

**WSR 07-05-014
PERMANENT RULES
DEPARTMENT OF
SOCIAL AND HEALTH SERVICES**

(Aging and Disability Services Administration)
[Filed February 9, 2007, 4:03 p.m., effective March 12, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The division of developmental disabilities has received approval from the federal Centers for Medicare and Medicaid Services (CMS) to increase the dollar maximum for certain services in the basic and basic plus waivers within the home and community based service (HCBS) waivers.

Citation of Existing Rules Affected by this Order: Amending WAC 388-845-0205 and 388-845-0210.

Statutory Authority for Adoption: RCW 71A.12.030, 71A.12.120.

Adopted under notice filed as WSR 07-02-065 on December 29, 2006.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 2, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 2, Repealed 0.

Date Adopted: January [February] 8, 2007.

Jim Schnellman, Chief
Office of Administrative Resources

| BASIC WAIVER | SERVICES | YEARLY LIMIT |
|--------------|---|--|
| | Speech, hearing and language services Staff/family consultation and training Transportation | |
| | EMPLOYMENT/DAY PROGRAM SERVICES: Community access Person-to-person Prevocational services Supported employment | May not exceed \$((6500)) <u>6631</u> per year |
| | Sexual deviancy evaluation | Limits are determined by DDD |
| | Respite care | Limits are determined by respite assessment |
| | Personal care | Limits are determined by CARE assessment |
| | MENTAL HEALTH STABILIZATION SERVICES: Behavior management and consultation Mental health crisis diversion bed services Skilled nursing Specialized psychiatric services | Limits are determined by a mental health professional or DDD |
| | Emergency assistance is only for services contained in the Basic waiver | \$6000 per year; Preauthorization required |

AMENDATORY SECTION (Amending WSR 06-01-024, filed 12/13/05, effective 1/13/06)

WAC 388-845-0205 Basic waiver services.

| BASIC WAIVER | SERVICES | YEARLY LIMIT |
|--------------|---|---|
| | AGGREGATE SERVICES: Behavior management and consultation Community guide Environmental accessibility adaptations Occupational therapy Physical therapy Specialized medical equipment/supplies Specialized psychiatric services | May not exceed \$((1425)) <u>1454</u> per year on any combination of these services |

AMENDATORY SECTION (Amending WSR 06-01-024, filed 12/13/05, effective 1/13/06)

WAC 388-845-0210 Basic Plus waiver services.

| BASIC PLUS WAIVER | SERVICES | YEARLY LIMIT |
|-------------------|--|---|
| | AGGREGATE SERVICES: Behavior management and consultation Community guide Environmental accessibility adaptations Occupational therapy Physical therapy Skilled nursing Specialized medical equipment/supplies | May not exceed \$((6070)) <u>6192</u> per year on any combination of these services |

| BASIC PLUS WAIVER | SERVICES | YEARLY LIMIT |
|-------------------|---|--|
| | Specialized psychiatric services Speech, hearing and language services Staff/family consultation and training Transportation | |
| | EMPLOYMENT/DAY PROGRAM SERVICES: Community access Person-to-person Prevocational services Supported employment | May not exceed \$(9500) 9691 per year |
| | Adult foster care (adult family home) Adult residential care (boarding home) | Determined per department rate structure |
| | MENTAL HEALTH STABILIZATION SERVICES: Behavior management and consultation Mental health crisis diversion bed services Skilled nursing Specialized psychiatric services | Limits determined by a mental health professional or DDD |
| | Personal care | Limits determined by the CARE assessment |
| | Respite care | Limits are determined by respite assessment |
| | Sexual deviancy evaluation | Limits are determined by DDD |
| | Emergency assistance ((#)) is only for services contained in the Basic Plus waiver | \$6000 per year; Preauthorization required |

**WSR 07-05-016
PERMANENT RULES
GAMBLING COMMISSION**

[Order 470—Filed February 12, 2007, 12:58 p.m., effective March 15, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The rules were amended to no longer require house-banked operators to have accounting staff perform

some daily accounting functions on weekends and/or holidays. Instead, they would perform these functions on the day following the weekend or holiday. Wording was added to each of the mentioned rules as follows: "Provided, if the accounting department does not work on weekends or federal or state holidays, they must complete these duties on the next day that they work."

Citation of Existing Rules Affected by this Order: Amending WAC 230-40-835, 230-40-865, 230-40-870, and 230-40-885.

Statutory Authority for Adoption: RCW 9.46.070.

Adopted under notice filed as WSR 07-01-057 on December 15, 2006.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 4, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 4, Repealed 0.

Date Adopted: February 12, 2007.

Susan Arland
Rules Coordinator

AMENDATORY SECTION (Amending Order 383, filed 4/14/00, effective 5/15/00)

WAC 230-40-835 Accounting controls for cashier's cage. Licensees required to maintain a cashier's cage shall adhere to the following controls to ensure proper accountability for funds. The following restrictions and procedures apply to cashiers and the cage:

(1) Cashiers shall be responsible for at least the following functions:

(a) Receive cash, checks, and gaming chips from patrons for check consolidations, total or partial redemptions or substitutions;

(b) Receive gaming chips from patrons in exchange for cash;

(c) Receive traveler's checks and other cash equivalents (including money orders, certified checks, and cashier's checks) from patrons in exchange for currency or coin;

(d) Receive documentation with signatures thereon, required to be prepared for the effective segregation of functions in the cashier's cage;

(e) Receive from security department personnel, chips and coins removed from gaming tables in exchange for the issuance of a credit;

(f) Receive from security department members, requests for fills in exchange for the issuance of a fill slip and the disbursement of gaming chips;

(g) Receive cash or chips from the count room;

(h) At the end of each shift, the cashiers assigned to the outgoing shift shall count each cage inventory item and record on a cashier's count sheet the face value of each inventory item and the total of the opening and closing inventories. The total closing inventory shall be reconciled with the total opening inventory;

(i) Prepare the overall cage reconciliation and accounting records; and

(j) Perform such other functions as necessary to ensure proper accountability of funds and chips consistent with these standards.

(2) Signatures attesting to accuracy shall, at a minimum, be contained on the following:

(a) Cashier's count sheet; and

(b) Cage inventory countsheet, which includes the signatures of the cashiers assigned to the incoming and outgoing shifts.

(3) At the conclusion of the daily gaming activity, copies of the cashier's count sheet, cage inventory count sheet and related documentation shall be forwarded to the accounting department for agreement of opening and closing inventories, and agreement of amounts thereon to other forms, records and documentation for recording of transactions; Provided, That if the accounting department does not work on weekends or federal or state holidays, the triplicate copy of the fill/credit slip must be removed and sent to accounting on the next day that the accounting department works.

AMENDATORY SECTION (Amending Order 403, filed 6/19/01, effective 7/20/01)

WAC 230-40-865 Distributing chips and coins to tables—Requests and fills—House-banking. Gaming chips and coins shall only be distributed to gaming tables with adequate security and in a manner that ensures proper control and accountability. The following restrictions and procedures apply:

Fill slip.

(1) Each "fill slip" shall be serially prenumbered three-part forms, which provide an original and duplicate copies as necessary: Provided, That the director may authorize use of a computer based accounting system which includes a nonrepeating sequential numbering system that is consistent with the controls and safeguards of the manual system. Requests for fills shall be a two-part form which provides an original and duplicate copy. These forms shall be controlled in the following manner:

(a) Each series of fill slips received by a licensee shall be controlled and accounted for separately;

(b) Request for fills shall be secured in such a manner that only a gaming operations supervisor has access;

(c) Fill slips shall be secured by the cashier's cage;

(d) These forms shall be used in sequential order and all forms accounted for; and

(e) The preparer shall void forms that have errors by marking "VOID" on both the original and duplicate copies and sign the form.

Request for fill.

(2) A "request for fill" shall be prepared by the gaming operation supervisor to authorize the cage to prepare a "fill slip" for the distribution of chips and coins to gaming tables. The original and duplicate of the request for fill shall include the following entries:

(a) The date, time, and shift of preparation;

(b) The denomination of gaming chips or coins to be distributed to the gaming tables;

(c) The total amount of each denomination of gaming chips or coins to be distributed to the gaming tables;

(d) The game and table number to which the gaming chips or coins are to be distributed;

(e) The signature of the gaming operation supervisor; and

(f) The signature of the security department employee that distributed the chips and coins.

Transporting requests.

(3) After preparation of the request for fill, the original of such request shall be transported directly to the cashier's cage by security.

Duplicate copies of the request.

(4) The duplicate copy of the request for fill shall be placed by the dealer or floor supervisor in public view on the gaming table to which the gaming chips or coins are to be received. Such duplicate copy shall not be removed until the chips and coins are received, at which time the request for fill and fill slip are deposited in the drop box.

Fill slip procedures.

(5) A fill slip shall be prepared by a cashier whenever gaming chips or coins are distributed to the gaming tables from the cashier's cage. The following procedures and requirements shall be observed with regard to fill slips:

(a) Each series of fill slips shall be in triplicate form to be kept in a locked dispenser that will permit an individual fill slip in the series and its copies to be written upon simultaneously while still located in the dispenser, and that will discharge the original and duplicate while the triplicate remains in a continuous, unbroken form in the dispenser: Provided, That if a computer system is used, which includes a nonrepeating sequential numbering system, the controls and safeguards of the manual system must be present; and

(b) Access to the triplicate copy of the form shall be maintained and controlled at all times by an accounting department employee responsible for controlling and accounting for the unused supply of fill slips, placing fill slips in the dispensers, and removing from the dispensers, each day, the triplicate copies remaining therein: Provided, That access will be permitted to an employee of the security department for the sole purpose of clearing any paper jams in the dispenser and if the accounting department does not work on weekends or federal or state holidays, they must complete these duties on the next day that they work.

Information to be recorded on fill slip.

(6) On the original, duplicate, and triplicate copies of the fill slip, the preparer shall record, at a minimum, the following information:

- (a) The denomination of the gaming chips or coins being distributed;
 - (b) The total amount of each denomination of gaming chips or coins being distributed;
 - (c) The total amount of all denominations of gaming chips or coins being distributed;
 - (d) The game and table number to which the gaming chips or coins are being distributed;
 - (e) The date and shift during which the distribution of gaming chips or coins occurs; and
 - (f) The signature of the preparer.
- (7) Upon preparation, the time of preparation of the fill slip shall be recorded, at a minimum, on the original and the duplicate.

Employee verification.

(8) All gaming chips or coins distributed to the gaming tables from the cashier's cage shall be transported directly by a security department employee. This employee shall verify the request for fill to the amount of the fill slip and sign the original of the request for fill, which is maintained at the cashier's cage, before transporting the gaming chips or coins and the original and duplicate of the fill slip for signature.

Signatures required on fill slips.

(9) Signatures attesting to the accuracy of the information contained on the original and duplicate of the fill slips shall, at a minimum, be those of the following personnel at the following times:

- (a) The cashier upon preparation;
- (b) The security department employee transporting the gaming chips or coins to the gaming table upon receipt from the cashier of gaming chips or coins;
- (c) The dealer assigned to the gaming table upon receipt; and
- (d) The gaming operation supervisor assigned to the gaming table upon receipt of the gaming chips or coins at such table.

Transporting chips and coins.

(10) Upon meeting the signature requirements, the security department employee that transported the gaming chips or coins and the original and duplicate copies of the fill slip to the table, shall observe the following:

- (a) The dealer shall immediately place the duplicate fill slip and duplicate request for fill in the drop box attached to the gaming table to which the gaming chips or coins were transported; and
- (b) The security department employee shall then return the original fill slip to the cashier's cage where the original fill slip and request for fill shall be maintained together and controlled by cage employees.

VOID procedures.

(11) The original and duplicate "VOID" fill slips, the original request for fill, and the original fill slip shall be forwarded as follows:

- (a) The count team, as described in WAC 230-40-885(2), for agreement with the duplicate copy of the fill slip and duplicate copy of the request for fill removed from the drop box after which the original and duplicate copy of the request for fill and the original and duplicate copy of the fill slip shall be forwarded to the accounting department for agreement, on a daily basis, with the triplicate; or
- (b) The accounting department for agreement, on a daily basis, with the duplicate fill slip and duplicate copy of the request for fill removed from the drop box and the triplicate; Provided, if the accounting department does not work on weekends or federal or state holidays, they must complete these duties on the next day that they work.

Transferring chips.

(12) Transfers of gaming chips from one gaming table to another gaming table is prohibited. All transfers of gaming chips shall be to the cashier's cage.

AMENDATORY SECTION (Amending Order 403, filed 6/19/01, effective 7/20/01)

WAC 230-40-870 Removing chips and coins from tables—Requests and credits—House-banking. All transfers of gaming chips and coins shall be closely controlled and documented in a manner that ensures accountability. Gaming chips and coins shall only be removed from gaming tables with adequate security. The following restrictions and procedures apply:

Credit slip.

(1) Each "credit slip" shall be serially prenumbered three-part forms, which provide an original and duplicate copies as necessary: Provided, That the director may authorize use of a computer based accounting system which includes a nonrepeating sequential numbering system that is consistent with the controls and safeguards of the manual system. Requests for credits shall be a two-part form which provides an original and duplicate copy. These forms shall be controlled in the following manner:

- (a) Each series of credit slips received by a licensee shall be controlled and accounted for separately;
- (b) Request for credits shall be secured in such a manner that only a gaming operations supervisor has access;
- (c) Credit slips shall be secured by the cashier's cage;
- (d) These forms shall be used in sequential order and all forms accounted for; and
- (e) The preparer shall void forms that have errors by marking "VOID" on both the original and duplicate copies and sign the form.

Request for credit.

(2) A "request for credit" shall be prepared by the gaming operation supervisor to authorize the cage to prepare a credit slip for the removal of gaming chips and coins to the

cashier's cage. The original and duplicate of the request for credit shall include the following entries:

- (a) The date, time and shift of preparation;
- (b) The denomination of gaming chips or coins to be removed from the gaming table;
- (c) The total amount of each denomination of gaming chips or coins to be removed from the gaming table;
- (d) The game and table number from which the gaming chips or coins are to be removed; and
- (e) The signature of the gaming operation supervisor and dealer assigned to the gaming table from which gaming chips or coins are to be removed.

Employee verification.

(3) Immediately upon preparation of a request for credit and transfer of gaming chips or coins to a security department employee, a gaming operation supervisor shall obtain on the duplicate copy of the request for credit the signature of the security department member to whom the gaming chips and coins were transferred. The dealer shall place the duplicate copy in public view on the gaming table from which the gaming chips or coins were removed. Such request for credit shall not be removed until a credit slip is received from the cashier's cage at which time the request for credit and credit slip are deposited in the drop box.

Transporting requests.

(4) The original of the request for credit and the gaming chips or coins removed from the gaming table shall be transported directly to the cashier's cage by the security department employee.

Credit slip procedures.

(5) A credit slip shall be prepared by the cashier whenever gaming chips or coins are removed from the gaming tables to the cashier's cage. The following procedures and requirements shall be observed with regard to credit slips:

(a) Each series of credit slips shall be a three-part form and shall be inserted in a locked dispenser that will permit an individual slip in the series and its copies to be written upon simultaneously while still locked in the dispenser, and that will discharge the original and duplicate while the triplicate remains in a continuous, unbroken form in the dispenser: Provided, That if a computer system is used, which includes a nonrepeating sequential numbering system, the controls and safeguards of the manual system must be present; and

(b) Access to the triplicate copy shall be maintained and controlled at all times by an accounting department employee responsible for controlling and accounting for the unused supply of credit slips, placing credit slips in the dispensers, and removing from the dispensers, each day, the triplicates remaining therein: Provided, That access will be permitted to an employee of the security department for the sole purpose of clearing any paper jams in the dispenser and if the accounting department does not work on weekends or federal or state holidays, they must complete these duties on the next day that they work.

Information to be recorded on credit slip.

(6) On the original, duplicate and triplicate copies of a credit slip, the preparer shall record, at a minimum, the following information:

- (a) The denomination of the gaming chips or coins removed from the gaming table to the cashier's cage;
 - (b) The total amount of each denomination of gaming chips or coins removed from the gaming table to the cashier's cage;
 - (c) The total amount of all denominations of gaming chips or coins removed from the gaming table to the cashier's cage;
 - (d) The game and table number from which the gaming chips or coins were removed;
 - (e) The date and shift during which the removal of gaming chips or coins occurs; and
 - (f) The signature of the preparer.
- (7) Upon preparation, the time of preparation of the credit slip shall be recorded, at a minimum, on the original and duplicate copy.

Signatures required on credit slips.

(8) Signatures attesting to the accuracy of the information contained on the original and the duplicate copy of a credit slip shall be, at a minimum, the following personnel at the following times:

- (a) The cage cashier upon preparation;
- (b) The security department employee transporting the gaming chips or coins to the cashier's cage upon presentation to the cashier;
- (c) The dealer assigned to the gaming table upon receipt at such table from the security department employee; and
- (d) The gaming operation supervisor assigned to the gaming table upon receipt at such table.

Transporting chips and coins.

(9) Upon meeting the signature requirements, the security department employee transporting the original and duplicate copies of the credit slip to the gaming table, shall observe the following:

- (a) The dealer shall immediately place the duplicate copies of the credit slip and request for credit in the drop box attached to the gaming table from which the gaming chips or coins are removed; and
- (b) The security department employee shall expeditiously return the original credit slip to the cashier's cage where the original of the credit slip and request for credit shall be maintained together and controlled by cage employees.

VOID procedures.

(10) The original and duplicate copies of "VOID" credit slips, and the original request for credit and credit slip shall be forwarded to:

- (a) The count team, as described in WAC 230-40-885(2), for agreement with the duplicate credit slip and the duplicate request for credit removed from the drop box, after which the request for credit and the original and duplicate credit slip

shall be forwarded to the accounting department for agreement, on a daily basis, with the triplicate; or

(b) The accounting department for agreement, on a daily basis, with the duplicate copies of the credit slip and request for credit removed from the drop box and the triplicate.

AMENDATORY SECTION (Amending Order 403, filed 6/19/01, effective 7/20/01)

WAC 230-40-885 Count procedures—House-banking. Card rooms that offer house-banked card games shall ensure the contents of drop boxes are counted and recorded in a manner that ensures the proper accountability of all gaming chips, coins, and currency. The following restrictions and procedures apply:

Notification of count.

(1) The security department shall notify the surveillance department whenever the contents of drop boxes removed from gaming tables are to be counted and recorded, which, at a minimum, shall be once each gaming day.

Count team members.

(2) The opening, counting and recording of the contents of drop boxes shall be performed in the presence of and by those employees assigned by the gaming operation department for the conduct of the count. The count team must consist of three employees who shall not be in a position to perpetrate or conceal errors or irregularities in the normal course of his or her duties. Anyone both recording transactions and having access to the relevant assets is in a position to perpetrate errors or irregularities.

Securing the count room.

(3) Immediately prior to the opening of the drop boxes, the doors to the count room shall be securely locked and except as otherwise authorized, no person shall be permitted to enter or leave the count room, except during a normal work break or in an emergency, until the entire counting, recording, and verification process is completed.

Video and audio recording of the count.

(4) Immediately prior to the commencement of the count, one count team member shall notify the person assigned to the closed circuit television surveillance room in the establishment that the count is about to begin, after which such person shall make a video and audio recording of the entire counting process.

Count procedures.

(5) Contents of drop boxes shall not be mixed prior to counting and recording of each drop box. Procedures and requirements for conducting the count shall be the following:

(a) As each drop box is placed on the count table, one count team member shall announce, in a tone of voice to be heard by all persons present and to be recorded by the audio recording device, the game, table number, and shift marked thereon;

(b) The contents of each drop box shall be emptied and counted separately on the count table;

(c) Immediately after the contents of a drop box are emptied onto the count table, the inside of the drop box shall be held up to the full view of a closed circuit television camera, and shall be shown to at least one other count team member to confirm that all contents of the drop box have been removed, after which the drop box shall be locked and placed in the storage area for drop boxes;

(d) The contents of each drop box shall be segregated by a count team member into separate stacks on the count table by denominations of coin and currency and by type of form, record or document;

(e) Each denomination of coin and currency shall be counted separately, either manually or mechanically, by at least two count team members who shall place individual bills and coins of the same denomination on the count table in full view of the closed circuit television cameras, and such count shall be observed and the accuracy confirmed orally or in writing, by at least one other count team member;

(f) As the contents of each drop box is counted, one count team member shall record or verify on a master game report, by game, table number, and shift, the following information:

(i) The total amount of currency and coin counted, also known as the "drop";

(ii) The amount of the opener;

(iii) The amount of the closer;

(iv) The serial number and amount of each fill slip;

(v) The total amount of the fill;

(vi) The serial number and amount of each credit slip;

(vii) The total amount of all credit slips; and

(viii) The game win or loss.

(g) After the contents of each drop box have been counted and recorded, one member of the count team shall record by game and shift, on the master game report, the total amounts of currency and coin, table inventory slips, fill slips and credit slips counted, and win or loss, together with such additional information as may be required on the master game report by the licensee;

(h) Notwithstanding the requirements of (f) and (g) of this subsection, if the licensee's system of accounting and internal controls provides for the recording on the master game report of fill slips, credit slips, and table inventory slips by cage cashiers prior to the commencement of the count, a count team member shall compare the serial numbers and totals of the amounts recorded thereon to the fill slips, credit slips, and table inventory slips removed from the drop boxes: Provided, That the accounting department may complete the win/loss portions independently from the count team, if properly documented in the approved internal controls; and

(i) After completion and verification of the master game report, each count team member shall sign the report attesting to the accuracy of the information recorded thereon.

Concluding the count.

(6) Procedures and requirements at the conclusion of the count for each gaming shift shall be the following:

(a) All cash removed from each drop box after the initial count shall be presented in the count room by a count team member to a cashier who, prior to having access to the information recorded on the master game report and in the pres-

ence of the count team, shall recount, either manually or mechanically, the cash received;

(b) The top copy of the master game report, after signing, and the request for fills, the fill slips, the request for credits, the credit slips, and the table inventory slips removed from drop boxes, shall be transported directly to the accounting department and shall not be available to any cashier's cage personnel; and

(c) If the licensee's system of accounting and internal controls does not provide for the forwarding from the cashier's cage of the duplicate of the fill slips, credit slips, request for credits, request for fills, such documents recorded or to be recorded on the master game report shall be transported from the count room directly to the accounting department.

Accounting.

(7) The originals and copies of the master game report, request for fills, fill slips, request for credits, credit slips and table inventory slips shall on a daily basis, in the accounting department be:

(a) Compared for agreement with each other, on a test basis, by persons with no recording responsibilities and, if applicable, to triplicates or stored data;

(b) Reviewed for the appropriate number and propriety of signatures on a test basis;

(c) Accounted for by series numbers, if applicable;

(d) Tested for proper calculation, summarization, and recording;

(e) Subsequently recorded; ~~((and))~~

(f) Maintained and controlled by the accounting department; and

(g) Provided, if the accounting department does not work on weekends or federal or state holidays, they must complete these duties on the next day that they work.

WSR 07-05-029

PERMANENT RULES

PUBLIC WORKS BOARD

[Filed February 13, 2007, 4:01 p.m., effective March 16, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Make administrative changes to existing public works board rules.

Citation of Existing Rules Affected by this Order: Amending Title 399 WAC.

Statutory Authority for Adoption: RCW 43.155.040(4).

Adopted under notice filed as WSR 07-02-024 on December 22, 2006.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

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Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: February 13, 2007.

Marie Sullivan

Director of

Intergovernmental Relations

AMENDATORY SECTION (Amending WSR 01-09-014, filed 4/6/01, effective 5/7/01)

WAC 399-10-010 Organization and operation of the public works board. (1) The public works board is a thirteen-member board appointed by the governor under RCW 43.155.030.

(2) The governor appoints one of the general public members as chair. The board may elect other officers for terms deemed necessary.

(3) The department of community, trade, and economic development provides staff support and office space to the board ~~((at P.O. Box 48319, Olympia, Washington 98504-8319; phone (360) 725-5000)).~~

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-10-020 Board meetings. (1) The board holds regular meetings on the first Tuesday of each month, except in July. In the month of August meetings are held on the first and third Tuesdays. The board may chose to cancel or move regular meetings and notice of any changes will be as provided by law.

(2) Notice of the times and places of the regular meetings will be published annually in a January edition of the Washington State Register. A copy of the schedule of regular meetings may also be obtained upon request from the board.

(3) Special meetings of the board may be called at any time by the chair of the board or by a majority of the board members. Notice of such meetings will be as provided by law.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-10-030 Communications with the board. Any and all written communications with the board, including but not limited to requests for information or copies of agency records, or submittals of any nature, must be addressed to the public works board, in care of ~~((the chair, as stated in WAC 399-10-010(3)). The board's telephone number and internet address are listed in the same section.))~~.

Executive Director

Public Works Board

P.O. Box 48319

Olympia, WA 98504-8319

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-20-010 Purpose. This chapter is intended to ensure that the board complies with chapter ~~((42-17))~~ 42.56 RCW, the Public ~~(Disclosure)~~ Records Act, especially RCW ~~((42-17-250))~~ 42.56.030 through ~~((42-17-348))~~ 42.56-230 and RCW 42.56.510 through 42.56.580, which address disclosure of public records.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-20-020 Definitions. The following definitions shall apply to this chapter:

(1) "Public record" includes any writing containing information relating to the conduct of government or the performance of any governmental or proprietary function prepared, owned, used, or retained by ~~((the board))~~ any state or local agency regardless of physical form or characteristics. For the office of the secretary of the senate and the office of the chief clerk of the house of representatives, public records means legislative records as defined in RCW 40.14.100 and also means the following: All budget and financial records; personnel leave, travel, and payroll records; records of legislative sessions; reports submitted to the legislature; and any other record designated a public record by any official action of the senate or the house of representatives.

(2) "Writing" means handwriting, typewriting, printing, photostating, photographing, and every other means of recording any form of communication or representation, including, but not limited to, letters, words, pictures, sounds, or symbols, or combinations thereof, and all papers, maps, magnetic or paper tapes, photographic films and prints, motion picture, film and video recordings, magnetic or punched cards, discs, drums, diskettes, sound recordings, and other documents including existing data compilations from which information may be obtained or translated.

(3) "Board" means the public works board, created in chapter 43.155 RCW, and also refers to the board's officers and staff, where appropriate.

(4) "Department" means the department of community, trade, and economic development, and shall refer to the department's staff, where appropriate.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-20-030 Public records available. All public records of the board are deemed to be available for public inspection and copying, except as otherwise provided by RCW ~~((42-17-260 and 42-17-310))~~ 42.56.070 and 42.56.210 as now or hereafter amended, and by WAC 399-20-090.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-20-040 Public records officer. The board shall designate a staff member to be the public records officer. The public records officer shall be responsible for implementation of the board's rules and regulations regarding

inspection and copying of public records, and for ensuring compliance by the staff with the public records disclosure requirements of chapter ~~((42-17))~~ 42.56 RCW.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-20-070 Requests for public records. The Public ~~(Disclosure)~~ Records Act, chapter ~~((42-17))~~ 42.56 RCW, requires agencies to prevent unreasonable invasions of privacy, to protect public records from damage or disorganization, and to prevent excessive interference with essential functions of the board. Therefore, members of the public may inspect, copy, or obtain copies of public records ~~((if they comply with the following procedures:~~

~~(1) A request must be made in writing on the form adopted by the board which shall be in WAC 399-20-120. The form is available at the board's offices, or by writing or calling the board.~~

~~(2) The form must be completed in full and presented or mailed to the public records officer at the board's offices during normal office hours.~~

~~(3)) in compliance with chapter 42.56 RCW.~~ The public records officer will assist the member of the public in appropriately identifying the public record requested.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-20-090 Exemptions. (1) The public records officer will determine whether a requested record is exempt from disclosure under chapter ~~((42-17))~~ 42.56 RCW.

