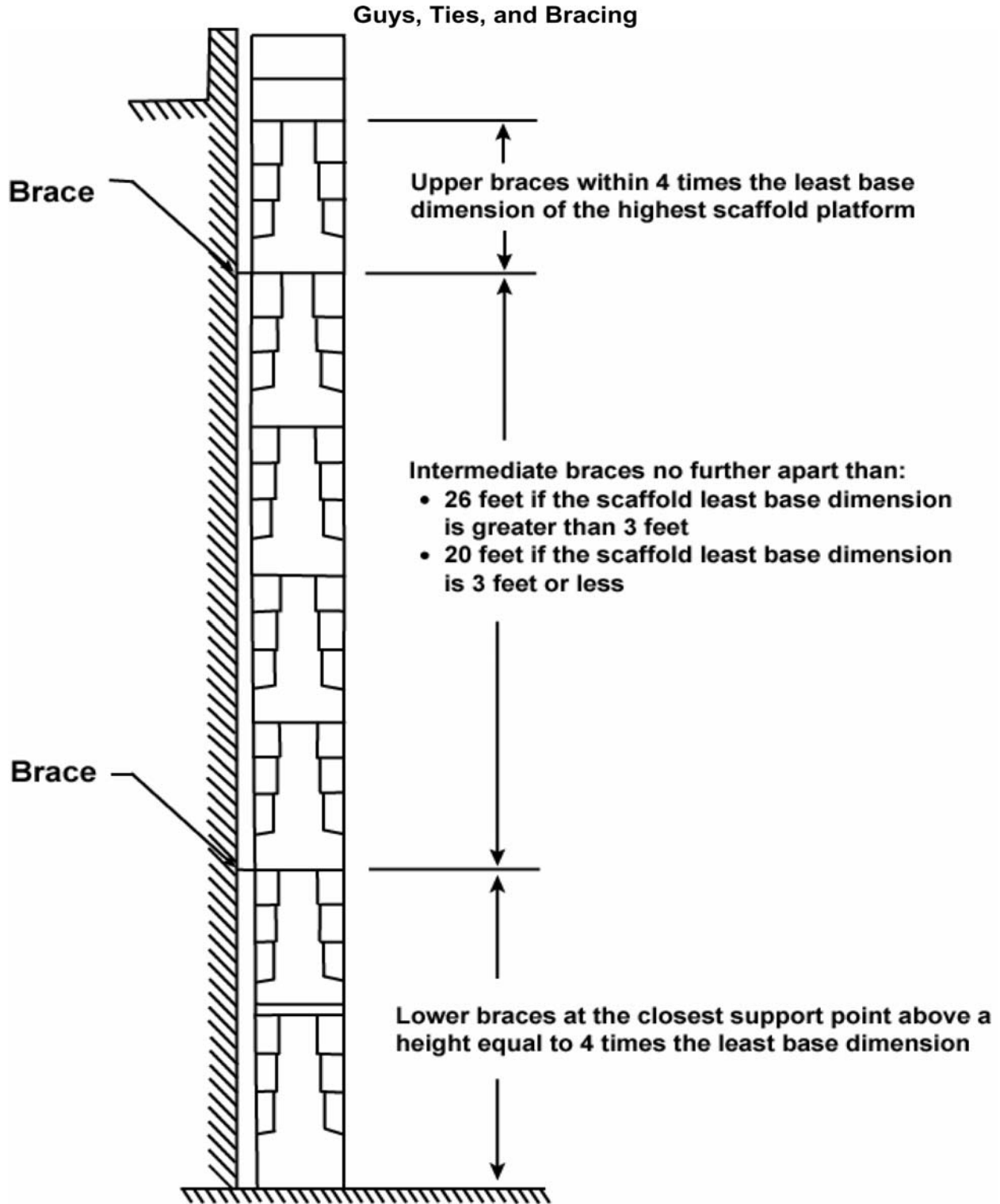
Note: The thirty-foot horizontal intervals are measured from one end of the scaffold to the other.

You must:

- Make sure the highest level of guys, ties, or braces is no further from the top of the scaffold than a distance equal to four times the least base dimension.

- Make sure scaffolds that have an eccentric load applied or transmitted to them, such as a cantilevered work platform, are prevented from tipping by one or more of the following:

- Guying;
- Tying;
- Bracing;
- Outriggers;
- Other equivalent means.



[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-17-026, § 296-874-40004, filed 8/7/07, effective 10/6/07; 07-03-163, § 296-874-40004, filed 1/24/07, effective 4/1/07; 05-01-054, § 296-874-40004, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40006 Make sure supported scaffolds are properly supported.

You must:

- Make sure supported scaffold poles, legs, posts, frames, and uprights are:

- Plumb;
- AND
- Braced to prevent swaying or displacement.
- Make sure supported scaffold poles, legs, posts, frames, and uprights, bear on base plates that rest on:

– Mudsills;

OR

– Other firm foundations such as concrete or dry, compacted soil.

• Make sure foundations are all of the following:

– Level;

– Sound;

– Rigid;

– Capable of supporting the loaded scaffold without settling or displacement.

Note: The condition of the foundation may change due to weather or other factors. If changes occur, the foundation needs to be evaluated by a competent person to make sure it will safely support the scaffold.

• Make sure unstable objects are not used:

– To support scaffolds or platform units;

OR

– As working platforms.

• Make sure mobile scaffolds meet these additional requirements:

– Wheel and caster stems are pinned or otherwise secured in the scaffold legs or adjustment screws;

– Wheels and casters are locked, or equivalent means are used, to prevent movement when the scaffold is being used;

– Screw jacks or other equivalent means are used if it's necessary to level the work platform.

• Make sure front-end loaders and similar equipment used to support scaffold platforms have been specifically designed for such use by the manufacturer.

Reference: When forklifts or other powered industrial trucks are used for personnel lifting on support scaffold platforms, follow the requirements found in Forklifts and other powered industrial trucks, chapter 296-868 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-17-026, § 296-874-40006, filed 8/7/07, effective 10/6/07; 07-03-163, § 296-874-40006, filed 1/24/07, effective 4/1/07; 05-01-054, § 296-874-40006, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40008 Provide safe access for persons erecting or dismantling supported scaffolds.

You must:

• Provide a safe means of access for persons erecting or dismantling scaffolds if it is:

– Feasible;

AND

– Does **not** create a greater hazard.

• Have a competent person determine the feasibility of providing safe access.

• Make sure the determination is based on site conditions and the type of scaffold being erected or dismantled.

• Install a hook-on or attachable ladder as soon as scaffold erection has progressed to a point where it can be safely installed and used.

• Make sure crossbraces on tubular welded frame scaffolds are not used to access or egress from the scaffold.

• Make sure the frames of tubular welded frame scaffolds that are used as climbing devices meet all of the following:

– Create a usable ladder;

– Provide good hand holds and foot space;

– Have horizontal members that are all of the following:

■ Parallel;

■ Level;

■ Spaced not more than twenty two inches apart vertically.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40008, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40010 Provide fall protection for persons erecting or dismantling supported scaffolds.

You must:

• Have a competent person determine the feasibility of providing fall protection for persons erecting or dismantling supported scaffolds.

• Provide fall protection if the installation and use of fall protection is:

– Feasible;

AND

– Does **not** create a greater hazard.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40010, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40012 Meet these requirements when moving mobile scaffolds.

You must:

• Make sure, before a scaffold is moved, that employees on the scaffold are made aware of the move.

• Apply manual force being used to move a scaffold:

– As close to the base as practicable;

AND

– Within five feet (1.5 m) of the supporting surface.

• Make sure power systems used to propel mobile scaffolds have been designed for such use.

• Make sure forklifts, trucks, similar motor vehicles, or add-on motors are not used to propel scaffolds unless the scaffold has been designed to be used with that type of propulsion system.

• Stabilize scaffolds to prevent tipping when they're being moved.

• Make sure a scaffold is not moved with employees riding on it unless all of the following are met:

– The surface on which the scaffold is being moved is:

■ Within three degrees of level;

AND

■ Free of pits, holes, and obstructions;

– No employee is on any part of the scaffold which extends out beyond the wheels, casters, or other supports;

– Outrigger frames, when used, are installed on both sides of the scaffold;

– The power system, if used:

■ Applies the propelling force directly to the wheels;

AND

■ Produces a speed of one foot per second (.3 mps) or less;

– The height of the scaffold:

■ Is not more than two times the least base dimension;

OR

■ The scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements, such as those listed in ANSI/SIA A92.5, Boom-Supported Elevating Work Platforms, and ANSI/SIA A92.6, Self-Propelled Elevating Work Platforms.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40012, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40014 Meet these requirements when using bricklayers' square scaffolds (squares).

You must:

- Reinforce wood scaffolds with gussets on both sides of each corner.
 - Make sure diagonal braces are installed:
 - On all sides of each square;
 - Between squares on the front and back sides of the scaffold;
 - Extending from the bottom of each square to the top of the next square.
 - Make sure scaffolds meet all of the following:
 - Are no more than three tiers high;
 - Are constructed and arranged so that each square rests directly above another square;
 - The upper tiers:
 - Stand on a continuous row of planks laid across the next lower tier;

AND

- Are nailed down or otherwise secured to prevent displacement.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40014, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40018 Meet these requirements when using fabricated frame scaffolds (tubular welded frame scaffolds).

You must:

- Make sure scaffolds over one hundred twenty-five feet (38.0 m) high above their base plates are:
 - Designed by a registered professional engineer;
- AND**
- Constructed and loaded as specified in the design.
- Brace frames and panels using crossbraces, horizontal braces, diagonal braces, or a combination thereof to secure vertical members together laterally.
 - Make sure the length of the crossbraces will:
 - Automatically square and align the vertical members;
- AND**
- Make the scaffold plumb, level, and square.
- Secure all brace connections.
- Join frames and panels together vertically by using one of the following:
 - Coupling pins;
 - Stacking pins;
 - Equivalent means.
 - Use pins or other equivalent means to lock scaffold frames or panels together vertically where uplift may occur.
 - Make sure brackets used to support cantilevered loads are all of the following:
 - Seated with side-brackets parallel to the frames and end-brackets at ninety degrees to the frames;
 - Not bent or twisted from these positions;
 - Used only to support persons.

Exemption: Brackets may be used to support cantilevered loads other than personnel if the scaffold has been:

- Designed for other loads by a qualified engineer;

AND

- Built to withstand the tipping forces caused by those loads.

You must:

- Leave existing platforms undisturbed until new frames have been set in place and braced, then move the platforms to the next level.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40018, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40020 Meet these requirements when using integral prefabricated scaffold access frames.

You must:

- Make sure integral prefabricated scaffold access frames meet all of the following:
 - Have been specifically designed and constructed to be used as ladder rungs;
 - Have a rung length of at least eight inches (20 cm);
 - Have a maximum spacing between rungs of sixteen and three quarters inches (43 cm);
 - Are uniformly spaced within each frame section;
 - Have rest platforms at least every twenty feet (6.1 m) on all supported scaffolds more than twenty-four feet (7.3 m) high.

Note: Nonuniform rung spacing caused by joining end frames together is allowed, provided the resulting spacing does not exceed sixteen and three quarters inches (43 cm).

You must:

- Make sure, when panels with rungs that are less than eleven and one-half inches long are used as work platforms, that employees use either:
 - A positioning device;
- OR**
- A personal fall arrest system.

Reference:

- For personal fall arrest system requirements in this chapter, go to WAC 296-874-20058.
- For construction activities, go to fall restraint and fall arrest, Part C-1, in safety standards for construction work, chapter 296-155 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40020, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40022 Meet these requirements when using form scaffolds and carpenter's bracket scaffolds.

You must:

- Secure folding-type metal brackets that have been extended for use, with:
 - Bolts;
- OR**
- Locking-type pins.
- Make sure wooden-bracket form scaffolds are an integral part of the form panel.
 - Attach each bracket, other than those for wooden bracket-form scaffolds, to the supporting formwork or structure by using one or more of the following:
 - Nails;
 - A metal stud attachment device;
 - Welding;
 - Hooking over a secured structural supporting member, with the form wales either:
 - Bolted to the form;
- OR**
- Secured by snap ties or tie bolts extending through the form and securely anchored.

– For carpenters' bracket scaffolds only, using a bolt extending through to the opposite side of the structure's wall.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40022, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40024 Meet these requirements when using horse scaffolds.

You must:

- Make sure horse scaffolds are not constructed or arranged higher than two tiers or ten feet (3.0 m), whichever is less.

- Do all of the following if horses are arranged in tiers:
 - Place each horse directly over the horse in the tier below;
 - Nail down or otherwise secure the legs of each horse to prevent displacement;
 - Crossbrace each tier.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40024, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40026 Meet these requirements when using ladder jack scaffolds.

You must:

- Make sure the platform height is not higher than twenty feet (6.1 m).
- Make sure ladder jacks are designed and constructed so they rest:
 - On the side rails and ladder rungs together;

OR

- Only on the rungs.
- Make sure ladder jacks that rest on rungs only have a bearing area that includes a length of at least ten inches (25.4 cm) on each rung.
- Make sure ladders used to support ladder jacks are:
 - Type I (two hundred fifty pound rated capacity) or Type IA (300 pound rated capacity);

AND

- Are placed, fastened, or equipped with devices to prevent slipping.

Note: Ladders with a duty rating or weight capacity greater than a Type I ladder (250 pounds) satisfy the requirement to use a Type I or Type IA ladder.

You must:

- Make sure job-made ladders are not used to support ladder jack scaffolds.
- Make sure scaffold platforms are not bridged together.

Reference:

- There are specific fall protection requirements for employees using ladder jack scaffolds. Go to WAC 296-874-20056.
- Requirements for portable and fixed ladders are found in chapter 296-876 WAC, Ladders, portable and fixed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-874-40026, filed 7/24/06, effective 12/1/06; 05-01-054, § 296-874-40026, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40028 Meet these requirements when using outrigger scaffolds.

You must:

- Make sure outrigger scaffolds and scaffold components are:
 - Designed by a registered professional engineer;

(2009 Ed.)

AND

- Constructed and loaded as specified in the design.
- Make sure the part of the outrigger beam from the fulcrum point to the inboard end (farthest point of anchorage) is at least one and one-half times longer than the part from fulcrum point to the outboard end (the platform side).

- Place I-beam or channel shaped outrigger beams so that the web section is vertical.

- Make sure the fulcrum point of outrigger beams rests on secure bearings at least six inches (15.2 cm) in each horizontal dimension.

- Make sure outrigger beams are:

- Secured in place to prevent movement;

AND

- Securely braced at the fulcrum point against tipping.

- Securely anchor the inboard ends of outrigger beams by using one or both of the following:

- Braced struts bearing against sills that are in contact with the overhead beams or ceiling;

OR

- Tension members secured to the floor joists below.

- Securely brace the entire supporting structure to prevent any horizontal movement.

- Nail, bolt, or otherwise secure platform units to the outriggers to prevent platform displacement. Platform units must extend to within three inches of the building wall.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40028, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40030 Meet these requirements when using pole scaffolds.

You must:

- Make sure pole scaffolds over sixty feet high are:

- Designed by a registered professional engineer;

AND

- Constructed and loaded as specified in the design.

- Leave existing platforms undisturbed until new bearers have been set in place and braced before moving the platforms to the new level.

- Install bracing on double-pole scaffolds as follows:

- Crossbracing between the inner and outer sets of poles;
- Diagonal bracing in both directions across the entire outside face of the scaffold;

- Diagonal bracing in both directions across the entire inside face of scaffolds that are used to support loads equivalent to a uniformly distributed load of fifty pounds (222 kg) or more per square foot (929 square cm).

- Install diagonal bracing on single pole scaffolds in both directions across the entire outside face of the scaffold.

- Make sure runners meet all of the following:

- Are installed on edge;
- Extend over a minimum of two poles;
- Are supported by bearing blocks securely attached to the poles.

- Make sure bearers are:

- Installed on edge;

AND

- Extend a minimum of three inches (7.6 cm) over the outside edges of runners.

- Make sure runners, bearers, and braces are not spliced between poles.

[Title 296 WAC—p. 3163]

- Make sure wood poles that are spliced together meet both of the following:

- The ends of the poles at the splice:

- Are square;

AND

- The upper section rests squarely on the lower section.

- Wood splice plates are provided that meet all of the following:

- Are installed on at least two adjacent sides;

- Extend at least two feet (0.6 m) on either side of the splice;

- Overlap the abutted ends equally;

- Have the same cross-sectional areas as the pole.

Note: Splice plates of material other than wood may be used if they are of equivalent strength.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40030, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40032 Meet these requirements when using pump jack scaffolds.

You must:

- Make sure pump jack brackets, braces, and accessories are made from metal plates and angles.

- Make sure pump jack brackets have two positive gripping mechanisms to prevent any failure or slippage.

- Secure poles to the structure using rigid triangular bracing or the equivalent located at all of the following:

- Top;

- Bottom;

- Other points on the pole as necessary.

- Do both of the following when the pump jack has to pass bracing that's already installed:

- Install an additional brace approximately four feet (1.2 m) above the brace to be passed;

- Leave it in place until:

- The pump jack has been moved;

AND

- The original brace is reinstalled.

- Make sure work benches are not used as scaffold platforms.

Note: A work bench may be used as a toprail only if it meets the toprail requirements in Make sure guardrail systems meet these requirements, WAC 296-874-20064.

You must:

- Make sure wood poles used with pump jack scaffolds are:

- Straight grained;

AND

- Free of shakes, large loose or dead knots, and other defects which might impair strength.

- Make sure wood poles that are constructed of two continuous lengths are joined together with the seam parallel to the bracket.

- Install a mending plate at all splices to develop the full strength of the member when splicing two by fours together to make a pole.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40032, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40034 Meet these requirements when using repair bracket scaffolds.

You must:

- Make sure brackets are all of the following:
 - Secured in place by at least one wire rope that's at least one-half inch (1.27 cm) in diameter;

- Attached to the securing wire rope by a positive locking device, or equivalent, that will prevent the bracket from being unintentionally detached from the rope;

- Provided with a shoe, heel block, foot, or a combination that:

- Is located at the contact point between the supporting structure and the bottom of the bracket;

AND

- Will prevent lateral movement of the bracket.

- Secure the platforms to the brackets in a way that prevents:

- The platforms from separating from the brackets;

AND

- The platforms or brackets from moving on a completed scaffold.

- Make sure wire rope placed around the structure to provide a safe anchorage for personal fall arrest systems used by employees erecting or dismantling scaffolds:

- Is at least five-sixteenths inch (0.8 cm) in diameter;

- Provides an anchorage that meets the requirements of WAC 296-874-20058.

- For construction activities, go to fall restraint and fall arrest, Part C-1, in the safety standards for construction work, chapter 296-155 WAC.