(2) If a requested record is determined to be exempt in part, the public records officer will delete the exempt portions of the record before making it available for inspection or copying. The public records officer will fully justify any deletion in writing.

(3) Whenever the public records officer denies a public records request, a written statement specifying the reason for the denial shall be provided.

(4) The Public Disclosure Act requires agencies to respond promptly to requests for public records. Within five business days after receiving a public records request, the public records officer must respond by either:

- (a) Providing the record;
- (b) Acknowledging the request and stating a reasonable estimate of the time the board will need to respond; or
- (c) Denying the request.

The board may require additional time to respond for reasons consistent with RCW ~~((42-17-320))~~ 42.56.520.

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|----------------|-------------------|
| WAC 399-20-050 | Records index. |
| WAC 399-20-120 | Adoption of form. |

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-30-010 Purpose. (1) The public works board ~~((makes low interest or interest free loans))~~ provides financial assistance to local governments from the public works assistance account or other sources to assist local governments in financing public works projects. The board may also pledge money to the repayment of all or a portion of the principal or interest on obligations issued by local governments to finance public works projects.

(2) The purpose of this chapter is to describe how local governments may apply to the board for financial assistance, and to provide for the review of the applications.

(3) The public works board provides technical assistance, including training and other services provided to local governments to help such local governments plan, apply, and qualify for loans and financing guarantees from the board, and help local governments improve their ability to plan for, finance, acquire, construct, repair, replace, rehabilitate, and maintain public facilities.

AMENDATORY SECTION (Amending WSR 01-09-014, filed 4/6/01, effective 5/7/01)

WAC 399-30-030 ((Loan and financing guarantee)) Applications for construction and preconstruction financial assistance. (1) Any local government in the state of Washington may apply for ~~((a loan or financing guarantee))~~ financial assistance to assist in financing critical public works projects.

(2) All applicants must meet the following conditions:

(a) Applicant cities and counties must be imposing a real estate excise tax under RCW 82.46.010(2) at a rate of at least one-quarter of one percent;

(b) Applicant local governments must have developed a long-term plan for financing public works needs as further described in the loan application package under "capital facilities planning."

(3) Direct costs eligible for public works ~~((loans))~~ financial assistance are those costs directly attributable to a specific project and include:

(a) Work done by employees of the applicant, or by other government employees under an interlocal agreement or contract limited to: Engineering, environmental review, design activities, acquisition of rights of way or property, construction inspection activities, roadway seal coating (if bids from private sector contractors have been solicited and compared with the interlocal agreement proposal), and the cleaning, sterilization, or bacteriological testing of water system components prior to public use.

(i) Salaries and wages (at actual or average rates) covering productive labor hours of the local government employees (excluding the administrative organization of the operating unit involved). The cost of services rendered by employees generally classified as administrative are considered a direct cost only when such employees are assigned for short periods of time to perform on a full-time basis the types of services described above and when similar procedures are followed;

(ii) Employee benefits relating to direct labor are considered a direct cost of construction projects. The following items may be included as employee benefits:

- (A) F.I.C.A. (Social Security) - employer's share;
- (B) Retirement benefits;
- (C) Hospital, health, dental, and other welfare insurance;
- (D) Life insurance;
- (E) Industrial and medical insurance;
- (F) Vacation;
- (G) Holiday;
- (H) Sick leave; and
- (I) Military leave and jury duty.

Employee benefits must be calculated as a percentage of direct labor dollars. The computation of predetermined percentage rates to be applied to current labor costs must be based on the average of total employee benefits and total labor costs for the prior fiscal year and adjusted by known current year variations.

(b) Contract engineering, planning, legal, and financial planning services. The board reserves the right to declare ineligible legal costs that are unreasonable and disproportionate to the project.

(c) Right of way acquisition costs including:

- (i) Purchase of land and easements acquired for and devoted to the project;
- (ii) Purchase of improvements;
- (iii) Adjustment or reestablishment of improvements;
- (iv) Salaries, expenses or fees of appraisers, negotiators or attorneys;
- (v) Removal or demolition of improvement;
- (vi) Other direct costs in connection with the acquisition.

Amounts received from the sale of excess real property or improvements and from any rentals will be reduced from the direct cost.

(d) Contract construction work.

(e) Direct vehicle and equipment charges at the actual rental cost paid for the equipment or, in the case of city or county-owned equipment, at the rental rates established by the local government's "equipment rental and revolving fund" following the methods prescribed by the division of municipal corporations. However, such costs must be charged on a uniform basis to equipment used for all projects regardless of the source of funding. Cities with a population of eight thousand or less not using type of fund are allowed the same rates as used by the department of transportation.

(f) Direct materials and supplies.

(i) An overhead rate or "loading factor" is not considered an appropriate additive to the actual cost of materials and supplies used on construction projects unless the factor is readily and properly supportable by the governmental unit's accounting records.

(ii) The cost, or reasonable estimate thereof, of materials paid for as contract estimate items, but not used, will be considered a reduction of direct costs. Any material that is salvaged in connection with a project will be assigned a reasonable value and considered a reduction of direct costs.

(iii) Wetland plants and other materials used for wetland planting, wildlife habitat, or fish habitat may be provided to a public or nonprofit organization without a reduction of direct costs.

(g) Interdepartmental charges for work performed by the local government for the benefit of specific construction projects is limited to direct costs plus an allocation of indirect costs based on ten percent of direct labor dollars, excluding employee benefits.

(h) Other direct costs incurred for materials or services acquired for a specific project are eligible for participation by public works loan funds and may include, but are not limited to such items as:

- (i) Public communication plans and activities;
- (ii) Telephone charges;
- (iii) Reproduction and photogrammetry costs;
- (iv) Video and photography for project documentation;
- (v) Computer usage;
- (vi) Printing and advertising; and
- (vii) Value engineering and performance audits.

(4) Other than work identified in subsection (3)(a) of this section, no government employee labor related costs, including force account work, are eligible for financing assistance or to be considered as local match under this chapter.

(5) Applications must be submitted ~~((in writing))~~ on forms provided by the board for the current funding cycle.

(6) A responsible official of the applicant jurisdiction must ~~((sign and verify))~~ certify each application for financial assistance. The official must also provide the board with additional materials or information in support of the application when requested by the board or its staff.

NEW SECTION

WAC 399-30-031 Applications for drinking water state revolving funds and water system acquisition and rehabilitation program financial assistance. The board, the department of health, and the department of community, trade, and economic development jointly administer the drinking water state revolving fund and follow the process described in chapter 246-296 WAC.

AMENDATORY SECTION (Amending WSR 99-09-020, filed 4/14/99, effective 5/15/99)

WAC 399-30-032 What are the requirements for meeting the Growth Management Act under RCW 43.155.070 ~~((1)-(4))~~? (1) "Compliance with the Growth Management Act" means that at the time of application for financial assistance:

(a) A local government that is required to or chooses to plan under RCW 36.70A.040 has adopted a comprehensive plan and development regulations in conformance with the requirements of chapter 36.70A RCW, after it is required that the comprehensive plan and development regulations be adopted; and

(b) The local government has not been found out of compliance by a growth management hearings board; or

(c) A growth management hearings board has found a local government in compliance with the requirements of chapter 36.70A RCW, after previously finding the local government was not in compliance.

(2) Exceptions based on "public health need" or "substantial environmental degradation" shall not be used as a

method to provide unrestricted access to financial assistance for local governments not in compliance with the law.

AMENDATORY SECTION (Amending WSR 99-09-020, filed 4/14/99, effective 5/15/99)

WAC 399-30-033 How will the board address a "public health need" under RCW 43.155.070 ~~((1)-(4))~~? "Public health need" means that a situation exists that causes or is about to cause a real, documented, acute public health need related to the state's air, water, or soil that contributes to injuries or deaths on public highways, or risk of a public health emergency due to contaminated domestic water, the failure of a sanitary sewer system, storm sewer system, or solid waste or recycling system; and the problem generally involves a discrete area including, but not limited to, a county, city, subdivision, or an area serviced by on-site wastewater disposal systems.

In determining whether a project is necessary to address a public health need, the board shall consider the following factors:

(1) For bridge or road projects - whether injury or fatal injury motor or nonmotorized vehicle traffic collisions at a specific site, roadway control section, or area have occurred at a rate to be in the top five percent of all such collisions within the applicant jurisdiction for the most recent three-year period; and whether the proposed public works project will eliminate or reduce the likelihood of such vehicle collisions. Applicants applying under this subsection may utilize jurisdiction-wide accident data, or break the data down into arterial or nonarterial roads, intersection or nonintersection, and for intersections, whether they are signalized or non-signalized.

(2) For domestic water projects - whether a drinking water system regulated by the department of health has been contaminated or is in imminent danger of being contaminated to the extent of creating a public health risk and; whether the proposed public works project will eliminate or reduce the chance of contamination.

(3) For sanitary sewer projects - whether failure of existing wastewater system or systems, including on-site systems, has resulted in contamination being present on the surface of the ground in such quantities and locations so as to create a potential for public contact; or whether contamination of a commercial or recreational shellfish bed so as to create a public health risk associated with the consumption of the shellfish, or contamination of surface water so as to create a public health risk associated with recreational use; and whether the proposed public works project will eliminate or reduce the danger of such public health risk.

(4) For storm sewer projects - whether failure of an existing storm sewer system has caused or is in imminent danger of causing localized flooding which disrupts critical public services; causes disease, illness, or attraction of rodents so as to create a public health risk; or contamination of a commercial or recreational shellfish bed so as to create a public health risk associated with the consumption of the shellfish, or contamination of surface water so as to create a public health risk associated with recreational use and; whether the proposed public works project will eliminate or reduce the danger of

localized flooding which disrupts critical public services or causes a public health risk.

(5) For solid waste or recycling projects - whether failure of an existing solid waste or recycling system has caused or is in danger of causing ground water contamination; causes disease, illness, or attraction of rodents so as to create a public health risk and; whether the proposed public works project will eliminate or reduce the danger of such public health risk.

(6) For all projects - whether more efficient operation of an existing system, changing public access, or modifying other regulatory standards (e.g., reduced speed limits, water conservation measures, rodent control, restricted shellfish harvesting) is likely to provide the same or similar level of resolution.

(7) For all projects - whether the public health problem is caused by failure to maintain or periodically replace, reconstruct, or rehabilitate a public works system.

(8) For all projects - other factors the board finds on the record are significant in light of facts and circumstances unique to the project.

(9) The factors enumerated in subsection (1) of this section must be addressed in a letter of request, with supporting documentation, addressed to the chair of the board and signed by the public official who signed the application for financial assistance.

(10) The factors enumerated in subsections (2) through (5) of this section must be addressed in a letter of request, with supporting documentation, addressed to the secretary of the Washington state department of health and signed by the public official who signed the application for financial assistance. A determination of a public health need may be made by the secretary, or designee, and addressed to the same public official. The board will consider the determination of the secretary. The board will also consider information presented on factors enumerated in subsections (6) through (8) of this section, which must be documented in a manner acceptable to the board.

AMENDATORY SECTION (Amending WSR 99-09-020, filed 4/14/99, effective 5/15/99)

WAC 399-30-034 How will the board address "substantial environmental degradation" as found in RCW 43.155.070 ((1)(d))? "Substantial environmental degradation" means a situation causes or is about to cause real, documented, substantial environmental degradation that contributes to violations of the state's air quality, water quality, or soil contaminate standards, interferes with beneficial uses of the air, water, or land, and the problem generally involves a discrete area including, but not limited to, a county, city, subdivision, or an area serviced by on-site wastewater disposal systems.

In determining whether a project is necessary to address substantial environmental degradation, the board shall consider the following factors:

(1) For bridge and road projects - whether motorized or nonmotorized vehicle traffic has caused substantial environmental degradation of the air, water, or soils of the state at the site for which a proposed public works project is the subject of a financial assistance application, and; whether the pro-

posed public works project will eliminate or reduce the chance of such vehicle-caused critical substantial environmental degradation.

(2) For domestic water projects - whether a drinking water system regulated by the department of health has caused substantial environmental degradation of the air, water, or soil of the state including, but not limited to: Causing disease or illness to humans, the attraction of rodents, or the killing of fish and shellfish that reside in the waters of the state, and; whether the proposed public works project will eliminate or reduce the chance of substantial environmental degradation.

(3) For sanitary sewer projects - whether failure of an existing wastewater system, including individual on-site systems, has caused substantial environmental degradation of the air, water, or soil of the state including, but not limited to: Causing disease or illness to humans, the attraction of rodents, or the killing of fish and shellfish that reside in the waters of the state, and; whether the proposed public works project will eliminate or reduce such substantial environmental degradation.

(4) For storm sewer systems - whether failure of an existing storm sewer system has caused substantial environmental degradation of the air, water, or soil of the state including, but not limited to: Causing disease or illness to humans, the attraction of rodents, or the killing of fish and shellfish that reside in the waters of the state, and; whether the proposed public works project will eliminate or reduce such substantial environmental degradation.

(5) For solid waste or recycling projects - whether failure of an existing solid waste system or recycling system has caused substantial environmental degradation of the air, water, or soil of the state including, but not limited to: Causing disease or illness to humans, the attraction of rodents, or the killing of fish and shellfish that reside in the waters of the state, and; whether the proposed public works project will eliminate or reduce such substantial environmental degradation.

(6) For all projects - whether more efficient operation of an existing system, changing public access, or modifying other regulatory standards (e.g., reduced speed limits, water conservation measures, rodent control, restricted shellfish harvesting) is likely to provide the same or similar level of resolution.

(7) For all projects - whether the substantial environmental degradation is caused by failure to maintain or periodically replace, reconstruct, or rehabilitate a public works system.

(8) For all projects - other factors the board finds on the record are significant in light of facts and circumstances unique to the project. Fish passage, water quality, or water quantity issues directly impacting salmonid fish survival in a watershed which is designated as a candidate for listing, proposed for listing, threatened listing, or endangered listing under the federal Endangered Species Act may be considered significant and unique to a project.

(9) The factors enumerated in subsections (1) through (5) of this section must be addressed in a letter of request, with supporting documentation, to the director of the Washington state department of ecology and signed by the public official

who signed the application for financial assistance. A determination of substantial environmental degradation may be made by the director or designee and addressed to the same public official. The board will consider the determination of the director. The board will also consider information presented on factors enumerated in subsections (6) through (8) of this section, which must be documented in a manner acceptable to the board.

AMENDATORY SECTION (Amending WSR 01-09-014, filed 4/6/01, effective 5/7/01)

WAC 399-30-040 Application evaluation procedure and board deliberations. (1) The board will consider and prioritize, or disapprove, all applications for (~~loans or financing guarantees~~) financial assistance at regular or special meetings of the board. The applicant will be notified of meetings at which its application will be considered.

(2) Applications will be evaluated and prioritized in accordance with the following procedures:

(a) Staff will log in all applications as received.

(b) Staff will review all applications for compliance with the minimum qualification requirements of WAC 399-30-030(2). Jurisdictions whose applications do not meet the minimum qualification requirements will be notified in writing of the disqualification.

(c) Staff will perform an evaluation of all applications which meet the requirements of WAC 399-30-030(2). Applications will be scored according to the number of points awarded for responses provided in the statements of local management efforts and project need.

(i) Not less than sixty points, of a one hundred point total, will be assigned to responses to questions identified in the application as relating to local management effort.

(ii) The remaining forty points will be assigned to responses to questions identified in the application as relating to project need.

(d) Staff will provide the board with evaluation and scoring of the applications. All application materials will be available to the board for their deliberations. The board will approve a ranked list of projects based on the information provided to them by the staff and the applications.

(e) The board may adjust the ranked list in consideration of the following factors:

(i) Geographical balance;

(ii) Economic distress;

(iii) Type of projects;

(iv) Type of jurisdiction;

(v) Past management practices of the applicant, including, but not limited to, late loan payments, loan defaults, audit findings, or inability to complete projects within the time allowed by loan agreement;

(vi) Other criteria that the board considers advisable.

(f) Staff will verify critical information on each project as required by the board.

(g) In order to ensure fairness to all jurisdictions with applications pending before the board, the board will not accept oral or written testimony from any applicant while deliberating loan priorities, other than specific responses to

information requests initiated by the board as provided in (h) of this subsection.

(h) The board may consult with officials of jurisdictions having projects submitted for funding on any issue it wishes to address.

(3) Applicants will be notified in writing of board decisions.

AMENDATORY SECTION (Amending WSR 01-09-014, filed 4/6/01, effective 5/7/01)

WAC 399-30-042 Application evaluation procedure and board deliberations—Capital planning support. (1) The board will consider and approve, or disapprove, all applications for capital planning support loans at regular or special meetings of the board. The applicant will be notified of meetings at which its application will be considered.

(2) Direct costs eligible for capital planning support are those costs directly attributable to: A systemic related plan, including capital facilities plans and capital improvement plans; comprehensive plans, environmental studies, including biological assessments or environmental assessments; or archeological and historic preservation activities.

(3) All applications will be evaluated in accordance with the following procedures:

(a) Staff will log in all applications as received.

(b) Staff will review all applications for compliance with the minimum qualification requirements of WAC 399-30-030(2). Jurisdictions whose applications do not meet the minimum requirements will be notified in writing of the disqualification.

(c) Staff will perform an evaluation of applications which meet the requirements of WAC 399-30-030(2) to determine if the application is consistent with the policies contained in the capital planning support loan application.

(d) Those applications found to be consistent with board policies may be recommended to the board for funding. All application materials will be available to the board for its deliberations. The board will approve a list of projects based on the information provided to it by the staff and the applications.

(e) The board may then adjust the list in consideration of the following factors:

(i) Geographical balance;

(ii) Economic distress;

(iii) Past management practices of the applicant, including, but not limited to, late loan payments, loan defaults, audit findings, or inability to complete projects within the time allowed by loan agreement;

(iv) Other criteria that the board considers advisable.

(f) Staff will verify critical information on each project as required by the board.

(g) The board may consult on any issue it wishes to address, with officials of jurisdictions having projects submitted for funding.

~~((3))~~ (4) Applicants will be notified in writing of board decisions.

AMENDATORY SECTION (Amending WSR 98-24-010, filed 11/19/98, effective 12/20/98)

WAC 399-30-050 Recommendations to the legislature for construction loans. (1) Prior to November 1, 1986, and in each subsequent year, the board will develop and submit to the appropriate fiscal committees of the senate and house of representatives a prioritized list of projects which the board recommends for funding by the legislature.

(2) In addition to the requirements of RCW 43.155.070 (4), the list will include such supporting material as the board considers necessary to meet the purposes of this chapter.

(3) Before November 1 of each year, the board will develop and submit to the chairs of the appropriate fiscal committees of the senate and house of representatives a description of the emergency loans made under this program.

AMENDATORY SECTION (Amending WSR 04-09-085, filed 4/20/04, effective 5/21/04)

WAC 399-30-060 Loan and financing guarantee contracts for the construction loan program. (1) The board will only execute loan agreements or otherwise financially obligate funds from the public works assistance account after the legislature approves the list and accompanying appropriation, except for preconstruction, planning, and emergency loans.

(2) After the legislature has appropriated funds from the public works assistance account for a specific list of public works projects, the construction loan funds will be disbursed to the applicant local government through a contract. The contract will offer terms and conditions as the board determines are reasonable, based on the following standards:

(a) The local government's financial participation funds must be from locally generated ~~((revenues))~~ funding or federal or state shared revenues that can be allocated at the discretion of the local government.

(b) The interest rates, local share requirements and loan limits will be determined annually by the board.

(c) Loans must not exceed twenty years, or the useful life of the improvements, whichever is shorter.

(3) The local government and the department must execute a final contract before any funds are disbursed.

(4) The local government must ~~((complete))~~ submit for approval a scope of work ~~((form))~~, including such things as a budget and performance measures consistent with the application for ~~((a loan or financing guarantee and return it))~~ financial assistance to the department within ninety days after the department offers a loan or financing guarantee.

(5) The local government must execute any loan or financing guarantee contracts offered within ninety days after the department offers the contract.

(6) The local government must begin work on a public works project prior to October 1 of the year in which the loan or financing guarantee is offered.

(7) The local government must complete work on the public works project within the time specified in the loan agreement, unless a written request for extension is approved by the board.

(8) The board or department will not reimburse local governments for any funds spent on public works projects

financed through the public works assistance account before a contract agreement has been formally executed. Funds spent before the contract is executed may be used toward local participation requirements if they are for eligible activities under WAC 399-30-030 and are consistent with the executed loan agreement.

AMENDATORY SECTION (Amending WSR 92-03-051, filed 1/13/92, effective 2/13/92)

WAC 399-40-020 Statement. Pursuant to WAC 197-11-800~~((16))~~ (14), the public works board has reviewed its authorized activities and has found them all to be exempt under the provisions of chapter 197-11 WAC.

AMENDATORY SECTION (Amending WSR 00-11-021, filed 5/9/00, effective 6/9/00)

WAC 399-50-010 Definitions. (1) Unless another definition is given, words used in this chapter have the same meaning as in chapter 42.52 RCW, Ethics in public service.

(2) "Annual construction roster" means the prioritized list of projects recommended for funding, which is developed and submitted to the legislature before November 1 of each year under RCW 43.155.070(4).

(3) "Beneficial interest" means the right to enjoy profit, benefit, or advantage from a contract or other property and also has the meaning given to it in Washington case law. Ownership interest in a mutual fund or similar investment pooling fund in which the owner has no management powers does not constitute a beneficial interest in the entities in which the fund or pool invests.

(4) "Project" means public works project as defined in RCW 43.155.020~~((5))~~ (6).

REPEALER

The following section of the Washington Administrative Code is repealed:

WAC 399-50-040 Disclosure of recusal.

WSR 07-05-039

PERMANENT RULES

DEPARTMENT OF LICENSING

[Filed February 15, 2007, 2:44 p.m., effective March 18, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: To add clarity to rule language and to reflect a current course of the profession.

Citation of Existing Rules Affected by this Order: Amending WAC 308-13-020 Qualifications and application for licensure, 308-13-024 Application for examination, 308-13-032 Licensing examination, 308-13-100 Reinstatement of delinquent, suspended, or revoked licenses and 308-13-150 Landscape architect fees and charges; new sections WAC 308-13-170 Retired status certificate of registration, 308-13-180 Board member rules of conduct—Activities incompatible with public duties—Financial interests in transactions,

308-13-250 Brief adjudicative proceedings and 308-13-260 Records required for the brief adjudicative proceeding; and repealing WAC 308-13-210 Application of brief adjudicative proceedings and 308-13-220 Preliminary record in brief adjudicative proceedings.

Statutory Authority for Adoption: RCW 18.96.060 Board—Rules—Quorum—Hearings.

Adopted under notice filed as WSR 06-21-061 on October 16, 2006.

Changes Other than Editing from Proposed to Adopted Version: WAC 308-13-230 Conduct of brief adjudicative proceedings will not be repealed.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 2, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 4, Amended 5, Repealed 2.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: February 8, 2007.

Joe Vincent Jr.
Administrator

AMENDATORY SECTION (Amending WSR 02-07-047, filed 3/14/02, effective 4/14/02)

WAC 308-13-020 Qualifications and application for licensure. In addition to having passed the licensing examination required under WAC 308-13-032, applicants for licensure shall provide the following as minimum evidence of qualification for licensure:

(1) Three references from landscape architects having personal knowledge of the applicant's practical experience as described in subsection (2) of this section;

(2) A summary of the applicant's practical training; and

(3) Documentation verifying a minimum of seven years of any combination of academic and practical training experience approved by the board. The board shall use the following criteria when evaluating experience:

~~((+))~~ (a) ACADEMIC TRAINING

~~((+))~~ (i) With a passing grade, 32 semester credit hours or 45 quarter credit hours is considered to be one year. Any fraction, one-half year or greater, will be counted one-half year, and less than one-half year will not be counted.

~~((+))~~ (ii) A degree in landscape architecture or credits from an accredited college will be weighted at one hundred percent with a four year maximum credit for academic training.

~~((+))~~ (iii) Credits in landscape architecture from a college not accredited may be weighted up to seventy-five percent with a three year maximum credit for academic training.

~~((+))~~ (iv) Credits in architecture or civil engineering will be weighted at fifty percent with a two year maximum credit for academic training.

~~((2))~~ (b) PRACTICAL TRAINING

~~((+))~~ (i) Practical training (~~(experience, work in landscape architecture and related work experience,)~~ necessary to qualify for licensure) will be measured in months.

~~((b))~~ (ii) No training prior to graduation from high school will be accepted.

~~((e) Full-time practical work experience)~~ (iii) Credit for practical training will be based on a verifiable demonstration of competency and progressive responsibility in the analysis, synthesis, and evaluation of landscape architecture concepts and data and demonstrating their experience in a position of making independent judgments and decisions. The amount of credit is determined by the following:

(A) Full-time credit must be at least thirty-five hours per week for a minimum of ten consecutive weeks; ~~(and)~~

(B) Part-time (~~(practical work experience)~~) credit must be at least twenty hours per week for six or more consecutive months;

(C) Project and self-employment credit will be given credit based on verification by at least two licensed landscape architects who have reviewed and provided written acknowledgement of the applicant's work.

AMENDATORY SECTION (Amending WSR 02-07-047, filed 3/14/02, effective 4/14/02)

WAC 308-13-024 Application for examination. (1)

Once an applicant has completed the academic requirement per WAC 308-13-005(6) or practical training approved in lieu of academic training per WAC 308-13-020, the applicant may apply to take the examination. The application to sit for the examination must be on a form prescribed by the board and must include ~~(, at a minimum:~~

~~(a) Three references from landscape architects having personal knowledge of the applicant's landscape architectural experience;~~

~~(b) Transcript of academic experience showing courses taken and degree received with registrar's seal/stamp/signature. Photocopies of transcripts are not acceptable;~~

~~(c) A summary of the applicant's work experience; and~~

~~(d) Required fees.);~~

(a) The applicable fee as outlined in WAC 308-13-150; and

(b) An official sealed transcript showing courses taken and degree received from the applicant's attended college or university. Photocopies of transcripts are not acceptable; and

(c) An application based on practical training as outlined in WAC 308-13-020(2).

Applications for admission to an examination, if scheduled, must be submitted or postmarked not later than the following dates. If the cut-off date falls on a Saturday or Sunday, the postmark deadline will be the following Monday.

| Examination Months | Cut-off Dates |
|--------------------|---------------|
| June | April 1 |
| December | October 1 |

~~(2) (Examinees may retake any sections offered that have not been passed. Applications for examination or reexamination must be accompanied by the application fee for examination or reexamination and the appropriate examination fee as established by the director and published in chapter 308-13 WAC, landscape architect fees. For reexamination applicants, examination fees are listed by separate section.~~

~~(3)) Examination admission letters will be mailed to eligible applicants approximately six weeks prior to the examination along with detailed information as to times, place, and scheduled examination sections.~~

~~((4)) (3) Application fees for examination and reexamination are administrative charges and will not be refunded. (The examination fees (cost of each test) may be refunded if notice of cancellation is received by the department prior to ordering of examinations from the national testing service.~~

~~(5) Following successful completion of the registration examination, candidates will satisfactorily complete the review of laws related to the practice of landscape architecture as determined by the board.)~~

AMENDATORY SECTION (Amending WSR 93-16-009, filed 7/22/93, effective 8/22/93)

WAC 308-13-032 Licensing examination. The form of the examination required of applicants shall consist of a written and graphic examination. Subject to the provisions of RCW 18.96.090, the board adopts the landscape architectural registration examination and grading procedure prepared by the council of landscape architectural registration boards (CLARB) as the state examination for registration.

~~((The examination is administered according to the published national schedule.~~

~~To pass the examination, an applicant must achieve a passing score of seventy five percent on each of the sections of the examination.)~~ (1) There are five sections of the examination offered according to CLARB's examination schedule.

(a) Sections A, B, and D of the examination are administered by CLARB. Fees for these sections shall be paid to and collected by CLARB.

(b) Sections C and E of the examinations are administered by the department of licensing. Fees for these sections will be first collected by the board, and then forwarded to CLARB.

(c) The current charges for each examination can be obtained by contacting CLARB or by contacting the board office.

(2) Applicants are notified of their ((grades)) scores by mail. No ((grades)) scores are given by telephone. Reexamination information shall be provided to candidates along with scores if the candidate has not passed all sections.

(3) An applicant must successfully complete the entire examination within a five-year period. The five-year period shall begin with the ((month an applicant begins the examination process. Passing scores for any section of the examination may be carried forward for a period of five years from the date the applicant passed that section of the examination. Applicants shall retake any section of the examination which was passed more than five years previously, along with any section of the examination not yet passed)) passing of one or

more examination sections. Applicants may retake any section not passed. Applicants may not transfer passing section scores beyond the five-year period.

(4) Following successful completion of the licensing examination, candidates will satisfactorily complete the review of laws related to the practice of landscape architecture as determined by the board.

AMENDATORY SECTION (Amending WSR 02-07-047, filed 3/14/02, effective 4/14/02)

WAC 308-13-100 Reinstatement of delinquent, suspended, or revoked licenses. (1)~~((a))~~ Reinstatement of a license, delinquent less than five years, requires a letter to the board administrator requesting reinstatement, payment(s) of ((all delinquent renewal fees plus the current penalty fee)) the fee from the previous renewal cycle, the current renewal fee, and late penalty.

~~((b))~~ (2) Reinstatement of a license, delinquent five or more years, requires:

(a) A letter of application to the board requesting reinstatement, payment(s) of ((all delinquent renewal fees plus the current penalty fee,)) the fee from the previous renewal cycle, the current renewal fee and late penalty;

(b) A resume of landscape architectural activities and projects since the date of expiration(,);

(c) A detailed explanation of the circumstances surrounding the failure to maintain current licensure; and

(d) A satisfactory completion of the review of laws related to the practice of landscape architecture as determined by the board.

Additional requirements may be established by the board.

~~((2) Requests for reinstatement of a suspended or revoked license shall be submitted in a letter of application to the board and shall include a resume of professional activities and projects since suspension or revocation, a satisfactory completion of the review of laws related to the practice of landscape architecture as determined by the board and such other documents and materials as directed by the board.)~~

AMENDATORY SECTION (Amending WSR 05-17-004, filed 8/3/05, effective 9/3/05)

WAC 308-13-150 Landscape architect fees and charges. The following fees will be collected ~~((from the candidates))~~:

| Title of Fee | Fee |
|----------------------------------|---------|
| Application fee | \$50.00 |
| Reexamination administration fee | 50.00 |
| Renewal (2 years) | 200.00 |
| Late renewal penalty | 100.00 |
| Duplicate license | 25.00 |
| Initial registration (2 years) | 200.00 |
| Reciprocity application fee | 200.00 |
| Replacement wall certificate | 20.00 |

~~((The following charges assessed by the Council of Landscape Architectural Registration Boards (CLARB), collected from candidates for the costs of the examinations shall be paid to CLARB.~~

| Examination and Sections | Charges |
|---|-------------------|
| Entire examination | \$470.00 |
| Section C: | |
| Planning and site design | 245.00 |
| Section E: | |
| Grading, drainage and storm water management | 245.00 |

~~The following sections of the examination will only be administered by CLARB:~~

~~Section A:
 Legal and administrative aspects of practice~~

~~Section B:
 Analytical aspects of practice~~

~~Section D:
 Structural considerations and materials and methods of construction))~~

NEW SECTION

WAC 308-13-170 Retired status certificate of registration. Any individual who has been issued a certificate of registration, in accordance with chapter 18.96 RCW, as a landscape architect having reached at least the age of sixty-five and having discontinued active practice may be eligible to obtain a "retired certificate of registration." If granted, further certificate of registration renewal fees are waived. For the purpose of this provision, "active practice" is as defined in RCW 18.96.030.

(1) Applications. Those persons wishing to obtain the status of a retired registration shall complete an application on a form as provided by the board. If deemed eligible by the board, the retired status would become effective on the first scheduled renewal date of the certificate of registration that occurs on or after the applicant reaches the age of sixty-five. It shall not be necessary that an expired certificate of registration be renewed to be eligible for this status. The board will not provide refund of renewal fees if the application for "retired" status is made and granted before the date of expiration of the certificate of registration.

(2) Privileges. In addition to the waiver of the renewal fee, a retired registrant is permitted to:

- (a) Retain the board-issued wall certificate of registration;
- (b) Use the title landscape architect, provided that it is supplemented by the term "retired," or the abbreviation "ret";
- (c) Work as a landscape architect in a volunteer capacity, provided that the retired registrant does not create landscape architectural plans, and does not use his/her seal, except as provided for in (d) of this subsection;
- (d) Provide experience verifications and references for persons seeking registration under chapter 18.96 RCW. If using his/her professional seal, the retired registrant may

place the word "retired" in the space designated for the date of expiration;

(e) Serve as a volunteer in an instructional capacity on landscape architectural topics;

(f) Provide services as a technical expert before a court, or in preparation for pending litigation, on matters directly related to landscape architectural work performed by the registrant before he/she was granted a retired registration;

(g) Serve in a function that supports the principles of registration and promotes the profession of landscape architecture, such as members of commissions, boards or committees;

(h) Serve in a landscape architectural capacity as a "good samaritan," as set forth in RCW 38.52.195 and 38.52.1951, provided said work is otherwise performed in accordance with chapter 18.96 RCW.

(3) Restrictions. A retired registrant is not permitted to:

(a) Perform any landscape architectural activity, as provided for in RCW 18.96.030, unless said activity is under the direct supervision of a Washington state licensed landscape architect who has a valid/active registration in the records of the board;

(b) Apply his/her professional stamp, as provided for in RCW 18.96.150, to any plan, specification, or report, except as provided for in subsection (2)(d) of this section.

(4) Certificate of registration reinstatement. A retired registrant, upon written request to the board and payment of the current renewal fee, may resume active landscape architectural practice. At that time, the retired registrant shall be removed from retired status and placed on valid/active status in the records of the board. All rights and responsibilities of a valid/active registration will be in effect. At the date of expiration of the reinstated certificate of registration, the registrant may elect to either continue active registration or may again apply for retired registration in accordance with the provisions of this chapter.

(5) Exemptions. Under no circumstances shall a registrant be eligible for a retired registration if his/her certificate of registration has been revoked, surrendered, or in any way permanently terminated by the board under chapter 18.96 RCW. Registrants who are suspended from practice and/or who are subject to terms of a board order at the time they reach age sixty-five shall not be eligible for a retired registration until such time that the board has removed the restricting conditions.

(6) Penalties for noncompliance. Any violations of this section shall be considered unprofessional conduct as defined in RCW 18.235.130 and are subject to penalties as provided for in RCW 18.235.110.

NEW SECTION

WAC 308-13-180 Board member rules of conduct—Activities incompatible with public duties—Financial interests in transactions. (1) When a member of the board either owns a beneficial interest in or is an officer, agent, employee, or member of an entity, or individual which is engaged in a transaction involving the board, the member shall:

(a) Recuse him or herself from the board discussion regarding the specific transaction;

(b) Recuse him or herself from the board vote on the specific transaction; and

(c) Refrain from attempting to influence the remaining board members in their discussion and vote regarding the specific transaction.

(2) The prohibition against discussion and voting set forth in subsection (1)(a) and (c) of this section shall not prohibit the member of the board from using his or her general expertise to educate and provide general information on the subject area to the other members.

(3)(a) "Transaction involving the board" means a proceeding, application, submission, request for a ruling or other determination, contract, claim, case, or other similar matter that the member in question believes, or has reason to believe:

(i) Is, or will be, the subject of board action; or

(ii) Is one to which the board is or will be a party; or

(iii) Is one in which the board has a direct and substantial proprietary interest.

(b) "Transaction involving the board" does not include the following: Preparation, consideration, or enactment of legislation, including appropriation of moneys in a budget, or the performance of legislative duties by a member; or a claim, case, lawsuit, or similar matter if the member did not participate in the underlying transaction involving the board that is the basis for the claim, case, or lawsuit. Rule making is not a "transaction involving the board."

(4) "Board action" means any action on the part of the board, including, but not limited to:

(a) A decision, determination, finding, ruling, or order; and

(b) A grant, payment, award, license, contract, transaction, sanction, or approval, or the denial thereof, or failure to act with respect to a decision, determination, finding, ruling, or order.

(5) The following are examples of possible scenarios related to board member rules of conduct. Activities incompatible with public duties; financial interests in transactions.

(a) **EXAMPLE 1:**

The board of registration for landscape architects disciplines licensed landscape architects in Washington. The board is conducting an investigation involving the services provided by a licensed landscape architect. One of the members of the board is currently serving a subcontractor to that landscape architect on a large project. The board member must recuse himself from any board investigation, discussion, deliberation and vote with respect to disciplinary actions arising from licensed landscape architect services.

(b) **EXAMPLE 2:**

The board of registration for landscape architects makes licensing decisions on applications for licensure. An applicant for licensure owns a school construction business which employs licensed landscape architects, including one of the board members. The board member must recuse himself from any board investigation, discussion, deliberation

and vote with respect to his employer's application for licensure.

(c) **EXAMPLE 3:**

The board of registration for landscape architects makes licensing decisions on applications from registered landscape architects in another state or territory of the United States, the District of Columbia, or another country. The board can grant licensure if that individual's qualifications and experience are equivalent to the qualifications and experience required of a person registered under Washington law. An out-of-state applicant is employed as a landscape architect by a multinational corporation that is planning to build its world headquarters in Washington and has hired a board member's firm as the landscape architect for the project. The board member must recuse himself from any board investigation, discussion, deliberation and vote with respect to the sufficiency of the out-of-state landscape architect's qualifications and experience.

(6) Recusal disclosure. If recusal occurs pursuant to subsection (1) of this section, the member of the board shall disclose to the public the reasons for his or her recusal from any board action whenever recusal occurs. The board staff shall record each recusal and the basis for the recusal.

NEW SECTION

WAC 308-13-250 Brief adjudicative proceedings. (1)

The board will conduct brief adjudicative proceedings as provided for in RCW 34.05.482 through 34.05.494 of the Administrative Procedure Act. Brief adjudicative proceedings may be used whenever a statement of charges, notice of intent to issue a cease and desist order, or temporary cease and desist order alleges violations of chapters 18.96 and 18.235 RCW, administrative rules in Title 308 WAC or any statutes or rules that specifically govern the defined practices of landscape architects. Brief adjudicative proceedings may also be used in place of formal adjudicative hearings whenever the board issues a statement of charges, notice of intent to issue a cease and desist order, or temporary cease and desist order alleging that an applicant or licensee's conduct, act(s), or condition(s) constitute unlicensed practice or unprofessional conduct as that term is defined under chapter 18.235 RCW, the Uniform Regulation of Business and Professions Act.

(2) Brief adjudicative proceedings may be used to determine the following issues, including, but not limited to:

(a) Whether an applicant has satisfied terms for reinstatement of a license after a period of license restriction, suspension, or revocation;

(b) Whether an applicant is eligible to sit for a professional licensing examination;

(c) Whether a sanction proposed by the board is appropriate based on the stipulated facts;

(d) Whether an applicant meets minimum requirements for an initial or renewal application;

(e) Whether an applicant has failed the professional licensing examination;

(f) Whether an applicant or licensee failed to cooperate in an investigation by the board;

(g) Whether an applicant or licensee was convicted of a crime that disqualifies the applicant or licensee from holding the specific license sought or held;

(h) Whether an applicant or licensee has defaulted on educational loans;

(i) Whether an applicant or licensee has violated the terms of a final order issued by the board or the board's designee;

(j) Whether a person has engaged in false, deceptive, or misleading advertising; or

(k) Whether a person has engaged in unlicensed practice.

(3) In addition to the situations enumerated in subsection (2) of this section, the board may conduct brief adjudicative proceedings instead of formal adjudicative hearings whenever the parties have stipulated to the facts and the only issues presented are issues of law, or whenever issues of fact exist but witness testimony is unnecessary to prove or disprove the relevant facts.

NEW SECTION

WAC 308-13-260 Records required for the brief adjudicative proceeding. The records for the brief adjudicative proceeding shall include:

(1) Renewal or reinstatement of a license:

(a) All correspondence between the applicant and the board about the renewal or reinstatement;

(b) Copies of renewal notice(s) sent by the department of licensing to the licensee;

(c) All documents received by the board from or on behalf of the licensee relating to information, payments or explanations that have been provided to the board.

(2) Applicants for certification/licensing:

(a) Original complete application with all attachments as submitted by applicant;

(b) Copies of all supplementary information related to application review by staff or board member;

(c) All documents relied upon in reaching the determination of ineligibility;

(d) All correspondence between the applicant and the board about the application or the appeal.

(3) Default of student loan payments:

(a) Copies of notices to the board showing the name and other identification information of the individual claimed to be in default on student loan payments;

(b) Copies of identification information corresponding to the person who is certified/licensed by the board that relate to the identity of the individual in default;

(c) All documents received by the board from or on behalf of the licensee relating to rebutting such identification;

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

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

(4) Determination of compliance with previously issued board order:

(a) The previously issued final order or agreement;

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

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

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

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 308-13-210 Application of brief adjudicative proceedings.

WAC 308-13-220 Preliminary record in brief adjudicative proceedings.

WSR 07-05-040

PERMANENT RULES

DEPARTMENT OF LICENSING

[Filed February 15, 2007, 2:45 p.m., effective March 18, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: To add clarity to rule language and to reflect a current course of the profession.

Citation of Existing Rules Affected by this Order: Amending WAC 308-12-010 State board of registration for architects, 308-12-025 Application for examination, 308-12-050 Registration by reciprocity, 308-12-081 The seal, 308-12-115 Definitions and 308-12-320 Renewal of license; new sections WAC 308-12-111 Board member rules of conduct—Activities incompatible with public duties—Financial interests in transactions, 308-12-180 Brief adjudicative proceedings and 308-12-190 Records required for the brief adjudicative proceeding; and repealing WAC 308-12-210 Application of brief adjudicative proceedings and 308-12-220 Preliminary record in brief adjudicative proceedings.

Statutory Authority for Adoption: RCW 18.96.060 Board—Rules—Quorum—Hearings.

Adopted under notice filed as WSR 06-24-032 on November 29, 2006.

Changes Other than Editing from Proposed to Adopted Version: WAC 308-12-081 The seal, additional language was added to clarify the rules governing the design and use of the architect stamp; WAC 308-12-115 Definitions, the definition of "design-build" will not be removed; and WAC 308-12-230 Conduct of brief adjudicative proceedings, will not be repealed.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or

Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 3, Amended 6, Repealed 2.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 3, Amended 6, Repealed 2.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 19, 2007.

Joe Vincent Jr.
Administrator

AMENDATORY SECTION (Amending WSR 02-11-082, filed 5/14/02, effective 6/14/02)

WAC 308-12-010 State board (~~(of registration)~~) for architects. (1) Meetings: The Washington state board (~~(of registration)~~) for architects, hereafter called the board, shall hold its regular public meeting annually (~~(in September)~~) during the second quarter of the calendar year. Additional public meetings may be held at such times and places as the board may deem necessary. Notice of all public meetings will be issued as required by the Open Public Meetings Act, chapter 42.30 RCW.

~~((Executive sessions may be held by the board in conjunction with all public meetings, and at such other times as the board shall deem necessary and for the primary purpose of preparing and grading examinations, approving applications, conducting written and oral examinations, examining reciprocity applications, and acting on applications for reinstatement of revoked licenses, and confidential matters between candidates or registrants and the board.))~~

(2) Rules of order. The latest edition of *Robert's Rules of Order* will govern the conduct of business at meetings and sessions of the board.

(3) Officers. At the regular annual public meeting the board will elect a chair, a vice-chair and a secretary for the ensuing year.

(4) Quorum. A quorum at any regular or additional meeting or session will consist of four members of the board.

(5) Rule changes. Prior to and during any adoption, amendments, or repeal of any rule, the board of registration will conduct its business in accordance with chapter 34.04 RCW the Administrative Procedure Act.

~~((6) Web site. The board will post current applicant and licensee names in addition to other licensing information on the web site.))~~

AMENDATORY SECTION (Amending WSR 98-20-061, filed 10/2/98, effective 11/2/98)

WAC 308-12-025 Application for examination. (1) The application to begin the examination process must be submitted on forms approved by the board, accompanied by academic and/or practical experience verification to docu-

ment eligibility under the provisions of RCW 18.08.350. As determined by the board and consistent with National Council of Architectural Registration Boards (NCARB) recommendations, applicants with an accredited professional architectural degree may take portions of the examination concurrently with practical work experience.

(2) The board has adopted the National Council of Architectural Registration Boards (NCARB) intern development training program (IDP training requirement) as the board approved structured intern training program. Completion of the training requirements of the intern development program must be validated by the NCARB in a council training record sent to the board office. Completion of the training requirements of the IDP is the equivalent of three years of practical work experience.

(3) Applications for the examination must be accompanied by the application fee for the examination as established by the director and published in chapter 308-12 WAC, architect fees. The application fee to begin the examination process will not be refunded.

AMENDATORY SECTION (Amending WSR 02-11-082, filed 5/14/02, effective 6/14/02)

WAC 308-12-050 Registration by reciprocity. Pursuant to RCW 18.08.400, the board will recommend to the director that the director grant a certificate of registration to a currently registered architect in any jurisdiction recognized by NCARB provided:

(1) That such applicant presents evidence that the applicant has satisfactorily completed an examination equivalent to the examination required of Washington state registrants.

(2) Documentation of NCARB certification may be accepted by the board as satisfactory evidence that the applicant's qualifications and experience are equivalent to the qualifications and experience required of a person registered under RCW 18.08.350. Reciprocity candidates who cannot meet the IDP training requirement must have a minimum of two years of experience as a licensed architect.

~~((2))~~ (3) That the applicant provides a typed summary (~~(analysis)~~) of chapter 18.08 RCW and chapter 308-12 WAC. The summary must (~~(include an analysis of each section of chapter 18.08 RCW and chapter 308-12 WAC in)~~) be of sufficient detail to demonstrate a thorough understanding of the law and rules (~~(as determined by the board)~~).

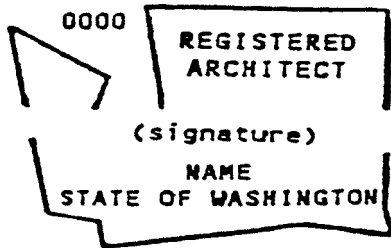
~~((3))~~ (4) That the board will require an oral interview of any candidate for registration by reciprocity, except that the oral interview may be set aside in cases where documentary or other evidence shows sufficient information for the board to reach judgment.

~~((4))~~ (5) That the architect's current state license is not delinquent or inactive. The current state license cannot be under suspension, disciplinary restrictions, or in process of disciplinary review. Reciprocity applicants are held to the same qualifications as initial applicants for registration.

AMENDATORY SECTION (Amending WSR 02-11-082, filed 5/14/02, effective 6/14/02)

WAC 308-12-081 The seal. These rules govern the design and use of the architect stamp.

Every architect licensed in the state of Washington shall have a seal of design authorized by the board, bearing the registrant's name, license number and the legend "Registered architect, state of Washington." ~~((The seal with the registrant's countersignature must appear on all documents filed for permits for construction with public authorities.))~~ A facsimile of the board-authorized seal appears ((herewith)) below. Deviations are not allowed.



The following must be signed and sealed by the architect:

All technical submissions required for building permits or regulatory approvals that are filed with authorities having jurisdiction.

(1) Drawings prepared by the architect must be signed and sealed on each sheet.

(2) Specifications and other technical submissions need only be sealed on the cover, title page, and all pages of the table of contents.

No architect's stamp or countersignature will be affixed to any drawings not prepared by the architect or his or her regularly employed subordinates, or reviewed by the architect. An architect who signs or seals drawings or specifications that he or she has reviewed is responsible to the same extent as if prepared by that architect.

Without exception, these stamping requirements for architects apply to all work prepared or supervised by the architect regardless of whether the work is exempt from the licensing requirements found in RCW 18.08.410.

NEW SECTION

WAC 308-12-111 Board member rules of conduct—Activities incompatible with public duties—Financial interests in transactions. (1) When a member of the board either owns a beneficial interest in or is an officer, agent, employee, or member of an entity; or individual which is engaged in a transaction involving the board, the member shall:

(a) Recuse him or herself from the board discussion regarding the specific transaction;

(b) Recuse him or herself from the board vote on the specific transaction; and

(c) Refrain from attempting to influence the remaining board members in their discussion and vote regarding the specific transaction.

(2) The prohibition against discussion and voting set forth in subsection (1)(a) and (c) of this section shall not prohibit the member of the board from using his or her general expertise to educate and provide general information on the subject area to the other members.

(3)(a) "Transaction involving the board" means a proceeding, application, submission, request for a ruling or other determination, contract, claim, case, or other similar matter that the member in question believes, or has reason to believe:

(i) Is, or will be, the subject of board action; or

(ii) Is one to which the board is or will be a party; or

(iii) Is one in which the board has a direct and substantial proprietary interest.

(b) "Transaction involving the board" does not include the following:

Preparation, consideration, or enactment of legislation, including appropriation of moneys in a budget, or the performance of legislative duties by a member; or a claim, case, lawsuit, or similar matter if the member did not participate in the underlying transaction involving the board that is the basis for the claim, case, or lawsuit. Rule making is not a "transaction involving the board."

(4) "Board action" means any action on the part of the board, including, but not limited to:

(a) A decision, determination, finding, ruling, or order; and

(b) A grant, payment, award, license, contract, transaction, sanction, or approval, or the denial thereof, or failure to act with respect to a decision, determination, finding, ruling, or order.

(5) The following are examples of possible scenarios related to Board member rules of conduct—Activities incompatible with public duties—Financial interests in transactions.

(a) **EXAMPLE 1:**

The state board for architects disciplines licensed architects in Washington. The board is conducting an investigation involving the services provided by a licensed architect. One of the members of the board is currently serving a subcontractor to that architect on a large project. The board member must recuse himself from any board investigation, discussion, deliberation and vote with respect to disciplinary actions arising from licensed architect services.

(b) **EXAMPLE 2:**

The state board for architects makes licensing decisions on applications for licensure. An applicant for licensure owns a school construction business which employs licensed architects, including one of the board members. The board member must recuse himself from any board investigation, discussion, deliberation and vote with respect to his employer's application for licensure.

(c) **EXAMPLE 3:**

The state board for architects makes licensing decisions on applications from registered architects in another state or territory of the United States, the District of Columbia, or another country. The board can grant licensure if that individual's qualifications and experience are equivalent to the qualifications and experience required of a person registered under Washington law. An out-of-state applicant is employed as an architect by a multinational corpora-

tion that is planning to build its world headquarters in Washington and has hired a board member's firm as the architect for the project. The board member must recuse himself from any board investigation, discussion, deliberation and vote with respect to the sufficiency of the out-of-state architect's qualifications and experience.

(6) Recusal disclosure. If recusal occurs pursuant to this rule, the member of the board shall disclose to the public the reasons for his or her recusal from any board action whenever recusal occurs. The board staff shall record each recusal and the basis for the recusal.

AMENDATORY SECTION (Amending WSR 02-11-082, filed 5/14/02, effective 6/14/02)

WAC 308-12-115 Definitions. (1) Accredited architectural degree—A professional degree received from the current list of accredited schools of architecture as published by the National Architectural Accrediting Board.

(2) Practical architectural work experience—Practical work experience performing activities involved in the practice of architecture, as defined in RCW 18.08.320, under the direct supervision of an architect. The board may approve similar practical work experience for full or partial credit and will accept intern development program experience as defined in the IDP training guidelines.

(3) Intern development program (IDP)—A structured internship training program designed to provide a profession-wide, comprehensive program that contributes to the development of competent architects. IDP consists of training requirements that must be satisfied in order to complete the program. The National Council of Architectural Registration Boards (NCARB) maintains and validates the continuing, comprehensive record of internship training.

(4) ~~((Supervision—The word "supervision" in RCW 18.08.320 means the periodic observation of materials and work in progress or completed work to observe the general compliance with plans, specifications, and design and planning concepts, and does not include responsibility for the superintendence of construction processes, site conditions, operations equipment, personnel, maintenance of a safe place to work, or any safety in, on, or about the site of the work.~~

(5) ~~Principal—The word "principal" as used herein shall mean an architect who is registered in this state and is the person in charge of the architectural practice, either alone or in concert with others who qualify as herein described, and:~~

~~(a) Who is a shareholder, if the practice is through a professional service corporation; or~~

~~(b) A partner if the practice is through a partnership; or~~

~~(c) The proprietor if the practice is through a proprietorship; or~~

~~(d) The designated architect of a stock corporation.~~

(6)) The title "intern architect" may be used while enrolled in the structured intern program recognized by the board, in WAC 308-12-025(2), and working under the direct supervision of a licensed architect.

(5) Direct supervision—The phrase, "under the direct supervision of an architect" as used in connection with architectural work experience for qualification and eligibility for

the examination shall refer to any of the following conditions or situations.

(a) The supervising architect is an employer who is knowledgeable of the performance and competence of the applicant.

(b) The supervising architect works for the same employer as the applicant, and is either the direct superior of the applicant, or a co-worker knowledgeable and responsible for the efforts of the applicant.

~~((7))~~ (6) Design-build—A means of providing design and construction services in which a single entity is responsible for both services.

~~((8))~~ (7) Review—A continuous process of examination, evaluation, and direction throughout the development of the documents, which includes the ability to control the final product.

~~((9))~~ (8) Construction-related experience—Work on a construction site in any of the construction-related trades, including, but not limited to, carpentry, laboring, electrical, plumbing, sheet metal and roofing. Work in the construction office, including, but not limited to, estimating or construction administration.

(9) "Technical submission" means designs, drawings, specifications, studies, and other technical documents prepared in the course of practicing architecture.

NEW SECTION

WAC 308-12-180 Brief adjudicative proceedings. (1) The board will conduct brief adjudicative proceedings as provided for in RCW 34.05.482 through 34.05.494 of the Administrative Procedure Act. Brief adjudicative proceedings may be used whenever a statement of charges, notice of intent to issue a cease and desist order, or temporary cease and desist order alleges violations of chapters 18.08 and 18.235 RCW, administrative rules in Title 308 WAC or any statutes or rules that specifically govern the defined practices of architects. Brief adjudicative proceedings may also be used in place of formal adjudicative hearings whenever the board issues a statement of charges, notice of intent to issue a cease and desist order, or temporary cease and desist order alleging that an applicant or licensee's conduct, act(s), or condition(s) constitute unlicensed practice or unprofessional conduct as that term is defined under chapter 18.235 RCW, the Uniform Regulation of Business and Professions Act.