- Make sure each wire rope used for securing brackets in place or as an anchorage for personal fall arrest systems is all of the following:

- Protected from damage due to contact with edges, corners, protrusions, or other parts of the supporting structure or scaffold components;

- Tensioned by a turnbuckle or equivalent means. Turnbuckles must be:

- At least one inch (2.54 cm) in diameter;

AND

- Connected to the other end of its rope by an eye splice thimble that's sized appropriate to the turnbuckle.

- **Not** used with U-bolt wire rope clips.

- Make sure materials are not dropped to the outside of the supporting structure.

- Erect the scaffold by progressing around the structure in only one direction.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40034, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40036 Meet these requirements when using roof bracket scaffolds.

You must:

- Make sure scaffold brackets meet all of the following:

- Are constructed to fit the pitch of the roof;

- Provide a level support for the platform;

- Are anchored in place by nails.

Note: If it's not practical to use nails to anchor brackets, secure them in place with first grade manila rope of at least three-quarters inch (1.9 cm) diameter, or equivalent.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40036, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40038 Meet these requirements when using step, platform and trestle ladder scaffolds.

You must:

- Make sure ladders used to support step, platform, and trestle ladder scaffolds are:
 - Type I (250 pound rated capacity) or Type IA (300 pound rated capacity);

AND

- Placed, fastened, or equipped with devices to prevent slipping.

Note: Ladders with a duty rating or weight capacity greater than a Type I ladder (250 pounds) satisfy the requirement to use a Type I or Type IA ladder.

You must:

- Make sure job-made ladders are not used to support step, platform, and trestle ladder scaffolds.

Reference:

- There are specific fall protection requirements for employees using ladder jack scaffolds. Go to WAC 296-874-20056.
- Requirements for portable and fixed ladders are found in chapter 296-876 WAC, Ladders, portable and fixed.

You must:

- Make sure scaffold platforms are not placed higher than the second highest rung or step of the ladder supporting the platform.
- Make sure scaffold platforms are not bridged together.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-874-40038, filed 7/24/06, effective 12/1/06; 05-01-054, § 296-874-40038, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40040 Meet these requirements when using tube and coupler scaffolds.

You must:

- Make sure tube and coupler scaffolds over one hundred twenty-five feet high are:
 - Designed by a registered professional engineer;
- AND**
- Constructed and loaded as specified in the design.
 - Leave existing platforms undisturbed until new bearers have been set in place and braced before moving the platforms to the new level.

- Install crossbracing across the width of the scaffold that meets all of the following:

- Bracing is installed at:
 - Each end of the scaffold;

AND

- At least at every third set of posts horizontally and every fourth runner vertically.

- Bracing extends diagonally from the:
 - Outer posts or runners upwards to the next inner posts or runners;

- Inner posts or runners upwards to the next outer posts or runners.

AND

- Install building ties:
 - At the bearer levels between the crossbracing;

AND

- At locations specified in WAC 296-874-40004.

(2009 Ed.)

- Install longitudinal bracing on straight run scaffolds as follows:

- Diagonally in both directions across the inner and outer rows of posts;

- From the base of the end posts upward to the top of the scaffold at approximately a forty-five degree angle;

- As close as possible to the intersection of the bearer and post or runner and post;

- If the scaffold is longer than it is tall, repeat the bracing beginning at every fifth post;

- If the scaffold is taller than its length, install the bracing:

- From the base of the end posts upward to the opposite end posts;

AND

- In alternating directions until reaching the top of the scaffold.

- Attach bracing to the runners as close to the post as possible, if bracing can't be attached to the post.

- Make sure bearers meet all of the following:

- Are installed transversely between posts;
- If the bearer is coupled to the post, have the inboard coupler bear directly on the runner coupler;

- If the bearer is coupled to the runners, have the couplers as close to the posts as possible;

- Extend bearers beyond the posts and runners;

- Provide full contact with the coupler;
- The bottom bearers are located as close to the base as possible.

- Make sure runners meet all of the following:

- Are installed along the length of the scaffold;
- Are located on both the inside and outside posts at the same height;

- Are interlocked on straight runs to form continuous lengths and are coupled to each post;

- The bottom runners are located as close to the base as possible.

Note: Tube and coupler guardrails and midrails installed on outside posts can be used in lieu of outside runners.

You must:

- Make sure couplers are made of a structural metal, such as drop-forged steel, malleable iron, or structural grade aluminum.

- Prohibit using couplers made of gray cast iron.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-17-026, § 296-874-40040, filed 8/7/07, effective 10/6/07; 05-01-054, § 296-874-40040, filed 12/7/04, effective 3/1/05.]

WAC 296-874-40042 Meet these requirements when using window jack scaffolds.

You must:

- Make sure window jack scaffolds meet all of the following:

- Are securely attached to the window opening;
- Are used for working only at the window opening the jack is placed through;

- Are not used:

- To support planks placed between one window jack and another;

OR

- At locations specified in WAC 296-874-40004.

[Title 296 WAC—p. 3165]

- As any other element of scaffolding.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-01-054, § 296-874-40042, filed 12/7/04, effective 3/1/05.]

WAC 296-874-500 Definitions.

Adjustable suspension scaffold a suspended scaffold equipped with one or more hoists that can be operated by employees on the scaffold.

Bearer a horizontal scaffold member (which may be supported by ledgers or runners) upon which the scaffold platform rests and which joins scaffold uprights, posts, poles, and similar members.

Boatswain's chair a single-point adjustable suspended scaffold consisting of a seat or sling designed to support one employee in a sitting position.

Brace a rigid connection that holds one scaffold member in a fixed position with respect to another member, or to a building or structure.

Bricklayers' square scaffold a supported scaffold composed of framed squares which support a platform.

Carpenters' bracket scaffold a supported scaffold consisting of a platform supported by brackets attached to building or structural walls.

Catenary scaffold a suspended scaffold consisting of a platform supported by two essentially horizontal and parallel ropes attached to structural members of a building or other structure. Additional support may be provided by vertical pickups.

Cleat a structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as access ramps.

Competent person someone who:

- Is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;

AND

- Has the authority to take prompt corrective measures to eliminate them.

Coupler a device for locking together the tubes of a tube and coupler scaffold.

Double-pole (independent pole) scaffold a supported scaffold consisting of one or more platforms resting on cross beams (bearers) supported by ledgers and a double row of uprights independent of support (except ties, guys, braces) from any structure.

Equivalent alternative design, material or method to protect against a hazard. You have to demonstrate it provides an equal or greater degree of safety for employees than the method, material or design specified in the rule.

Exposed power lines electrical power lines which are accessible to and may be contacted by employees. Such lines do not include extension cords or power tool cords.

Eye or eye splice a loop at the end of a wire rope.

Fabricated frame scaffold (tubular welded frame scaffold) a scaffold consisting of platforms supported on fabricated frames with integral posts, horizontal bearers, and intermediate members.

Failure load refusal, breaking, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

Float (ship) scaffold a suspended scaffold consisting of a braced platform resting on two parallel bearers and hung from overhead supports by ropes of fixed length.

Form scaffold a supported scaffold consisting of a platform supported by brackets attached to formwork.

Guardrail system a vertical barrier, consisting of, but not limited to, top rails, mid rails, and posts, erected to prevent employees from falling off a scaffold platform or walkway.

Handrails (ladder stands) a rail connected to a ladder stand running parallel to the slope and/or top step.

Hoist a manual or power-operated mechanical device to raise or lower a suspended scaffold.

Horse scaffold a supported scaffold consisting of a platform supported by construction horses (saw horses). Horse scaffolds constructed of metal are sometimes known as trestle scaffolds.

Independent pole scaffold (see double pole scaffold).

Interior hung scaffold a suspended scaffold consisting of a platform suspended from the ceiling or roof structure by fixed length supports.

Ladder jack scaffold a supported scaffold consisting of a platform resting on brackets attached to ladders.

Ladder stand a mobile, fixed-size, self-supporting ladder consisting of a wide flat tread ladder in the form of stairs.

Landing a platform at the end of a flight of stairs.

Large area scaffold a pole scaffold, tube and coupler scaffold, system scaffold, or fabricated frame scaffold erected over substantially the entire work area. For example: A scaffold erected over the entire floor area of a room.

Lean-to scaffold a supported scaffold which is kept erect by tilting it toward and resting it against a building or structure.

Ledger (see runner).

Lifeline a component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline). It serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Lower levels areas below the level where the employee is located and to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, and equipment.

Masons' adjustable supported scaffold (see self-contained adjustable scaffold).

Masons' multipoint adjustable suspension scaffold a continuous run suspended scaffold designed and used for masonry operations.

Maximum intended load the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

Midrail a rail, approximately midway between the top rail of a guardrail system and the platform, and secured to the uprights erected along the exposed sides and ends of a platform.

Mobile scaffold supported scaffold mounted on casters or wheels.

Multilevel suspended scaffold a two-point or multi-point adjustable suspension scaffold with a series of platforms at various levels resting on common stirrups.

Multipoint adjustable suspension scaffold a suspended scaffold consisting of a platform(s) which is suspended by more than two ropes from overhead supports and equipped with means to raise and lower the platform to desired work levels.

Needle beam scaffold a suspended scaffold which has a platform supported by two bearers (needle beams) suspended from overhead supports.

Outrigger a structural member of a supported scaffold which increases the base width of a scaffold. This provides support for and increases the stability of the scaffold.

Outrigger beam (suspended and supported) the structural member of a suspended scaffold or outrigger scaffold which provides support for the scaffold by extending the scaffold point of attachment to a point out and away from the structure or building.

Outrigger scaffold a supported scaffold consisting of a platform resting on outrigger beams which projects beyond the wall or face of the building or structure. The inboard ends of the outrigger beams are secured inside the building or structure.

Overhand bricklaying the process of laying bricks and masonry so that the surface of the wall is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. It includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

Personal fall arrest system a system used to arrest an employee's fall. It consists of an anchorage, connectors, and body harness and may also include a lanyard, deceleration device, lifeline, or combinations of these.

Platform a work surface used in scaffolds, elevated above lower levels. Platforms can be constructed using individual wood planks, fabricated planks, fabricated decks, and fabricated platforms.

Pole scaffold (see single-pole scaffold and double (independent) pole scaffold).

Pump jack scaffold a supported scaffold consisting of a platform supported by vertical poles and movable support brackets.

Qualified person a person who has successfully demonstrated the ability to solve problems relating to the subject matter, work, or project, either by:

- Possession of a recognized degree, certificate, or professional standing;

OR

- Extensive knowledge, training and experience.

Rated load the manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

Repair bracket scaffold a supported scaffold consisting of a platform supported by brackets. The brackets are secured in place around the circumference or perimeter of a chimney, stack, tank or other supporting structure by one or more wire ropes placed around the supporting structure.

Roof bracket scaffold a supported scaffold used on a sloped roof. It consists of a platform resting on angular-shaped supports so that the scaffold platform is level.

Runner (ledger) the lengthwise horizontal spacing or bracing member which may support the bearers.

Scaffold a temporary elevated platform, including its supporting structure and anchorage points, used for supporting employees or materials.

Self-contained adjustable scaffold a combination supported and suspended scaffold consisting of an adjustable platform mounted on an independent supporting frame, not a part of the object being worked on, which is equipped with a means to raise and lower the platform. Such systems include rolling roof rigs, rolling outrigger systems, and some masons' adjustable supported scaffolds.

Shore scaffold a supported scaffold which is placed against a building or structure and held in place with props.

Single-point adjustable suspension scaffold a suspended scaffold consisting of a platform suspended by one rope from an overhead support and equipped with means to permit the movement of the platform to desired work levels.

Single-pole scaffold a supported scaffold consisting of platforms resting on bearers, the outside ends of which are supported on runners secured to a single row of posts or uprights, and the inner ends of which are supported on or in a structure or building wall.

Stair tower (scaffold stairway/tower) a tower comprised of scaffold components which contains internal stairway units and rest platforms. These towers are used to provide access to scaffold platforms and other elevated points such as floors and roofs.

Stall load the load at which the prime mover of a power-operated hoist stalls or the power to the prime mover is automatically disconnected.

Step, platform, and trestle ladder scaffold a platform resting directly on the rungs of a step, platform, or trestle ladder.

Stilts a pair of poles or similar supports with raised footrests, used to permit walking above the ground or working surface.

Stonesetters' multipoint adjustable suspension scaffold a continuous run suspended scaffold designed and used for stonesetters' operations.

Supported scaffold one or more platforms supported by rigid means such as outrigger beams, brackets, poles, legs, uprights, posts, or frames.

Suspended scaffold one or more platforms suspended from an overhead structure by ropes or other nonrigid means.

System scaffold a scaffold consisting of posts with fixed connection points that accept runners, bearers, and diagonals that can be interconnected at predetermined levels.

Toeboard (scaffold) a barrier erected along the exposed sides and ends of a scaffold platform at platform level to prevent material, tools, and other loose objects from falling from the platform.

Top plate bracket scaffold a scaffold supported by brackets that hook over or are attached to the top of a wall. This type of scaffold is similar to carpenters' bracket scaffolds and form scaffolds.

Tube and coupler scaffold a scaffold consisting of platforms supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners.

Tubular welded frame scaffold (see fabricated frame scaffold).

Tubular welded sectional folding scaffold a sectional, folding metal scaffold either of ladder frame or inside stairway design. It is substantially built of prefabricated welded sections, which consist of end frames, platform frame, inside inclined stairway frame and braces, or hinged connected diagonal and horizontal braces. It can be folded into a flat package when the scaffold is not in use.

Two-point suspension scaffold (swing stage) a suspended scaffold consisting of a platform supported by hangers (stirrups), suspended by two ropes from overhead supports, and equipped with a means to permit the raising and lowering of the platform to desired work levels.

Unstable objects items whose strength, configuration, or lack of stability may allow them to become dislocated and shift and therefore may not properly support the loads imposed on them. Unstable objects do not constitute a safe base support for scaffolds, platforms, or employees. Examples include, but are not limited to, barrels, boxes, loose brick, and concrete blocks.

Vertical pickup a rope used to support the horizontal rope in a catenary scaffold.

Walkway (scaffold) part of a scaffold used only for access and not as a working level.

Window jack scaffold a platform resting on a bracket or jack that projects through a window opening.

Work level the elevated platform, used for supporting workers and their materials.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-17-026, § 296-874-500, filed 8/7/07, effective 10/6/07; 05-01-054, § 296-874-500, filed 12/7/04, effective 3/1/05.]

Chapter 296-876 WAC LADDERS, PORTABLE AND FIXED

WAC

296-876-100	Scope.
296-876-150	Training—Section contents.
296-876-15005	Training.
296-876-200	Design and construction—Section contents.
296-876-20005	Design and construction.
296-876-300	Ladder care—Section contents.
296-876-30005	Condition and inspection.
296-876-30010	Repair.
296-876-30015	Storage.
296-876-30020	Transport.
296-876-400	Use—Section contents.
296-876-40005	Designed use.
296-876-40010	Workplace activities or traffic.
296-876-40015	Support.
296-876-40020	Set-up.
296-876-40025	Climbing and descending.
296-876-40030	Getting on and off ladders at upper levels.
296-876-40035	Exposed electrical hazards.
296-876-40040	Persons on ladders.
296-876-40045	Multisection ladders.
296-876-40050	Self-supporting ladders.
296-876-500	Fixed ladder design and construction—Section contents.
296-876-50010	Design and construction—Fixed ladders installed on or after December 1, 2006.
296-876-600	Fixed ladder design and construction—Section contents.
296-876-60005	Design and construction—Fixed ladders installed before December 1, 2006.
296-876-60010	Design loads.
296-876-60015	Pitch.
296-876-60020	Welding.
296-876-60025	Ladder surfaces.
296-876-60030	Rungs, cleats and steps.
296-876-60035	Side rails.
296-876-60040	Clearances.

[Title 296 WAC—p. 3168]

296-876-60045	Step-across distance.
296-876-60050	Extensions and grab bars.
296-876-60055	Hatches.
296-876-60060	Platforms.
296-876-60065	Protective structures and equipment.
296-876-60070	Cages.
296-876-60075	Wells.
296-876-60080	Ladder safety devices.
296-876-700	Fixed ladders inspection and maintenance—Section contents.
296-876-70005	Protection against corrosion and deterioration.
296-876-70010	Inspection and repair.
296-876-800	Fixed ladder use—Section contents.
296-876-80005	Designed load.
296-876-80010	Climbing and descending.
296-876-900	Definitions.

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-876-50005	Training. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-50005, filed 10/4/05, effective 1/1/06.] Repealed by 06-16-020, filed 7/24/06, effective 12/1/06. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.
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WAC 296-876-100 Scope. This chapter applies to portable and fixed ladders, including job-made wooden ladders.

Exemption: This chapter does not apply to:

- Portable ladders used by the fire services for fire combat that are covered by Safety standards for fire fighters, chapter 296-305 WAC;
- Agriculture activities covered by Safety standards for agriculture, chapter 296-307 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-100, filed 7/24/06, effective 12/1/06; 05-20-068, § 296-876-100, filed 10/4/05, effective 1/1/06.]

WAC 296-876-150 Training—Section contents.

Your responsibility:

To train employees who use ladders.

Training.

WAC 296-876-15005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-22-024, § 296-876-150, filed 10/24/06, effective 12/1/06.]

WAC 296-876-15005 Training.

You must:

- Train employees to recognize ladder hazards and the procedures to minimize these hazards.
- Have a competent person train employees that use ladders in at least the following topics:
 - The proper construction, use, placement, and care in handling ladders.
 - The maximum intended load capacities of ladders that are used.
 - The requirements of this chapter.
- Retrain employees as necessary to make sure they know and understand the content of the original training.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-22-024, § 296-876-15005, filed 10/24/06, effective 12/1/06.]

WAC 296-876-200 Design and construction—Section contents.

Your responsibility:

To make sure portable ladders meet design and construction requirements.

Design and construction

(2009 Ed.)

WAC 296-876-20005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-200, filed 10/4/05, effective 1/1/06.]

WAC 296-876-20005 Design and construction.

IMPORTANT:

Design and construction requirements of this section do not apply to special purpose ladders.

Definition:

A *special purpose ladder* is a portable ladder that is made by modifying or combining design or construction features of the general-purpose types of ladders in order to adapt the ladder to special or specific uses.

You must:

- Make sure portable ladders and job-made wooden ladders manufactured **on or after January 1, 2006**, meet the design and construction requirements and specifications of the appropriate American National Standards Institute (ANSI) standard:

- ANSI A14.1-2000, American National Standard for Ladders-Portable Wood-Safety Requirements.
- ANSI A14.2-2000, American National Standard for Ladders-Portable Metal-Safety Requirements.
- ANSI A14.5-2000, American National Standard for Ladders-Portable Reinforced Plastic-Safety Requirements.
- ANSI A14.4-2002, American National Standard Safety Requirements for Job-Made Wooden Ladders.

- Make sure portable ladders manufactured **before January 1, 2006**, meet the design and construction requirements and specifications of the appropriate ANSI standard in effect on the date of manufacture:

- ANSI A14.1, American National Standard for Ladders-Portable Wood-Safety Requirements.
- ANSI A14.2, American National Standard for Ladders-Portable Metal-Safety Requirements.
- ANSI A14.5, American National Standard for Ladders-Portable Reinforced Plastic-Safety Requirements.

Note: A commercially manufactured portable ladder should have a label indicating it meets the requirements of the ANSI standard. If in doubt, check with the manufacturer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-20005, filed 10/4/05, effective 1/1/06.]

WAC 296-876-300 Ladder care—Section contents.

Your responsibility:

To make sure portable ladders are inspected, maintained, stored and transported properly.

Condition and inspection

WAC 296-876-30005.

Repair

WAC 296-876-30010.

Storage

WAC 296-876-30015.

Transport

WAC 296-876-30020.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-300, filed 10/4/05, effective 1/1/06.]

(2009 Ed.)

WAC 296-876-30005 Condition and inspection.

You must:

- Keep portable ladders in good, usable condition. Good, usable condition includes, but is not limited to:

- Joints between the steps or rungs and the side rails are tight.
- Rungs, cleats, or steps are not bent, broken, or missing.
- Side rails are not bent, broken, or split.
- All bolts and rivets are in place and secure.
- Hardware, fittings and accessories are securely attached and working properly.
- Ropes are not frayed or badly worn.
- Moveable parts operate freely without binding or excessive play.
- Safety feet and other auxiliary equipment are not excessively worn.
- Metal components are not corroded.
- There are no other faulty or defective components.

- Make sure wood ladders are not coated with an opaque covering except for the minimum amount necessary for identification and warning information which may be placed on one face only of a side rail.

- Have a competent person inspect a ladder:

- When required by Table 1, Ladder Inspection Criteria;
- AND**
- After any other occurrence that could affect safe use.
- Make sure any ladder with structural damage or other hazardous defect is:
- Marked to identify it as defective or tagged with "do not use" or similar language;

AND

- Removed from service.

Note: Ladders subjected to certain acids or alkali materials may experience chemical corrosion and a reduction in strength. Consult the manufacturer or a qualified person prior to use.

**Table 1
Ladder Inspection Criteria**

When the ladder is:	Do the following:
First placed into service and periodically while in service	<ul style="list-style-type: none"> • Inspect the ladder for visible defects, including, but not limited to: <ul style="list-style-type: none"> – Working parts; AND – Rung or step connections to the side rails.
Damaged by impact or tips over	<ul style="list-style-type: none"> • Visually inspect the ladder for: <ul style="list-style-type: none"> – Dents, bends, cracks or splits • Check: <ul style="list-style-type: none"> – Rung or step connections to the side rails. – Hardware connections. – Rivets for shear damage. – All other components.

When the ladder is:	Do the following:
Exposed to excessive heat such as a fire	<ul style="list-style-type: none"> • Visually inspect the ladder for damage. • Test for deflection and strength characteristics using the "in-service use tests" contained in the appropriate ANSI. <p>Exemption: Job-made wooden ladders are not to be subjected to load or impact tests. Those tests may weaken lumber components or fasteners, causing hidden damage that could result in sudden failure during use.</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-30005, filed 10/4/05, effective 1/1/06.]

WAC 296-876-30010 Repair.

You must:

- Make sure repairs restore the ladder to a condition meeting its original design criteria.
- Prohibit repairs to a defective side rail.

Note: A commercially manufactured ladder with a defective side rail cannot be repaired by the user. Side rail repair can only be done by the manufacturer.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-30010, filed 10/4/05, effective 1/1/06.]

WAC 296-876-30015 Storage.

You must:

- Make sure material is not put on ladders in storage.

Note:

- Store portable ladders on racks designed to protect them when not in use. The racks should have enough supporting points to prevent the ladder from sagging.
- Do not store wood ladders near sources of heat, moisture, or dampness.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-30015, filed 10/4/05, effective 1/1/06.]

WAC 296-876-30020 Transport.

You must:

- Properly support ladders while transporting them on vehicles.
- Make sure ladders transported in a truck rack are positively secured in a fixed position that prevents chafing or abrasion.

Note: Securing the ladder to each support point will greatly reduce damage due to road shock.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-30020, filed 10/4/05, effective 1/1/06.]

WAC 296-876-400 Use—Section contents.

Your responsibility:

- To use portable ladders safely.
- Designed use
WAC 296-876-40005.
- Workplace activities or traffic
WAC 296-876-40010.
- Support

WAC 296-876-40015.

Set-up

WAC 296-876-40020.

Climbing and descending

WAC 296-876-40025.

Getting on and off ladders at upper levels

WAC 296-876-40030.

Exposed electrical hazards

WAC 296-876-40035.

Persons on ladders

WAC 296-876-40040.

Multisection ladders

WAC 296-876-40045.

Self-supporting ladders

WAC 296-876-40050.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-400, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40005 Designed use.

You must:

- Use ladders only for their intended purpose.

Note: Unless specifically recommended by the manufacturer, do not use a ladder as a:

- Brace.
- Skid.
- Lever.
- Guy or gin pole.
- Gangway.
- Platform.
- Scaffold plank.
- Material hoist.

You must:

- Make sure not to overload ladders. Do not exceed either the:

– Maximum intended load;

OR

– Manufacturer’s rated capacity.

Definitions:

– The *maximum intended load* is the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time.

– **Ladder type.** The designation that identifies the maximum intended load (working load) of the ladder. Ladder types are as follows:

Duty Rating	Ladder Type	Use	Maximum Intended Load (Pounds)
Extra Heavy-Duty	IA	Industry, utilities, contractors	300
Heavy-Duty	I	Industry, utilities, contractors	250
Medium-Duty	II	Painters, offices, light maintenance	225
Light-Duty	III	General household use	200

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40005, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40010 Workplace activities or traffic.**You must:**

- Protect ladders that are set-up in a location where they could be displaced by workplace activities or traffic by either:

- Securing the ladder to prevent accidental displacement;

OR

- Using a barricade to keep the activities or traffic away from the ladder.

- Protect ladders that are set-up in front of doors that open towards the ladder by doing at least one of the following:

- Block the door open.

- Lock the door.

- Guard the door to keep it from opening into the ladder.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40010, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40015 Support.**You must:**

- Place the ladder either:

- With a secure footing on a firm, level support surface;

OR

- Secure the ladder to prevent accidental displacement.

- Make sure a ladder is not placed on ice, snow, or other slippery surface unless the ladder is prevented from accidental displacement by either:

- Securing it;

OR

- Providing the ladder with slip-resistant feet.

Note: Slip-resistant feet are not a substitute for care in placing, lashing, or holding a ladder that is used on a slippery surface.

You must:

- Make sure ladders are not placed on boxes, barrels, or other unstable bases to obtain additional height.

- Place a straight ladder so the side rails are equally supported by the top support, unless the ladder is equipped with a single support attachment.

- Make sure the top support of the ladder is reasonably rigid and able to support the load.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40015, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40020 Set-up.**You must:**

- Set up nonself-supporting ladders at a safe angle. The ladder is set at the proper angle when the horizontal distance from the top support to the foot of the ladder is approximately one-quarter the working length of the ladder.

- Set up job-made ladders with spliced side rails so that the horizontal distance from the top support to the foot of the ladder is not greater than one-eighth the working length of the ladder.

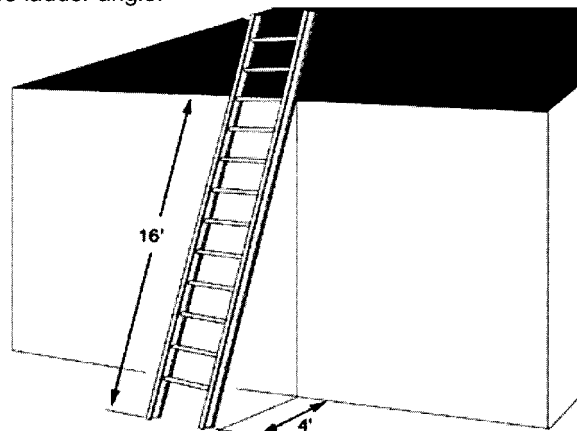
Definition:

The *working length* of a nonself-supporting ladder is the length, measured along the rails, from the base support point of the ladder to the point of bearing at the top.

(2009 Ed.)

Safe Ladder Angle**Note:**

Safe ladder angle.



[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40020, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40025 Climbing and descending.**You must:**

- Have both hands free to hold on to the ladder.

- Face the ladder when climbing or descending.

- Keep ladders free of oil, grease, or other slippery materials.

- Keep the area around the top and bottom of ladders clear.

- Make sure single-rail ladders are not used.

Definition:

A *single-rail ladder* is a portable ladder with crosspieces mounted on a single rail.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40025, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40030 Getting on and off ladders at upper levels.**You must:**

- Make sure a ladder used to access an upper level has the side rails extended at least three feet (.9 m) above the landing surface if the ladder length permits.

- Do the following if a ladder used to access an upper level is not long enough to obtain a three-foot side rail extension above the landing surface:

- Secure the ladder at the top to a rigid support that will not deflect.

- Provide a grasping device, such as a grabrail, to assist in mounting and dismounting the ladder.

- Make sure the ladder deflection under a load would not, by itself, cause it to slip off its support.

- Make sure, if two or more separate ladders are used to reach an elevated work area, that the ladders are offset with a platform or landing between them.

Exemption: A platform or landing is not required when a portable ladder is used to reach a fixed ladder on structures such as utility towers and billboards where the bottom of the fixed ladder is elevated to limit access.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40030, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40035 Exposed electrical hazards.

You must:

- Use ladders with nonconductive side rails where the ladder could contact uninsulated, energized electric lines or equipment.

- Metal ladders or other ladders specifically designed to permit grounding or dissipation of static electricity may be used around high static electrical fields if all of the following are met:

- Using nonconductive ladders would present a greater hazard than using conductive ladders.
- Ladders are prominently marked and identified as being conductive.
- Ladders are grounded when used near energized lines or equipment.

Note: Examples of ladders with conductive side rails are metal ladders, and wood or reinforced plastic ladders with metal side rail reinforcement.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40035, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40040 Persons on ladders.

You must:

- Make sure a ladder is not moved, shifted, or adjusted while anyone is on it.
- Secure the ladder at the top and bottom when working from it.
- Use a safety belt with a lanyard that is secured to the ladder when doing any work that:
 - Requires the use of both hands;

AND

- Is done from a ladder more than twenty-five feet above the ground or floor.
- Prohibit work being done from a ladder more than twenty-five feet above the ground or floor if the work requires wearing eye protection or a respirator.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40040, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40045 Multisection ladders.

You must:

- Make sure not to tie or fasten ladder sections together to make longer ladders unless:
 - The ladder manufacturer endorses this type of use;

AND

- You have hardware fittings specifically designed for this purpose.
- Make sure each section of a multisection ladder, when fully extended and locked in position to be used, overlaps the adjacent section as indicated in Table 2, Minimum Required Overlap for Extension Ladders.

Table 2

Minimum Required Overlap for Extension Ladders

If the ladder size (feet) is:	Minimum required overlap for a two-section ladder is (feet):
Up to and including 36	3
Over 36 up to and including 48	4

[Title 296 WAC—p. 3172]

If the ladder size (feet) is:	Minimum required overlap for a two-section ladder is (feet):
Over 48 up to and including 60	5

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40045, filed 10/4/05, effective 1/1/06.]

WAC 296-876-40050 Self-supporting ladders.

You must:

- Make sure self-supporting ladders are not used as single ladders or in the partially closed position.
- Make sure stepladders are fully opened with the spreaders locked.
- Make sure not to climb on the rear braces of a self-supporting ladder unless they are designed and recommended for that purpose by the manufacturer.

• Prohibit standing or stepping on the:

- Top cap and top step of a step or trestle ladder.
- Bucket or pail shelf of a self-supporting ladder.

Exemption: The restriction against using the top step is not applicable if it is eighteen inches or more below the top cap.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 05-20-068, § 296-876-40050, filed 10/4/05, effective 1/1/06.]

WAC 296-876-500 Fixed ladder design and construction—Section contents.

Your responsibility:

To make sure fixed ladders installed on or after December 1, 2006, meet design and construction requirements.

Design and construction—Fixed ladders installed on or after December 1, 2006.

WAC 296-876-50010

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-500, filed 7/24/06, effective 12/1/06; 05-20-068, § 296-876-500, filed 10/4/05, effective 1/1/06.]

WAC 296-876-50010 Design and construction—Fixed ladders installed on or after December 1, 2006.

You must:

- Make sure fixed ladders installed on or after December 1, 2006, meet the design and construction requirements of ANSI A14.3-2002, American National Standard for Ladders-Fixed-Safety Requirements.

Note: Ladders will be considered to have met the requirements of this section if they meet the design and construction requirements of ANSI A14.3, American National Standard for Ladders-Fixed-Safety Requirements, in effect at the time they are installed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-50010, filed 7/24/06, effective 12/1/06.]

WAC 296-876-600 Fixed ladder design and construction—Section contents.

Your responsibility:

To make sure fixed ladders installed before December 1, 2006, meet design and construction requirements.

Design and construction—Fixed ladders installed before December 1, 2006.

WAC 296-876-60005

Design loads.

WAC 296-876-60010

Pitch.

WAC 296-876-60015

Welding.

WAC 296-876-60020

Ladder surfaces.

WAC 296-876-60025

Rungs, cleats and steps.

WAC 296-876-60030

Side rails.

WAC 296-876-60035

Clearances.

WAC 296-876-60040

Step-across distance.

WAC 296-876-60045

Extensions and grab bars.

WAC 296-876-60050

Hatches.

WAC 296-876-60055

Platforms.

WAC 296-876-60060

Protective structures and equipment.

WAC 296-876-60065

Cages.

WAC 296-876-60070

Wells.

WAC 296-876-60075

Ladder safety devices.

WAC 296-876-60080

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-600, filed 7/24/06, effective 12/1/06; 05-20-068, § 296-876-600, filed 10/4/05, effective 1/1/06.]

WAC 296-876-60005 Design and construction— Fixed ladders installed before December 1, 2006.

You must:

• Make sure fixed ladders installed **before** December 1, 2006, meet the requirements of WAC 296-876-60010 through 296-876-60080.

Note: Ladders will be considered to have met the requirements of this section if they meet the design and construction requirements of ANSI A14.3, American National Standard for Ladders-Fixed-Safety Requirements, in effect at the time they are installed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60005, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60010 Design loads.

You must:

• Make sure each ladder is able to support, without failure, the total of the following loads:

- At least two loads of two hundred and fifty pounds each, concentrated between any two consecutive attachments.

- Any additional concentrated loads of two hundred and fifty pounds each determined from the anticipated use of the ladder.

- Anticipated loads caused by all of the following that apply:

- Ice buildup.
- Winds.

(2009 Ed.)

- Rigging attached to the ladder, including the load to be lifted.

- Impact loads resulting from the use of ladder safety devices.

- Make sure the design of rails, supports, and fastenings includes:

- Live loads to be supported by the ladder

and

- The weight of the ladder and everything attached to it.

- Consider all live loads to be concentrated at the point or points that will cause the maximum stress on the ladder or structural member.

- Make sure each step or rung is capable of supporting a single concentrated load of at least two hundred fifty pounds applied in the middle of the step or rung.

- Make sure the design stresses for wood components of ladders meet the requirements and specifications of ANSI A14.1, American National Standard for Ladders-Portable Wood-Safety Requirements, in effect when the ladder was installed.

- Make sure fastenings are designed to meet the ladder load requirements.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60010, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60015 Pitch.

You must:

- Make sure the pitch of the ladder is no greater than ninety degrees from the horizontal.

Note:

- The preferred pitch of fixed ladders is within the range of seventy-five to ninety degrees from the horizontal. Ladders with a pitch range of sixty to seventy-five degrees from the horizontal are considered substandard and are only permitted if necessary to meet the installation requirements.
- Fixed stairs are an alternative for installations where a pitch angle of less than sixty degrees is necessary. See Fixed industrial stairs, WAC 296-24-765, in the General Safety and Health Standards, chapter 296-24 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60015, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60020 Welding.

You must:

- Make sure welding meets the requirements of the ANSI A14.3, American National Standard for Ladders-Fixed-Safety Requirements, in effect at the time the ladder was installed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60020, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60025 Ladder surfaces.

You must:

- Make sure all parts and surfaces of the ladder are free of splinters, sharp edges, burrs, or projections that may be hazardous to persons using the ladder.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60025, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60030 Rungs, cleats and steps.

You must:

- Make sure rungs have a minimum diameter as follows:
 - Rungs of wood ladders are at least one and one-eighth inches.

[Title 296 WAC—p. 3173]

– Rungs of metal ladders subject to unusually corrosive exposures, such as individual metal rungs imbedded in concrete which serve as access to pits and to other areas under floors, are at least one inch.

– Rungs of all other metal ladders are at least three-quarters inch.

• Make sure rungs, cleats, and steps are all of the following:

– Parallel.

– Level.

– Uniformly spaced throughout the length of the ladder.

– Spaced so the distance from the centerline of one rung to the centerline of the next rung does not exceed twelve inches.

Exception: The vertical distance from the ground, floor, or roof at the access level to the first rung may be adjusted within a range of fourteen inches.

You must:

• Make sure the minimum inside clear width of the stepping surface of rungs, steps, or cleats is sixteen inches.

• Make sure individual rung or step-type ladders have rungs or steps that are shaped so that a person's foot cannot slide off the end.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60030, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60035 Side rails.

You must:

• Make sure the shape of the side rail:

– Provides an adequate gripping surface

and

– Is uniform throughout the length of climb.

• Make sure a side rail that has been spliced to obtain a longer length is at least equivalent in strength to a one-piece side rail made of the same material.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60035, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60040 Clearances.

You must:

• Make sure ladders without wells or cages are at least thirty inches from the nearest permanent object on the climbing side, measured perpendicular to the ladder from the centerline of the rungs, cleats, or steps.

Exemption: When unavoidable obstructions are encountered, the minimum perpendicular clearance between the centerline of the rungs, cleats, or steps and an obstruction on the climbing side may be reduced to twenty-four inches if a deflection device is installed to guide persons around the obstruction.

You must:

• Make sure ladders without wells or cages have a clear width from the nearest permanent object on each side of the ladder of at least fifteen inches, measured from the center of the rungs, cleats, or steps.

• Make sure the distance from the centerline of the rungs, cleats, or steps to the nearest permanent object in back of the ladder is at least seven inches.

Exemption: Fixed ladders in elevator pits may reduce the minimum clearance from the ladder to the nearest permanent object in back of the ladder to four and one-half inches.

[Title 296 WAC—p. 3174]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60040, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60045 Step-across distance.

You must:

• Make sure a through ladder at the point of access or egress has a step-across distance, measured from the centerline of the steps or rungs to the nearest edge of the landing area, that is:

– Not less than seven inches

or

– Greater than twelve inches.