(2) Brief adjudicative proceedings may be used to determine the following issues, including, but not limited to:

(a) Whether an applicant has satisfied terms for reinstatement of a license after a period of license restriction, suspension, or revocation;

(b) Whether an applicant is eligible to sit for a professional licensing examination;

(c) Whether a sanction proposed by the board is appropriate based on the stipulated facts;

(d) Whether an applicant meets minimum requirements for an initial or renewal application;

(e) Whether an applicant has failed the professional licensing examination;

(f) Whether an applicant or licensee failed to cooperate in an investigation by the department;

(g) Whether an applicant or licensee was convicted of a crime that disqualifies the applicant or licensee from holding the specific license sought or held;

(h) Whether an applicant or licensee has defaulted on educational loans;

(i) Whether an applicant or licensee has violated the terms of a final order issued by the board or the board's designee;

(j) Whether a person has engaged in false, deceptive, or misleading advertising; or

(k) Whether a person has engaged in unlicensed practice.

(3) In addition to the situations enumerated in subsection (2) of this section, the board may conduct brief adjudicative proceedings instead of formal adjudicative hearings whenever the parties have stipulated to the facts and the only issues presented are issues of law, or whenever issues of fact exist but witness testimony is unnecessary to prove or disprove the relevant facts.

NEW SECTION

WAC 308-12-190 Records required for the brief adjudicative proceeding. The records for the brief adjudicative proceeding shall include:

(1) Renewal or reinstatement of a license:

(a) All correspondence between the applicant and the board about the renewal or reinstatement;

(b) Copies of renewal notice(s) sent by the department of licensing to the licensee;

(c) All documents received by the board from or on behalf of the licensee relating to information, payments or explanations that have been provided to the board.

(2) Applicants for certification/licensing:

(a) Original complete application with all attachments as submitted by applicant;

(b) Copies of all supplementary information related to application review by staff or board member;

(c) All documents relied upon in reaching the determination of ineligibility;

(d) All correspondence between the applicant and the board about the application or the appeal.

(3) Default of student loan payments:

(a) Copies of notices to the board showing the name and other identification information of the individual claimed to be in default on student loan payments;

(b) Copies of identification information corresponding to the person who is certified/licensed by the board that relate to the identity of the individual in default;

(c) All documents received by the board from or on behalf of the licensee relating to rebutting such identification;

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

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

(4) Determination of compliance with previously issued board order:

(a) The previously issued final order or agreement;

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

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

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

AMENDATORY SECTION (Amending WSR 02-11-082, filed 5/14/02, effective 6/14/02)

WAC 308-12-320 Renewal of licenses. (1) The license renewal date for architects will be the architect's birth date. Licensees who fail to pay the license renewal fee within thirty days of license expiration date will be subject to the late payment penalty fee as set forth in RCW 18.08.430 and WAC 308-12-326. ~~((Architects whose renewal fees are delinquent will be listed with the state building officials.))~~

(2) The renewal period for architects is two years.

(3) Assessment of delinquent fees will be based on the number of years delinquent multiplied by one-half of the two-year renewal fee or the fee for one year.

(4) A registrant who fails to pay a renewal fee for a period of five years or more may be reinstated upon payment of all delinquent renewal fees and a penalty fee. Assessment of delinquent fees will be based on the number of years delinquent multiplied by one-half of the two-year renewal fee or the fee for one year. In addition to the payment of delinquent fees and a penalty fee the registrant shall submit the following:

(a) A summary of the current law and rules governing architects.

(b) A professional resume of architectural activities during the delinquent period, in sufficient detail to demonstrate to the board maintenance of minimum skills.

(c) A detailed explanation of the circumstances surrounding the reason the license was allowed to expire.

The board may require additional evidence as needed to verify minimum competency and qualifications. The registrant may be required to appear before the board or a representative member thereof where questions of competency remain.

(5) Registrants who withdraw from the practice of architecture, and exceed five years in an inactive status, shall request reinstatement in writing to the board and shall submit the following:

(a) A summary of the current law and rules governing architects.

(b) A professional resume of architectural activities during the delinquent period, in sufficient detail to demonstrate to the board maintenance of minimum skills.

(c) A detailed explanation of the circumstances surrounding the reason the license was in an inactive status for more than five years.

The board may require additional evidence as needed to verify minimum competency and qualifications. The registrant may be required to appear before the board or a repre-

sentative member thereof where questions of competency remain.

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|----------------|---|
| WAC 308-12-210 | Application of brief adjudicative proceedings. |
| WAC 308-12-220 | Preliminary record in brief adjudicative proceedings. |

WSR 07-05-051
PERMANENT RULES
DEPARTMENT OF
FISH AND WILDLIFE

[Order 07-22—Filed February 16, 2007, 11:35 a.m., effective March 19, 2007]

Effective Date of Rule: Thirty-one days after filing.
Purpose: Amend commercial fishing rules.

Citation of Existing Rules Affected by this Order: Amending WAC 220-16-270 Puget Sound shrimp districts, 220-16-790 Zee's Reef Marine Preserve, 220-20-100 General provisions—Marine protected areas, 220-55-070 Valid catch record card, 220-56-105 River mouth definitions, 220-56-185 Marine area codes, 220-56-210 Fly fishing, 220-56-282 Sturgeon—Areas, seasons, limits and unlawful acts, 220-56-315 Crabs, shrimp, crawfish—Unlawful acts, 220-56-325 Shrimp—Areas and seasons, 220-56-350 Clams other than razor clams, mussels—Areas and seasons, 220-56-380 Oysters—Areas and seasons, and 232-28-619 Washington food fish and game fish—Freshwater exceptions to statewide rules.

Statutory Authority for Adoption: RCW 77.12.047.

Adopted under notice filed as WSR 06-19-061 on September 18, 2006.

Changes Other than Editing from Proposed to Adopted Version: WAC 220-16-270 Puget Sound shrimp districts, 220-16-790 Zee's Reef Marine Preserve, 220-20-100 General provisions—Marine protected areas, 220-55-070 Valid catch record card, 220-56-105 River mouth definitions, 220-56-185 Marine area codes, 220-56-282 Sturgeon—Areas, seasons, limits and unlawful acts, 220-56-315 Crabs, shrimp, crawfish—Unlawful acts and 220-56-325 Shrimp—Areas and seasons: No changes.

WAC 220-56-210 Fly fishing, amended subsection (5) after "may use spinning gear" add "and may fish from a floating device equipped with an electric motor in lakes where fishing from a floating device is allowed...."

WAC 220-56-350 Clams other than razor clams, mussels—Areas and seasons, amended as follows: Subsection [(1)](b) Belfair State Park - removed from WAC, giving it a year-round season; new subsection [(1)](g) Fort Flagler State Park - season changed to April 1 through June 30; new subsection [(1)](p) Kitsap Memorial State Park - season changed to May 15 through June 30; new subsection [(1)](bb) Point

Whitney (excluding Point Whitney Lagoon) - season changed to March 1 through May 15; new subsection [(1)](cc) Point Whitney Lagoon - season changed to May 15 through June 30; new subsection (jj) Rendsland Creek - season changed to January 1 through June 15; new subsection [(1)](rr) Triton Cove Tidelands - season changed to July 1 through September 30; new subsection [(1)](tt) West Dewatto: DNR Beach 44A - closed the entire year.

WAC 220-56-380 Oysters—Areas and seasons, amended as follows: Subsection (2) Cushman Park - season changed to March 1 through December 31; subsection (3) Fort Flagler State Park including that portion of the spit west of the park boundary (Rat Island) - season changed to April 1 through June 30; subsection (8) Kitsap Memorial State Park - season changed to May 15 through July 31.

WAC 232-28-619 Washington food fish and game fish—Freshwater exceptions to statewide rules, amended as follows: Aeneas Lake - delete amendatory language; American River - Highway 410 Bridge is at river mile 5.4 not 4.5; Bayley Lake - delete amendatory language; Bonaparte Lake - delete amendatory language; Brown's Lake - delete amendatory language; Chopaka Lake - delete amendatory language; Ebey Lake - delete amendatory language; Ferry Lake - delete amendatory language; Leech Lake - delete amendatory language; Long Lake - delete amendatory language; McDowell Lake - delete amendatory language; Pass Lake - delete amendatory language; Pierre Lake - delete amendatory language; Quail Lake - delete amendatory language; Skagit River - delete amendatory language; Skokomish River - mouth to forks - season changed to June 1 through October 31 in all sections; Squalicum Lake - delete.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 13 [0], Amended [13], Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: February 2, 2007.

Susan Yeager
for Jerry Gutzwiler, Chair
Fish and Wildlife Commission

AMENDATORY SECTION (Amending Order 04-39, filed 3/4/04, effective 5/1/04)

WAC 220-16-270 Puget Sound Shrimp Districts. The following areas shall be defined as Puget Sound Shrimp Districts:

(1) Discovery Bay Shrimp District - All waters south of a line from McCurdy Point on the Quimper Peninsula to the

northern tip of Protection Island, then to Rocky Point on the Miller Peninsula, and including all waters of Discovery Bay.

~~(2) (Port Angeles Shrimp District—All waters of Port Angeles Harbor west of a line from the eastern tip of Ediz Hook to the ITT-Rayonier dock.~~

~~(3) Sequim Bay Shrimp District—All waters of Sequim Bay south of a line projected west from Travis Spit on the Miller Peninsula.~~

(4)) Hood Canal Shrimp District - All waters of Hood Canal south of the Hood Canal Floating Bridge.

~~((5) Carr Inlet Shrimp District—All waters of Carr Inlet north of a line from Penrose Point to Green Point.~~

(6) Port Townsend Shrimp District—All waters of Port Townsend Bay south and west of a line from Marrowstone Point to Point Hudson, and north of the Port Townsend ship canal including Kilisut Harbor.)

AMENDATORY SECTION (Amending Order 02-187, filed 8/9/02, effective 9/9/02)

WAC 220-16-790 ((Zee's)) Z's Reef Marine Preserve. "((Zee's)) Z's Reef Marine Preserve" is defined as waters and bedlands inside a line beginning at the extreme low water line on the northeast side of Fox Island at 47°14.56'N, 122°35.98'W, then extending 0.5 nautical mile northwesterly along the extreme low water line to 47°14.96'N, 122°36.37'W, then northeast to the minus eighty-five foot depth contour (MLLW = 0 feet) at 47°15.00'N, 122°36.30'W, then southeasterly along the eighty-five foot depth contour to 47°14.67'N, 122°35.81'W, then southwest to the point of origin.

AMENDATORY SECTION (Amending Order 05-52, filed 4/7/05, effective 5/8/05)

WAC 220-20-100 General provisions—Marine protected areas. (1) It is unlawful to fish for or possess fish, shellfish, or wildlife taken from any conservation area defined in chapter 220-16 WAC.

(2) The following marine preserves are closed to the taking of fish, shellfish, and wildlife as indicated:

(a) The Admiralty Head Marine Preserve is closed to the taking of fish and wildlife, and closed to the taking of shellfish except sea cucumbers and sea urchins.

(b) The Colvos Passage Marine Preserve is closed to the taking of shellfish and wildlife, closed to all commercial harvest of fish, and closed to recreational harvest of fish except it is lawful to take salmon for personal use by trolling, defined as fishing from a vessel under power and in gear making forward progress.

(c) The San Juan Island Marine Preserve is closed to the taking of shellfish except it is lawful to take crab from Parks Bay, and closed to the taking of food fish other than salmon except it is lawful to take herring.

(d) The Titlow Beach Marine Preserve is closed to the taking of shellfish and wildlife, closed to the commercial harvest of all fish, and closed to the recreational harvest of all fish except that it is lawful to take salmon if taken with artificial lures from shore or from a nonmotorized vessel.

(e) The ((Zee's)) Z's Reef Marine Preserve is closed to the taking of shellfish and wildlife, closed to the commercial harvest of all fish, and closed to the recreational harvest of all fish except that it is lawful to take salmon with fly fishing gear as defined in WAC 220-56-210.

(f) The Seattle city park Marine Preserves (Golden Gardens, Carkeek, Lincoln, Discovery, Emma Schmitz, and Richey Viewpoint) are closed to removal of organisms from the intertidal areas, except that finfish may be harvested using hook and line gear, provided it is lawful under other WDFW fishing regulations. Any organism except finfish taken by hook and line in the intertidal area must be placed unharmed in the location it was found. Removal of organisms of unclassified marine invertebrates in numbers less than the daily limits is an infraction. All other penalties for larger numbers removed apply.

AMENDATORY SECTION (Amending Order 00-80, filed 5/24/00, effective 6/24/00)

WAC 220-55-070 Valid catch record card. A catch record card shall be invalid unless:

(1) The angler ((possesses)) has in physical possession the appropriate recreational license and catch record card for the area in which the angler is participating, if a license and/or a catch record card is required.

(2) The catch record card number is written in ink in the appropriate space on the back of the recreational license, if a license is required, and the personal information has been entered on the catch record card as required under WAC 220-56-175, or, if an automated license is issued, the catch record card has attached to it a validation sticker containing the name and license number.

(3) The license issuance date is legible and not altered, and the license has not been mutilated.

AMENDATORY SECTION (Amending Order 03-24, filed 2/14/03, effective 5/1/03)

WAC 220-56-105 River mouth definitions. When pertaining to food fish angling, unless otherwise defined, any reference to the mouths of rivers or streams shall be construed to include those waters of any river or stream including sloughs and tributaries upstream and inside of a line projected between the outermost uplands at the mouth. The term "outermost upland" shall be construed to mean those lands not covered by water during an ordinary high tide. The following river mouths are hereby otherwise defined:

Abernathy Creek - Highway 4 Bridge.

Bear River - Highway 101 Bridge.

Bone River - Highway 101 Bridge.

Chambers Creek - Burlington Northern Railroad Bridge.

Chehalis River - Highway 101 Bridge in Aberdeen.

Chelan River - Railroad Bridge.

Cispus River - Posted markers at the Lewis County P.U.D. kayak launch, approximately 1.5 miles upstream from the confluence of the Cowlitz and Cispus rivers.

Cowlitz River - A line projected across the river between two fishing boundary markers set on each bank of the river approximately one-half mile downstream from the lowermost railroad bridge crossing the Cowlitz River.

Dakota Creek - A line from the outermost headland of the south bank to a house at 1285 Runge Avenue, Blaine, Washington, approximately one-quarter mile downstream from the Blaine Road Bridge.

Deschutes River - A line projected across the river 400 feet below the lower Tumwater Falls fish ladder.

Drano Lake - Highway 14 Bridge.

Duwamish River - First Avenue South Bridge.

Elk River - Highway 105 Bridge.

Entiat River - Highway 97 Bridge.

Hawk Creek (Lincoln County) - Falls at the Hawk Creek campground.

Hoquiam River - Highway 101 Bridge.

Humtulsips River - Mouth of Jessie Slough.

Johns River - Highway 105 Bridge.

Kennedy Creek - An arc 500 yards east of the midpoint of the northbound Highway 101 Bridge.

Kettle River - Barstow Bridge.

Lake Washington Ship Canal - A line 400 feet west of the fish ladder at the Chittenden Locks.

Lewis River - A straight line running from a fishing boundary marker ((~~on a piling at Austin Point~~) or from the outermost upland at the north shore of the Lewis River mouth, southerly across the Lewis River to a fishing boundary marker ((~~on~~)) near the ((~~opposite~~)) south shore.

Methow River - Highway 97 Bridge.

Naselle River - Highway 101 Bridge.

North Nemah River - Highway 101 Bridge.

Niawiakum River - Highway 101 Bridge.

North River - Highway 105 Bridge.

Palix River - Highway 101 Bridge.

Puyallup River - 11th Street Bridge.

Samish River - The Samish Island Bridge (Bayview-Edison Road).

Sammamish River - 68th Avenue NE Bridge.

Skagit River - A line projected from the terminus of the jetty with McGlenn Island to the white monument on the easterly end of Ika Island, then to a white monument on the westerly end of Craft Island, then to a white monument near the corner of the levee on the westerly side of Dry Slough, and then to a white monument on the easterly side of Tom Moore Slough.

Skamokawa Creek - Highway 4 Bridge.

Skookum Creek - A line 400 yards below the old railroad bridge.

Snohomish River - Burlington Northern Railway Bridges crossing main river and sloughs.

South Nemah River - Lynn Point 117 degrees true to the opposite shore.

Spokane River - State Route 25 Bridge.

Wallace River - The furthest downstream railroad bridge.

Washougal River - A straight line from the Crown Zellerbach pumphouse southeasterly across the Washougal River to the east end of the Highway 14 Bridge near the upper end of Lady Island.

Whatcom Creek - A line projected approximately 14 degrees true from the flashing light at the southwesterly end of the Port of Bellingham North Terminal to the southernmost point of the dike surrounding the Georgia Pacific treatment pond.

White Salmon River - Between markers on the east and west shores downstream of the Burlington Northern Railroad Bridge except when buoys are in place southerly from the shore to the buoys and east and west between the buoys.

Little White Salmon River - At boundary markers on river bank downstream from the Little White Salmon National Fish Hatchery.

Willapa River - South Bend boat launch.

Wind River - Boundary line markers at mouth.

Yakima River - Highway 240 Bridge.

AMENDATORY SECTION (Amending Order 00-29, filed 3/29/00, effective 5/1/00)

WAC 220-56-185 Marine area codes. The term "marine area code numbers" is defined as the catch area for the catch record card. The following is a list of the catch areas:

(1) Area 1 (Ilwaco): (~~((West of the Megler Astoria Bridge - north to Leadbetter Point.))~~) Waters west of the Buoy 10 Line and north to Leadbetter Point.

(2)(a) Area 2 (Westport-Ocean Shores): From Leadbetter Point north to the Queets River. Area 2 excludes waters of Willapa Bay and Grays Harbor.

(b) Area 2-1: Willapa Bay east of a line from Leadbetter Point to Willapa Channel Marker 8 (Buoy 8) then to the westerly most landfall on Cape Shoalwater.

(c) Area 2-2: Grays Harbor east of a line from the outermost end of the north jetty to the outermost exposed end of the south jetty.

(3) Area 3 (La Push): From the Queets River north to Cape Alava.

(4) Area 4 (Neah Bay): From Cape Alava north and inside Juan de Fuca Strait to the Sekiu River.

(5) Area 5 (Sekiu and Pillar Point): From mouth of Sekiu River east to Low Point, mouth of the Lyre River.

(6) Area 6 (East Juan de Fuca Strait): From Low Point east to the Partridge Point-Point Wilson line north to the line from Trial Island (near Victoria, B.C.) - Rosario Strait Traffic Lane Entrance Lighted Buoy R (USCG Light List No. 16340, referenced as Y "R" on National Ocean Service Chart No. 18400-1 dated 1997-08-30) - Smith Island - the most northeasterly of the Lawson Reef lighted buoys (RB1 QK Fl Bell) - Northwest Island - the Initiative 77 marker on Fidalgo Island.

(7) Area 7 (San Juan Islands): All marine waters north of the line described under Area 6 to the United States-Canadian boundary.

(8)(a) Area 8 (Deception Pass, Hope and Camano Islands): Line projected from West Point on Whidbey Island to Reservation Head on Fidalgo Island east through Deception Pass, including all waters east of Whidbey Island to the Possession Point - Shipwreck Line.

(b) Area 8-1 (Deception Pass and Hope Island): East of a line projected from West Point on Whidbey Island to Reservation Head on Fidalgo Island, south of the Burlington Northern Railroad Bridge at the north end of Swinomish Slough, north of the Highway 532 Bridge between Camano Island and the mainland, and westerly of a line from the East Point Light on Whidbey Island to the Saratoga Pass Light #4 on Camano Island (Fl red 4 sec.).

(c) Area 8-2 (Port Susan and Port Gardner): East of a line from the East Point Light on Whidbey Island to the Saratoga Pass Light #2 on Camano Island (Fl red 4 sec.) and north of a line from the south tip of Possession Point 110 degrees true to a shipwreck on the opposite shore.

(9) Area 9 (Admiralty Inlet): All waters inside and south of the Partridge Point-Point Wilson Line and a line projected from the southerly tip of Possession Point 110 degrees true to a shipwreck on the opposite shore and northerly of the Hood Canal Bridge and the Apple Cove Point-Edwards Point Line.

(10) Area 10 (Seattle-Bremerton): From the Apple Cove Point-Edwards Point Line to a line projected true east-west through the northern tip of Vashon Island.

(11) Area 11 (Tacoma-Vashon Island): From the northern tip of Vashon Island to the Tacoma Narrows Bridge.

(12) Area 12 (Hood Canal): All contiguous waters south of the Hood Canal Bridge and adjacent waters north of the Hood Canal Bridge when fishing from the pontoon beneath the bridge.

(13) Area 13 (South Puget Sound): All contiguous waters south of the Tacoma Narrows Bridge.

AMENDATORY SECTION (Amending Order 06-67, filed 4/11/06, effective 5/12/06)

WAC 220-56-210 Fly fishing. (1) It is unlawful to fish in waters restricted to "fly fishing only" with the use of:

- (a) A fixed spool reel.
- (b) Fishing line other than conventional fly line, except that other line may be used for backing and leader if it is attached to not less than 25 feet of conventional fly line.
- (c) Hooks that exceed 1/2 inch when measured from point to shank.
- (d) Not more than two flies each with a barbless single hook.

(e) Bait.

(f) Weight attached to the leader or line.

~~((g))~~ (2) Only knotless nets may be used to land fish in waters restricted to "fly fishing only."

(3) Violation of this subsection is an infraction, punishable under RCW 77.15.160.

~~((h))~~ It is unlawful to possess fish taken with gear in violation of the provisions of this section. Possession of fish while using gear in violation of the provisions of this section is a rebuttable presumption that the fish were taken with such gear. Possession of such fish is punishable under RCW 77.15.380 Unlawful recreational fishing in the second degree—Penalty, unless the fish are taken in the amounts or manner to constitute a violation of RCW 77.15.370 Unlawful recreational fishing in the first degree—Penalty.

~~((i))~~ (4) "Fly" means a lure on which thread, feathers, hackle, or yarn cover a minimum of half the shank of the hook. Metallic colored tape, tinsel, mylar, or beadeyes may be used as an integral part of the design of the fly pattern.

~~((j))~~ (5) Notwithstanding the provisions of this section, persons who have a permanent disability that significantly limits the use of one or both upper extremities may use spinning gear and may fish from a floating device equipped with an electric motor in lakes where fishing from a floating device is allowed in fly fishing only waters as provided for in this section.

(a) A fisher with a disability must apply for a fly fishing special use permit by presenting a letter from a physician stating that the fisher's disability is permanent and that, because of the inability to use one or both upper extremities, the fisher is physically incapable of using conventional fly fishing gear.

(b) The fisher will be issued a fly fishing special use permit in the form of a wearable tag. The fisher must have the special use permit in his or her possession at all times while using spin casting gear in fly fishing only waters, and may display the permit on outer clothing.

(c) It is lawful for persons in possession of a fly fishing special use permit to use the following gear:

(i) Fishers may use spin casting gear with a casting bubble.

(ii) Monofilament line is permitted with no limit on the breaking strength of the line.

(iii) Hook size and barb restrictions, fishing fly requirements, and bait and weight prohibitions as provided for in this section apply to both conventional fly fishing and spin-bubble fly fishing.

AMENDATORY SECTION (Amending Order 06-67, filed 4/11/06, effective 5/12/06)

WAC 220-56-282 Sturgeon—Areas, seasons, limits and unlawful acts. (1) It is unlawful to retain green sturgeon.

(2) It is lawful to fish for white sturgeon the entire year in saltwater, but open in freshwater only concurrent with a salmon or gamefish opening unless otherwise provided.

~~((z))~~ (3) The daily limit is one white sturgeon, with the following size restrictions:

(a) Minimum size 48 inches in length in the Columbia River and tributaries upstream from The Dalles Dam.

(b) Minimum size 42 inches in length in all other state waters.

(c) Maximum size 60 inches in length.

Once the daily limit has been retained, it is lawful to continue to fish for sturgeon in the mainstem of the Columbia River downstream from where the river forms the boundary between Oregon and Washington, provided that all subsequent sturgeon are released immediately.

~~((3))~~ (4) The possession limit is two daily limits of fresh, frozen or processed white sturgeon.

~~((4))~~ (5) There is an annual personal-use limit of five white sturgeon from April 1 through March 31, regardless of where the sturgeon were taken. After the annual limit of sturgeon has been taken, it is lawful to continue to fish for white sturgeon in the mainstem Columbia River downstream from where the river forms the common boundary between Oregon and Washington, provided that all subsequent sturgeon are released immediately.

~~((5))~~ (6) It is unlawful to fish for sturgeon with terminal gear other than bait and one single barbless hook. It is lawful to use artificial scent with bait when fishing for white sturgeon. Violation of this subsection is an infraction, punishable under RCW 77.15.160. It is unlawful to possess sturgeon taken with gear in violation of the provisions of this section. Possession of sturgeon while using gear in violation of the provisions of this section is a rebuttable presumption that the sturgeon were taken with such gear. Possession of such sturgeon is punishable under RCW 77.15.380 Unlawful recreational fishing in the second degree—Penalty, unless the sturgeon are taken in the amounts or manner to constitute a violation of RCW 77.15.370 Unlawful recreational fishing in the first degree—Penalty.

~~((6))~~ (7) It is unlawful to fish for or possess sturgeon taken for personal use from freshwater, except the Chehalis River, from one hour after official sunset to one hour before official sunrise.

~~((7))~~ (8) It is unlawful to possess in the field sturgeon eggs without having retained the intact carcass of the fish from which the eggs have been removed.

~~((8))~~ (9) It is unlawful to use a gaff or other fish landing aid that penetrates the fish while restraining, handling or landing a sturgeon.

~~((9))~~ (10) It is unlawful to fail to immediately return to the water any undersize sturgeon.

AMENDATORY SECTION (Amending Order 05-102, filed 5/19/05, effective 6/19/05)

WAC 220-56-315 Crabs, shrimp, crawfish—Unlawful acts. (1) It is unlawful to take and possess crabs, shrimp, and crawfish taken for personal use except by hand or with hand dip nets, ring nets, shellfish pots, and any hand-operated instrument that will not penetrate the shell.

(2) It is unlawful to ~~((use))~~ set, fish, or pull more than two units of gear at any one time except:

(a) In Puget Sound waters it is unlawful to ~~((use))~~ set, fish, or pull at any one time more than two units of crab gear and two additional units of shrimp gear.

(b) It is unlawful for the operator of any boat from which shrimp pots are set, fished, or pulled in Catch Record Card

Areas 4 through 13 to have on board or to fish more than four shrimp pots.

(c) In the Columbia River it is unlawful to ~~((use))~~ set, fish, or pull more than three units of crab gear.

(3) It is unlawful for any person to operate a shellfish pot not attached to a buoy bearing that person's name, except that a second person may assist the pot owner in operation of the gear.

(4) It is unlawful to salvage or attempt to salvage shellfish pot gear from Hood Canal that has been lost without first obtaining a permit authorizing such activity issued by the director, and it is unlawful to fail to comply with all provisions of such permit.

(5) It is unlawful to fish for or possess crab taken for personal use from the waters of Fidalgo Bay within 25 yards of the Burlington Northern Railroad trestle connecting March Point and Anacortes.

(6) It is unlawful to fish for or possess crab taken for personal use with shellfish pot or ring net gear from the waters of Padilla Bay or Swinomish Slough within 25 yards of the Burlington Northern Railroad crossing the northern end of Swinomish Slough except from one hour before official sunrise to one hour after official sunset.

(7) It is unlawful to dig for or possess ghost or mud shrimp taken for personal use by any method except hand operated suction devices or dug by hand.

(8) One unit of gear is equivalent to one ring net or one shellfish pot. It is unlawful to have more than one unit of unattended gear attached to a buoy line or to fail to have a separate buoy for each unit of gear.

(9) In waters open only on certain days or certain hours during the day, except for the night closure set out in subsection (10) of this section, it is unlawful to fail to remove gear from the water when fishing for shellfish is not allowed, and it is unlawful to fail to remove gear from the water by one hour after sunset if fishing is not allowed on the next calendar day. In waters that are open continuously except for the night closure set out in subsection (10) of this section, gear may be left in the water during the night closure.

(10) It is unlawful to set or pull shellfish pots, ring nets or star traps from a vessel in Catch Record Card Areas 1-13 from one hour after official sunset to one hour before official sunrise.

(11) It is unlawful to possess soft-shelled crab for any personal use purpose. Violation of this subsection shall be an infraction, punishable under RCW 77.15.160.

AMENDATORY SECTION (Amending Order 06-23, filed 2/14/06, effective 5/1/06)

WAC 220-56-325 Shrimp—Areas and seasons. It is unlawful to fish for or possess shrimp taken for personal use from the following areas, except as otherwise provided in this section:

(1) Discovery Bay(~~(, Port Angeles, and Port Townsend))~~ Shrimp District(~~(s;))~~ and Marine Areas 8, 9, 10 and 11 - Open 7:00 a.m. through 3:00 p.m., beginning the first Saturday in May through May 31 and open only on Wednesday and Saturday of each week except it is lawful for divers to take

shrimp by hand or hand-held device from 7:00 p.m. until midnight on any open day in May in Marine Area 8-2;

(2) Hood Canal Shrimp District - Open 9:00 a.m. through 1:00 p.m., the first Saturday in May through May 31 and open only on Wednesday and Saturday of each week;

(3) Marine Area 4 east of the Bonilla-Tatoosh line and Marine Areas 5, 6, 7 and 13, except for Shrimp Districts - Open 7:00 a.m. the first Saturday in May through May 31 and open daily except ~~((closed in Sequim Bay Shrimp District and Carr Inlet Shrimp District))~~ open only Wednesday through Saturday in Marine Area 7.

(4) Beginning June 1 through October 15 in Marine Area 4 east of the Bonilla-Tatoosh line and Areas 5 through 13, shrimp fishing is open daily except closed in Area 10 and the shrimp districts at all times. Unlawful to retain spot shrimp.

(5) Marine Areas 1 through 3 and Marine Area 4 west of the Bonilla-Tatoosh line - Open year-round.

AMENDATORY SECTION (Amending Order 06-23, filed 2/14/06, effective 5/1/06)

WAC 220-56-350 Clams other than razor clams, mussels—Areas and seasons. (1) It is lawful to take, dig for and possess clams and mussels taken for personal use on Puget Sound the entire year except that public tidelands at the following beaches are closed unless otherwise provided:

(a) Ala Spit: Open May 1 through May 31.

(b) ~~((Belfair State Park: Closed the entire year.~~

~~((e))~~ Cama Beach State Park: Closed the entire year.

~~((d))~~ (c) Camano Island State Park: Closed the entire year.

~~((e))~~ (d) Dosewallips State Park: Open May 15 through July 31 only in area defined by boundary markers and signs posted on the beach.

~~((f))~~ (e) Dungeness Spit and Dungeness National Wildlife Refuge Tidelands - Open May 15 through September 30.

~~((g))~~ (f) Eagle Creek: Closed the entire year.

~~((h))~~ (g) Fort Flagler State Park including that portion of the spit west of the park boundary (Rat Island): Open April 1 through ~~((July 15))~~ June 30.

~~((i))~~ (h) Freeland County Park - Open January 1 through May 15.

~~((j))~~ (i) Frye Cove County Park - Open January 1 through June 15.

~~((k))~~ (j) Garrison Bay: Tidelands at Guss Island and those tidelands at British camp between the National Park Service dinghy dock at the north end and the park boundary at the south end are closed the entire year.

~~((l))~~ (k) Gertrude Island - All tidelands at Gertrude Island closed the entire year.

~~((m))~~ (l) Hoodspout: Tidelands at Hoodspout Salmon Hatchery are closed the entire year.

~~((n))~~ (m) Hope Island State Park (South Puget Sound): Open April 1 through May 31.

~~((o))~~ (n) Illahee State Park: April 1 through July 31.

~~((p))~~ (o) Kayak Point County Park: Closed the entire year.

~~((q))~~ (p) Kitsap Memorial State Park: Open May 15 through June ~~((15))~~ 30.

~~((r))~~ (q) Kopachuck State Park: Open June 1 through July 31.

~~((s))~~ (r) Liberty Bay - All state-owned tidelands in Liberty Bay north and west of the Keyport Naval Supply Center are closed to the harvest of clams the entire year.

~~((t))~~ (s) McNeil Island - All tidelands on McNeil Island are closed the entire year.

~~((u))~~ (t) Mukilteo State Park - Closed the entire year.

~~((v))~~ (u) Mystery Bay State Park: Open October 1 through April 30.

~~((w))~~ (v) North Bay—All state-owned tidelands in North Bay (Case Inlet) north of a line drawn southwest from Rocky Point to the north end of Reach Island thence due west to the mainland are closed to the harvest of clams the entire year except state-owned Tidelands on the east side of North Bay north of the power transmission lines and south of the power transmission lines for 1,600 feet.

~~((x))~~ (v) Oak Bay County Park: Open July 1 through July 31.

~~((y))~~ (w) Oyster Reserves: Puget Sound and Willapa Bay state oyster reserves are closed the entire year except as follows:

(i) ~~((Case Inlet: Tidelands on the east side of North Bay at the north end of the inlet open the entire year.~~

~~((ii))~~ North Bay: State-owned oyster reserves ~~((on the east side of North Bay north of the power transmission lines which cross the bay at the north end of Case Inlet))~~ open the entire year.

~~((iii))~~ (ii) Oakland Bay: Tidelands at the north end of Oakland Bay and on the channel of the northwest shore of the Bayshore Peninsula between department markers open the entire year.

~~((iv))~~ (iii) Willapa Bay - Long Island oyster reserve: Northwest side of Long Island between reserve monuments 39 and 41 and southwest side of Long Island between reserve monuments 58 and 59.

~~((v))~~ (x) Penrose Point State Park: Open March 1 through May 31.

~~((aa))~~ (y) Picnic Point County Park: Closed the entire year.

~~((bb))~~ (z) Pitship Point: Closed the entire year.

~~((cc))~~ (aa) Pitt Island - All tidelands on Pitt Island are closed the entire year.

~~((dd))~~ (bb) Point Whitney (excluding Point Whitney Lagoon): March 1 through ~~((July 31))~~ May 15.

~~((ee))~~ (cc) Point Whitney Lagoon: Open ~~((August 1))~~ May 15 through ((August 31)) June 30.

~~((ff))~~ (dd) Port Townsend Ship Canal/Portage Canal: Open January 1 through May 31.

~~((gg))~~ (ee) Potlatch DNR tidelands: April 1 through August 31.

~~((hh))~~ (ff) Potlatch East: April 1 through August 31.

~~((ii))~~ (gg) Potlatch State Park: April 1 through August 31.

~~((jj))~~ (hh) Purdy Spit County Park: The southern shore of the spit from the boat ramp to the bridge is closed the entire year.

~~((kk))~~ (ii) Quilcene Bay Tidelands - All state-owned tidelands in Quilcene Bay north of a line drawn from the Quilcene Boat Haven to Fisherman's Point are closed to the

harvest of clams the entire year, except those state-owned tidelands on the west side of the bay north of the Quilcene Boat Haven are open April 1 through December 31, daily from official sunrise to official sunset only.

~~((H))~~ (j) Rendsland Creek: Open January 1 through ~~(May 31)~~ June 15.

~~((mm))~~ (kk) Saltwater State Park: Closed the entire year.

~~((nn))~~ (ll) Scenic Beach State Park - April 15 through May 15.

~~((oo))~~ (mm) Seahurst County Park: Closed the entire year.

~~((pp))~~ (nn) Sequim Bay State Park - Open May 1 through June 15.

~~((qq))~~ (oo) Shine Tidelands State Park: Open January 1 through May 15.

~~((rr))~~ (pp) South Indian Island County Park: April 1 through August 31.

~~((ss))~~ (qq) Spencer Spit State Park: Open March 1 through July 31.

~~((tt))~~ (rr) Triton Cove Tidelands: Open July 1 through ~~(August 15)~~ September 30.

~~((uu))~~ (ss) Twanoh State Park: Closed the entire year.

~~((vv))~~ (tt) West Dewatto: DNR Beach 44A ~~(open January 1 through May 31)~~ closed the entire year.

~~((ww))~~ (uu) Willapa Bay: State-owned tidelands east of the department Willapa Bay Field Station and Nahcotta Tidelands Interpretive Site are closed year-round.

~~((xx))~~ (vv) Wolfe Property State Park: Open January 1 through May 15.

(2) It is lawful to take, dig for and possess clams, cockles, borers, and mussels, not including razor clams, taken for personal use in Grays Harbor and Willapa Harbor the entire year, except from state oyster reserves, which are closed to clam digging the entire year.

(3) It is lawful to take, dig for and possess clams, cockles, borers, and mussels, not including razor clams taken for personal use from the Pacific Ocean beaches from November 1 through March 31.

AMENDATORY SECTION (Amending Order 06-23, filed 2/14/06, effective 5/1/06)

WAC 220-56-380 Oysters—Areas and seasons. It is lawful to take and possess oysters taken for personal use from public tidelands the entire year, except that public tidelands at the following beaches are closed unless otherwise provided:

(1) Brown Point (DNR 57-B): Closed the entire year.

(2) Cushman Park - Open ~~(May)~~ March 1 through ~~(May 31)~~ December 31.

(3) Fort Flagler State Park including that portion of the spit west of the park boundary (Rat Island): Open April 1 through ~~(July 15)~~ June 30.

(4) Frye Cove County Park: Open January 1 through June 15.

(5) Hoodspout: Tidelands at the Hoodspout Salmon Hatchery are closed the entire year.

(6) Hope Island State Park (South Puget Sound): Open April 1 through May 31.

(7) Illahee State Park: Open April 1 through July 31.

(8) Kitsap Memorial State Park: Open May 15 through July ~~((15))~~ 31.

(9) Kopachuck State Park: Open March 1 through July 31.

(10) Liberty Bay - All state-owned tidelands in Liberty Bay north and west of the Keyport Naval Supply Center are closed to the harvest of oysters the entire year.

(11) Mystery Bay State Park: Open October 1 through April 30.

~~(12) (North Bay - All state-owned tidelands in North Bay (Case Inlet) north of a line drawn southwest from Rocky Point to the north end of Reach Island thence due west to the mainland are closed to the harvest of oysters the entire year except for state-owned tidelands on the east side of North Bay north of the power transmission lines and south of the power transmission lines for 1,600 feet.~~

~~(13))~~ (13) Oak Bay County Park: Open July 1 through July 31.

~~((14))~~ (13) Oyster Reserves: Puget Sound and Willapa Bay oyster reserves are closed the entire year except the following are open the entire year:

(a) Oakland Bay - Tidelands at the north end of Oakland Bay and on the channel of the northwest shore of the Bay-shore Peninsula between department markers - open the entire year.

(b) North Bay - State-owned reserves ~~(on the east side of North Bay north of the power transmission lines)~~ open the entire year.

(c) Willapa Bay - Long Island oyster reserve: Northwest side of Long Island between reserve monuments 39 and 41 and southwest side of Long Island between reserve monuments 58 and 59.

~~((15))~~ (14) Penrose Point State Park: Open March 1 through May 31.

~~((16))~~ (15) Port Townsend Ship Canal/Portage Canal: Open January 1 through May 31.

~~((17))~~ (16) Potlatch DNR Tidelands: April 1 through August 31.

~~((18))~~ (17) Potlatch East: Open April 1 through August 31.

~~((19))~~ (18) Potlatch State Park: Open April 1 through August 31.

~~((20))~~ (19) Quilcene Bay Tidelands - All state-owned tidelands in Quilcene Bay north of a line drawn from the Quilcene Boat Haven to Fisherman's Point are closed except those state-owned tidelands on the west side of the bay north of the Quilcene Boat Haven are open April 1 through December 31, daily from official sunrise to official sunset, only.

~~((21))~~ (20) Scenic Beach State Park: Open April 15 through May 15.

~~((22))~~ (21) Shine Tidelands State Park: Open January 1 through May 15.

~~((23))~~ (22) South Indian Island County Park: April 1 through August 31.

~~((24))~~ (23) Willapa Bay: State-owned tidelands east of the department Willapa Bay Field Station and the Nahcotta Tidelands Interpretive Site are open only between boundary markers and posted signs.

~~((25))~~ (24) Wolfe Property State Park: Open January 1 through May 15.

AMENDATORY SECTION (Amending Order 06-174, filed 7/31/06, effective 8/31/06)

WAC 232-28-619 Washington food fish and game fish—Freshwater exceptions to statewide rules. (1) All freshwater streams and lakes not listed as open for salmon fishing are closed.

(2) Freshwater terminal gear restrictions: In all waters with freshwater terminal gear restrictions, including, but not limited to, selective gear rules, whitefish gear rules, single point barbless hooks required, fly-fishing only, and nonbuoyant lure restrictions, violation of the gear rules is an infraction, punishable under RCW 77.15.160. It is unlawful to possess fish taken with gear in violation of the freshwater terminal gear restrictions. Possession of fish while using gear in violation of the freshwater terminal gear restrictions is a rebuttable presumption that the fish were taken with such gear. Possession of such fish is punishable under RCW 77.15.380 Unlawful recreational fishing in the second degree, unless the fish are taken in the amounts or manner to constitute a violation of RCW 77.15.370 Unlawful recreational fishing in the first degree.

(3) County freshwater exceptions to statewide rules:

(a) Adams and Grant counties: All seasons in specific freshwater exceptions to statewide rules apply to inlet and outlet streams of named lakes in Grant and Adams counties.

(b) Adams, Douglas, Franklin, Grant, and Okanogan counties, except Zosel Dam (Okanogan River): Lawful to fish to base of all dams.

(c) Benton County: Rivers, streams and beaver ponds open year around.

(d) Ferry and Lincoln counties: Except those tributaries listed under specific water exceptions to statewide rules, all tributaries to Lake Roosevelt between Grand Coulee Dam and the State Highway 25 Bridge at Northport except Barnaby and Nancy creeks: Trout: Daily limit 5, no minimum size.

(e) Kitsap County and Mason County on Tahuya Peninsula west of Belfair-Bremerton Highway (S.R. 3): Beaver ponds: Last Saturday in April through October 31 season. Trout: No minimum length.

(4) Specific freshwater exceptions to statewide rules:

Aberdeen Lake (Grays Harbor County): Last Saturday in April through October 31 season.

Abernathy Creek (Cowlitz County):

From mouth to a point five hundred feet downstream from salmon hatchery: June 1 through August 31 and November 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

From Abernathy Falls to posted markers five hundred feet downstream from salmon hatchery: Closed waters.

Aeneas Lake (Okanogan County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one.

Ahtanum Creek, including North and Middle Forks (Yakima County): Selective gear rules. North Fork from Grey Rock

Trailhead Bridge crossing to Shellneck Creek: Closed waters.

Alder Creek (Cowlitz County): Closed waters.

Aldrich Lake (Mason County): Last Saturday in April through October 31 season.

Aldwell Lake (Clallam County): Last Saturday in April through October 31 season. Selective gear rules except fishing from a floating device equipped with an internal combustion motor permitted. Trout: Daily limit two, minimum length twelve inches.

Alexander Lake (Kitsap County): Closed waters.

Alkali Lake (Grant County): Crappie: Not more than five greater than eight inches in length. Bluegill: Not more than five greater than six inches in length.

Alta Lake (Okanogan County): Last Saturday in April through September 30 season.

Amber Lake (Spokane County): Last Saturday in April through September 30 season. Selective gear rules. Trout: Daily limit two, minimum length fourteen inches; release rainbow trout with a clipped adipose fin and a healed scar at the site of the clipped fin. Additional season October 1 through November 30 and March 1 through Friday before last Saturday in April. Selective gear rules. All species: Release all fish.

American Lake (Pierce County): Chumming permitted.

American River (Yakima County): Closed waters: From Highway 410 Bridge at river mile 5.4 to the Mesatchee Creek Trail crossing at river mile 15.8 July 16 through September 15. Selective gear rules.

Anderson Lake (Jefferson County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited. From September 1 through October 31, selective gear rules and trout: Release trout.

Armstrong Lake (Snohomish County): Last Saturday in April through October 31 season.

Asotin Creek, mainstem and forks (Asotin County): Closed to fishing for steelhead.

From SR 129 Bridge upstream to the forks: Lawful to fish up to base of Headgate Dam.

North Fork from mouth upstream to USFS boundary: Selective gear rules.

North Fork from USFS boundary upstream and all other tributaries: Closed waters.

South Fork and tributaries: Closed waters.

B.C. Mill Pond (Stevens County): Last Saturday in April through October 31 season.

Bachelor Creek (Yakima County): Year around season. Trout: Daily limit five, no minimum length.

Badger Lake (Spokane County): Last Saturday in April through September 30 season.

Baker Lake (Whatcom County): Last Saturday in April through October 31 season, except closed waters in an area two hundred feet in radius around the pump discharge at the south end of the lake. Chumming permitted. Trout: Minimum length six inches and maximum length eighteen inches.

Baker River (Skagit County): Mouth to Highway 20 Bridge: September 1 through October 31 season. Nonbuoyant lure restriction and night closure. Trout: Minimum length fourteen inches, except Dolly Varden/Bull Trout. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches. Salmon: Open only July 1 through July 31 except closed 12:01 a.m. July 6 through 2:00 p.m. July 7 and 12:01 a.m. July 10 through 2:00 p.m. July 11. Nonbuoyant lure restriction and night closure. Daily limit 2 sockeye salmon.

Highway 20 Bridge to Baker River fish barrier dam: Closed waters.

Banks Lake (Grant County): Chumming allowed. Perch: Daily limit twenty-five. Small mouth bass: Small mouth bass do not count as part of bass daily limit. Small mouth bass 12 to 17 inches in length may be retained. No minimum size. Daily limit 10 small mouth bass not more than one of which may be greater than 14 inches in length.

Barnaby Slough (Skagit County): Closed waters.

Battle Ground Lake (Clark County): Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than 2 trout 20 inches or greater in length may be retained.

Bay Lake (Pierce County): Last Saturday in April through October 31 season.

Bayley Lake (Stevens County): Last Saturday in April through July 4 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one, minimum length fourteen inches. Additional season, July 5 through October 31. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. All species: Release all fish. Inlet stream: Closed waters.

Bear Creek (Yakima County), tributary to South Fork Tieton River: From the mouth to the falls (approximately 3/4 mile): Closed waters.

Bear Lake (Spokane County): Juveniles, holders of disability licenses, and licensed adults accompanied by a juvenile only.

Bear River (Pacific County): June 1 through March 31 season. Nonbuoyant lure restriction and night closure August 16 through November 30. Single point barbless hooks required August 16 through November 30 downstream from the Lime Quarry Road. All species: Release all fish except salmon and except up to two hatchery steelhead may be retained each day. Upstream from the Lime Quarry Road: Selective gear rules June 1 through March 31. All species: Release all fish except up to two hatchery steelhead may be retained each day. Salmon: Open only September 1 through November 30 from mouth to Lime Quarry Road. Daily limit 6 fish of which no more than 2 may be adult fish and of these two fish no

more than one may be a wild adult coho. Release adult chinook.

Beaver Creek (tributary to Elochoman River) (Wahkiakum County): Closed waters.

Beaver Lake (Clallam County): Selective gear rules (~~except electric motors allowed~~). Trout: Maximum size 12 inches in length.

Beaver Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited.

Beda Lake (Grant County): Selective gear rules. Trout: Daily limit one fish.

Beehive (Lake) Reservoir (Chelan County): Last Saturday in April through October 31 season. July 5 through October 31, selective gear rules, and all species: Release all fish.

Bennington Lake (Mill Creek Reservoir) (Walla Walla County): Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Benson Lake (Mason County): Last Saturday in April through October 31 season.

Berry Creek (tributary to Nisqually River) (Lewis County): Selective gear rules.

Big Bear Creek (tributary of Sammamish River) (Snohomish/King counties): June 1 through August 31 season. Juveniles only.

Big Beaver Creek (Whatcom County):

From closed water markers on Ross Lake upstream one-quarter mile: Closed waters.

From one-quarter mile markers upstream, including tributary streams, and beaver ponds that are tributary to Big Beaver Creek: July 1 through October 31 season. Selective gear rules. All species: Release all fish.

Big Beef Creek (Kitsap County): June 1 through August 31 season. Selective gear rules. All species: Release all fish.

Big Four Lake (Columbia County): March 1 through October 31 season. Fly fishing only. Fishing from any floating device prohibited. Trout: Daily limit two.

Big Lake (Skagit County): Crappie: Daily limit ten, minimum length nine inches. Salmon: Landlocked salmon rules apply.

Big Meadow Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Big Quilcene River (Jefferson County):

From mouth to upper boundary of Falls View Campground: June 1 through last day in February season. Closed waters: August 16 through October 31 from mouth to Rodgers Street. Rodgers Street to the Highway 101 Bridge: Selective gear rules June 1 through August 15, one single point barbless hook August 16 through October 31, and selective gear rules November 1 through last day in February and night closure August 16 through December 31. From electric weir to upper boundary of Falls View Campground: Selective

gear rules June 1 through last day in February. All game fish: Release all fish from mouth to campground. Salmon: Open only August 16 through October 31 from Rodgers Street to the Highway 101 Bridge. Daily limit 4 coho salmon. Only coho salmon hooked inside the mouth may be retained.

From Highway 101 Bridge upstream to the electric weir at the Quilcene National Fish Hatchery: Closed waters.

Big River (Clallam County): June 1 through last day in February season. Selective gear rules. Trout: Minimum length fourteen inches.

Big Twin Lake (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit one.

Bird Creek (Klickitat County): Trout: Daily limit five.

Black Lake (Lower Wheeler Reservoir) (Chelan County): Last Saturday in April through October 31 season. July 5 through October 31, selective gear rules, and all species: Release all fish.

Black Lake (Okanogan County): Selective gear rules.

Black Lake (Pacific County): Last Saturday in April through October 31 season.

Black Lake (Stevens County): Last Saturday in April through October 31 season.

Black Lake (Thurston County): Crappie: Daily limit ten, minimum length nine inches.

Black River (Thurston County), from mouth to Black Lake and including all tributaries west of Interstate Highway 5, including Waddell Creek, Mima Creek, Dempsey Creek, Beaver Creek, Salmon Creek and Blooms Ditch: Selective gear rules. Trout: Minimum length fourteen inches.

Blockhouse Creek (Klickitat County): Trout: Daily limit five.

Bloodgood Creek (Klickitat County): Trout: Daily limit five.

Blue Creek (Lewis County), from mouth to Spencer Road: Closed waters except December 1 through December 31 season from mouth to posted sign at rearing pond outlet. Closed waters: Upstream from cable crossing to posted signs at fence. Nonbuoyant lure restriction and night closure. Only wheelchair-bound anglers may fish from posted signs above rearing pond to posted signs approximately 40 feet downstream at fence including the rearing pond outlet. Trout: Daily limit five. Minimum size 12 inches no more than two fish over 20 inches. Release wild cutthroat, wild steelhead and hatchery steelhead with ((missing)) clipped right ventral fin.

Blue Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Blue Lake (Cowlitz County): Last Saturday in April through October 31 season. Selective gear rules. All species: Release all fish.

Blue Lake (Grant County): Last Saturday in April through September 30 season.

Blue Lake (near Sinlahekin) (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit one.

Blue Lake (near Wannacut Lake) (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit one.

Bobcat Creek and Ponds (Adams County): April 1 through September 30 season.

Bogachiel River (Clallam County), from mouth to Olympic National Park boundary: June 1 through April 30 season. December 1 through April 30, selective gear rules from Highway 101 to Olympic National Park boundary. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead downstream from Highway 101 Bridge. December 1 through April 30, mouth to Highway 101, one wild steelhead per day may be retained. Salmon: Open only July 1 through November 30 from mouth to Highway 101 Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon July 1 through August 31 and of which no more than 3 may be adult salmon September 1 through November 30. July 1 through August 31 release wild adult coho and wild adult chinook. September 1 through November 30 the daily limit may contain no more than 2 adult chinook or 2 adult wild coho or a combination of adult chinook and adult wild coho.

Bonaparte Lake (Okanogan County): Trout: No more than one over twenty inches in length may be retained.

Bosworth Lake (Snohomish County): Last Saturday in April through October 31 season.

Boundary Creek (Clallam County): Closed waters.

Bowman Creek (Klickitat County): Trout: Daily limit five.

Box Canyon Creek (Kittitas County), from mouth to waterfall approximately 2 miles upstream: Closed waters. From waterfall approximately 2 miles upstream of mouth to USFS Road #4930 Bridge: Selective gear rules.

Boxley Creek (North Bend) (King County), from its mouth to the falls located at approximately river mile 0.9: Closed waters.

Boyle Lake (King County): Last Saturday in April through October 31 season. The inlet and outlet streams to Boyle Lake are closed waters.

Bradley Lake (Pierce County): Salmon: Landlocked salmon rules apply.

Bridges Lake (King County): Last Saturday in April through October 31 season. The inlet and outlet streams to Bridges Lake are closed waters.

Brookies Lake (Grant County): Selective gear rules. Trout: Daily limit one fish.

Browns Creek (Pend Oreille County): Fly fishing only.

Browns Lake (Pend Oreille County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: No more than one fish greater than 11 inches in length may be retained.

Buck Lake (Kitsap County): Last Saturday in April through October 31 season.

Buckskin Creek and tributaries (Yakima County), from mouth to the west boundary of Suntides Golf Course: Closed waters.

Bumping Lake (Reservoir) (Yakima County): Chumming permitted. Trout: Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Bumping River (Yakima County):

From mouth to Bumping Reservoir: Lawful to fish to base of Bumping Dam. Selective gear rules June 1 through October 31. Whitefish: Additional December 1 through March 31 season. Whitefish gear rules apply.

Burbank Slough (Walla Walla County): Fishing from any floating device prohibited.

Burke Lake (Grant County): March 1 through July 31 season.

Burley Creek (Kitsap County): June 1 through last day in February season. Trout: Minimum length fourteen inches.

Butter Creek (Lewis County): Selective gear rules. Trout: Minimum length ten inches.

Buttermilk Creek, mouth to confluence of East and West Forks (Okanogan County): Closed waters.

Cady Lake (Mason County): Fly fishing only. Fishing from a floating device equipped with an internal combustion motor prohibited. All species: Release all fish.

Cain Lake (Whatcom County): Last Saturday in April through October 31 season.

Calawah River (Clallam County), from mouth to forks: June 1 through April 30 season. December 1 through April 30, selective gear rules from Highway 101 to forks. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead from mouth to Highway 101 Bridge. December 1 through April 30, mouth to Highway 101, one wild steelhead per day may be retained. Salmon: Open only July 1 through November 30 from mouth to Highway 101 Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon July 1 through August 31 and of which no more than 3 may be adult salmon September 1 through November 30. July 1 through August 31 release wild adult coho and wild adult chinook. September 1 through November 30 the daily limit may contain no more than 2 adult chinook or 2 adult wild coho or a combination of adult chinook and adult wild coho.