• Make sure a side-step ladder at the point of access or egress has a step-across distance, measured from the side rail of the ladder to the nearest edge of the landing area, that is:

– Not less than seven inches

or

– Greater than twelve inches.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60045, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60050 Extensions and grab bars.

You must:

• Make sure the side rails of through or side-step ladders extend forty-two inches above the top of the access level or landing platform.

Note: For a parapet ladder, the access level is:

– The roof if the parapet is cut to permit passage through it

or

– The top of the parapet if it is continuous and uncut.

You must:

• Make sure the extension of a through ladder above the access level or landing platform has:

– Steps or rungs omitted from the extension

and

– Clearance between the side rails that is:

■ Not less than twenty-four inches

or

■ Greater than thirty inches.

Exemption: The maximum clearance between side rails of the extension may be increased to thirty-six inches if the ladder has a ladder safety device.

You must:

• Make sure the side rails of through or side-step ladders extend forty-two inches above the top of the access level or landing platform.

• Make sure side-step ladders have the steps or rungs and the side rails continuous in the extension.

• Make sure individual rung-step ladders are extended at least forty-two inches above the access level or landing platform by:

– Continuing the rung spacings as horizontal grab bars

or

– Providing vertical grab bars that have the same lateral spacing as the vertical legs of the rungs.

Exemption: Extensions are not required for individual rung-step ladders with access openings through a manhole or hatch.

You must:

• Make sure grab bars:

(2009 Ed.)

– Are at least four inches from the nearest permanent object in back of the grab bar, measured from the centerline of the grab bar

and

– Do not extend beyond the rungs on the climbing side of the ladder.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60050, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60055 Hatches.

You must:

- Make sure counterbalanced hatch covers open at least sixty degrees from the horizontal.

- Make sure the inside clear width of the hatch is a nominal thirty inches.

- Make sure the distance from the centerline of the rungs or cleats to the edge of the hatch opening on the climbing side, measured perpendicular to the ladder, is:

- Not less than twenty-four inches

or

- Greater than thirty inches.

- Make sure hatches with clearance on the climbing side of the ladder that is between twenty-four and twenty-seven inches are fitted with a deflector plate mounted at an angle of sixty degrees from the horizontal.

Note: The springs or other counterbalance mechanisms for the hatch may project into the hatch opening provided they do not reduce clearance to less than twenty-four inches and a deflector plate is installed to guide persons around the obstruction.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60055, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60060 Platforms.

You must:

- Make sure landing platforms for side-step ladders extend at least thirty inches on the climbing side of the ladder.

- Make sure landing platforms are:

- At least thirty inches wide

and

- Equipped with standard railings and toeboards placed to allow safe access to the ladder.

Reference: Requirements for standard railings and toeboards are in Railing, toeboards, and cover specifications, WAC 296-24-75011, the General Safety and Health Standards, chapter 296-24 WAC.

You must:

- Make sure the top rung or step of the ladder is level with the landing served by the ladder.

- Make sure the spacing from the landing platform to the first rung below the platform of a through ladder is the same as the rung spacing of the ladder.

- Make sure, if two or more separate ladders are used to reach an elevated work area, that the ladders are offset with a platform or landing between them.

Exemption: A platform or landing is not required when a portable ladder is used to reach a fixed ladder on structures such as utility towers and billboards where the bottom of the fixed ladder is elevated to limit access.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60060, filed 7/24/06, effective 12/1/06.]

(2009 Ed.)

WAC 296-876-60065 Protective structures and equipment.

You must:

- Make sure a cage, well, or ladder safety system is provided if:

- The length of climb is less than twenty-four feet

and

- The top of the ladder is more than twenty-four feet above the ground, floor, or roof.

- Make sure a ladder with a single length of climb that is equal to or greater than twenty-four feet is either:

- Equipped with a ladder safety device

or

- Uses multiple ladder sections and meets all of the following:

- Each section is provided with a cage or well.

- The length of climb of any ladder section is not greater than fifty feet.

- Each ladder section is offset from adjacent sections.

- Landing platforms are provided at maximum intervals of fifty feet.

Exemption: During construction activities, a self-retracting lifeline with landing platforms provided at maximum intervals of one hundred and fifty feet may be used instead of a ladder safety device or multiple ladder sections.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60065, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60070 Cages.

You must:

- Make sure the cage meets all of the following:

- Extends at least forty-two inches above the top of the platform or above the point of access and egress at the top of the ladder.

- Has provisions for accessing and egressing the platform or the point of access or egress of the ladder.

- There is at least twenty-seven inches, but not more than thirty inches, from the cage to the centerline of the step or rung at all points except where the cage flares at the bottom of the ladder.

- The cage is at least twenty-seven inches wide.

- There are no projections inside the cage.

- Make sure the bottom of the cage is:

- At least seven feet but not more than eight feet above the point of access to the bottom of the ladder

and

- Flared at least four inches all around within the distance between the bottom horizontal band and the next higher band.

- Make sure vertical bars are:

- Spaced at intervals of nine and one-half inches or less on center around the circumference of the cage

and

- Fastened to the inside of the horizontal bands.

- Make sure the horizontal bands meet all of the following:

- The vertical intervals between horizontal bands is not more than four feet on center.

- The horizontal bands of ladders with side rails are fastened to the side rails.

– The horizontal bands of individual-rung ladders are fastened directly to the structure, building, or equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60070, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60075 Wells.

You must:

- Make sure there is at least twenty-seven inches, but not more than thirty inches, from the centerline of the step or rung to the inside face of the well on the climbing side of the ladder.

- Make sure the inside clear width is at least thirty inches.

- Make sure the well:

- Completely encircles the ladder

and

- Is free of projections.

- Make sure the bottom of the wall on the access side is at least seven feet, but not more than eight feet, above the point of access to the bottom of the ladder.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60075, filed 7/24/06, effective 12/1/06.]

WAC 296-876-60080 Ladder safety devices.

You must:

- Make sure ladder safety devices and related support systems meet all of the following:

- Are capable of withstanding, without failure, the test drop of a five hundred pound weight for a free-fall distance of eighteen inches.

- The device does not require a person to continually hold, push, or pull any part of the device and allows them to have both hands free to grip the ladder.

- In the event of a fall, the device:

- Is activated within two feet

and

- Limits the fall velocity to seven feet per second or less.

- Uses a connection between the carrier or lifeline and the point of attachment on the full body harness that is not longer than nine inches.

- Make sure ladder safety devices with rigid carriers have mountings that:

- Are attached at each end of the carrier

and

- Have intermediate mountings that are all of the following:

- Spaced along the entire length of the carrier in accordance with the manufacturer's recommendations.

- Installed within one foot below each splice on the carrier.

- Have a maximum distance between mountings that is twenty-five feet or less.

- Make sure ladder safety devices with flexible carriers have:

- Mountings that are attached at each end of the carrier

and

- Cable guides that are spaced at least twenty-five feet, but no further than forty feet, apart along the entire length of the carrier.

- Make sure the design and installation of mountings and cable guides does not reduce the design strength of the ladder.

[Title 296 WAC—p. 3176]

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-60080, filed 7/24/06, effective 12/1/06.]

WAC 296-876-700 Fixed ladders inspection and maintenance—Section contents.

Your responsibility:

To make sure fixed ladders are inspected and maintained properly.

Protection against corrosion and deterioration.

WAC 296-876-70005

Inspection and repair.

WAC 296-876-70010

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-700, filed 7/24/06, effective 12/1/06.]

WAC 296-876-70005 Protection against corrosion and deterioration.

You must:

- Paint or otherwise treat metal ladders or metal parts to resist rust and corrosion if they are:

- Exposed to the elements

or

- Located where rust or corrosion could be expected.

- Treat wood ladders used in conditions where decay may occur with a nonirritating preservative.

- Make sure wood ladders are not coated with an opaque covering except for the minimum amount necessary for identification and warning information which may be placed on one face only of a side rail.

- Treat the interface between different materials or use other means to prevent:

- One material from damaging or having a harmful effect on another material

and

- Electrolytic action between dissimilar metals.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-70005, filed 7/24/06, effective 12/1/06.]

WAC 296-876-70010 Inspection and repair.

You must:

- Keep ladders in safe condition.

- Have a competent person inspect a ladder for visual defects:

- Periodically

and

- After any occurrence that could affect safe use.

- Make sure any ladder with structural damage or other hazardous defect is immediately removed from service.

Note:

- Structural damage includes, but is not limited to, any of the following:

- Broken or missing rungs, cleats, or steps.

- Broken or split rails.

- Corroded components.

- Bolts and welds missing or not secure.

- A ladder is considered to be removed from service if any of the following are done:

- It is marked to identify it as defective.

- It is tagged with "do not use" or similar language.

- It is blocked so that it cannot be used, for example, by using a plywood attachment that spans several rungs.

You must:

- Make sure repairs restore the ladder to a condition meeting its original design criteria.

(2009 Ed.)

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-70010, filed 7/24/06, effective 12/1/06.]

WAC 296-876-800 Fixed ladder use—Section contents.

Your responsibility:

To use fixed ladders safely.

Designed load.

WAC 296-876-80005

Climbing and descending.

WAC 296-876-80010

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-800, filed 7/24/06, effective 12/1/06.]

WAC 296-876-80005 Designed load.

You must:

• Make sure not to overload ladders. Do not exceed either the:

– Maximum intended load

or

– Manufacturer's rated capacity.

Definition:

The **maximum intended load** is the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-80005, filed 7/24/06, effective 12/1/06.]

WAC 296-876-80010 Climbing and descending.

You must:

- Have both hands free to hold on to the ladder.
- Face the ladder when climbing or descending.
- Keep ladders free of oil, grease, or other slippery materials.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-16-020, § 296-876-80010, filed 7/24/06, effective 12/1/06.]

WAC 296-876-900 Definitions.

Cage. An enclosure that encircles the climbing space of a fixed ladder. It is fastened to the ladder side rails or to the structure and may also be called a cage or basket guard.

Cleat. A ladder crosspiece used in climbing or descending. Also called a step or rung.

Equivalent. Alternative design, material or method to protect against a hazard. You have to demonstrate it provides an equal or greater degree of safety for employees than the method, material or design specified in the rule.

Extension ladder. A nonself-supporting portable ladder consisting of two or more sections. The sections travel in guides or brackets that allow the length of the ladder to be changed. The size is designated by the sum of the lengths of each section, measured along the side rails.

Failure. The ladder or ladder component loses the ability to carry the load, breaks, or separates into component parts.

Fastenings. A fastening is a device to attach a ladder to a structure, building, or equipment.

Fixed ladder. A ladder permanently attached to a structure, building, or equipment.

(2009 Ed.)

Grab bars. Handholds placed adjacent to or as an extension above ladders for the purpose of providing access beyond the limits of the ladder.

Job-made ladder. A ladder that is made, not commercially manufactured, to fit a specific job situation. They are for temporary use until a particular phase of construction is completed or until permanent stairways or fixed ladders are ready to use.

Individual-rung/step ladder. A fixed ladder consisting of individual steps or rungs mounted directly to the side or wall of the structure, building, or equipment.

Ladder. A device having steps, rungs, or cleats that can be used to climb or descend.

Ladder safety device. Any device, other than a cage or well, designed to arrest the fall of a person using a fixed ladder.

Ladder type. The designation that identifies the maximum intended load (working load) of the ladder. Ladder types are as follows:

Duty Rating	Ladder Type	Use	Maximum Intended Load (Pounds)
Extra Heavy-Duty	IA	Industry, utilities, contractors	300
Heavy-Duty	I	Industry, utilities, contractors	250
Medium-Duty	II	Painters, offices, light maintenance	225
Light-Duty	III	General household use	200

Landing. Any area such as the ground, roof, or platform that provides access or egress to a ladder.

Maximum intended load. The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time. Sometimes referred to as working load.

Pitch. The included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.

Portable ladder. A ladder that can be readily moved or carried.

Reinforced plastic. A plastic that has high-strength fillers embedded in the base resin to increase strength.

Reinforced plastic ladder. A ladder whose side rails are reinforced plastic. The crosspieces, hardware, and fasteners may be made of metal or other suitable material.

Rung. A ladder crosspiece used in climbing or descending. Also called a cleat or step.

Side-step ladder. A fixed ladder that requires a person to step to the side of the ladder side rails to reach the landing.

Single ladder. A nonself-supporting portable ladder, nonadjustable in length, consisting of one section. The size is designated by the overall length of the side rail.

[Title 296 WAC—p. 3177]

Single-rail ladder. A portable ladder with crosspieces mounted on a single rail. Single-rail ladders are prohibited from use.

Special-purpose ladder. A portable ladder that is made by modifying or combining design or construction features of the general-purpose types of ladders in order to adapt the ladder to special or specific uses.

Step. A ladder crosspiece used in climbing or descending. Also called a cleat or rung.

Stepladder. A self-supporting portable ladder, nonadjustable in length, with flat steps and hinged at the top. The size is designated by the overall length of the ladder measured along the front edge of the side rails.

Through ladder. A fixed ladder that requires a person to step between the side rails of the ladder to reach the landing.

Trestle ladder. A self-supporting portable ladder, nonadjustable in length, consisting of two sections hinged at the top to form equal angles with the base. The size is designated by the length of the side rails measured along the front edge.

Well. A walled enclosure around a fixed ladder that provides a person climbing the ladder with the same protection as a cage.

Working length. The length of a nonself-supporting ladder, measured along the rails, from the base support point of the ladder to the point of bearing at the top.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 06-16-020, § 296-876-900, filed 7/24/06, effective 12/1/06.]

Chapter 296-878 WAC

SAFETY STANDARDS FOR WINDOW CLEANING

WAC

296-878-100	Scope.
296-878-10005	Summary.
296-878-110	Training.
296-878-11005	Train workers to use window-cleaning equipment.
296-878-120	Building surfaces and fixtures.
296-878-12005	Make sure building surfaces and fixtures are safe to use.
296-878-130	Inspection procedures.
296-878-13005	Inspect the area to be cleaned.
296-878-13010	Inspect window-cleaning equipment before use.
296-878-140	Develop site-specific service and emergency plans.
296-878-14005	Develop a site-specific service and emergency recovery plan for window-cleaning operations.
296-878-150	Equipment.
296-878-15005	Select and use appropriate equipment.
296-878-15015	Select appropriate rope for suspended equipment.
296-878-15020	Select appropriate carabiners.
296-878-15025	Use fall protection equipment.
296-878-160	Warning signs and barricades.
296-878-16005	Provide warning signs and barricades when suspended equipment is used.
296-878-170	Power line clearances.
296-878-17005	Maintain clearance between window cleaners and power lines.
296-878-180	Window-cleaners' belts and anchors.
296-878-18005	Select appropriate window-cleaners' belts and anchors.
296-878-18010	Inspect the anchors you plan to use for window cleaning.
296-878-18015	Use window-cleaners' belts safely.
296-878-18020	Move safely on the outside of buildings.
296-878-190	Boatswains' chairs.
296-878-19005	Select appropriate boatswains' chairs.
296-878-19010	Safely use boatswains' chairs rigged with a block and tackle.
296-878-200	Rope descent systems.
296-878-20005	Select appropriate rope descent systems.
296-878-20010	Safely use rope descent systems.
296-878-20015	Safely use rope descent devices.
296-878-210	Equipment prohibited.

296-878-21005	Prohibit equipment from use.
296-878-220	Definitions.

WAC 296-878-100 Scope. These rules apply to all window-cleaning activities performed on the inside or outside of a building in which the window cleaner is working from a level that is located more than forty-eight inches above grade.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060, 02-22-027, § 296-878-100, filed 10/28/02, effective 1/1/03.]

WAC 296-878-10005 Summary.

Your responsibility:

Make sure workers clean windows safely, and properly use and maintain their window-cleaning equipment.

IMPORTANT:

Window-cleaning equipment includes window-cleaner's belts, boatswains' chairs, rope descent systems, ladders, supported scaffolds and the support equipment used to suspend employees cleaning windows.

You must:

Training

Train workers to use window-cleaning equipment

WAC 296-878-11005

Building surfaces and fixtures

Make sure building surfaces and fixtures are safe to use

WAC 296-878-12005

Inspection procedures

Inspect the area to be cleaned

WAC 296-878-13005

Inspect window-cleaning equipment before use

WAC 296-878-13010

Develop site-specific service and emergency plans

Develop a site-specific service and emergency recovery plan for window-cleaning operations

WAC 296-878-14005

Equipment

Select and use appropriate equipment

WAC 296-878-15005

Select appropriate rope for suspended equipment

WAC 296-878-15015

Select appropriate carabiners

WAC 296-878-15020

Use fall protection equipment

WAC 296-878-15025

Warning signs and barricades

Provide warning signs and barricades when suspended equipment is used

WAC 296-878-16005

Power line clearances

Maintain clearance between window cleaners and power lines

WAC 296-878-17005

Window-cleaners' belts and anchors

Select appropriate window-cleaners' belts and anchors

WAC 296-878-18005

Inspect the anchors you plan to use for window cleaning

WAC 296-878-18010

Use window-cleaners' belts safely

WAC 296-878-18015

Move safely on the outside of buildings

WAC 296-878-18020

Boatswains' chairs

Select appropriate boatswains' chairs

WAC 296-878-19005

Safely use boatswains' chairs rigged with a block and tackle

WAC 296-878-19010

Rope descent systems

Select appropriate rope descent systems

WAC 296-878-20005

Safely use rope descent systems

WAC 296-878-20010

Safely use rope descent devices

WAC 296-878-20015

Equipment prohibited

Prohibit equipment from use

WAC 296-878-21005

Definitions

WAC 296-878-220.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-878-10005, filed 1/24/07, effective 4/1/07; 02-22-027, § 296-878-10005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-110 Training.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 02-22-027, § 296-878-110, filed 10/28/02, effective 1/1/03.]

WAC 296-878-11005 Train workers to use window-cleaning equipment.**You must:**

- Provide the following training to workers before they use window-cleaning equipment on the job:
 - Proper care and maintenance of the equipment
 - Review manufacturer's instructions for proper equipment use
 - Methods for inspection, assembly, and dismantling of components
 - Identify anchorages
 - A complete understanding of safe working conditions
 - How employees will be rescued.
- Provide additional training to workers using window-cleaners' belts in all the following areas:
 - How to select the proper-sized belt
 - How to use anchors and terminals
 - How to deal with obstructions and slippery/wet surfaces.
- Provide additional training to workers using boatswains' chairs and rope descent systems in all the following areas:
 - Proper rigging practices
 - Fall arrest requirements
 - Proper methods of descending
 - The effects of wind on window-cleaning operations when a worker is suspended
 - Proper methods of hoisting for ascents.
- Document the training by recording all of the following:
 - The name and signature of the trainer/educator
 - The name and signature of the student
 - The subjects in which the workers were trained
 - The date of the training
 - The location of the training.

(2009 Ed.)

- Note:**
- You do not need a specialized educator to provide training. You may use a qualified person to conduct the training. A qualified person is defined as a person who has:
 - Extensive knowledge, training, and experience about the subject matter, work, or project
 - A recognized degree, certificate, or professional standing
 - Successful demonstration of problem solving skills in connection with the subject, work, or project.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 02-22-027, § 296-878-11005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-120 Building surfaces and fixtures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 02-22-027, § 296-878-120, filed 10/28/02, effective 1/1/03.]

WAC 296-878-12005 Make sure building surfaces and fixtures are safe to use.**You must:**

- Make sure building surfaces and fixtures are safe to be used before you begin the window-cleaning operation. This includes:
 - Guardrails, parapets, cornices and other building surfaces used to support suspended loads
 - Permanently installed fixtures used as anchorages and tiebacks
 - Window-cleaning equipment support systems permanently dedicated to the building.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 02-22-027, § 296-878-12005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-130 Inspection procedures.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 02-22-027, § 296-878-130, filed 10/28/02, effective 1/1/03.]

WAC 296-878-13005 Inspect the area to be cleaned.**You must:**

- Inspect the building before cleaning to make sure there are no areas that can damage worker fall protection equipment and window-cleaning equipment. Inspect:
 - Sharp edges of parapets
 - Window frames
 - Open projected windows
 - Cornices
 - Overhangs
 - Any other areas that may abrade, sever, weaken, or damage the equipment.
- Make sure all working surfaces are safe and free from hazards such as:
 - Grease
 - Oil
 - Other slippery substances.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17-060. 02-22-027, § 296-878-13005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-13010 Inspect window-cleaning equipment before use.**You must:**

- (1) Store your window-cleaning equipment in a way that:
 - Is easy to get to, inspect, and safely take out for use
 - Provides protection from moisture, sunlight, or corrosion.
- (2) Make sure a competent person inspects these items before each use:

- Window-cleaners' belts
- Boatswains' chairs
- All components of rope descent systems
- Suspension devices
- Certified roof anchorages
- Primary support ropes or lines
- The descent device
- Carabiners or shackles
- A seatboard or boatswain's chair
- Wear points on rope descent system components exposed to constant friction.

(3) Make sure you do not use any piece of window-cleaning equipment with defects.

- Prohibit makeshift repairs to any piece of window-cleaning equipment
- Label any piece of window-cleaning equipment that is defective "dangerous, do not use."

(4) Secure any padding or softeners so they do not come loose from:

- The surface of the building
- The rope if not attached to the building.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-13010, filed 10/28/02, effective 1/1/03.]

WAC 296-878-140 Develop site-specific service and emergency plans.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-140, filed 10/28/02, effective 1/1/03.]

WAC 296-878-14005 Develop a site-specific service and emergency recovery plan for window-cleaning operations.

You must:

- Make sure that a qualified person develops a written plan for each location to be cleaned that identifies:
 - Hazardous areas
 - Drop zones
 - Safety features
 - Methods for emergency recovery of workers working from suspended equipment, or other types of installations, in the event of equipment failure or any other kind of disability.
- Keep the plan at the work site during the entire cleaning operation.

Note: You may use an outside service for rescue and recovery (such as a fire department) if:

- The rescue personnel will be able to reach the victims without undue delay
- They have the necessary equipment to retrieve the victims
- They are trained and proficient in high angle rescue techniques.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-14005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-150 Equipment.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-150, filed 10/28/02, effective 1/1/03.]

[Title 296 WAC—p. 3180]

WAC 296-878-15005 Select and use appropriate equipment.

You must:

(1) Make sure that all equipment provided to workers for window-cleaning operations is engineered, designed, and intended for use in commercial applications.

Note: Equipment that is designed or labeled for recreational use or rescue use only is prohibited for use in window-cleaning operations.

You must:

(2) Make sure that the window-cleaning equipment is not altered unless it is specifically approved in writing by the original manufacturer or a registered professional engineer.

(3) Provide manufacturer's instructions to employees for all window-cleaning equipment they will use.

Reference: Use Table 1 for other window-cleaning equipment requirements.

**Table 1
Other window-cleaning equipment**

	If you use:	Then follow all requirements in:
1.	Portable ladders	WAC 296-800-290, Portable ladders
2.	Supported scaffolds	Chapter 296-24 WAC, PART J-2, Scaffolds
3.	Suspension ropes and lifelines Powered and manual hoists Suspended scaffold equipment	Chapter 296-24 WAC, PART J-2, Scaffolds
4.	Single and multipoint adjustable suspension scaffolds	Chapter 296-24 WAC, PART J-2, Scaffolds
5.	Powered platforms	Chapter 296-24 WAC, PART J-3, Powered platforms

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-15005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-15015 Select appropriate rope for suspended equipment.

You must:

- Make sure all rope used for suspended equipment has a minimum breaking strength of five thousand pounds.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-15015, filed 10/28/02, effective 1/1/03.]

WAC 296-878-15020 Select appropriate carabiners.

You must:

- Use carabiners for connecting hardware or attaching boatswains' chairs, descent devices, and lifelines to anchors.
- Use carabiners with a minimum tensile load of five thousand pounds.
- Make sure carabiners are either manual or auto-locking.

Note: You may secure a rope to an anchor with a knot if normal daily use of the rope will not decrease its initial breaking strength below five thousand pounds.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-15020, filed 10/28/02, effective 1/1/03.]

WAC 296-878-15025 Use fall protection equipment.

You must:

(1) Make sure the fall arrest system meets the requirements of WAC 296-24-88050 mandatory Appendix C, Part I, Personal fall arrest systems.

- Use and inspect fall arrest equipment in accordance with the requirements of WAC 296-24-88050, mandatory Appendix C, Part I, Personal fall arrest systems.

- Make sure all workers suspended from a boatswain's chair or rope descent system use an independent fall arrest system where the fall arrest anchorage is separate from the suspension system anchorage.

- Make sure workers operating powered platforms wear and use a fall arrest system.

- Make sure workers assemble and wear their personal fall arrest equipment before they approach the point of suspension.

- Make sure workers are connected at all times to the fall arrest system while they are suspended.

(2) Make sure the boatswain's chair or rope descent system is connected at all times to the suspension line.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-15025, filed 10/28/02, effective 1/1/03.]

WAC 296-878-160 Warning signs and barricades.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-160, filed 10/28/02, effective 1/1/03.]

WAC 296-878-16005 Provide warning signs and barricades when suspended equipment is used.

You must:

- (1) Place warning signs below suspended equipment
- (2) Block the ground area with barricades directly under or next to the work zone
- (3) Assign a competent person to decide if additional protection is necessary
- (4) Make sure all tools used by the worker are attached to the worker, seatboard, or boatswain's chair.

Reference: Rules for protecting workers from overhead hazards are listed in WAC 296-800-16055, Make sure your employees use appropriate head protection.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-16005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-170 Power line clearances.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-170, filed 10/28/02, effective 1/1/03.]

WAC 296-878-17005 Maintain clearance between window cleaners and power lines.

You must:

- Maintain clearances between window cleaners and power lines as indicated in Tables 2 and 3.

Table 2

Minimum Clearances from Power Lines - Insulated Lines

Voltage	Minimum distance	Alternatives
Less than 300 volts	3 feet (0.9 m)	
300 volts to 50 kv	10 feet (3.1 m)	
More than 50 kv	10 feet (3.1 m) plus 0.4 inches (1.0 cm) for each 1 kv over 50 kv	2 times the length of the line insulator, but never less than 10 feet (3.1 m)

(2009 Ed.)

Table 3

Minimum Clearances from Power Lines - Uninsulated Lines

Voltage	Minimum distance	Alternatives
Less than 50 kv	10 feet (3.1 m)	
More than 50 kv	10 feet (3.1 m) plus 0.4 inches (1.0 cm) for each 1 kv over 50 kv	2 times the length of the line insulator, but never less than 10 feet (3.1 m)

You must:

- Follow these procedures when window cleaners need to get closer to power lines than allowed in Tables 2 and 3:

- Notify the utility company or electrical system operator of the need to work closer than the minimum clearances to power lines before starting the work

- Begin the work only when the utility company or electrical system operator has deenergized or relocated the lines, or installed protective coverings to prevent accidental contact with the lines.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-17005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-180 Window-cleaners' belts and anchors.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-180, filed 10/28/02, effective 1/1/03.]

WAC 296-878-18005 Select appropriate window-cleaners' belts and anchors.

You must:

- Make sure window-cleaners' belts and anchors conform to the:

- Design, manufacture, and maintenance requirements of ANSI/IWCA 1-14.1-2001

AND

- Manufacturer's specifications.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-18005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-18010 Inspect the anchors you plan to use for window cleaning.

You must:

- Make sure you do not use anchors if they:

- Appear to be damaged
- Appear deteriorated
- Appear to be worn
- Appear to be loose
- Appear to be unsecured to the building or window frame
- Will not allow the belt terminal to easily slip over the anchor head.

- Use window-cleaner's belts only if:

- The area to be cleaned is safe
- All anchors intended for use are safe.

- Make sure window ledges and frames will not impair the safe use of the window-cleaner's belt.

Note: If unsafe anchors are found, report them to the building owner or manager and do not use them.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-18010, filed 10/28/02, effective 1/1/03.]

WAC 296-878-18015 Use window-cleaners' belts safely.**You must:**

- Make sure workers do not extend more than one arm beyond the window sash when cleaning windows from inside a building.
 - Attach one belt terminal to an anchor before you put more than one arm outside the window.
 - Pull on the terminal strap and look for signs of damage to the anchor.
 - Attach both belt terminals to anchors before climbing out the window.
 - Keep all belt terminals attached during the entire cleaning operation.
 - Make sure the worker keeps one terminal attached to an anchor when reentering the window and until the worker is inside.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-18015, filed 10/28/02, effective 1/1/03.]

WAC 296-878-18020 Move safely on the outside of buildings. You must:

- Make sure you travel on the outside of the building only when
 - You keep at least one window-cleaner's belt terminal attached at all times
 - The anchors are not more than forty-eight inches apart.

Note: Anchors can be up to seventy-two inches apart if

- The sill or ledge is continuous
- The sill or ledge is at least twelve inches wide
- The sill or ledge has a slope less than five degrees
- There is at least six inches of window sill in front of the mullions.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-18020, filed 10/28/02, effective 1/1/03.]

WAC 296-878-190 Boatswains' chairs.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-190, filed 10/28/02, effective 1/1/03.]

WAC 296-878-19005 Select appropriate boatswains' chairs.**You must:**

- (1) Make sure that when you use a block and tackle, it is the correct size, including:
 - Correctly-sized ball bearings or bushed blocks
 - Safety hooks
 - Eye-spliced rope
 - A minimum breaking strength of five thousand pounds.
- (2) Make sure all rope used with a boatswain's chair has a minimum breaking strength of five thousand pounds, including rope used for:
 - Suspension
 - Block and tackle
 - Seat slings.
- (3) Make sure the ropes on boatswain's chair seat slings:
 - Are reeved through the four corner holes in the seat
 - Cross each other on the underside of the seat
 - Are rigged so the chair cannot slip out of a level position.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-19005, filed 10/28/02, effective 1/1/03.]

[Title 296 WAC—p. 3182]

WAC 296-878-19010 Safely use boatswains' chairs rigged with a block and tackle.**You must:**

- (1) Make sure the rated capacity or the maximum intended load, whichever is less, is not exceeded.
- (2) Make sure the suspension rope stays vertical between the boatswain's chair and suspension device unless all of these requirements are met:
 - The rigging has been designed by a qualified person
 - The scaffold can be easily reached by rescuers
 - The suspension rope is protected from damage when a change in direction occurs
 - The scaffold will not swing and contact another surface.
- (3) Make sure a suspension height of seventy-five feet above grade or building setback is not exceeded.

Exemption: Suspension height may be up to one hundred thirty feet above grade or building setback if the boatswain's chair block and tackle has all of the following:

- An automatic braking system
- A design that minimizes the amount of force required to raise or lower the suspended worker
- An automatic braking system that automatically maintains an elevation when no force is applied to the tackle
- A system that does not slip.

You must:

- (4) Prohibit tying any kind of knot in a block and tackle system to maintain elevation.
- (5) Make sure another worker is stationed below any boatswain's chair rigged with a block and tackle who can assist the suspended employee.
- (6) Make sure workers do not attempt to increase the work area by swinging, swaying, or other maneuvers.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-19010, filed 10/28/02, effective 1/1/03.]

WAC 296-878-200 Rope descent systems.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-200, filed 10/28/02, effective 1/1/03.]

WAC 296-878-20005 Select appropriate rope descent systems. You must:

- Make sure the rope descent system is designed, used, and maintained according to:
 - ANSI/TWCA 1-14.1-2001
 - The manufacturer's instructions.
- Make sure the rope descent system has been manufactured and is intended to be used for window cleaning.

Note: Equipment that is designed or labeled for recreational use or rescue use only is prohibited for use in window-cleaning operations.

You must:

- Make sure the rope descent system components are compatible and have a minimum tensile strength of five thousand pounds.
 - This does not apply to the seatboard.
- Make sure the rope descent system has specific use instructions for each component.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-20005, filed 10/28/02, effective 1/1/03.]

(2009 Ed.)

WAC 296-878-20010 Safely use rope descent systems.**You must:**

- (1) Make sure workers use extreme care when using rope descent equipment around electrical service, heat sources, and turbulent areas, such as air vents.
- (2) Connect the seatboard or boatswain's chair to the descent device with a manual or auto locking carabiner.
- (3) Make sure workers are positioned in the seatboard or boatswain's chair before being suspended.
- (4) Make sure workers do not reach more than six feet in any direction as measured from a centerline straight down from where the suspension rope bears on the building.
- (5) Make sure workers do not descend rapidly, swing excessively, or stop suddenly.
- (6) Make sure that, in addition to the suspended worker, there is one other person at the jobsite who is skilled in using the rope descent system and rescue procedures.
- (7) Make sure you do not exceed a three hundred-foot height of descent as measured from grade or building setback.
- (8) Make sure your site-specific service plan addresses the following hazards for descents over one hundred thirty feet as measured from grade or building setback:
 - Sudden weather changes, such as wind gusts, micro bursts, or tunneling wind currents
 - Inability of the rope descent system to function without using excessive force
 - Workers suspended for long periods of time
 - Rerigging and movement of main suspension and safety lines.
- (9) Stabilize workers suspended from a rope descent system whenever the descent is higher than one hundred thirty feet, as measured from grade or building setback.
- (10) Prohibit workers from working when wind speed makes any stabilization equipment ineffective.

- Note:** Provisions for stabilizing workers may include:
- Continuous stabilization, such as mullion tracks
 - Intermittent stabilization, such as detent pins/buttons
 - Work station stabilization, such as suction cups.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-20010, filed 10/28/02, effective 1/1/03.]

WAC 296-878-20015 Safely use rope descent devices.

- (1) Make sure the rated capacity or the maximum intended load, whichever is less, is not exceeded.
- (2) Make sure the descent device manufacturer's specifications for rope diameter and construction are followed.
- (3) Make sure the rope is rigged through the descent device for a controlled rate of descent.
- (4) Make sure the attachment point on the descent device is one piece with no gates or openings.
- (5) Make sure the descent device will remain stationary when positive action is taken.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-20015, filed 10/28/02, effective 1/1/03.]

WAC 296-878-210 Equipment prohibited.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-210, filed 10/28/02, effective 1/1/03.]

(2009 Ed.)

WAC 296-878-21005 Prohibit equipment from use.**You must:**

- Prohibit use of the following equipment for window-cleaning operations:
 - Portable sills
 - Window jacks
 - Capstan devices to suspend workers
 - Suspension or fall-arrest ropes that are made entirely of polypropylene.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.-060. 02-22-027, § 296-878-21005, filed 10/28/02, effective 1/1/03.]

WAC 296-878-220 Definitions.

Anchor, window-cleaner's belt - Fall-preventing attachment points for direct attachment of the terminal portion of a window-cleaner's belt.

Belt terminal - That part of the safety belt that is attached to the anchor during the window-cleaning operation.

Block and tackle - A lifting device consisting of one or more pulley blocks reeved with chains, wire ropes, or fibre ropes used solely for raising and lowering a load or moving a load horizontally.

Boatswain's chair - A single-point adjustable suspension scaffold consisting of a seat or sling designed to support one worker in a sitting position.

Capstan device - An upright, spool-shaped cylinder used for hoisting or lifting weights that is turned by a motor or by hand.

Carabiner - An oblong metal ring with an openable spring-hinged side, used to clip a rope to an anchoring device.

Competent person - One who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Drop (drop zone) - A vertical area or work zone accessed by the worker or piece of equipment during one descent.

Drop line - A vertical line from a fixed anchorage, independent of the work surface.

Fixture - Attachments, anchors, anchorages, tie backs or support equipment permanently dedicated to a given site.

Grade - Means the ground, floor, sidewalk, roof, or any level surface that is considered a safe place to work.

Lanyard - A flexible line to secure a wearer of a safety belt or harness to a drop line, lifeline or fixed anchorage.

Mullion - A slender, vertical dividing bar between windows, panels, etc.

Primary support/suspension - A working line or approved anchorage used for attachment of a working line.

Qualified person - A person is qualified if they have one of the following:

- Extensive knowledge, training, and experience about the subject matter, work, or project
- A recognized degree, certificate, or professional standing
- Successful demonstration of problem solving skills in connection with the subject, work, or project.

Rated capacity - The combined weight of workers, tools, equipment, and other materials that the device is designed and installed to lift and support.

Rope descent system (RDS) - An assembly of components that allows the operator to control the rate of descent at any time. A rope descent system includes the following components:

- Suspension devices
- Certified roof anchorages
- Primary support ropes or lines
- The descent device
- Carabiners or shackles
- A seatboard or boatswain's chair.

Terminal strap - The strap or rope attached to the waist band on one end, and to the belt terminals on the other end.

Window cleaning - Cleaning, wiping, restoring or other methods of cleaning windows.

Working line - A rope suspended from an anchorage and used to access parts of a building.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. 02-22-027, § 296-878-220, filed 10/28/02, effective 1/1/03.]