Calawah River, South Fork (Clallam County) from mouth to Olympic National Park boundary: June 1 through last day in February season. December 1 through last day in February, selective gear rules. Trout: Minimum length fourteen inches.

Caldwell Lake (Pend Oreille County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: Daily limit two, minimum length twelve inches.

Caliche Lakes, Lower, Upper and West (Grant County): March 1 through July 31 season.

Calispell Creek (Calispell River) (Pend Oreille County):

From mouth to Calispell Lake: Year around season.

From Calispell Lake upstream to source: Selective gear rules.

Calispell Creek and tributaries: Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Calligan Lake (King County): June 1 through October 31 season. All tributary streams, and the upper third of the outlet are closed waters.

Camas Slough: Waters of the Columbia River downstream from the mouth of the Washougal River, north of Lady Island, and downstream of the Highway 14 Bridge at the upstream end of Lady Island. Season: Same rules as adjacent waters of the Columbia River.

Campbell Creek (Mason County): Closed waters.

Campbell Lake (Okanogan County): April 1 through August 31: Selective gear rules and all species: Release all fish.

Campbell Lake (Skagit County): Crappie: Daily limit ten, minimum length nine inches.

Canyon Creek (Clark County): Trout: Daily limit five.

Canyon River (Mason County and Grays Harbor County): Closed waters.

Canyon Creek (S.F. Stillaguamish River) (Snohomish County), mouth to forks: June 1 through last day in February season. Trout: Minimum length fourteen inches.

Canyon Creek (Whatcom County): Closed waters: Mouth to Canyon Creek Road Bridge.

Capitol Lake (Thurston County), from its outlet to a point four hundred feet below the lowest Tumwater Falls (Deschutes River) fish ladder: Closed waters: Percival Cove, west of a set of markers on the western shoreline of the south basin of Capitol Lake. June 1 through March 31 season. Non-buoyant lure restriction and night closure August 1 through November 30. Trout: June 1 through July 31 daily limit five, minimum length eight inches. August 1 through March 31 daily limit two, minimum length fourteen inches. Salmon: Open only July 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

Carbon River (Pierce County), from its mouth to Voight Creek: July 1 through last day in February season. Nonbuoyant lure restriction, night closure and single point barbless hooks August 1 through November 30. Trout: Minimum length fourteen inches. Voight Creek to Highway 162 Bridge:

July 1 through August 15 and December 1 through last day in February season: Trout: Minimum length 14 inches. Salmon: Open only September 1 through November 30 mouth to Voight Creek. Daily limit 6 fish of which no more than 4 may be adult salmon and of these 4 fish no more than 2 may be adult hatchery chinook. Release chum and wild adult chinook salmon.

Carlisle Lake (Lewis County): Last Saturday in April through last day in February season. Fishing from a floating device equipped with an internal combustion motor prohibited. Salmon: Landlocked salmon rules apply.

Carl's Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Carney Lake (Pierce County): Last Saturday in April through June 30 and September 1 through November 30 seasons. Fishing from a floating device equipped with an internal combustion motor prohibited. Salmon: Landlocked salmon rules apply.

Carson Lake (Mason County): Last Saturday in April through October 31 season.

Cascade Lake (Grant County): March 1 through July 31 season.

Cascade Lake (San Juan County): Last Saturday in April through October 31 season.

Cascade River (Skagit County):

From the mouth to the Rockport-Cascade Road Bridge: October 1 through last day in February season. Nonbuoyant lure restriction and night closure September 16 through November 30. Trout: Trout except Dolly Varden/Bull Trout, minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches. Salmon: Open June 1 through July 9. Nonbuoyant lure restriction and night closure. Daily limit 2 hatchery chinook. Open September 16 through November 30. Daily limit 4 coho salmon.

From the Rockport-Cascade Road Bridge upstream: June 1 through last day in February season. Trout: Trout except Dolly Varden/Bull Trout, minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches.

Cases Pond (Pacific County): Last Saturday in April through November 30 season. Juveniles only. Salmon: Landlocked salmon rules apply.

Cassidy Lake (Snohomish County): Crappie: Daily limit ten, minimum length nine inches.

Castle Lake (Cowlitz County): Selective gear rules. Trout: Daily limit one, minimum length sixteen inches.

Cattail Lake (Grant County): April 1 through September 30 season.

Cavanaugh Lake (Skagit County): Chumming permitted.

Cedar Creek (tributary of N.F. Lewis) (Clark County), from mouth to 100 feet upstream of the falls: From the Grist Mill Bridge to 100 feet upstream of the falls: Closed waters. June

1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Cedar Creek (Jefferson County): June 1 through last day in February season. Selective gear rules. Trout: Minimum length fourteen inches.

Cedar Creek (Okanogan County), from mouth to Cedar Falls: Closed waters.

Cedar Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Cedar Lake (Stevens County): Last Saturday in April through October 31 season.

Cedar River (King County), from mouth to Landsburg Road: June 1 through August 31 season. Selective gear rules and night closure. All species: Release all fish. Landsburg Road to Cedar Falls: Closed waters.

Cedar River (Pacific County): Selective gear rules. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Chain Lake (Pend Oreille County): Last Saturday in April through October 31 season. Release kokanee.

Chambers Creek (Pierce County): July 1 through November 15 season. Night closure and nonbuoyant lure restriction.

Chambers Creek Estuary (downstream from markers 400 feet below the Boise-Cascade Dam to the Burlington Northern Railroad Bridge) (Pierce County): July 1 through November 15 season. Night closure and nonbuoyant lure restriction. Trout: Minimum length fourteen inches. Salmon: Open only July 1 through November 15. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho.

Chambers Lake (within Ft. Lewis Military Reservation) (Pierce County): Selective gear rules. Trout: Release all trout.

Chaplain Lake (Snohomish County): Closed waters.

Chapman Lake (Spokane County): Last Saturday in April through October 31 season. Chumming permitted. Trout: Kokanee not counted in daily trout limit. Kokanee daily limit ten.

Chehalis River (Grays Harbor County), from Highway 101 Bridge in Aberdeen to high bridge on Weyerhaeuser 1000 line (approximately 400 yards downstream from Roger Creek): June 1 through April 15 season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only April 16 through July 31 from mouth to high bridge, October 1 through January 31 from mouth to Porter Bridge, and October 16 through last day in February from Porter Bridge to high bridge. Daily limit 6 fish of which no more than 2 may be adult salmon. October 1 through November 30, mouth to Porter Bridge, release adult chinook. October 16 through

November 30, Porter Bridge to High Bridge, release adult chinook. December 1 through January 31, mouth to Porter Bridge, the daily limit may contain no more than one wild adult coho, and release adult chinook. December 1 through last day in February, Porter Bridge to High Bridge, release adult chinook and wild adult coho. Sturgeon: Open year-round and no night closure from mouth to high bridge on Weyerhaeuser 1000 line.

Chehalis River, South Fork (Lewis County), from mouth to Highway Bridge at Boistfort School: June 1 through April 15 season. Trout: Minimum length fourteen inches.

Chehalis River Potholes (adjacent to the Chehalis River south of Highway 12 in Grays Harbor County, this does not include sloughs or beaver ponds): Last Saturday in April through October 31 season.

Chelan Hatchery Creek (Chelan County): Closed waters.

Chelan Lake (Chelan County): Closed waters: Within 400 feet of all tributaries south of a line from Purple Point at Stehekin and Painted Rocks. Trout except kokanee and lake trout: Daily limit 5. Release wild cutthroat. Lake trout not counted in daily trout limit. Lake trout no minimum size, no daily limit. Kokanee not counted in daily trout limit. Kokanee daily limit 10, no minimum length. North of a line between Purple Point at Stehekin and Painted Rocks: April 1 through July 31: All species: Release all fish. Salmon: Open only May 1 through May 31 south of a line from Purple Point to Painted Rocks: Daily limit 1, minimum length 15 inches.

Chelan Lake Tributaries (Chelan County), from mouths upstream one mile except Stehekin River: August 1 through September 30 season. Selective gear rules. Trout: Release wild cutthroat.

Chelan River (Chelan County): From the railroad bridge to the Chelan P.U.D. safety barrier below the power house: May 15 through August 31 season. Nonbuoyant lure restriction. Trout: Release all trout.

Chewuch River (Chewack River) (Okanogan County), from mouth to Eight Mile Creek: June 1 through August 15 season. Selective gear rules. All species: Release all fish.

Upstream from Eight Mile Creek to Pasayten Wilderness boundary: Closed waters June 1 through October 31.

From mouth to Pasayten Wilderness boundary: Additional December 1 through March 31 season. Whitefish gear rules apply.

Chikamin Creek (Chelan County): Selective gear rules.

Chimacum Creek (Jefferson County):

From mouth to Ness's Corner Road: June 1 through August 31 season. Trout: Minimum length fourteen inches.

From Ness's Corner Road to headwaters: Trout: Minimum length fourteen inches.

Chiwaukum Creek (Chelan County): Mouth to Fool Hen Creek: Closed waters.

Chiwawa River (Chelan County): Mouth to Buck Creek: Closed waters.

Chopaka Lake (Okanogan County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one.

Cispus River (Lewis County), from mouth to North Fork: Trout: Release all cutthroat. Additional season November 1 through May 31, release all game fish other than steelhead. Salmon: Open year around. Daily limit 6 fish, of which no more than 2 fish may be adult salmon. Salmon minimum size 8 inches. Release wild coho at all times and release wild chinook January 1 through July 31.

Cispus River, North Fork (Lewis County): Selective gear rules. Trout: No more than one over twelve inches in length. Release cutthroat.

Clallam River (Clallam County): June 1 through last day in February season. Trout: Minimum length fourteen inches.

Clara Lake (Mason County): Last Saturday in April through October 31 season.

Clear Creek (Chelan County): Closed waters.

Clear Lake (Chelan County): Last Saturday in April through October 31 season. From July 5 through October 31, selective gear rules and all species: Release all fish.

Clear Lake (Pierce County): Last Saturday in April through October 31 season. Chumming permitted. Salmon: Land-locked salmon rules apply.

Clear Lake (Spokane County): Last Saturday in April through October 31 season.

Clear Lake (Thurston County): Last Saturday in April through October 31 season.

Clearwater River (Jefferson County):

From mouth to Snahapish River: June 1 through April 15 season. Trout: Minimum length fourteen inches. December 1 through April 15, one wild steelhead per day may be retained. Salmon: Open only September 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon.

From Snahapish River upstream: Trout, minimum length fourteen inches.

Clearwater River (Pierce County): July 1 through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Cle Elum Lake (Reservoir) (Kittitas County): Trout except kokanee: Daily limit two, minimum length twelve inches. Kokanee not counted in daily trout limit. Kokanee daily limit sixteen, no minimum size.

Cle Elum River (Kittitas County), from mouth to Cle Elum Dam: Lawful to fish to base of Cle Elum Dam. Year-round season. Selective gear rules, except December 1 through March 31 bait and one single point barbed hook three-sixteenths or smaller point to shank may be used. Trout: Release all trout. Above Cle Elum Lake to outlet of Hyas Lake except Tucquala Lake: Selective gear rules.

Cliff Lake (Grant County): March 1 through July 31 season.

Cloquallum Creek (Grays Harbor County):

From mouth to second bridge on Cloquallum Road: June 1 through last day in February season. Trout: Minimum length fourteen inches.

From mouth to Highway 8 Bridge: Additional March 1 through March 31 season. Trout: Minimum length fourteen inches.

Clough Creek (North Bend) (King County): Closed waters.

Coal Creek (Cowlitz County), from mouth to four hundred feet below falls: June 1 through August 31 and November 1 through last day in February season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Coal Creek (tributary of Lake Washington) (King County): June 1 through August 31 season. Juveniles only.

Coal Creek (near Snoqualmie) (King County), from mouth to Highway I-90: Last Saturday in April through October 31 season. Juveniles only. Trout: No minimum length.

Coffee Pot Lake (Lincoln County): March 1 through September 30 season. Selective gear rules except internal combustion motors allowed. Trout: Daily limit one, minimum length eighteen inches. Crappie: Daily limit ten, minimum length nine inches.

Coldwater Lake (Cowlitz County): Selective gear rules. Trout: Daily limit one, minimum length sixteen inches.

Coldwater Lake inlet and outlet streams (Cowlitz County): Closed waters.

Collins Lake (Mason County): Last Saturday in April through October 31 season.

Columbia Basin Hatchery Creek (Grant County): Hatchery outflow to confluence with mainstem Hatchery Creek: April 1 through September 30 season. Juveniles and holders of reduced fee disability licenses only. Mainstem Hatchery Creek: April 1 through September 30 season. Juveniles and holders of reduced fee disability licenses only.

Columbia Park Pond (Benton County): Juveniles and holders of reduced fee disability licenses only. All species: Daily limit of five fish combined.

Columbia River, including impoundments and all connecting sloughs, except Wells Ponds: Year-round season unless otherwise provided. General species provisions (unless otherwise provided for in this section): Bass: Below Priest Rapids Dam: Daily limit five fish, bass 12 to 17 inches in length may be retained. Up to but not more than three of the daily limit may be over 15 inches. Trout: Daily limit two fish, minimum length 12 inches, except release all Dolly Varden/Bull Trout. Walleye: Daily limit five fish of which not more than one may be over 24 inches, minimum length 18 inches. Whitefish: Daily limit 15 fish. All other game fish: No daily limit, except release all grass carp.

In the Columbia River between Washington and Oregon, the license of either state is valid. Anglers must comply with the fishing regulations of the state in which they are fishing. This provision does not allow an angler licensed in Oregon to fish on the Washington shore, or in the sloughs or tributaries

in Washington except Camas Slough, where the license of either state is valid when fishing from a floating device.

Anglers fishing the Columbia River are restricted to one daily limit, as defined by the laws of the state in which they are fishing, even if they are licensed by both states.

From a true north-south line through Buoy 10 to a line between Rocky Point in Washington to Tongue Point in Oregon: Trout: Release wild cutthroat. Release all trout April 1 through July 31. Walleye: No minimum size. Daily limit ten, of which no more than five may be greater than eighteen inches in length and one greater than twenty-four inches in length. Fishing from the north jetty is allowed during salmon season openings. Salmon: Open only August 1 through March 31. August 1 through September 30, daily limit 2 salmon of which not more than one may be a chinook salmon. Release chum, sockeye, wild coho, chinook less than 24 inches in length, and coho less than 16 inches in length. October 1 through December 31, daily limit 6 fish of which no more than 2 may be adult salmon and not more than one of which may be an adult chinook salmon. Release chum, sockeye, and wild coho. January 1 through March 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release chum, sockeye, wild coho and wild chinook. Fishing from the north jetty for salmon open during both Area 1 and Buoy 10 fishery openings with barbed hooks allowed and the daily limit is the more liberal if both areas are open. Sturgeon: Release sturgeon May 1 through May 12 and July 5 through December 31. Minimum size when open to retain sturgeon is 42 inches January 1 through April 30 and 45 inches May 13 through July 4. Bottomfish: Daily limits, seasons, size restrictions and gear restrictions are the same as those in the adjacent portion of Marine Area 1.

From the Rocky Point - Tongue Point line to the I-5 Bridge: Trout: Release wild cutthroat. Release all trout April 1 through May 15. Walleye: No minimum size. Daily limit ten, of which no more than five may be greater than eighteen inches in length and one greater than twenty-four inches in length. Salmon: Open only May 16 through March 31. May 16 through June 15 daily limit 6 hatchery jack chinook. June 16 through July 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release sockeye. August 1 through March 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release chum, sockeye, and wild coho. August 1 through December 31 the daily limit may contain not more than 1 adult chinook. Release wild chinook January 1 through March 31. Sturgeon: (1) Release sturgeon May 1 through May 12 and July 5 through December 31 downstream from the Wauna powerlines. Minimum size when open to retain sturgeon is 42 inches January 1 through April 30 and 45 inches May 13 through July 4; (2) I-5 Bridge downstream to Wauna powerlines, lawful to retain sturgeon only on Thursdays, Fridays, and Saturdays from January 1 through July 31, and October 1 through December 31. Release sturgeon on other days and during other time periods.

From the I-5 Bridge to the Highway 395 Bridge at Pasco: Closed waters: (1) From the upstream line of Bonneville Dam to boundary markers located six hundred feet below the fish ladder, and closed to fishing from a floating device or fishing by any method except hand-casted gear from shore from Bonneville Dam downstream to a line from the Hamil-

ton Island boat ramp to an Oregon boundary marker on Robins Island. (2) Waters from the upstream side of the Interstate Bridge at The Dalles to upper line of The Dalles Dam except that bank fishing is permitted up to the downstream navigation lock wall on the Washington shore. (3) From John Day Dam downstream about three thousand feet except that bank fishing is permitted up to four hundred feet below the fishway entrance on the Washington shore. (4) From McNary Dam downstream to a line across the river from the red and white marker on the Oregon shore on a line that intersects the downstream end of the wing wall of the boat lock near the Washington shore. August 1 through October 15: Nonbuoyant lure restriction and night closure from Bonneville Dam to The Dalles Dam. Trout: Release wild cutthroat from I-5 Bridge to Bonneville Dam and release all cutthroat in the waters of Drano Lake. Release all trout April 1 through June 15. Walleye: No minimum size. Daily limit ten, of which no more than five may be greater than eighteen inches in length and one greater than twenty-four inches in length. Snake River Confluence Protection Area: From the first powerline crossing the Columbia upstream of Sacajawea State Park to the railroad bridge between Burbank and Kennewick: All species: Daily limits, seasons, size restrictions and gear restrictions are the same as those in the adjacent portion of the Snake River. Sturgeon: (1) Sturgeon fishing is closed from Bonneville Dam to a line from a boundary marker on the Washington shore approximately 4,000 feet below the fish ladder to the downstream end of Cascade Island to an Oregon angling boundary on Bradford Island (the Cascade Island - Bradford Island line). (2) It is unlawful to fish for sturgeon from May 1 through July 31 from Cascade Island - Bradford Island line downstream to a line from navigation marker 85 on the Washington shore at a right angle to the thread of the river to the Oregon shore ~~((and))~~, from 400 feet below McNary Dam to the Highway 82 Bridge and from John Day Dam downstream to a line crossing the Columbia at a right angle to the thread of the river from the west end of the grain silo at Rufus, Oregon. (3) Cascade Island - Bradford Island line downstream to I-5 Bridge, lawful to retain sturgeon only on Thursdays, Fridays, and Saturdays from January 1 through July 31 and October 1 through December 31, except for May 1 - July 31 closure to the navigation marker 85 line and the closure to the Highway 82 Bridge. Release sturgeon on other days and during other time periods. (4) Release sturgeon ~~((September))~~ August 1 through December 31 from the upstream line of Bonneville Dam and 400 feet below McNary Dam. (5) From the Hamilton Island boat launch (USACE boat restricted zone boundary) to Bonneville Dam, anglers must stop fishing for sturgeon once a daily limit has been retained. Salmon: Open only June 16 through December 31 except closed November 1 through December 31 from Beacon Rock to Bonneville Dam. June 16 through July 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release sockeye. Release wild coho from Bonneville Dam to Hood River Bridge. August 1 through December 31, daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and sockeye. Release wild coho downstream of Hood River Bridge. August 1 through December 31, daily limit may contain not more than 1 adult chinook downstream from Bonneville Dam.

From the Highway 395 Bridge at Pasco to the old Hanford townsite (wooden towers) powerline crossing, in Sec. 30, T13N, R28E except Ringold Hatchery waters: Closed waters: Ringold Springs Creek (Hatchery Creek). Trout: Release all trout except hatchery steelhead having both adipose and ventral fin clips October 1 through October 31. Release all trout except hatchery steelhead November 1 through March 31. Salmon: Open only June 16 through July 31 and August 16 through December 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release sockeye June 16 through July 31. Walleye: Daily limit 10 fish. No minimum size, no more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Ringold Springs Rearing Facility waters (from WDFW markers 1/4 mile downstream from the Ringold wasteway outlet to WDFW markers 1/2 mile upstream from Spring Creek): Open only April 1 through April 15 to fishing from the bank on the hatchery side of the river. Trout: Release all fish except hatchery steelhead.

From the old Hanford townsite (wooden towers) powerline crossing in Sec. 30, T13N, R28E, to Vernita Bridge, (Highway 24): All species: February 1 through October 22 season. Trout: Release all trout. Walleye: Daily limit 10 fish. No minimum size, no more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Salmon: Open only June 16 through July 31 and August 16 through October 22. Daily limit 6 fish of which no more than 2 fish may be adult salmon. Release sockeye June 16 through July 31.

From Vernita Bridge (Highway 24) to Priest Rapids Dam: Closed waters: (1) Priest Rapids Dam - waters between the upstream line of Priest Rapids Dam downstream to the boundary markers six hundred fifty feet below the fish ladders. (2) Jackson (Moran Creek or Priest Rapids Hatchery outlet) Creek - all waters of the Priest Rapids Hatchery system to the outlet on the Columbia River, extending to mid-stream Columbia between boundary markers located one hundred feet upstream and four hundred feet downstream of the mouth. Trout: Release all trout. Walleye: Daily limit 10 fish. No minimum size, no more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Salmon: Open only June 16 through July 31 and August 16 through October 22. Daily limit 6 fish of which no more than 2 may be adult salmon. Release sockeye June 16 through July 31.

From Priest Rapids Dam to Chief Joseph Dam, including up to base of Washburn Pond outlet structure: Closed waters: (1) Wanapum Dam - waters between the upstream line of Wanapum Dam to the boundary markers seven hundred fifty feet downstream of the east fish ladder and five hundred feet downstream of the west fish ladder. (2) Rock Island Dam to boundary markers four hundred feet downstream of the fish ladders. (3) Rocky Reach Dam - waters between the upstream line of Rocky Reach Dam to boundary markers four hundred feet downstream of the fish ladders. (4) Wells Dam - waters between the upstream line of Wells Dam to boundary markers four hundred feet downstream of the spawning channel discharge (Chelan County) and fish ladder (Douglas County). (5) Chief Joseph Dam - closed to fishing from the Okanogan County shore between the dam and the Highway 17 Bridge. Closed to fishing from a floating device from the boundary

marker to the Corps of Engineers safety zone marker. Trout: Release all trout. Salmon: Open only July 1 through October 15. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho and sockeye. From Wells Dam to Chief Joseph Dam, open only from Highway 173 Bridge at Brewster to Highway 17 Bridge at Bridgeport. Sturgeon: Release all sturgeon.

Above Chief Joseph Dam: See Lake Roosevelt and Rufus Woods Lake.

Colville River (Stevens County):

From mouth to bridge at Town of Valley: Year-round season. Trout: Daily limit five fish, not more than two of which may be brown trout October 1 through November 30. Walleye: Daily limit 8 fish. No minimum size. Not more than one walleye greater than 22 inches may be retained. Sturgeon: Unlawful to fish for or retain sturgeon. Small mouth bass: Small mouth bass do not count as part of the bass daily limit. Small mouth bass 12 to 17 inches in length may be retained. No minimum size. Daily limit 10 bass of which not more than 1 may be greater than 14 inches in length.

From bridge at Valley upstream and tributaries: Selective gear rules.

Conconully Lake (Okanogan County): Last Saturday in April through October 31 season.

Conconully Reservoir (Okanogan County): Last Saturday in April through October 31 season.

Conger Pond (Pend Oreille County): Last Saturday in April through October 31 season.

Connelly Creek and tributaries (Lewis County), from four hundred feet below the city of Morton Dam to its source: Closed waters.

Conner Lake (Okanogan County): Last Saturday in April through October 31 season.

Cooper River (Kittitas County): Mouth to Cooper Lake: Selective gear rules.

Coot Lake (Grant County): April 1 through September 30 season.

Copalis River (Grays Harbor County): June 1 through last day in February season. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through January 31 from mouth to Carlisle Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook.

Cottage Lake (King County): Last Saturday in April through October 31 season.

Cottonwood Creek (Lincoln County): Year-round season.

Cougar Creek (tributary to Yale Reservoir) (Cowlitz County): June 1 through August 31 season.

Cougar Lake (near Winthrop) (Okanogan County): September 1 through March 31 season.

Coulter Creek (Kitsap/Mason counties): Trout: Minimum length fourteen inches.

County Line Ponds (Skagit County): Closed waters.

Coweeman River (Cowlitz County), from mouth to Mulholland Creek: June 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Cowiche Creek (Yakima County): Selective gear rules.

Cowlitz Falls Reservoir (Lake Scanewa) (Lewis County): June 1 through last day in February season. The upstream boundary of the reservoir in the Cowlitz arm is the posted PUD sign on Peters Road. The upstream boundary of the reservoir in the Cispus arm is the posted markers at the Lewis County PUD kayak launch, approximately 1.5 miles upstream from the confluence of the Cowlitz and Cispus arms. Trout and salmon: Minimum length eight inches. Trout: Release cutthroat. Release rainbow trout except rainbow trout with a clipped adipose fin and a healed scar at the site of the clipped fin. Salmon: Daily limit 6 fish, of which not more than 2 may be adult salmon. Release wild coho. Release wild chinook June 1 through July 31.

Cowlitz River (Lewis County):

From mouth to Mayfield Dam: Closed waters: From 400 feet or posted markers below Cowlitz salmon hatchery barrier dam to boundary markers near the Cowlitz salmon hatchery water intake approximately 1,700 feet upstream of the Cowlitz salmon hatchery barrier dam, and from 400 feet below the Mayfield powerhouse upstream to Mayfield Dam. Year-round season except closed to fishing from south bank May 1 through June 15 from Mill Creek to the Cowlitz salmon hatchery barrier dam. Lawful to fish up to four hundred feet or the posted deadline at the Cowlitz salmon hatchery barrier dam. Lawful to fish up to Tacoma Power safety signs at Onion Rock below Mossyrock Dam. Lawful to fish up to Lewis County P.U.D. safety signs below Cowlitz Falls Dam. From the Cowlitz salmon hatchery barrier dam downstream to a line from the mouth of Mill Creek to a boundary marker on the opposite shore, it is unlawful to fish from any floating device. Nonbuoyant lure restriction and night closure April 1 through October 31 from mouth of Mill Creek to the Cowlitz salmon hatchery barrier dam. All game fish: Release all fish except steelhead April 1 through May 31. Trout: Daily limit five, minimum length twelve inches, no more than two over twenty inches. Release wild cutthroat. Release all steelhead missing right ventral fin. Salmon: Open year-round. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild coho. Release wild chinook January 1 through July 31. Mill Creek to Blue Creek - release all chinook October 1 through December 31. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

From posted PUD sign on Peters Road to mouth of Ohanepecosh River and mouth of Muddy Fork: Trout: Release cutthroat. Additional November 1 through May 31 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open year-round from upstream boundary of Lake Scanewa. Daily limit 6 fish of which no more than 2 may be adult salmon. Salmon minimum size 12 inches. Release wild coho. Release wild chinook January 1 through July 31.

Cowlitz River, Clear and Muddy Forks (Lewis County): Selective gear rules. Trout: Release cutthroat.

Coyote Creek and Ponds (Adams County): April 1 through September 30 season.

Crab Creek (Adams/Grant counties):

From Highway 26 to Morgan Lake Road in Section 36: ~~((March))~~ April 1 through September 30 season.

From Morgan Lake Road in Section 36 to O'Sullivan Dam (including Marsh Unit I and II impoundments): Closed waters.