Chapter 296-900 WAC ADMINISTRATIVE RULES

WAC

296-900-100	Scope.
296-900-110	Variations.
296-900-11005	Applying for a variance.
296-900-11010	Interim orders.
296-900-11015	Renewing a temporary variance.
296-900-11020	Changing a variance.
296-900-11025	Variance hearings.
296-900-120	Inspections.
296-900-12005	WISHA inspections.
296-900-12010	Inspection techniques.
296-900-12015	Complaints.
296-900-130	Citation and notice.
296-900-13005	Citation and notice.
296-900-13010	Copies of future citation and notices.
296-900-13015	Posting citation and notices.
296-900-140	Monetary penalties.
296-900-14005	Reasons for monetary penalties.
296-900-14010	Base penalties.
296-900-14015	Base penalty adjustments.
296-900-14020	Increases to adjusted base penalties.
296-900-150	Certifying violation corrections.
296-900-15005	Certifying violation correction.
296-900-15010	Violation correction action plans.
296-900-15015	Progress reports.
296-900-15020	Timeliness of violation correction documents.
296-900-15025	Inform employees about violation correction.
296-900-15030	Tag moveable equipment.
296-900-160	More time to comply.
296-900-16005	Requesting more time to comply.
296-900-16010	Post WISHA's response to requests for more time.
296-900-16015	Correction date hearing requests.
296-900-16020	Post WISHA's violation correction hearing notice.
296-900-16025	Violation correction hearing procedures.
296-900-16030	Post the violation correction hearing decision.
296-900-170	Appeals.
296-900-17005	Appealing a citation and notice (C&N).
296-900-17010	Appealing a corrective notice of redetermination (CNR).
296-900-17015	Posting appeals.
296-900-175	Safety and health investment projects.
296-900-17505	Scope and purpose.
296-900-17510	Definitions.
296-900-17515	Eligibility.
296-900-17520	Advisory committee.
296-900-17525	Application.
296-900-17530	Approval.
296-900-17535	Monitoring.
296-900-17540	Suspension or revocation of funding.
296-900-180	Definitions.

WAC 296-900-100 Scope. This chapter applies to the following requirements and information regarding administration of the Washington Industrial Safety and Health Act (WISHA), chapter 49.17 RCW:

- Employer requests for using an alternative to WISHA requirements.
- Workplace inspections conducted by WISHA.
- Citations and penalties for violations of WISHA safety and health requirements.
- How to respond to actions that WISHA may take when requirements have been violated.
- Employer correction of cited violations, and notification to WISHA when the corrections are made.
- Employer obligations to inform employees.
- Reporting alleged safety and health hazards.
- Appeal and hearing processes for employers and employees.
- Safety and health investment projects (SHIP).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-100, filed 1/8/08, effective 2/8/08. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-100, filed 2/21/06, effective 6/1/06.]

WAC 296-900-110 Variations.

Summary:

Employer responsibility:

To follow requirements on granted variances:

Applying for a variance

WAC 296-900-11005.

Interim orders

WAC 296-900-11010.

Renewing a temporary variance

WAC 296-900-11015.

Changing a variance

WAC 296-900-11020.

Variance hearings

WAC 296-900-11025.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-110, filed 2/21/06, effective 6/1/06.]

WAC 296-900-11005 Applying for a variance.

IMPORTANT:

• A variance provides an approved alternative to WISHA requirements to protect employees from a workplace hazard. Variances can be permanent or temporary.

• Variances will **not** be retroactive. Employers are obligated to follow WISHA requirements until the variance is granted.

You must:

• Follow steps 1-5 to apply for a variance when you wish to use an alternative to WISHA requirements as a means to protect your employees.

Step 1: Decide what type of variance is needed by reviewing the types of variances in Table 1, Requesting a Variance.

Step 2: Complete a written application for the variance, following the requirements in Table 1, Requesting a Variance.

Note: • A form, Variance Application (F414-021-000), is available for requesting variances:
– From any L&I office.

– On our web site under Safety Forms, Variance Application <http://www.lni.wa.gov/FormPublications/Tables-Forms/Safety/SafetyHealth.asp>

- Reference:** • For a list of the local L&I offices, see the resources section of the Safety and health core rules, chapter 296-800 WAC.
- Step 3:** Notify employees before submitting any type of variance request by doing all of the following:
- Posting a copy of the request on your safety bulletin board.
 - Using other appropriate means for notifying employees who may not be expected to receive notices posted on the safety bulletin board. For example, provide a copy to a designated representative or the safety committee.
- Step 4:** Submit the written request, using one of the following means:
- Mail to:
- Assistant Director
WISHA Services
P.O. Box 44650
Olympia, WA 98504-4650
- Fax to: 360-902-5438
 - Take to any L&I office.
- Step 5:** After receiving a written decision from WISHA about your request, immediately notify affected employees of the decision by using the methods in Step 3.

You must:

- Follow the specific requirements of the variance that WISHA has granted.

- Note:**
- If employers fail to follow Steps 1-5 above, the variance cannot be granted.
 - Citations may be issued for failing to follow a variance.
 - Employers can always follow the original WISHA requirements instead of the variance requirements.
 - If your variance is no longer necessary and you decide to follow the WISHA requirements instead, please advise WISHA in writing.

**Table 1
Requesting a Variance**

For this type of variance:	Include the following on your written application:
<p>Permanent variance</p> <ul style="list-style-type: none"> – Request a permanent variance if you can show that you will be providing alternate methods of protecting employees from hazards that are as effective as those provided by the requirements from which you are requesting relief. <p>Note:</p>	<ul style="list-style-type: none"> • Employer name and address • Employer or employer representative signature • Work locations and situations that apply to the variance • Which specific requirements you want to vary from, with WAC numbers • Description of proposed alternative methods of protection, and how they will protect employees. • How employees will be notified:

**Table 1
Requesting a Variance**

For this type of variance:	Include the following on your written application:
<ul style="list-style-type: none"> • A permanent variance remains in effect unless WISHA modifies or revokes it. Examples of reasons a variance might be revoked include: <ul style="list-style-type: none"> – An employer requests the variance be revoked – Requirements that existed when the variance was approved are modified – The work location is changed 	<ul style="list-style-type: none"> – About the variance request, as required in Step 2 – That they may request a hearing • The following notice on the first page of your posted application, written in large and clear enough print to be easily read: <p>"Attention Employees: Your employer is applying to WISHA for a variance from safety and health requirements. You have a right to ask WISHA for a hearing on the variance request, but you must ask for the hearing in writing by (date*). If no hearing is requested, WISHA will act on the variance request without a hearing."</p> <p>*This date must be 21 calendar days after the variance request is mailed or delivered.</p>
<p>Temporary variance</p> <p>Request a temporary variance if both of the following apply:</p> <ul style="list-style-type: none"> • New WISHA requirements can't be met for any of the following reasons: <ul style="list-style-type: none"> – Professional or technical people are not available – Materials or equipment are not available – Construction or alteration of facilities cannot be completed by the effective date of the requirements • You have an effective plan for meeting WISHA requirements as soon as possible. 	<ul style="list-style-type: none"> • Provide all the information required above for permanent variances • Also provide all of the following: <ul style="list-style-type: none"> – An explanation of why WISHA requirements can't be met, including documentation that supports this belief – Steps that will be taken to protect employees until WISHA requirements can be met – When WISHA requirements will be met – A statement that this request is from a qualified person who has first hand knowledge of the facts represented

Table 1
Requesting a Variance

For this type of variance:	Include the following on your written application:
<p>Note:</p> <ul style="list-style-type: none"> • Temporary variances remain in effect: <ul style="list-style-type: none"> – Until current WISHA requirements are met – No longer than one year, unless extended 	

What to expect from WISHA:

- A review of all variance requests.
 - If more information is needed to make a decision, WISHA may:
 - Contact you or others who may have the needed information.
 - Visit your workplace after contacting you to make arrangements.
 - Deny your request if you don't provide information needed to make a decision on it.
 - A decision at least twenty-one calendar days from when the request was posted for employees.
 - The twenty-one-day period allows employees time to request a hearing on your variance application. See Variance hearings, WAC 296-900-11025.
 - A written decision either granting or denying the variance.
 - If granted, the written decision will include all of the following:
 - The requirement for which the variance applies.
 - The locations where the variance applies.
 - What you must do as an alternative means of protecting employees.
 - The effective date of the variance.
 - An expiration date for the variance, if applicable.
 - The requirement to post the decision.
 - If denied, the written decision will include:
 - A brief statement with reasons for the denial.
 - The requirement to post the decision.
 - WISHA will review permanent variances periodically after they have been in effect for six months, to decide whether they are still needed or need to be changed.
- Note:** If there's an appealed WISHA citation and notice that relates to the variance request, the decision on the variance may be delayed until the appeal is resolved.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-11005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-11010 Interim orders.

Definition:

An interim order allows an employer to vary from WISHA requirements until a permanent or temporary variance is granted.

You must:

- Request an interim order if alternate methods of protecting employees are needed while waiting for a permanent or temporary variance.

Note: An interim order may be requested at the same time a permanent or temporary variance is requested, or anytime after that.

What to expect from WISHA:

- A review of the request for an interim order.
 - If more information is needed to make a decision, WISHA may:
 - Contact the employer or others who may have the needed information.
 - Visit the workplace after contacting the employer to make arrangements.
 - Deny the request if the employer doesn't provide information needed to make a decision.
 - A decision at least twenty-one calendar days from when the request was posted for employees.
 - The twenty-one-day period allows employees time to request a hearing on your temporary variance renewal. See Variance hearings, WAC 296-900-11025.
 - A written decision either granting or denying the interim order request.
 - If granted, the decision will include all of the following:
 - The requirement for which the interim order applies.
 - The locations where the interim order applies.
 - What you must do as an alternative means of protecting employees.
 - The effective date of the interim order.
 - An expiration date for the interim order.
 - The requirement to post the decision.
 - If denied, the decision will include:
 - A brief statement with reasons for the denial.
 - The requirement to post the decision.
- Note:**
- WISHA's decision to grant or deny an interim order request will not affect the decision on a permanent or temporary variance request.
 - WISHA may choose to issue an interim order in response to a variance request, even when the interim order wasn't specifically requested.
 - Interim orders are effective until they are revoked, or until the variance request is granted or denied.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-11010, filed 2/21/06, effective 6/1/06.]

WAC 296-900-11015 Renewing a temporary variance.

IMPORTANT:

Temporary variances can be renewed up to two times, for up to one hundred eighty days each time.

You must:

- Apply for a temporary variance renewal at least ninety days before the temporary variance expires.
- Send a letter, explaining why more time is needed to fulfill the current requirements.

What to expect from WISHA:

- A review of the temporary variance renewal request.
 - If more information is needed to make a decision, WISHA may:
 - Contact you or others who may have the needed information.
 - Visit your workplace after contacting you to make arrangements.
 - Deny your request if you don't provide information needed to make a decision.
 - A decision at least twenty-one calendar days from when the request was posted for employees.

– The twenty-one-day period allows employees time to request a hearing on your temporary variance renewal. See Variance hearings, WAC 296-900-11025.

- A written decision either granting or denying the temporary variance renewal request.

– If granted, the written decision will include all of the following:

- The requirements for which the temporary variance applies.

- The locations where the temporary variance applies.

- What you must do as an alternative means of protecting employees.

- The effective date of the temporary variance.

- An expiration date for the temporary variance.

- The requirement to post the decision.

– If denied, the written decision will include:

- A brief statement with reasons for the denial.

- The requirement to post the decision.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-11015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-11020 Changing a variance.

You, your employees, or their representatives may:

- Request changes to variances in writing as follows:

– For a permanent variance only after it's been in effect for at least six months.

– For a temporary variance, only when renewing it.

Note: ■ After six months, WISHA may initiate changes to a variance if they appear to be warranted.

■ Employers can decide at any time to follow the original requirement, instead of the requested variance.

What to expect from WISHA:

- A review of your request to change a variance.

– If more information is needed to make a decision, WISHA may:

- Contact you or others who may have the needed information.

- Visit your workplace after contacting you to make arrangements.

- Deny your request for a change if you don't provide information needed to make a decision.

- A decision at least twenty-one calendar days from when the request was posted for employees.

– The twenty-one-day period allows employees time to request a hearing on your request to change a variance. See Variance hearings, WAC 296-900-11025.

- A written decision either granting or denying the change in variance.

– If granted, the written decision will include all of the following:

- The requirements for which the variance applies.

- The locations for which the variance applies.

- What you must do as an alternative means of protecting employees.

- The effective date of the change in variance.

- An expiration date of the variance, if applicable.

- The requirement to post the decision.

– If denied, the written decision will include:

- A brief statement with reasons for the denial.

- The requirement to post the decision.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-11020, filed 2/21/06, effective 6/1/06.]

WAC 296-900-11025 Variance hearings.

IMPORTANT:

- Employers, affected employees, or employee representatives may request a hearing on any of the following:

– Permanent or temporary variance requests.

– Changes to existing variances.

You and your affected employees must:

- Do all of the following if requesting a variance hearing:

– Put the request in writing and sign it.

– Make sure the request is posted or delivered to the department within twenty-one calendar days from the variance application date, or renewal request date.

– Send the written request to WISHA, using one of the following means:

- Mail to:

Assistant Director

WISHA Services

P.O. Box 44650

Olympia, WA 98504-4650

- Fax to: 360-902-5438

- Take to any L&I office.

You must:

- Immediately do all of the following when you receive a notice of the hearing from WISHA:

– Post a copy of the notice on the safety bulletin board.

– Give a copy of the notice to affected employees and employee representatives.

– Use any other appropriate means for notifying employees who may not receive notices posted on the safety bulletin board. For example, provide a copy to a designated representative or the safety committee.

What to expect from WISHA:

- WISHA will do both of the following after receiving a request for a hearing on a variance, change of variance, or temporary variance renewal:

– Within ten days, issue a notice advising all interested parties listed on the application that they have the option to participate in the hearing.

– Provide you with a notice of the hearing at least twenty calendar days before the hearing date.

- A hearing for the variance or variance change will be conducted as follows:

– A WISHA representative will explain WISHA's view of the request for a variance or any proposed change to a variance.

– Employers, employees, or employee representatives will then have an opportunity to explain their views and provide any relevant documents or information.

- Information gathered at the hearing will be used to make a decision about whether to grant or deny the request for a variance or change in variance.

Note:

- WISHA may record a variance hearing.

- Employers, employees, or employee representatives may request copies of recordings or transcripts of variance hearings at cost.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-11025, filed 2/21/06, effective 6/1/06.]

WAC 296-900-120 Inspections.

Summary:

- WISHA inspections
- WAC 296-900-12005.
- Inspection techniques
- WAC 296-900-12010.
- Complaints
- WAC 296-900-12015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-120, filed 2/21/06, effective 6/1/06.]

WAC 296-900-12005 WISHA inspections.

• WISHA conducts the following types of **programmed** inspections:

- Hazardous workplaces.

WISHA identifies hazardous workplaces using objective criteria and inspection-scheduling systems that may include any of the following factors:

- Type of industry.
- Injury and illness data that identifies hazards.
- Employer's industrial insurance experience.
- Number, type, and toxicity of contaminants in the workplace.
- Degree of exposure to hazards.
- Number of employees exposed.
- Other factors, such as history of employee complaints.

Note: WISHA periodically reviews the scheduling systems and may adjust the type or significance of each criteria.

- High hazard industries that include the following:

- Agriculture.
- Asbestos renovation and demolition.
- Construction.
- Electrical utilities and communications.
- Logging.
- Maritime.

• WISHA conducts the following types of **unprogrammed** inspections of workplaces that may be in violation of WISHA safety or health requirements or chapter 49.17 RCW, the Washington Industrial Safety and Health Act. These inspections may focus only on certain areas or processes in a workplace or, depending on initial findings, may be expanded to include the entire workplace. Unprogrammed inspections may occur because of:

- Complaints from current employees or employee representatives who believe they have been exposed to a hazard because of a violation.
- Referrals from anyone, including former employees, who reasonably believes that workers under WISHA jurisdiction are being, or have been, exposed to a hazard because of a violation.
- Workplace deaths, catastrophic events, or serious injury or illness.
- A reason to believe that employees may be in imminent danger of serious injury or death.
- Follow-up inspections to verify that hazards identified in a previous inspection have been corrected.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-12005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-12010 Inspection techniques.

- During an inspection, WISHA staff may:

- Take samples, photographs, videotapes, or audiotapes.
- Conduct tests or interviews.
- Ask employees to wear sampling devices.
- Privately question, on or off the worksite, any:
 - Employer.
 - Employer representative.
 - Owner.
 - Operator.
 - Employee.
 - Employee representative.
- Employ any other reasonable investigative techniques.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-12010, filed 2/21/06, effective 6/1/06.]

WAC 296-900-12015 Complaints.

Employees or employee representatives may:

- File a written complaint if they believe they have been exposed to a hazard that is a violation of WISHA safety and health requirements.

What to expect from WISHA:

- After receiving a written complaint from an employee or employee representative, WISHA reviews the allegations and responds according to Table 2, WISHA Responses to Employee Complaints.

**Table 2
WISHA Responses to Employee Complaints**

For this determination:	WISHA will take the following actions:
The complaint is within WISHA jurisdiction and an inspection doesn't appear to be needed at this time	<ul style="list-style-type: none"> • Call the employer to discuss the complaint • Set a deadline for the employer to respond in writing • Fax or mail a complaint notification letter to the employer. Before the complaint is faxed or mailed, the following names will be removed unless specific permission is given to include them: <ul style="list-style-type: none"> – The name of the person submitting the complaint – The names of any employees identified in the complaint • Evaluate the employer's response, and do one of the following: <ul style="list-style-type: none"> – Close the complaint because the issues have been addressed, and send a copy of the employer's response to the person filing the complaint – Inspect the workplace

Table 2
WISHA Responses to Employee Complaints

For this determination:	WISHA will take the following actions:
	<p>Note:</p> <ul style="list-style-type: none"> • If the complaint is closed and additional information is received from the person filing the complaint disputing the employer's written response, WISHA may schedule an inspection • If the person who filed the original complaint requests in writing that WISHA review a decision not to conduct an inspection, WISHA will review the decision and notify the person in writing of the results • If the person requesting the review is not satisfied with the results of the review, they may request a second review by the assistant director or designee
<p>The complaint is within WISHA jurisdiction and an inspection needs to be conducted</p>	<ul style="list-style-type: none"> • Conduct an inspection • Issue a citation and notice that shows one of the following: <ul style="list-style-type: none"> – Violations found – No violations were found • Send a letter to the person filing the complaint with inspection results <p>Reference: For citation and notice information, turn to citation and notice, WAC 296-900-130</p>
<p>The complaint is not within WISHA jurisdiction</p>	<ul style="list-style-type: none"> • Send a written response to the person filing the complaint explaining the matter is not within WISHA jurisdiction <p>Note: WISHA may make a referral to the proper authority</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-12015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-130 Citation and notice.

Summary:

Employer responsibility:

To notify employees when a citation and notice is received:

Citation and notice
WAC 296-900-13005.

Copies of future citations and notices
WAC 296-900-13010.
Posting citation and notices
WAC 296-900-13015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 07-03-163, § 296-900-130, filed 1/24/07, effective 4/1/07; 06-06-020, § 296-900-130, filed 2/21/06, effective 6/1/06.]

WAC 296-900-13005 Citation and notice.

Definition:

A citation and notice is a document issued to an employer notifying them of:

- Inspection results.
- Any specific violations of WISHA safety and health requirements.
- Any monetary penalties assessed.
- Employer certification of correction requirements.
- WISHA will mail a citation and notice to you as soon as possible but not later than six months following any inspection or investigation.

– If violations are found, the citation and notice will include:

- A description of violations found.
- The amount and type of assessed penalties.
- The length of time given to correct the violations not already corrected during the inspection.

– If no violations are found, a notice of inspection results will be sent stating that no violations were found or penalties assessed.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-13005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-13010 Copies of future citation and notices. Employees or their representatives wishing to receive copies of citation and notices during the next twelve months must:

- Submit a request for copy of citation and notice form to the following:

Department of Labor and Industries
Standards and Information
P.O. Box 44638
Olympia, WA 98504-4638

Note:

- A request for copy of citation and notice form can be obtained by:
 - Calling 360-902-5553.
 - Contacting the local L&I office.

Reference: ■ For a list of the local L&I offices, see the resources section of the Safety and health core rules, chapter 296-800 WAC.

What to expect from WISHA:

- WISHA may decide who will receive copies of the citation and notices if more than one employee or employee representative requests a copy.

– WISHA may deny a request for copies of citation and notices if the person filing the request is not an employee or employee representative.

- If WISHA grants the request for copies of citation and notices, the employee or employee representative will:
 - Receive an approval document from WISHA.
 - Receive all citation and notices issued to that employer for the next twelve months.

– Continue receiving citation and notices for an additional twelve months if a one-year extension is requested and approved.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-13010, filed 2/21/06, effective 6/1/06.]

WAC 296-900-13015 Posting citation and notices.

You must:

- Immediately notify employees of a citation and notice by posting it and any correspondence related to an employee complaint on the safety bulletin board for three working days or until all violations are corrected, whichever time period is longer.

- Use any other appropriate means to notify employees who may receive notices posted on the safety bulletin board.

– Examples of other appropriate means include sending a copy by mail or electronically to any of the following:

- A designated employee representative.
- Safety representatives.
- The safety committee.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-13015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-140 Monetary penalties.

Summary:

Employer responsibility:

To pay monetary penalties if assessed.

Contents:

Reasons for monetary penalties

WAC 296-900-14005.

Base penalties

WAC 296-900-14010.

Base penalty adjustments

WAC 296-900-14015.

Increases to adjusted base penalties

WAC 296-900-14020.

Definition:

Monetary penalties are fines assessed against an employer for violations of safety and health requirements.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-140, filed 2/21/06, effective 6/1/06.]

WAC 296-900-14005 Reasons for monetary penalties.

- WISHA may assess monetary penalties when a citation and notice is issued for any violation of safety and health rules or statutes.

- WISHA will assess monetary penalties under the following conditions:

– When a citation and notice is issued for a serious, willful, or egregious violation.

– When civil penalties are specified by statute as described in RCW 49.17.180.

Note: In addition to penalties specified by WISHA, there are penalties specified by other statutes, such as:

- Asbestos construction projects, RCW 49.26.016.
- Right to know (RTK)—MSDS, RCW 49.70.190.
- Right to know—Penalty for late payment, RCW 49.70.177.

- The minimum civil penalties assessed by WISHA are:

– One hundred dollars for any penalty.

– Five thousand dollars per violation for all willful violations.

– Two hundred fifty dollars per day for asbestos good faith inspection (RCW 49.26.016 and 49.26.013).

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-14005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-14010 Base penalties.

- WISHA calculates the base penalty for a violation by considering the following:

– Specific amounts that are dictated by statute;

OR

– By assigning a weight to a violation, called "gravity." Gravity is calculated by multiplying a violation's severity rate by its probability rate. Expressed as a formula:

Gravity = Severity x Probability

Note: Most base penalties are calculated by the gravity method.

- Severity and probability are established in the following ways:

Severity:

– Severity rates are based on the most serious injury, illness, or disease that could be reasonably expected to occur because of a hazardous condition.

– Severity rates are expressed in whole numbers and range from 1 (lowest) to 6 (highest). Violations with a severity rating of 4, 5, or 6 are considered serious.

– WISHA uses Table 3, Severity Rates, to determine the severity rate for a violation.

**Table 3
Severity Rates**

Severity	Most serious injury, illness, or disease from the violation is likely to be:
6	<ul style="list-style-type: none"> • Death • Injuries involving permanent severe disability • Chronic, irreversible illness
5	<ul style="list-style-type: none"> • Permanent disability of a limited or less severe nature • Injuries or reversible illnesses resulting in hospitalization
4	<ul style="list-style-type: none"> • Injuries or temporary, reversible illnesses resulting in serious physical harm • May require removal from exposure or supportive treatment without hospitalization for recovery
3	<ul style="list-style-type: none"> • Would probably not cause death or serious physical harm, but have at least a major impact on and indirect relationship to serious injury, illness, or disease • Could have direct and immediate relationship to safety and health of employees • First aid is the only medical treatment needed

**Table 3
Severity Rates**

Severity	Most serious injury, illness, or disease from the violation is likely to be:
2	<ul style="list-style-type: none"> • Indirect relationship to non-serious injury, illness, or disease • No injury, illness, or disease without additional violations
1	<ul style="list-style-type: none"> • No injury, illness, disease • Not likely to result in injury even in the presence of other violations

Probability:

Definition:

A probability rate is a number that describes the likelihood of an injury, illness, or disease occurring, ranging from 1 (lowest) to 6 (highest).

– When determining probability, WISHA considers a variety of factors, depending on the situation, such as:

- Frequency and amount of exposure.
- Number of employees exposed.
- Instances, or number of times the hazard is identified in the workplace.
- How close an employee is to the hazard, i.e., the proximity of the employee to the hazard.
- Weather and other working conditions.
- Employee skill level and training.
- Employee awareness of the hazard.
- The pace, speed, and nature of the task or work.
- Use of personal protective equipment.
- Other mitigating or contributing circumstances.

– WISHA uses Table 4, Gravity Based Penalty, to determine the dollar amount for each gravity-based penalty, unless otherwise specified by statute.

**Table 4
Gravity Based Penalty**

Gravity	Base Penalty
1	\$100
2	\$200
3	\$300
4	\$400
5	\$500
6	\$1000
8	\$1500
9	\$2000
10	\$2500
12	\$3000
15	\$3500
16	\$4000
18	\$4500
20	\$5000
24	\$5500
25	\$6000
30	\$6500
36	\$7000

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-14010, filed 2/21/06, effective 6/1/06.]

WAC 296-900-14015 Base penalty adjustments.

• WISHA may adjust base penalties. Table 5, Adjusted Base Penalties, describes the various factors WISHA considers when adjusting a base penalty, and the effect on the fine.

– The minimum adjusted base penalty for any violation carrying a penalty is one hundred dollars.

– The minimum penalty for willful violations is five thousand dollars.

– The maximum adjusted base penalty for a violation is seven thousand dollars.

• No adjustments are made to minimum penalty amounts specified by statute.

Note: Repeat, willful, egregious, or failure-to-abate (failure to correct) penalty adjustments can exceed seven thousand dollars. See Increases to adjusted base penalties, WAC 296-900-14020, for those penalties.

**Table 5
Adjusted Base Penalties**

For this type of adjustment:	WISHA will consider:	The base penalty will be adjusted as follows:
Good faith effort	<ul style="list-style-type: none"> • Awareness of act • Effort before an inspection to provide a safe and healthful workplace for employees • Effort to follow a requirement they have violated • Cooperation during an inspection, measured by a desire to follow the cited requirement and immediately correct identified hazards 	<p>Excellent rating = 35% reduction</p> <p>Good rating = 20% reduction</p> <p>Average rating = No adjustment</p> <p>Poor rating = 20% increase</p>
Size of workforce	<ul style="list-style-type: none"> • Work force size at all sites in Washington state 	<p>1-25 employees = 60% reduction</p> <p>26-100 employees = 40% reduction</p> <p>101-250 employees = 20% reduction</p> <p>More than 250 employees = No adjustment</p>
Employer history	<ul style="list-style-type: none"> • History of previous safety and health violations in Washington state and injury and illness rates for that employer 	<p>Good history = 10% reduction</p> <p>Average history = No adjustment</p> <p>Poor history = 10% increase</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-14015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-14020 Increases to adjusted base penalties.

• WISHA may increase an adjusted base penalty in certain circumstances. Table 6, Increases to Adjusted Base Penalties, describes circumstances where an increase may be applied to an adjusted base penalty.

**Table 6
Increases to Adjusted Base Penalties**

For this circumstance:	The adjusted base penalty may be increased as follows:
Repeat violation When the employer has been previously cited for a substantially similar hazard, with a final order for the previous violation dated no more than 3 years prior to the employer committing the violation being cited.	<ul style="list-style-type: none"> Multiplied by the total number of citations with violations involving similar hazards, including the current inspection. Note: The maximum penalty can't exceed seventy thousand dollars for each violation.
Willful violation An act committed with the intentional, knowing, or voluntary disregard for the WISHA requirements or with plain indifference to employee safety.	<ul style="list-style-type: none"> Multiplied by ten with at least the statutory minimum penalty of five thousand dollars Note: The maximum penalty can't exceed \$70,000 for each violation.
Egregious violation If the violation was willful and at least one of the following: <ul style="list-style-type: none"> The violations resulted in worker fatalities, a worksite catastrophe, or a large number of injuries or illnesses. The violations resulted in persistently high rates of worker injuries or illnesses. The employer has an extensive history of prior violations. The employer has intentionally disregarded its safety and health responsibilities. The employer's conduct taken as a whole amounts to clear bad faith in the performance of his/her duties. The employer has committed a large number of violations so as to undermine significantly the effectiveness of any safety and health program that might be in place. 	<ul style="list-style-type: none"> With a separate penalty issued for each instance the employer fails to follow a specific requirement.

**Table 6
Increases to Adjusted Base Penalties**

For this circumstance:	The adjusted base penalty may be increased as follows:
Failure to abate (FTA) Failure to correct a cited WISHA violation on time. Reference: For how to certify corrected violations, go to Certifying violation corrections, WAC 296-900-15005 through 296-900-15030.	<ul style="list-style-type: none"> Based on the facts at the time of reinspection, will be multiplied by: <ul style="list-style-type: none"> At least five, but up to ten, based on the employer's effort to comply. The number of calendar days past the correction date, with a minimum of five days. Note: The maximum penalty can't exceed seven thousand dollars per day for every day the violation is not corrected.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-900-14020, filed 1/24/07, effective 4/1/07; 06-06-020, § 296-900-14020, filed 2/21/06, effective 6/1/06.]

WAC 296-900-150 Certifying violation corrections.

Summary:

Employer responsibility:

- To certify that violations to safety and health requirements have been corrected.
 - To submit, if required:
 - Additional information.
 - Correction action plans.
 - Progress reports.
 - To comply with correction due dates.
 - To tag cited moveable equipment to warn employees of a hazard.
 - To inform affected employees that each violation was corrected.

Certifying violation correction

WAC 296-900-15005.

Violation correction action plans

WAC 296-900-15010.

Progress reports

WAC 296-900-15015.

Timeliness of violation correction documents

WAC 296-900-15020.

Inform employees about violation correction

WAC 296-900-15025.

Tag moveable equipment

WAC 296-900-15030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 07-03-163, § 296-900-150, filed 1/24/07, effective 4/1/07; 06-06-020, § 296-900-150, filed 2/21/06, effective 6/1/06.]

WAC 296-900-15005 Certifying violation correction.**Definition:**

A correction date is the date by which you must meet the WISHA requirements listed on either a:

- Citation and notice (C&N);

OR

- A corrective notice of redetermination (CNR).

You must:

• Certify in writing within ten calendar days following the correction date shown on the C&N that each violation has been corrected. Include the following:

- Employer name and address.
- The inspection number involved.
- The citation and item numbers which have been corrected.
- The date each violation was corrected and the method used to correct them.

- A statement that both:

■ Affected employees and their representatives were informed that each violation was corrected;

AND

■ The information submitted is accurate.

– Employer's signature or the signature of employer's designated representative.

Note: Certification is not required if the WISHA compliance officer indicates in the C&N, or a reassumption hearings officer indicates in a CNR, that they have already been corrected.

You must:

• Submit additional documentation for willful or repeated violations, demonstrating that they were corrected. This documentation may include, but is not limited to:

- Evidence of the purchase or repair of equipment.
- Photographic or video evidence of corrections.
- Other written records.

• Submit additional documentation for serious violations when required in the C&N or CNR.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-15005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-15010 Violation correction action plans.**You must:**

• Submit a written violation correction action plan within twenty-five calendar days from the final order date when the citation and notice or corrective notice of redetermination requires it. Include all of the following in the violation correction action plan:

- Identification of the violation.
- The steps that will be taken to correct the violation.
- A schedule to complete the steps.
- A description of how employees will be protected until the corrections are completed.

What to expect from WISHA:

• WISHA will notify you in writing only if your plan is not adequate, and describe necessary changes.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-15010, filed 2/21/06, effective 6/1/06.]

(2009 Ed.)

WAC 296-900-15015 Progress reports.**You must:**

• Submit written progress reports on corrections when required in the citation and notice (C&N) or corrective notice of redetermination (CNR), and briefly explain the:

- Status of each violation.
- Action taken to correct each violation.
- Date each action has or will be taken.

What to expect from WISHA:

• WISHA will state in the C&N or CNR if progress reports are required, including:

- Items that require progress reports.
- Date when an initial progress report must be submitted. The initial progress report is due no sooner than thirty calendar days after you submit a correction action plan.
- Whether additional progress reports are required, and the dates by which they must be submitted.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-15015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-15020 Timeliness of violation correction documents.**What to expect from WISHA:**

• WISHA will determine the timeliness of violation correction documents by reviewing the following:

- The postmark date for documents sent by mail.
- The date received by other means, such as personal delivery or fax.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-15020, filed 2/21/06, effective 6/1/06.]

WAC 296-900-15025 Inform employees about violation correction.**You must:**

• Inform employees about violation corrections by doing the following:

– Post a copy of each violation correction document submitted to WISHA, or a summary, near the place where the violations occurred, if practical.

■ If posting near the place where the violation occurred is not practical, such as with a mobile work operation, post in a place readily accessible to affected employees or take other steps to fully communicate actions taken to affected employees or their representatives.

– Keep violation correction information posted for at least three working days after submitting the correction documents to WISHA.

– Give notice to employees and their representatives on or before the date you submit correction information to WISHA.

– Make sure that all posted correction documents are not altered, defaced, or covered by other materials.

• Inform employees and their representatives of their right to examine and copy all correction documents submitted to WISHA.

– If they ask to examine or copy documents within three working days of receiving notice that the documents were submitted to WISHA, provide access or copies no later than five days after receiving their request.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-15025, filed 2/21/06, effective 6/1/06.]

WAC 296-900-15030 Tag moveable equipment.**You must:**

- Tag moveable equipment that has been cited to warn employees if a hazard has not been corrected, as follows:
 - Attach a warning tag or a copy of the citation to the equipment's operating controls or to the cited component.

- For hand-held equipment, tag it immediately after you receive a citation.

- For other equipment, tag it before moving it within the worksite or between worksites.

Note: The tag should warn employees about the nature of the violation and tell them where the citation is posted.

Reference: For a sample tag that meets this requirement, go to helpful tools, sample tag for cited moveable equipment, in the resources section of this chapter.

You must:

- Make sure that the tag or copy of the citation attached to movable equipment is not altered, defaced, or covered by other materials.

- Keep the tag or copy of the citation attached to movable equipment until one of the following occurs:

- Violations have been corrected and all certification documents have been submitted to WISHA.

- Cited equipment is permanently removed from service.

- The final order from an appeal vacates (voids) the violation.

Note: Safety standards for construction work, chapter 296-155 WAC, has information on warning tags. You can use warning tags that meet those requirements instead of the warning tags required by this rule.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-15030, filed 2/21/06, effective 6/1/06.]

WAC 296-900-160 More time to comply.**Summary:****Your responsibility:**

To submit timely requests when more time is needed to correct violations. To post requests for more time for employees.

Requesting more time to comply

WAC 296-900-16005.

Post WISHA's response to requests for more time

WAC 296-900-16010.

Correction date hearing requests

WAC 296-900-16015.

Post WISHA's violation correction hearing notice

WAC 296-900-16020.

Violation correction hearing procedures

WAC 296-900-16025.

Post the violation correction hearing decision

WAC 296-900-16030.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-160, filed 2/21/06, effective 6/1/06.]

WAC 296-900-16005 Requesting more time to comply.**IMPORTANT:**

- Employers can request more time to correct violations if they:

- Have made a good faith effort to correct the violation.

- Have not corrected the violation because of factors beyond their control.

[Title 296 WAC—p. 3194]

You must:

- Submit any requests for more time to correct violations in writing. Requests must be received or postmarked before midnight of the correction date shown on the citation and notice (C&N) or corrective notice of redetermination (CNR), and include:

- The business name.

- The address of the workplaces.

- The citation and the correction dates to be extended.

- The new correction date and length of correction period being requested.

- A description of the actions that have been, and are being, taken to meet the correction dates in the C&N or CNR.

- Factors preventing correction of violations by the date required.

- The means that will be used to protect employees while the violation is being corrected.

- Certification that the request for correction date extension has been posted, and if appropriate, certification that a copy was delivered to affected employees or their representatives.

- Employer's signature or the signature of the employer's representative.

- Date.

- Submit requests by one of the following methods:

- First class mail, postage prepaid to any L&I office.

- Take to any L&I office.

- Fax to the number shown in the C&N.

Reference: For a list of the local offices, see the resources section of the Safety and health core rules, chapter 296-800 WAC.

What to expect from WISHA:**• WISHA may:**

- Accept late requests if they are both:

- Received within five days following the related correction date;

AND

- Accompanied by your written statement explaining the exceptional circumstances that caused the delay.

Note: WISHA doesn't accept late requests when compliance activity has already started.

• WISHA may:

- Respond to telephone requests or personal conversations asking for more time to comply if timely, and followed up in writing within twenty-four hours.

- Conduct an investigation before making a decision whether to grant a request for more time.

• WISHA will:

- Make a decision whether or not to grant the employer more time. Once made, the decision remains in effect unless an employee or employee representative requests a hearing.

- Keep the original correction date in effect unless a notice granting more time is sent.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-16005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-16010 Post WISHA's response to requests for more time.**You must:**

- Post notices from WISHA approving additional time to correct citations, with the related citation, immediately upon receipt.

- Keep the notices posted until one of the following occur:

- The correction date has passed.
- A hearing notice is requested and posted.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-16010, filed 2/21/06, effective 6/1/06.]

WAC 296-900-16015 Correction date hearing requests.

IMPORTANT:

- Affected employees or their designated representatives may request a hearing if they disagree with WISHA's decision to grant an employer more time to correct a violation.
- Employers may request a hearing if WISHA denies their request for more time to correct a violation.

You, your employees, or their representatives must:

- Send requests for hearings, if desired, in writing no later than ten calendar days after the issue date of the notice granting more time to correct a violation to:

- Mail to:

Assistant Director for WISHA Services
Attn: WISHA Appeals
P.O. Box 44604
Olympia, WA 98504-4604

- Fax to: 360-902-5581
- Take to any department service location.