Crab Creek (Lincoln/Grant counties) and tributaries: Year-round season. In those waters from Grant County Road 7 to the fountain buoy and shoreline markers or 150 feet downstream of the Alder Street fill March 1 through May 31 terminal gear restricted to one single hook measuring 3/4 inch or less point to shank. Year-round: Daily limits and size limits same as Moses Lake. From Moses Lake downstream to the confluence of the outlet streams March 1 through May 31 terminal gear restricted to one single-point hook measuring 3/4 inch or less point to shank. Year-round: Daily limits and size limits same as Potholes Reservoir.

Crabapple Lake (Snohomish County): Last Saturday in April through October 31 season.

Cranberry Creek (Mason County), mouth to Lake Limerick: Closed waters.

Crawfish Lake (Okanogan County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited.

Crescent Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Crescent Lake (Pierce County): Last Saturday in April through October 31 season.

Crocker Lake (Jefferson County): Closed waters.

Crystal Lake (Grant County): March 1 through July 31 season.

Cup Lake (Grant County): March 1 through July 31 season.

Curl Lake (Columbia County): Last Saturday in April through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Curley Creek (Kitsap County): June 1 through last day in February season. Trout: Minimum length fourteen inches.

Cushman Reservoir (Mason County): Salmon: Landlocked salmon rules apply.

Dakota Creek (Whatcom County): Salmon: Open only October 1 through December 31 from mouth to Giles Road Bridge. Daily limit 2 salmon.

Damon Lake (Grays Harbor County): June 1 through October 31 season.

Davis Lake (Ferry County): Last Saturday in April through October 31 season.

Davis Lake (Lewis County): Last Saturday in April to last day in February season.

Davis Lake (Okanogan County): April 1 through August 31: Selective gear rules. All species: Release all fish.

Davis Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Dayton Pond (Columbia County): Juveniles only. Trout: No more than 2 trout over 13 inches in length may be retained.

Deadman Lake (Adams County): April 1 through September 30 season.

De Coursey Pond (Pierce County): Last Saturday in April through November 30 season. Juveniles only. Salmon: Landlocked salmon rules apply.

Deep Creek (Clallam County): December 1 through last day in February season. All species: Release all fish except up to two hatchery steelhead may be retained.

Deep Creek (tributary to Bumping Lake) (Yakima County): Mouth to second bridge crossing on USFS Rd. 1808 (approximately 3.7 miles from junction of USFS Rds. 1800 and 1808): Closed waters.

Deep Lake (Grant County): Last Saturday in April through September 30 season.

Deep Lake (Stevens County): Last Saturday in April through October 31 season.

Deep Lake (Thurston County): Last Saturday in April through October 31 season.

Deep River (Wahkiakum County): Year-round season. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open year-round only from mouth to town bridge. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild coho. Release wild chinook January 1 through July 31. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

Deer Creek (Mason County): Closed waters.

Deer Creek and Little Deer Creek (tributaries to North Fork Stillaguamish) (Skagit County): Closed waters.

Deer Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Deer Lake (Island County): Last Saturday in April through October 31 season.

Deer (Deer Springs) Lake (Lincoln County): Last Saturday in April through September 30 season.

Deer Lake (Mason County): Last Saturday in April through October 31 season.

Deer Lake (Stevens County): ~~((Last Saturday in April))~~ March 1 through October 31 season. Trout: No more than two over ~~((twenty))~~ thirty inches in length may be retained.

Small mouth bass: Small mouth bass are not included as part of the bass daily limit. No minimum size. Small mouth bass 12 to 17 inches in length may be retained. Daily limit 10 small mouth bass, not more than one of which may be greater than 14 inches in length.

De Roux Creek (Yakima County): Selective gear rules.

Deschutes River (Thurston County): Closed waters: From 400 feet below lowest Tumwater Falls fish ladder to Old Highway 99 Bridge. From old U.S. Highway 99 Bridge near Tumwater to Henderson Boulevard Bridge near Pioneer Park: June 1 through March 31 season. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only July 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

From Henderson Boulevard Bridge upstream: Year-round season. Selective gear rules. All game fish: Release all fish except hatchery steelhead. Salmon: Open only July 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

Devereaux Lake (Mason County): Last Saturday in April through October 31 season.

Devil's Lake (Jefferson County): Last Saturday in April through October 31 season.

Dewatto River (Mason County): Selective gear rules. Game fish: Release all fish. Salmon: Open only September 1 through October 31 mouth to Dewatto-Holly Road Bridge. Daily limit two coho. Release all salmon other than coho.

Diamond Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Dickey River (Clallam County): June 1 through April 30 season in mainstem Dickey and East Fork Dickey upstream to D5200 road and June 1 through March 15 in East Fork Dickey upstream from D5200 road and West Fork Dickey. Trout: Minimum length fourteen inches. December 1 through April 30, one wild steelhead per day may be retained. Salmon: Open only July 1 through November 30 from mouth to East Fork Dickey including Olympic National Park. Daily limit 6 fish of which no more than 2 may be adult salmon July 1 through August 31 and of which no more than 3 may be adult salmon September 1 through November 30. July 1 through August 31 release wild adult coho and wild adult chinook. September 1 through November 30 the daily limit may contain no more than 2 adult chinook or 2 adult wild coho or a combination of adult chinook and adult wild coho.

Dillacort Creek (Klickitat County): Trout: Release all trout.

Dog Lake (Yakima County): Trout: Daily limit may contain not more than 1 fish over 14 inches in length.

Dosewallips River (Jefferson County), from mouth to Olympic National Park boundary about three-quarters mile downstream of falls: June 1 through August 31 season mouth to park boundary and November 1 through December 15 season mouth to Highway 101 Bridge. Selective gear rules June 1 through August 31. All species: Release all fish except salmon may be retained November 1 through December 15.

Salmon: Open only November 1 through December 15 from mouth to Highway 101 Bridge. Daily limit 2 chum salmon.

Dot Lake (Grant County): March 1 through July 31 season.

Downs Lake (Lincoln/Spokane counties): Last Saturday in April through September 30 season. Crappie: Daily limit ten, minimum length nine inches.

Dry Falls Lake (Grant County): April 1 through November 30 season. Selective gear rules. Trout: Daily limit one.

Duck Lake (Grays Harbor County): Crappie: Daily limit ten, minimum length nine inches.

Duckabush River (Jefferson County), from mouth to the Olympic National Park Boundary: June 1 through August 31 season mouth to park boundary and November 1 through December 15 season mouth to Mason County P.U.D. No. 1 overhead electrical distribution line. Selective gear rules June 1 through August 31. All species: Release all fish except salmon may be retained November 1 through December 15. Salmon: Open only November 1 through December 15 from mouth to Mason County P.U.D. No. 1 overhead electrical distribution line. Daily limit 2 chum salmon.

Dungeness River (Clallam County):

From mouth to junction of Gray Wolf and Dungeness rivers: October 16 through last day in February season. Trout: Minimum length fourteen inches. Salmon: Open only October 16 through December 31 from mouth to the hatchery intake pipe at river mile 11.3. Daily limit 4 coho salmon.

From junction of Gray Wolf River upstream to Gold Creek - Closed waters.

From junction of Gold Creek upstream to headwaters: Trout: Minimum length fourteen inches.

Dusty Lake (Grant County): March 1 through November 30 season. Selective gear rules. Trout: Daily limit one fish.

Early Winters Creek (Okanogan County): Closed waters.

East Twin River (Clallam County): Trout: Minimum length fourteen inches.

Easton Lake (Kittitas County): Saturday before Memorial Day through October 31 season. Trout: Daily limit five fish of which no more than 2 may be trout other than Eastern brook trout. Minimum length 8 inches.

Ebey Lake (Little Lake) (Snohomish County): Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit one, minimum length eighteen inches.

Echo Lake (Snohomish County): Last Saturday in April through October 31 season.

Eightmile Lake (Chelan County): Trout: Daily limit five, not more than two mackinaw may be retained.

Elbow Lake (Stevens County): Last Saturday in April through October 31 season.

Elk River (Grays Harbor County), from the Highway 105 Bridge upstream: June 1 through last day in February season. Single point barbless hooks required August 16 through

November 30 downstream of the confluence of the east and middle branches. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30 from Highway 105 Bridge to the confluence of the East and Middle Branches. Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook.

Ell Lake (Okanogan County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit one.

Ellen Lake (Ferry County): Last Saturday in April through October 31 season.

Elochoman River (Wahkiakum County): Closed waters: Waters from 100 feet above the upper hatchery rack downstream to the Elochoman Hatchery Bridge located 400 feet below the upper hatchery rack; waters from a point 50 feet above to 100 feet below the outlet pipes from the most downstream Elochoman Hatchery rearing pond and extending 30 feet out from the south bank of the river; waters between the department of fish and wildlife temporary rack downstream to Foster (Risk) Road Bridge while rack is installed in the river; mainstem waters from the confluence of the west fork to source.

From mouth to West Fork: June 1 through March 15 season. Nonbuoyant lure restriction and night closure September 1 through October 31. Stationary gear restriction September 1 through October 31. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open only September 1 through December 31. Daily limit 6 fish of which no more than 2 may be adult chinook. Release chum and wild coho. October 1 through December 31 release chinook upstream of Highway 4 Bridge.

Eloika Lake (Spokane County): Crappie: Daily limit ten, minimum length nine inches.

Elwha River (Clallam County): Closed waters: From south spillway on Aldwell Dam downstream two hundred feet.

From mouth to two hundred feet below the south spillway on the Aldwell Dam: October 1 through last day in February season. Fishing from any floating device prohibited. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 15. Daily limit 6 coho salmon of which no more than 4 may be adult coho salmon.

From Lake Aldwell upstream to Olympic National Park boundary, including all tributaries except Indian Creek: Selective gear rules. Trout: Minimum length twelve inches.

Empire Lake (Ferry County): Last Saturday in April through October 31 season.

Enchantment Park Ponds (Chelan County): Juveniles only.

Entiat River (Chelan County), from mouth to Entiat Falls: December 1 through March 31 season. Whitefish gear rules apply. Above Entiat Falls: Selective gear rules. Trout: Daily limit 5 trout, not more than one of which may be greater than 12 inches in length. Eastern brook trout not included in trout daily limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Ephrata Lake (Grant County): Closed waters.

Erie Lake (Skagit County): Last Saturday in April through October 31 season.

Failor Lake (Grays Harbor County): Last Saturday in April through October 31 season.

Fan Lake (Pend Oreille County): Last Saturday in April through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Fazon Lake (Whatcom County): Fishing from any floating device prohibited from first Friday in October through January 15. Channel catfish: Daily and possession limit two.

Fio Rito Lakes (Kittitas County): Fishing from a floating device equipped with an internal combustion motor prohibited.

Fish Lake (Chelan County): Trout: No more than two over fifteen inches in length may be retained.

Fish Lake (Ferry County): Last Saturday in April through October 31 season.

Fish Lake (Okanogan County): Last Saturday in April through October 31 season.

Fish Lake (Spokane County): Last Saturday in April through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Fisher Slough (Snohomish County):

From mouth to Highway 530 Bridge: Year-round season. Trout: Minimum length fourteen inches.

Upstream from Highway 530 Bridge: Trout: Minimum length fourteen inches.

Fishhook Pond (Walla Walla County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Fishtrap Creek (Whatcom County): From Koh Road to Bender Road: June 1 through October 31 season. Juveniles only.

Fishtrap Lake (Lincoln/Spokane counties): Last Saturday in April through September 30 season.

Forde Lake (Okanogan County): Last Saturday in April through October 31 season.

Fort Borst Park Pond (Lewis County): Last Saturday in April through last day in February season. Juveniles only.

Fortson Mill Pond # 2 (Snohomish County): Last Saturday in April through October 31 season. Juveniles only.

Fourth of July Lake (Adams/Lincoln counties): December 1 through March 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than two over fourteen inches in length may be retained.

Franz Lake (Skamania County): Closed waters.

Frater Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Frenchman Hills Lake (Grant County): February 1 through September 30 season.

Gadwall Lake (Grant County): April 1 through September 30 season.

Garfield Juvenile Pond (Whitman County): Juveniles only.

George Lake (Grant County): March 1 through July 31 season.

Geneva Lake (King County): Last Saturday in April through October 31 season.

Germany Creek (Cowlitz County), from mouth to end of Germany Creek Road (approximately five miles): June 1 through August 31 and November 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Gibbs Lake (Jefferson County): Selective gear rules. Trout: Release all trout.

Gillette Lake (Stevens County): Last Saturday in April through October 31 season.

Gissberg Pond, North (Snohomish County): Juveniles only.

Gissberg Ponds (Snohomish County): Channel catfish: Daily limit 2, no minimum size.

Goat Creek (Okanogan County): Closed waters.

Gobar Creek (tributary to Kalama River) (Cowlitz County): June 1 through March 31 season. Selective gear rules. All species: Release all fish.

Gold Creek, Gold Creek Pond and Outlet Channel (tributary to Keechelus Lake) (Kittitas County): Closed waters.

Gold Creek (Okanogan County): From mouth to confluence north fork Gold Creek: Closed waters.

Goldsborough Creek (Mason County): Trout: Minimum length fourteen inches.

Golf Course Pond (Asotin County): Trout: No more than 2 trout over 13 inches in length may be retained.

Goodman Creek (Jefferson County) outside Olympic National Park: June 1 through last day in February season. Trout, minimum length fourteen inches. December 1 through last day in February, one wild steelhead per day may be retained.

Goodwin Lake (Snohomish County): Chumming permitted.

Goose Creek (Lincoln County), within the city limits of Wilbur: Year around season. Juveniles and holders of disability licenses only.

Goose Lake, Lower (Adams County): Crappie: Daily limit ten, minimum length nine inches. Bluegill: Not more than five over six inches in length.

Gorst Creek (Kitsap County): Closed waters: From lower bridge on the old Belfair Highway upstream to source

(including tributaries). From mouth upstream to lower bridge: Trout: Minimum length fourteen inches.

Gosnell Creek and tributaries (tributary to Lake Isabella) (Mason County): Trout: Minimum length fourteen inches.

Goss Lake (Island County): Last Saturday in April through October 31 season.

Grande Ronde River (Asotin County):

From mouth to County Road Bridge about two and one-half miles upstream: Year-round season. Selective gear rules September 1 through May 31. Trout: Minimum length ten inches, maximum length twenty inches.

From County Road Bridge upstream to Oregon state line and all tributaries: June 1 through October 31 season. Selective gear rules, June 1 through August 31 and barbless hooks required September 1 through October 31. Additional season November 1 through April 15: Barbless hooks required. All tributaries: Closed waters. All species: Release all fish except whitefish and hatchery steelhead. Trout: Daily limit three hatchery steelhead.

Granite Creek and tributaries (Pend Oreille County): Closed waters.

Granite Lakes (near Marblemount) (Skagit County): Grayling: Release all grayling.

Grass Lake (Mason County): Last Saturday in April through October 31 season.

Gray Wolf River (Clallam County): From junction with Dungeness River to bridge at river mile 1.0 - Closed waters.

From bridge at river mile 1.0 upstream - selective gear rules. Trout: Minimum length fourteen inches.

Grays River (Wahkiakum County), from mouth to Highway 4 Bridge: September 1 through October 15 and November 15 through March 15 season; and from Highway 4 Bridge to mouth of South Fork: September 1 through October 15 and December 15 through March 15 season. Nonbuoyant lure restriction, night closure and stationary gear restriction September 1 through October 15. All game fish: Release all fish except hatchery steelhead. Salmon: Open only September 1 through October 15 from mouth to South Fork. Daily limit 6 fish of which no more than two may be adult salmon. Release chinook, chum, and wild coho.

Grays River, East Fork (Wahkiakum County): Selective gear rules. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Grays River, West Fork (Wahkiakum County), downstream from hatchery intake footbridge: June 1 - August 31 season. Trout: Additional December 15 through March 15 season downstream from hatchery intake footbridge. Release all fish other than hatchery steelhead. Salmon: Additional September 1 through October 15 season. Stationary gear restriction. Daily limit 6 fish of which not more than two may be adult salmon. Release chinook, chum and wild coho.

Green Lake (Okanogan County): April 1 through November 30: Selective gear rules (~~except electric motors allowed~~), and all species: Release all fish.

Green Lake (Lower) (Okanogan County): April 1 through November 30: Selective gear rules, and all species: Release all fish.

Green River (Cowlitz County): Closed waters: All tributaries.

From mouth to 2800 Bridge: June 1 through November 30 season except closed from 400 feet above to 400 feet below the water intake at the upper end of the hatchery grounds during the period September 1 through November 30 and from 400 feet or posted signs above and below the salmon hatchery rack when the rack is installed in the river. Nonbuoyant lure restriction and night closure September 1 through October 31 from mouth to 400 feet below salmon hatchery rack. All species: When nonbuoyant lure restriction in effect, only fish hooked inside the mouth may be retained. Trout: Release all trout except hatchery steelhead. Salmon: Open August 1 through November 30. Daily limit 6 fish of which not more than two may be adult salmon. Release chum and wild coho. Release chinook October 1 through November 30.

From 2800 Bridge to source: Closed waters.

Green (Duwamish) River (King County):

From the First Avenue South Bridge to Tukwila International Boulevard/Pacific Highway South: June 1 through July 31 and September 1 through February 15 season. Nonbuoyant lure restriction and night closure September 1 through November 30. Fishing from any floating device prohibited November 1 through February 15. Trout: Minimum length fourteen inches. July 1 through July 31 and September 1 through November 30, one wild steelhead per day may be retained. Salmon: Open only September 1 through December 31. Daily limit 6 fish of which no more than 3 may be adult salmon. Release chinook.

From the Tukwila International Boulevard/Pacific Highway South to SW 43rd Street/South 180th Street Bridge: June 1 through July 31 and September 16 through February 15 season. Nonbuoyant lure restriction and night closure September 16 through November 30. Fishing from any floating device prohibited November 1 through February 15. Trout: Minimum length fourteen inches. July 1 through July 31 and September 16 through November 30, one wild steelhead per day may be retained. Salmon: Open only September 16 through December 31. Daily limit 6 fish of which no more than 3 may be adult salmon. Release chinook.

From the SW 43rd Street/South 180th Street Bridge to South 277th Street Bridge in Auburn: Open only June 1 through July 31 and October 1 through February 15. Nonbuoyant lure restriction and night closure October 1 through November 30. Fishing from any floating device prohibited November 1 through February 15. Trout: Minimum length fourteen inches. July 1 through July 31 and October 1 through November 30, one wild steelhead per day may be retained. Salmon: Open only October 1 through December 31. Daily limit 6 fish of which not more than 3 may be adult salmon. Release chinook.

From the 277th Street Bridge to Auburn-Black Diamond Road Bridge: Open only June 1 through August 15 and October 16 through last day in February. Nonbuoyant lure restriction and night closure October 16 through November 30.

Fishing from a floating device prohibited November 1 through last day in February. Trout, minimum length fourteen inches. July 1 through August 15 and October 16 through November 30, one wild steelhead per day may be retained. Salmon: Open only October 16 through December 31. Daily limit 6 fish of which no more than 3 may be adult salmon. Release chinook.

From the Auburn-Black Diamond Road Bridge to the Tacoma Headworks Dam: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through November 30. Closed waters: Within 150 feet of the Palmer Pond outlet rack and within 150 feet of the mouth of Keta Creek. Trout: Minimum length 14 inches. July 1 through November 30, one wild steelhead per day may be retained. Salmon: Open only November 1 through December 31. Daily limit 2 chum.

Greenwater River (King County), from mouth to Greenwater Lakes: July 1 through October 31 season. Selective gear rules. Trout: Minimum length 14 inches.

Grimes Lake (Douglas County): June 1 through August 31 season. Selective gear rules. Trout: Daily limit one.

Grizzly Lake (Skamania County): Closed waters.

Halfmoon Lake (Adams County): April 1 through September 30 season.

Halfmoon Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Hamilton Creek (Skamania County): Trout: Release all fish except up to two hatchery steelhead may be retained per day. All tributaries downstream from the Highway 14 Bridge: Closed waters.

Hamma Hamma River (Mason County):

From mouth to four hundred feet below falls: June 1 through August 31 season. Selective gear rules. All species: Release all fish.

Hammersley Inlet Freshwater Tributaries (Mason County), except Mill Creek: Closed waters.

Hampton Lakes, Lower and Upper (Grant County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Hancock Lake (King County): Last Saturday in April through October 31 season. All tributary streams and the upper third of the outlet are closed waters.

Harvey Creek (tributary to Sullivan Lake) (Pend Oreille County):

From mouth to Bridge 4830 on county road (about one and one-half miles): Closed waters.

From Bridge 4830 upstream: Selective gear rules.

Harvey Creek (tributary to Stillaguamish River) (Snohomish County): Closed waters.

Hatch Lake (Stevens County): December 1 through March 31 season.

Hatchery Lake (Mason County): Last Saturday in April through October 31 season.

Haven Lake (Mason County): Last Saturday in April through October 31 season.

Hawk Creek and tributaries (Lincoln County): Year-round season.

Hays Creek and Ponds (Adams County): April 1 through September 30 season.

Headgate Pond (Asotin County): Last Saturday in April through October 31 season. Juveniles, seniors and holders of disability licenses only.

Heart Lake (near Anacortes) (Skagit County): Last Saturday in April through October 31 season.

Heins Lake (Kitsap County): Closed waters.

Hemlock Lake (Trout Creek Reservoir) (Skamania County): Closed waters.

Hen Lake (Grant County): April 1 through September 30 season.

Heritage Lake (Stevens County): Last Saturday in April through October 31 season.

Herman Lake (Adams County): April 1 through September 30 season.

Hicks Lake (Thurston County): Last Saturday in April through October 31 season.

Hog Canyon Creek (Spokane County): Hog Canyon Dam to Scroggie Road: Year-round season.

Hog Canyon Lake (Spokane County): December 1 through March 31 season. Trout: No more than two over fourteen inches in length may be retained.

Hoh River (Jefferson County), from mouth to Olympic National Park boundary below mouth of South Fork: May 15 through April 15 season. May 15 through May 31, open Wednesday through Sunday only from mouth to Willoughby Creek only. Willoughby Creek to park boundary closed through May 31. Selective gear rules June 1 through October 15 from Willoughby Creek to Morgan's Crossing Boat Launch, June 1 through November 30 from Morgan's Crossing Boat Launch to the mouth of south fork, and December 1 through April 15 from DNR Oxbow Campground Boat Launch to mouth of south fork. Trout: Minimum length fourteen inches. Catch and release during May, except up to two hatchery steelhead may be retained on open days. November 1 through February 15, daily limit three steelhead downstream from the Oxbow Campground Boat Launch. December 1 through April 15, from mouth to DNR Oxbow Campground Boat Launch, one wild steelhead per day may be retained. Salmon: Open only May 16 through November 30 mouth to Willoughby Creek and October 16 through November 30 Willoughby Creek to Morgan's Crossing Boat Launch. Daily limit 6 fish of which no more than 2 may be adult salmon except May 15 through August 31 from mouth to Willoughby Creek open Wednesday through Sunday only of each week and daily limit may contain no more than one adult salmon.

Hoh River South Fork (Jefferson County), outside Olympic National Park: June 1 through April 15 season. Selective gear rules. Trout: Minimum length fourteen inches.

Hoko River (Clallam County): From mouth to upper Hoko Bridge: Fly fishing only September 1 through October 31. Additional November 1 through March 15 season. Trout: Minimum length fourteen inches. December 1 through March 15, one wild steelhead per day may be retained.

From upper Hoko Bridge to Ellis Creek Bridge (river mile 18.5): June 1 through March 31 season. Fly fishing only. All species: Release all fish except that up to two hatchery steelhead per day may be retained.

Homestead Lake (Grant County): Selective gear rules. Trout: Daily limit one fish.

Hoquiam River, including all forks (Grays Harbor County): June 1 through March 31 season. Single point barbless hooks required August 16 through November 30. Selective gear rules and all species: Release all fish except up to two hatchery steelhead may be retained per day, from March 1 through March 31. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30 from mouth to bridge on Dekay Road on mainstem and East Fork mouth to mouth of Berryman Creek. Daily limit 6 fish of which no more than 2 may be adult salmon, except release adult chinook.

Horseshoe Lake (Clark/Cowlitz counties): Trout: No more than 2 trout 20 inches or greater in length may be retained. Salmon: Landlocked salmon rules apply.

Horseshoe Lake (Jefferson County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit 1.

Horseshoe Lake (Kitsap County): Last Saturday in April through October 31 season. Salmon: Landlocked salmon rules apply.

Horseshoe Lake (Pend Oreille County): Last Saturday in April through October 31 season. Trout except kokanee: Daily limit five. Kokanee not counted in daily trout limit. Kokanee daily limit ten.

Horsethief Lake (Klickitat County): Last Saturday in April through October 31 season.

Hourglass Lake (Grant County): April 1 through September 30 season.

Howard Lake (Snohomish County): Last Saturday in April through October 31 season.

Howell Lake (Mason County): Last Saturday in April through October 31 season.

Hozomeen Lake (Whatcom County): July 1 through October 31 season.

Huff Lake (Pend Oreille County): Closed waters.

Humtulpis River (Grays Harbor County), from mouth to Highway 101 Bridge: June 1 through March 31 season except closed September 1 through October 15 mouth to Ocean Beach Road and September 1 through September 30

Ocean Beach Road to Highway 101 Bridge. Night closure and single point barbless hooks required August 16 through November 30. Bait prohibited October 1 through October 15. Trout: Minimum length fourteen inches. Salmon: Open October 1 through October 15 from Ocean Beach Road to Highway 101 Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon, and of the adult salmon only one may be a wild adult coho. Release adult chinook. Open October 16 through January 31. Daily limit of 6 salmon, not more than two of which may be adult salmon. October 16 through October 31 the daily limit may contain no more than one adult chinook and one wild adult coho. November 1 through November 30 the daily limit may contain no more than one wild adult coho and release adult chinook. December 1 through January 31 release adult chinook and wild adult coho. From Highway 101 Bridge to forks: June 1 through last day in February season. Night closure and single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches.

Humtuplups River, East Fork (Grays Harbor County), from mouth to concrete bridge on Forest Service Road between Humtuplups Guard Station and Grisdale: Nonbuoyant lure restriction and night closure August 16 through November 30. Trout: Minimum length fourteen inches.

Humtuplups River, West Fork (Grays Harbor County), from mouth to Donkey Creek: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 16 through November 30. Trout: Minimum length fourteen inches.

Hutchinson Lake (Adams County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion engine prohibited.

I-82 Ponds, 1 through 7 (Yakima County): Fishing from vessels equipped with internal combustion motors prohibited.

Icehouse Lake (Skamania County): Trout: No more than 2 trout 20 inches or greater in length may be retained.

Icicle River (Creek) (Chelan County):

From mouth to four hundred feet below Leavenworth National Fish Hatchery rack: Closed waters. From Leavenworth National Fish Hatchery rack upstream to Leland Creek: Selective gear rules.

Indian Creek (tributary to Elwha River) (Clallam County), from mouth upstream to first Highway 101 crossing: Selective gear rules. Trout: Minimum length twelve inches.

Indian Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Indian Creek (Yakima County): From mouth to waterfall approximately 5 and three-quarters miles upstream: Closed waters. Upstream of waterfall: Eastern brook trout do not count as part of trout daily limit. Eastern brook trout: No minimum size and no daily limit.

Indian Heaven Wilderness Lakes (Skamania County): Trout: Daily limit three.