Reference: For a list of the local offices, see the resources section of the Safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-16015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-16020 Post WISHA's violation correction hearing notice.

You must:

- Post WISHA's hearing notice or a complete copy until the hearing is held, along with the:
 - Citation containing the correction date for which more time was requested.
 - Department notices issued in response to the employer's request for more time.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-16020, filed 2/21/06, effective 6/1/06.]

WAC 296-900-16025 Violation correction hearing procedures. What to expect from WISHA:

- After receiving a hearing request, the assistant director for WISHA services will appoint someone from WISHA to act as a hearings officer.
- The hearings officer:
 - Will send a hearing notice to the employer and employee at least twenty days before the hearing date that includes all of the following:
 - A statement that all interested parties can participate in the hearing.
 - The time, date, and place of the hearing.
 - A short and clear explanation why a hearing was requested.
 - The nature of the proceeding, including the specific sections of the statute or rule involved.

(2009 Ed.)

- The legal authority and jurisdiction under which the hearing will be held.

- May discuss the material to be presented to determine how the hearing will proceed.

- An assistant attorney general may be present at the hearing to give legal advice to the hearings officer.

- The hearing will be conducted by either:

- The hearings officer;

OR

- The assistant attorney general, if requested by the hearings officer.

- After the hearing, WISHA will issue an order that either affirms or modifies the correction date that caused the hearing.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-16025, filed 2/21/06, effective 6/1/06.]

WAC 296-900-16030 Post the violation correction hearing decision.

You must:

- Post a complete, unedited copy of the order affirming or modifying the correction date as soon as it is received, along with the applicable citation.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-16030, filed 2/21/06, effective 6/1/06.]

WAC 296-900-170 Appeals.

Summary:

Employer responsibility:

To post information regarding appeals in a conspicuous area where notices to employees are normally posted:

Appealing a citation and notice (C&N)

WAC 296-900-17005.

Appealing a corrective notice of redetermination (CNR)

WAC 296-900-17010.

Posting appeals

WAC 296-900-17015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-170, filed 2/21/06, effective 6/1/06.]

WAC 296-900-17005 Appealing a citation and notice (C&N).

IMPORTANT:

- Employers may appeal C&Ns.
- Employees of the cited employer, or their designated representatives, may only appeal correction dates.

You must:

- When appealing, submit a written appeal to WISHA within fifteen working days after receiving the C&N. Include the following information:

- Business name, address, and telephone number.

- Name, address, and telephone number of any employer representative.

- C&N number.

- What you believe is wrong with the C&N and any related facts.

- What you believe should be changed, and why.

- A signature and date.

- Send appeals in any of the following ways:

- Mail to:

[Title 296 WAC—p. 3195]

Assistant Director for WISHA Services

Attn: WISHA Appeals

P.O. Box 44604

Olympia, WA 98504-4604

– Fax to: 360-902-5581

– Take to any department service location.

Reference: See the resources section of the Safety and health core rules, chapter 296-800 WAC, for a list of the local offices.

Note: The postmark is considered the submission date of a mailed request.

Employees or their designated representatives must:

- When appealing C&N correction dates, submit a written request to WISHA within fifteen working days after the C&N is received. Include the following information:

- Name of employee, address, telephone number.

- Name, address, and telephone number of any designated representative.

- C&N number.

- What is believed to be wrong with the correction date.

- A signature and date.

- Send appeals in any of the following ways:

- Mail to:

Assistant Director for WISHA Services

Attn: WISHA Appeals

P.O. Box 44604

Olympia, WA 98504-4604

– Fax to: 360-902-5581

– Take to any L&I service location.

Reference: See the resources section of the Safety and health core rules, chapter 296-800 WAC, for a list of the local offices.

Note: The postmark is considered the submission date of a mailed request.

What to expect from WISHA:

- After receiving an appeal, WISHA will do one of the following:

- Reassume jurisdiction over the C&N, and notify the person who submitted the appeal.

- Forward the appeal to the board of industrial insurance appeals. The board will send the person submitting the appeal a notice with the time and location of any board proceedings.

Definition:

Reassume jurisdiction means that WISHA has decided to provide the employer with an informal conference to discuss their appeal.

- When reassuming jurisdiction over a C&N, WISHA has thirty working days after receiving the appeal to review it, gather more information, and decide whether to make changes to the C&N. The review period:

- Begins the first working day after the appeal is received. For example, if an appeal is received on Friday, the thirty days will begin on the following Monday unless it is a state holiday.

- May be extended fifteen additional working days, if everyone involved agrees and signs an extension agreement within the initial thirty-day period.

- Will include an informal conference about the appeal that is an opportunity for interested parties to:

- Briefly explain their positions.

- Provide any additional information they would like WISHA to consider when reviewing the C&N.

Note: WISHA might reassume jurisdiction over a C&N to do any of the following:

- Provide an employer and affected employees an opportunity to present relevant information, facts, and opinions during an informal conference.

- Give an employer, affected employees, and the department an opportunity to resolve appeals rapidly and without further contest, especially in routine compliance cases.

- Educate employers about the C&N, the WISHA appeals process, and WISHA compliance.

- Review citations, penalties, and correction dates. Although informal, the conference is an official meeting and it may be either partially or totally recorded. Participants will be told if the conference is recorded.

- On or before the end of the thirty working day review period, WISHA will issue a corrective notice of redetermination that:

- Reflects any changes made to the C&N.

- Is sent to the employer, employees, and employee representatives participating in the appeal process.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-17005, filed 2/21/06, effective 6/1/06.]

WAC 296-900-17010 Appealing a corrective notice of redetermination (CNR).

IMPORTANT:

- Employers may appeal CNRs.

- Employees who could be affected by a CNR, or their designated representatives, may appeal correction dates.

Employees or their representatives must:

- Appeal a CNR, if desired, in writing within fifteen working days after it was received to the:

Board of Industrial Insurance Appeals

2430 Chandler Court S.W.

P.O. Box 42401

Olympia, WA 98504-2401

- Send a copy of the appeal to the CNR to the:

Assistant Director for WISHA Services

Attn: WISHA Appeals

P.O. Box 44604

Olympia, WA 98504-4604

– Fax to: 360-902-5581

– Take to any department service location.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-17010, filed 2/21/06, effective 6/1/06.]

WAC 296-900-17015 Posting appeals.

You must:

- Immediately post notices and information related to any appeal in the same place where WISHA citation and notices (C&Ns) are posted. These notices and information include:

- The notice of appeal, until the appeal is resolved.

- Notices about WISHA reassuming jurisdiction, and any extension of the review period until the end of review period.

- A notice of an informal conference until after the conference is held.

- A corrective notice of redetermination for as long as C&Ns are to be posted.

Reference: For C&N posting requirements, see Posting citation and notices, WAC 296-900-13015.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, § 296-900-17015, filed 2/21/06, effective 6/1/06.]

WAC 296-900-175 Safety and health investment projects.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-175, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17505 Scope and purpose. (1) The program for safety and health investment projects (SHIP) was established during the 2007 legislative session to provide funding for safety and health projects for workplaces covered by the medical aid fund.

(2) Priority is given to projects involving accident prevention through cooperation between employers and employees or their representatives.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17505, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17510 Definitions. (1) **Applicant** means the entity submitting an application and formal proposal for a safety and health investment projects award.

(2) **Department** means the department of labor and industries.

(3) **Department staff** means those individuals within the department of labor and industries who assist with project development and monitor recipient performance.

(4) **Funding cycle** means how frequently safety and health investment project awards are given.

(5) **Medical aid fund** refers to industrial insurance funds established in chapter 51.44 RCW.

(6) **Milestones** means critical points of achievement for the safety and health investment projects, showing progress toward project completion. Milestones are interim accomplishments that define project progress.

(7) **Product** means any of the following that are developed as the result of a safety and health investment project: Written materials; manufactured materials; designs; equipment; programs; services; workplace changes; or other results of any kind, tangible or intangible.

(8) **Recipient** means an agency, firm, organization, individual or other legal entity receiving project award funds from the safety and health investment projects.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17510, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17515 Eligibility. (1) All projects must address the needs of employers and employees covered by the medical aid fund.

(2) Projects must have clearly identified:

(a) Objectives and work plan;

(b) Products; and

(c) Criteria for evaluating the success of the project.

(3) Awards may be granted to any agency, firm, organization, individual or other legal entity such as, but not limited to, the following:

(a) Trade associations;

(b) Business associations;

(c) Employers (including but not limited to private, public, nonprofit, or self-insured employers if collaborating with medical aid fund employers);

(d) Employees;

(e) Labor unions;

(f) Employee organizations;

(g) Joint labor and management groups;

(h) Educational institutions in collaboration with state fund employer and employee representatives;

(i) Others deemed appropriate by L&I.

(4) SHIP funds may not be used for:

(a) Lobbying or political activities;

(b) Supporting, opposing, or developing legislative or regulatory initiatives;

(c) Any activity not designed to reduce workplace injuries, illnesses, or fatalities; or

(d) Reimbursing employers for the normal costs of complying with safety and health rules.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17515, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17520 Advisory committee. (1) The department will create an advisory committee representing the broadest spectrum of interests, appointed by the assistant director of the division of occupational safety and health (DOSH), and consisting of:

(a) Three employer representatives;

(b) Three employee representatives;

(c) Two members with expertise in safety and health selected by the assistant director; and

(d) One nonvoting member from DOSH who will serve as committee chair.

(2) Members are appointed to serve three-year renewable terms. At the request of the assistant director of DOSH, employer and employee organizations may make recommendations for advisory committee membership.

(3) The advisory committee will provide the following assistance:

(a) Make recommendations to DOSH regarding funding priority areas;

(b) Recommend applications that merit funding to the assistant director of DOSH;

(c) Keep records of the committee's decisions;

(d) Make recommendations to DOSH regarding individual project expenditure limitations and appropriate indirect costs;

(e) Develop and maintain communication networks in the community.

(4) Committee members will disclose to the committee any potential conflicts of interest with specific project applications, whether direct or indirect. The committee will determine whether a member's connection to a project should result in recusal from voting on the project. The committee's decision and reasons supporting the decision will be documented in the meeting minutes.

(5) Committee members will not disclose any information about applications to anyone not authorized access to the information by law or regulation. All applications and other material submitted under this program are confidential and are not open to public inspection. See RCW 49.17.210.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17520, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17525 Application. (1) Interested applicants may download an application packet from the web site, or for a printed application, contact:

Safety and Health Investment Projects
P.O. Box 44640
Olympia, WA 98504-4640
e-mail: INVEST@lni.wa.gov
web site: SafetyGrants.lni.wa.gov

(2) Applicants must complete the entire application to be considered for project funding. Incomplete applications will not be considered for funding. Applications are accepted throughout the year, and funding is awarded throughout each six-month funding cycle. Application deadlines are posted at SafetyGrants.lni.wa.gov. Applications received after posted deadlines will not be considered for the current funding cycle. However, they may be considered for a subsequent funding cycle at the discretion of the assistant director of DOSH, or designee.

(3) Some funding cycles may include limitations on the maximum amount that will be awarded for any proposal. Limitations, if any, will be posted at SafetyGrants.lni.wa.gov or in current application packets.

(4) All products developed as a result of an approved SHIP project belong in the public domain and their dissemination and use shall not be restricted in any way. Such products may not be copyrighted, patented, claimed as trade secrets, or otherwise restricted in any other way. The department retains the right to publish or otherwise disseminate these products as the department in its sole discretion deems appropriate.

(5) The department will not use information contained in submitted application packets as the basis for the initiation of compliance inspections or the issuance of citations and/or penalties to applicants, under WISHA, chapter 49.17 RCW. However, employers are not exempt from compliance inspections initiated for other reasons because they submitted an application packet.

(6) Projects may include, but are not limited to:

- (a) The development of technical innovation and engineering controls;
- (b) Best practices;
- (c) Education and training;
- (d) Priorities identified by DOSH in cooperation with the WISHA advisory committee; and

(e) Other projects that foster accident prevention through cooperation between employers and employees or their representatives.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17525, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17530 Approval. (1) DOSH will review applications to make sure they meet application criteria, and forward those that meet the criteria to the advisory committee.

(2) The advisory committee will:

- (a) Review project applications;
- (b) Prioritize and select, by a majority vote of the eligible voting members, those projects recommended for funding, with a minority report allowed;
- (c) Forward project recommendations to the assistant director of DOSH for final approval.

(3) The assistant director of DOSH will make a final decision on project approval and funding.

(a) Approval will be based on the ability of the project to foster accident prevention through cooperation between employers and employees or their representatives; the likelihood of reducing workplace injuries, illnesses, or fatalities; and the ability of the applicant to achieve project goals. Assessment will be based on an objective scoring method developed by the department.

(b) If the assistant director rejects an application the committee has recommended for funding or approves an application the committee recommended for denial, the assistant director will provide a written explanation to the advisory committee. The advisory committee may request reconsideration of such decision by a majority vote of the voting members, with a minority report allowed. The assistant director will reconsider the decision in consultation with the director.

(4) Applicants will be notified in writing when their application is:

- (a) Approved for funding;
- (b) Not approved, including the reason it was not funded;

or

- (c) Held over for a subsequent funding cycle.

(5) Upon approval of an application and before project activities begin, the department and the applicant will enter into a written agreement. The agreement:

- (a) Includes the approved application packet in its entirety, which will outline the project scope and timeline, activities, work plan, milestones, and products; and
- (b) Spells out the terms and conditions governing the project, project participants, and the products resulting from the project.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17530, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17535 Monitoring. Department staff will monitor projects for compliance with award terms and achievement of approved project milestones and/or outcomes.

(1) Milestones are intermediate targets or goals that are defined in the project applications. Ongoing funding will be tied to the achievement of approved milestones (including but not limited to accounting for grant funds).

(2) Outcomes are the final products that will be produced by the project.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17535, filed 1/8/08, effective 2/8/08.]

WAC 296-900-17540 Suspension or revocation of funding. (1) The assistant director of DOSH may suspend or revoke funding for a project if advised by the SHIP program or the advisory committee that:

- (a) The recipient is not in compliance with project award terms;
- (b) There are unapproved funding expenditures; or
- (c) There are compelling and substantive reasons.
- (2) Any suspension or revocation will:
- (a) Be in writing and delivered by either personal service or certified mail. The suspension or revocation will be effective upon service or five days after being mailed by certified mail;
- (b) Include the reasons for suspension or revocation; and
- (c) Be subject to appeal as described in chapter 34.05 RCW, the Administrative Procedure Act and contain an explanation of how to appeal the department's decision.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, 49.17.210, and 2007 c 522. 08-03-025, § 296-900-17540, filed 1/8/08, effective 2/8/08.]

WAC 296-900-180 Definitions.

Affected employees

Employees who could be one of the following:

- Exposed to unsafe conditions or practices.
- Affected by a request for, or change in, a variance from WISHA requirements.

Assistant director

The assistant director for the WISHA services division at the department of labor and industries or his/her designated representative.

Board

The board of industrial insurance appeals.

Certification

An employer's written statement describing when and how a citation violation was corrected.

Citation

See citation and notice.

Citation and notice

Issued to an employer for any violation of WISHA safety and health requirements. Also known as a citation and notice of assessment, or simply citation.

Correction action plans

Your written plans for correcting a WISHA violation.

Correction date

The date by which you must meet the WISHA requirements listed on either a:

- Citation and notice (C&N);

OR

- A Corrective notice of redetermination (CNR).

Corrective notice of redetermination (CNR)

Issued by WISHA after WISHA has reassumed jurisdiction over an appealed citation and notice.

Designated representative

Any of the following:

- Any individual or organization to which an employee gives written authorization.
- A recognized or certified collective bargaining agent without regard to written employee authorization.
- The legal representative of a deceased or legally incapacitated employee.

Documentation

Material that an employer submits to prove that a correction is completed. Documentation includes, but is not limited to, photographs, receipts for materials and labor.

(2009 Ed.)

Failure to abate (FTA)

A violation that was cited previously which the employer has not fixed.

Final order

Any of the following (unless an employer or other party files a timely appeal):

- Citation and notice.
- Corrective notice of redetermination.
- Decision and order from the board of industrial insurance appeals.
- Denial of petition for review from the board of industrial insurance appeals.
- Decision from a Washington state superior court, court of appeals, or the state supreme court.

Final order date

The date a final order is issued.

Hazard

Any condition, potential or inherent, which can cause injury, death, or occupational disease.

Imminent danger violation

Any violation resulting from conditions or practices in any place of employment, which are such that a danger exists which could reasonably be expected to cause death or serious physical harm, immediately or before such danger can be eliminated through the enforcement procedures otherwise provided by the Washington Industrial Safety and Health Act.

Interim order

An order allowing an employer to vary from WISHA requirements until a permanent or temporary variance is granted.

Monetary penalties

Fines assessed against an employer for violations of safety and health requirements.

Movable equipment

A hand-held or nonhand-held machine or device that:

- Is powered or nonpowered.
- Can be moved within or between worksites.

Must

Means mandatory.

Permanent variance

Allows an employer to vary from WISHA requirements when an alternate means, that provides equal protection to workers, is used.

Probability rate

A number that describes the likelihood of an injury, illness, or disease occurring, ranging from 1 (lowest) to 6 (highest).

Reassume jurisdiction

WISHA has decided to provide the employer with an informal conference to discuss their appeal.

Repeat violation

A violation where the employer has been cited one or more times previously for a substantially similar hazard, and the prior violation has become a final order no more than three years prior to the employer committing the violation being cited.

Serious violation

When there is a substantial probability that death or serious physical harm could result from one of the following in the workplace:

- A condition that exists.
- One or more practices, means, methods, operations, or processes that have been adopted or are in use.

Temporary variance

Allows an employer to vary from WISHA requirements under certain circumstances.

Variance

Provides an approved alternative to WISHA requirements to protect employees from a workplace hazard. Variances can be permanent or temporary.

WAC

An acronym for Washington Administrative Code, which are rules developed to address state law.

WISHA

This is an acronym for the Washington Industrial Safety and Health Act.

You

An employer.

Sample Tag for Cited Moveable Equipment

<p>WARNING: EQUIPMENT HAZARD</p> <p>Cited by the Department of Labor and Industries</p>	<p>Equipment cited:</p> <hr/> <hr/> <p>Hazard cited:</p> <hr/> <hr/> <p>For detailed information, see L&I citation posted at:</p> <hr/> <hr/>
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<p>WARNING: EQUIPMENT HAZARD</p> <p>See reverse side</p>	<p>This tag or similar tag or a copy of the citation must remain attached to this equipment until the criteria for removal in WAC 296-900-15035 are met.</p> <p>The tag/citation copy must not be altered, defaced, or covered by other material.</p>
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[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. 06-06-020, § 296-900-180, filed 2/21/06, effective 6/1/06.]