Ingall's Creek (Chelan County): Mouth to Wilderness boundary: Closed waters.

Issaquah Creek (King County): June 1 through August 31 season. Juveniles only.

Jackson Lake (Pierce County): Last Saturday in April through October 31 season.

Jameson Lake (Douglas County): Last Saturday in April through July 4 and October 1 through October 31 seasons.

Jasmine Creek (Okanogan County): Year-round season. Juveniles only.

Jefferson Park Pond (Walla Walla County): Juveniles only. Trout: No more than 2 trout over 13 inches in length may be retained.

Jennings Park Pond (Snohomish County): Last Saturday in April through October 31 season. Juveniles only.

Jewitt Creek (Klickitat County): Juveniles only. Trout: Daily limit five, no minimum length.

Jimmy-Come-Lately Creek (Clallam County): June 1 through August 31 season. Trout: Minimum length fourteen inches.

Joe Creek (Grays Harbor County): Upstream from State Highway 109 Bridge to Ocean Beach Road Bridge: June 1 through November 30 season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook.

Johns Creek (Mason County): Closed waters.

Johns River (Grays Harbor County): Mouth to Ballon Creek: June 1 through last day in February season. Single point barbless hooks required August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook.

Ballon Creek upstream, including North and South Forks: June 1 through September 30 and December 1 through last day in February season. Trout: Minimum length 14 inches.

Johnson Creek (tributary to Cowlitz River) (Lewis County): Selective gear rules. Trout: Minimum length ten inches.

Johnson Creek (Whatcom County), from Northern Pacific Railroad tracks to the Lawson Street footbridge in Sumas: Juveniles only.

Jump-Off Joe Lake (Stevens County): Last Saturday in April through October 31 season.

Kachess Lake (Reservoir) (Kittitas County): Chumming permitted. Trout except kokanee: Daily limit two, minimum length twelve inches. Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Kachess River (Kittitas County): Lawful to fish to base of Kachess Dam. Selective gear rules. From Kachess Lake (Reservoir) upstream to waterfall approximately one-half mile above Mineral Creek: Closed waters.

Kalaloch Creek (Jefferson County), outside Olympic National Park: Closed waters: Those waters within the section posted as the Olympic National Park water supply June 1 through last day in February season. Selective gear rules. Trout: Minimum length fourteen inches.

Kalama River (Cowlitz County): Release wild cutthroat.

From mouth upstream to one thousand feet below fishway at upper salmon hatchery: Year-round season except during the period the temporary fish rack is installed. Waters from Modrow Bridge downstream to one thousand five hundred feet below the rack are closed waters when the rack is installed. Nonbuoyant lure restriction, night closure, and stationary gear restriction September 1 through October 31 from mouth to the rack. All species: When nonbuoyant lure restriction in effect only fish hooked inside the mouth may be retained. Fishing from a floating device equipped with a motor prohibited upstream of Modrow Bridge. September 1 through October 31: Fly fishing only from the pipeline crossing to the posted deadline at the intake to the lower salmon hatchery. Trout: Release all trout except up to two hatchery steelhead may be retained per day. Salmon: Open year-round. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild coho. Release wild chinook January 1 through July 31. October 1 through December 31 release chinook upstream from natural gas pipeline crossing.

From one thousand feet below to one thousand feet above the fishway at upper salmon hatchery: Closed waters.

From one thousand feet above the fishway at the upper salmon hatchery to Summers Creek: Year-round season. Fishing from a floating device equipped with a motor prohibited. Selective gear rules. All species: Release all fish.

From Summers Creek upstream to the 6420 Road at about one mile above the gate at the end of the county road: June 1 through March 31 season. Fishing from a floating device equipped with a motor prohibited. Fly fishing only. All species: Release all fish.

From 6420 Road to Kalama Falls: Closed waters.

Kalispell Creek and tributaries (Pend Oreille County): Last Saturday in April through October 31 season. Selective gear rules.

Keechelus Lake (Reservoir) (Kittitas County): Chumming permitted. Trout except kokanee: Daily limit two, minimum length twelve inches, additionally up to sixteen kokanee may be retained.

Kelsey Creek (tributary of Lake Washington) (King County): June 1 through August 31 season. Juveniles only.

Kennedy Creek (Thurston County), from mouth to four hundred feet below falls: June 1 through last day in February season. Nonbuoyant lure restriction and night closure October 1 through December 31. Trout: Minimum length fourteen inches. Salmon: Open only October 1 through November 30 from mouth to northbound Highway 101 Bridge.

Barbless hooks required. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

Kennedy Creek Pond (Thurston County): Last Saturday in April through October 31 season.

Kettle River (Stevens County):

June 1 through October 31 season. All species: Selective gear rules. Trout: Minimum length 12 inches. Sturgeon: Unlawful to fish for or retain sturgeon.

Additional season: November 1 through May 31. Whitefish gear rules apply.

Ki Lake (Snohomish County): Last Saturday in April through October 31 season.

Kidney Lake (Skamania County): Last Saturday in April through last day in February season.

Kimball Creek (near Snoqualmie) (King County): Last Saturday in April through October 31 season. Juveniles only. Trout: No minimum length.

Kings Lake and tributaries (Pend Oreille County): Closed waters.

Kings Lake Bog (King County): Closed waters.

Kiwanis Pond (Kittitas County): Juveniles and holders of disability licenses only.

Klaus Lake (King County): Last Saturday in April through October 31 season. Closed waters: The inlet and outlet to first Weyerhaeuser spur.

Klickitat River (Klickitat County):

From mouth to Fisher Hill Bridge: April 1 through January 31 season. Nonbuoyant lure restriction and night closure May 1 through May 31. Nonbuoyant lure restriction August 1 through January 31. Game fish: Closed December 1 through January 31. Release game fish other than steelhead April 1 through May 31. Trout: Minimum length twelve inches. Steelhead and salmon: April 1 through May 31 Mondays, Wednesdays and Saturdays only, daily limit 1 hatchery steelhead or 1 salmon. Salmon: June 1 through January 31 daily limit 6 fish of which no more than 2 may be adult salmon.

From Fisher Hill Bridge to four hundred feet above # 5 fishway: Closed waters.

From four hundred feet above # 5 fishway to the Yakama Indian Reservation boundary: June 1 through November 30 season, except waters from boundary markers above Klickitat salmon hatchery to boundary markers below hatchery are closed waters. Trout: Minimum length twelve inches. Salmon: Open only June 1 through November 30 from 400 feet above No. 5 Fishway to boundary markers below Klickitat Salmon Hatchery. June 1 through July 31: Daily limit 6 salmon. Release adult salmon. August 1 through November 30: Daily limit 6 fish of which no more than 2 may be adult salmon. Release chinook November 1 through November 30. Additional December 1 through March 31 season. Whitefish gear rules apply.

From the Yakama Indian Reservation boundary upstream to source, including all tributaries: Closed waters.

Klineline Ponds (Clark County): Trout: No more than 2 trout 20 inches in length or greater may be retained.

Koeneman Lake (Fern Lake) (Kitsap County): Last Saturday in April through October 31 season. Selective gear rules. All species: Release all fish.

Kress Lake (Cowlitz County): Fishing from a floating device equipped with an internal combustion motor prohibited. Trout: No more than 2 trout 20 inches in length or greater may be retained. Salmon: Landlocked salmon rules apply.

Lacamas Creek (Clark County): Lawful to fish upstream to the base of Lacamas Lake Dam.

Lacamas Creek, tributary of Cowlitz River (Lewis County): June 1 through last day in February season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Lake Creek (Okanogan County): Mouth to Black Lake: Closed waters. Black Lake to Three Prong Creek: Selective gear rules.

Langlois Lake (King County): Last Saturday in April through October 31 season.

Latah (Hangman) Creek (Spokane County): Year-round season.

Leader Lake (Okanogan County): Last Saturday in April through September 30 season.

Le Clerc Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Ledbetter Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Ledking Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Leech Lake (White Pass area) (Yakima County): Fly fishing only. Fishing prohibited from floating devices equipped with motors. Trout: No more than one over 14 inches in length.

Lemna Lake (Grant County): April 1 through September 30 season.

Lenice Lake (Grant County): March 1 through November 30 season. Selective gear rules. Trout: Daily limit one.

Lena Lake, Lower (Jefferson County): Closed waters: Inlet stream from mouth upstream to footbridge (about one hundred feet).

Lenore Lake (Grant County): Closed waters: Area within two hundred yard radius of trash rack leading to the irrigation pumping station (south end of lake) and area approximately one hundred yards beyond the mouth of inlet stream to State Highway 17. March 1 through May 31 season: Selective gear rules. All species: Release all fish. Additional season June 1

through November 30: Selective gear rules. Trout: Daily limit one.

Leo Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Lewis River (Clark County), from mouth to forks: Year-round season. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open year-round. Daily limit six fish of which not more than 2 may be adult salmon. Release chum and wild coho. Release wild chinook January 1 through July 31. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

Lewis River, East Fork (Clark/Skamania counties): Closed waters: From the posted markers at the lower end of Big Eddy to one hundred feet above Lucia Falls; from four hundred feet below to four hundred feet above Molton Falls; from four hundred feet below Horseshoe Falls upstream including all tributaries above Horseshoe Falls.

Mouth to 400 feet below Horseshoe Falls: June 1 through March 15 season. Trout: Release all trout except up to two hatchery steelhead per day may be retained. Mouth to top boat ramp at Lewisville Park: Additional April 16 through May 31 season. Selective gear rules. Release all fish except up to two hatchery steelhead may be retained per day.

Lewis River, North Fork (Clark/Skamania counties):

From mouth to Colvin Creek: Year-round season except those waters shoreward of the cable buoy and corkline at the mouth of the Lewis River Salmon Hatchery fish ladder are closed waters. Nonbuoyant lure restriction and night closure April 1 through November 30 from Johnson Creek to Colvin Creek. When nonbuoyant lure restriction is in effect, only fish hooked inside the mouth may be retained. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open year-round. Daily limit six fish of which not more than 2 may be adult salmon. Release chum and wild coho. Release wild chinook January 1 through July 31. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in waters of mainstem Columbia River adjacent to mouth of Lewis River.

From mouth of Colvin Creek to overhead powerlines at Merwin Dam: May 1 through September 30 and December 16 through April 30 season. Nonbuoyant lure restriction and night closure April 1 through September 30. When nonbuoyant lure restriction is in effect, only fish hooked inside the mouth may be retained. Trout: Release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open only January 1 through September 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild coho. Release wild chinook January 1 through July 31. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in waters of mainstem Columbia River adjacent to mouth of Lewis River.

From overhead powerlines at Merwin Dam to Merwin Dam: Closed waters.

From the cable crossing 1,300 feet below Yale Dam to Yale Dam: Closed waters.

Within Lewis River Power Canal: ~~((Closed waters:))~~
From the fishing pier to the access road at Swift Dam: Last

Saturday in April through October 31 season. Fishing from a floating device prohibited. Trout: No minimum size, daily limit 5.

From Eagle Cliff Bridge to lower falls including all tributaries: Selective gear rules. All species: Release all fish.

Liberty Lake (Spokane County): Last Saturday in April through September 30 season.

Lilliwaup River (Mason County): Mouth to 200 feet below falls: June 1 through August 31 season. Selective gear rules. All species: Release all fish.

Lilly Lake (Chelan County): Last Saturday in April through October 31 season. July 5 through October 31, selective gear rules, and all species: Release all fish.

Limerick Lake (Mason County): Last Saturday in April through October 31 season.

Lincoln Pond (Clallam County): Juveniles only.

Lions Park Pond (Walla Walla County): Juveniles only. Trout: No more than 2 trout over 13 inches in length may be retained.

Little Ash Lake (Skamania County): Trout: No more than 2 trout 20 inches in length or greater may be retained.

Little Bear Creek (tributary of Sammamish River) (Snohomish/King counties): June 1 through August 31 season. Juveniles only.

Little Hoko River (Clallam County): Selective gear rules. All species: Release all fish.

Little Klickitat River (Klickitat County), within Goldendale city limits: Last Saturday in April through October 31 season. Juveniles only. Trout: Daily limit five, no minimum length.

Little Lost Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Little Naches River (Yakima County): Selective gear rules.

Little Nisqually River (Lewis County): Selective gear rules. Trout: Minimum length ten inches.

Little Pend Oreille River (Stevens County) from the Little Pend Oreille wildlife refuge boundary about 1 mile downstream from the refuge headquarters office to Crystal Falls: Selective gear rules, and all species: Release all fish except up to five Eastern brook trout may be retained.

Little Quilcene River (Jefferson County), from mouth to the Little Quilcene River Bridge on Penny Creek Road, June 1 through last day in February season. Closed waters: Mouth to Highway 101 Bridge September 1 through October 31. Trout: Minimum length fourteen inches.

Little Spokane River (Spokane County):

From mouth to SR 291 Bridge: Year-round season.

From SR 291 Bridge upstream to the West Branch: Last Saturday in April through October 31 season. Additional December 1 through March 31 season. Whitefish gear rules apply.

Upstream from bridge at Frideger Road: Closed waters: From the inlet to Chain Lake upstream one-quarter mile to the railroad crossing culvert. Trout: Release kokanee taken upstream from bridge.

Little Twin Lake (Okanogan County): April 1 through November 30: Selective gear rules and all species: Release all fish.

Little Twin Lake (Stevens County): Last Saturday in April through October 31.

Little Wenatchee River (Chelan County): From Lake Wenatchee to the falls below U.S. Forest Service Road 6700 Bridge at Riverside Campground: Closed waters.

Little White Salmon River (Skamania County): Closed waters: From the orange fishing boundary markers at Drano Lake upstream to the intake near the Little White Salmon National Fish Hatchery north boundary. Trout: Daily limit five. Drano Lake (waters downstream of markers on point of land downstream and across from Little White Salmon National Fish Hatchery): May 1 through March 31 season, except for hatchery steelhead and chinook season in April, and except closed Wednesdays beginning the second Wednesday in April through May 31 and October 1 through October 31. Night closure and nonbuoyant lure restriction May 1 through June 30. Nonbuoyant lure restriction August 1 through December 31. Night closure October 1 through October 31. March 16 through June 30 daily limit of two fish, of which one or both may be hatchery steelhead or one or both may be chinook salmon. Release wild chinook. Trout and salmon: May 1 through June 30 release all fish except hatchery steelhead and chinook salmon. Trout: July 1 through March 15 release all fish except up to two hatchery steelhead may be retained per day. Salmon: Open only August 1 through December 31. Daily limit six fish of which no more than two may be adult salmon. Release wild coho.

Lone Lake (Island County): Selective gear rules. Trout: Daily limit one, minimum length 18 inches.

Long Lake (Ferry County): Last Saturday in April through October 31 season. Fly fishing only. Unlawful to fish from floating devices equipped with motors.

Long Lake (Okanogan County): Last Saturday in April through September 30 season.

Long Lake (Spokane River Reservoir) (Spokane County): Bass: Release all bass May 1 through June 30.

Long Lake (Thurston County): Last Saturday in April through October 31 season.

Long's Pond (Thurston County): Juveniles only.

Loomis Lake (Pacific County): Last Saturday in April through October 31 season.

Loomis Pond (Grays Harbor County): Closed waters.

Loon Lake (Stevens County): Last Saturday in April through October 31 season. Trout except kokanee: Daily limit five, except no more than two over twenty inches in length may be

retained. Kokanee not counted in daily trout limit. Kokanee daily limit ten.

Lost Lake (Kittitas County): Trout: Not more than 1 fish over 14 inches in length.

Lost Lake (Okanogan County): Unlawful to fish from a floating device equipped with an internal combustion engine.

Lost River (Okanogan County):

From mouth to mouth of Monument Creek: Closed waters.

From mouth of Monument Creek to outlet of Cougar Lake: Selective gear rules. Trout: Legal to retain Dolly Varden/Bull Trout as part of trout daily limit. Dolly Varden/Bull Trout daily limit two, minimum length fourteen inches.

Love Lake (Clark County): Closed waters.

Lucky Duck Pond (Stevens County): Juveniles only.

Ludlow Lake (Jefferson County): Last Saturday in April through October 31 season.

Lyle Lake (Adams County): April 1 through September 30 season.

Lyre River (Clallam County):

From mouth to falls near river mile 3: June 1 through last day in February season. Trout: Minimum length fourteen inches.

From falls to source: Selective gear rules. All species: Release all fish.

Mad River (Chelan County), from mouth upstream to Jimmy Creek: Closed waters.

Maggie Lake (Mason County): Last Saturday in April through November 30 season. Salmon: Landlocked salmon rules apply.

Margaret Lake (King County): Last Saturday in April through October 31 season.

Marshal Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Martha Lake (Grant County): March 1 through July 31 season.

Martha Lake (Snohomish County): Last Saturday in April through October 31 season.

Mashel River (Pierce County): July 1 through October 31 season. Selective gear rules. Trout: Minimum length fourteen inches.

Mattoon Lake (Kittitas County): Fishing from a floating device equipped with an internal combustion engine prohibited.

May Creek (tributary of Lake Washington) (King County): June 1 through August 31 season. Juveniles only.

Mayfield Lake (Reservoir) (Lewis County): Mayfield Dam to 400 feet below Mossyrock Dam: Closed waters: Tacoma Power safety signs at Onion Rock Bridge to Mossyrock Dam. Trout and salmon: Minimum length eight inches. Trout:

Release cutthroat. Release rainbow trout except rainbow trout with a clipped adipose fin and a healed scar at the site of the clipped fin. Salmon: Open only September 1 through December 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho.

McAllister Creek (Thurston County): Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only July 1 through November 30 from mouth to Olympia - Steilacoom Road Bridge. Daily limit 6 fish of which no more than 4 may be adult salmon.

McCabe Pond (Kittitas County): Fishing from any floating device prohibited. All species: Five fish daily limit for all species combined.

McDonald Creek (Clallam County): Trout: Minimum length fourteen inches.

McDowell Lake (Stevens County): Last Saturday in April through October 31 season. Fly fishing only. Fishing from a floating device equipped with a motor prohibited. All species: Release all fish.

McIntosh Lake (Thurston County): Last Saturday in April through October 31 season.

McLane Creek (Thurston County), from a line 50 feet north of and parallel to the Mud Bay Road Bridge to a line 100 feet upstream and parallel to the south bridge on Highway 101: June 1 through November 30 season. Nonbuoyant lure restriction and night closure August 1 through November 30. Game fish: Release game fish November 1 through November 30. Trout: Minimum length fourteen inches upstream from the south bridge. Salmon: Open only July 1 through November 30. Closed to salmon fishing: Waters within 400 feet of Allison Springs Pond outfall. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho.

From a line 100 feet upstream and parallel to the south bridge on Highway 101 upstream: Nonbuoyant lure restrictions and night closure August 1 through October 31. Trout: Minimum length fourteen inches.

McLane Creek Ponds (Thurston County): Last Saturday in April through October 31 season.

McManaman Lake (Adams County): April 1 through September 30 season.

McMurray Lake (Skagit County): Last Saturday in April through October 31. Salmon: Landlocked salmon rules apply.

Medical Lake (Spokane County): Last Saturday in April through September 30 season. Selective gear rules except fishing from a floating device equipped with a motor prohibited. Trout: Daily limit two, minimum length fourteen inches.

Medical Lake, West (Spokane County): Last Saturday in April through September 30 season.

Melaney Creek (Mason County): Closed waters.

Melbourne Lake (Mason County): Last Saturday in April through October 31 season.

Mercer Creek (Kittitas County), that portion within Ellensburg city limits: Juveniles only. Trout: Daily limit five, no minimum length.

Mercer Slough (tributary of Lake Washington) (King County): June 1 through August 31 season. Juveniles only.

Merrill Lake (Cowlitz County): Fly fishing only. Unlawful to fish from a floating device equipped with an internal combustion engine. Trout: Daily limit two, maximum length twelve inches.

Merritt Lake (Chelan County): Trout: Daily limit sixteen.

Merry Lake (Grant County): March 1 through November 30 season. Selective gear rules. Trout: Daily limit one.

Merwin Lake (Reservoir) (Clark/Cowlitz County): Salmon: Landlocked salmon rules apply.

Methow River (Okanogan County):

Mouth to County Road 1535 (Burma Road) Bridge: Closed waters June 1 through October 31. County Road 1535 (Burma Road) Bridge to Foghorn Dam: June 1 through September 30 season: Selective gear rules. All species: Release all fish. Foghorn Dam to Weeman Bridge: June 1 through August 15 season. Selective gear rules. All species: Release all fish. Upstream from Weeman Bridge to the falls above Brush Creek: Closed waters June 1 through October 31. Additional season (~~(mouth)~~) Gold Creek to falls above Brush Creek: December 1 through March 31. Whitefish gear rules apply.

Methow River tributaries not otherwise provided for: Selective gear rules. Trout: Maximum length twenty inches.

Middle Nemah Pond (Pacific County): June 1 through October 31 season.

Mill Creek (Chelan County): Closed waters.

Mill Creek (Cowlitz County): June 1 through August 31 and November 1 through March 15 seasons. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Mill Creek (Lewis County): Additional season December 1 through December 31, mouth to hatchery road crossing culvert. Nonbuoyant lure restriction and night closure. All species: Release all fish except that up to two hatchery steelhead with intact ventral fins may be retained per day.

Mill Creek (Mason County): Trout: Minimum length fourteen inches.

Mill Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Mill Creek (Walla Walla County):

From mouth to Gose St. Bridge: June 1 through April 15 season. All species: Barbless hooks required and release all fish except hatchery steelhead September 1 through April 15. Trout: Daily limit three hatchery steelhead.

From Gose St. Bridge to Roosevelt St. Bridge, within city limits of Walla Walla: Closed waters.

From Roosevelt St. Bridge upstream, including all tributaries: All tributaries: Closed waters. Selective gear rules. Trout: Maximum length twenty inches.

Mill Creek Pond (Grays Harbor County): Juveniles only.

Mill Pond (Auburn) (King County): Last Saturday in April through October 31 season. Juveniles only.

Mill Pond (Pend Oreille County): Last Saturday in April through October 31 season.

Mineral Creek (tributary to upper Kachess River) (Kittitas County), from mouth to Wilderness Boundary: Closed waters.

Mineral Creek (tributary to Nisqually River), and Mineral Creek, North Fork (Lewis County): Selective gear rules. Trout: Minimum length twelve inches.

Mineral Lake (Lewis County): Last Saturday in April through September 30 season.

Minter Creek (Pierce/Kitsap counties): Closed waters: Area from department intake dam downstream to mouth June 1 through October 31. Trout: Minimum length fourteen inches. Salmon: Open only November 1 through December 31 from mouth to 50 feet downstream of the hatchery rack. Daily limit 4 chum.

Mirror Lake (Grant County): Last Saturday in April through September 30 season.

Mission Lake (Kitsap County): Last Saturday in April through October 31 season.

Moclips River (Grays Harbor County), from mouth to the Quinault Indian Reservation: June 1 through last day in February season. Trout: Minimum length fourteen inches.

Molson Lake (Okanogan County): Fishing from a floating device equipped with an internal combustion engine prohibited.

Monte Christo Lake (Snohomish County): June 1 through October 31 season. Selective gear rules.

Mooses Pond (Pacific County): June 1 through October 31 season.

Moran Slough (including inlet and outlet streams) (Grant County): Closed waters.

Morgan Lake (Adams County): April 1 through September 30 season.

Morse Creek (Clallam County), from mouth to Port Angeles Dam: (~~(June)~~) December 1 through last day in February season. Trout: Minimum length fourteen inches.

Moses Lake (Grant County): Crappie: Daily limit ten, only crappie more than nine inches in length may be retained. Bluegill: Daily limit five, only bluegill more than eight inches in length may be retained. Small mouth bass: Small mouth bass are not included as part of the bass daily limit. No minimum size. Small mouth bass 12 to 17 inches in length may be retained. Daily limit 10 small mouth bass, not more than one of which may be greater than 14 inches in length. Walleye: Daily limit 8 walleye. Minimum length twelve inches. No more than one walleye over 22 inches in length may be retained. Yellow perch: Daily limit 25 yellow perch.

Mosquito Creek (Jefferson County), outside Olympic National Park: June 1 through last day in February season. Selective gear rules. Trout: Minimum length fourteen inches.

Mountain Lake (San Juan County): Trout: Daily limit may not contain more than one trout over 18 inches in length.

Muck Creek and tributaries (within Ft. Lewis Military Reservation) (Pierce County): Selective gear rules. Trout: Release all trout.

Mud Lake (Mason County): Last Saturday in April through October 31 season.

Mud Lake (Yakima County): Selective gear rules. Trout: Daily limit one.

Mudget Lake (Stevens County): Last Saturday in April through October 31 season.

Munn Lake (Thurston County): Last Saturday in April through October 31 season.

Muskegon Lake (Pend Oreille County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit two.

Murray Creek (Pierce County): Closed waters.

Myron Lake (Yakima County): Selective gear rules. Trout: Daily limit one.

Mystic Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Naches River (Yakima/Kittitas counties):

From the mouth to Little Naches River: Selective gear rules. Trout: Minimum length twelve inches, maximum length twenty inches. Release trout June 1 through October 31 from confluence with Tieton River to mouth of Rattle Snake Creek. Additional December 1 through March 31 season. Whitefish gear rules apply.

Naneum Creek (Kittitas County): Selective gear rules.

Naneum Pond (Kittitas County): Juveniles only.

Napeequa River (Chelan County): Mouth to Twin Lakes Creek: Closed waters.

Naselle River (Pacific/Wahkiakum counties), from Highway 101 Bridge upstream including all forks: Closed waters: Area from four hundred feet below falls in Sec. 6, T10N, R8W (Wahkiakum County) to falls. Waters from the North

Valley Road Bridge (Big Hill Bridge) to Highway 4 closed August 16 through October 15.

Mainstem: June 1 through April 15 season, except sturgeon. Single point barbless hooks required August 16 through November 30 upstream from Highway 4 Bridge to Crown Main Line (Salme) Bridge. Nonbuoyant lure restriction and night closure August 16 through November 30 downstream from North Fork. Stationary gear restrictions above mouth of South Fork August 16 through November 30. Selective gear rules March 1 through April 15 above mouth of South Fork. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only August 1 through January 31 from Highway 101 Bridge to Highway 4 Bridge and October 16 through January 31 from the Highway 4 Bridge to the Crown Main Line Bridge. Daily limit 6 fish of which no more than 3 may be adult salmon and of these 3 adult fish no more than 1 may be a wild adult coho and not more than 2 may be adult chinook. No more than 2 chum may be retained.

Sturgeon: Open year-round from mouth to Highway 4 Bridge.

From mouth of North Fork to source: Selective gear rules. All species: Release all fish except up to two hatchery steelhead per day may be retained.

South Fork, from mouth to Bean Creek: June 1 through last day in February season, except sturgeon. Nonbuoyant lure restriction and night closure August 16 through November 30. Game fish: Release game fish except up to two hatchery steelhead per day may be retained. Sturgeon: Open year-round.

Nason Creek (Chelan County): From the mouth upstream to Smith Brook: Closed waters.

From Smith Brook to Stevens Creek: Selective gear rules.

Negro Creek (Lincoln County): Year-round season from mouth at Sprague Lake to the fish barrier dam at Fishtrap Lake.

Negro Creek (Whitman County): Last Saturday in April through July 15 season.

Nemah River, North, Middle, and South: June 1 through March 31 season, except closed August 1 through September 30 on North Nemah from Highway 101 Bridge upstream to ~~((lower bridge on dead end lower))~~ Nemah ~~((Road))~~ Hatchery. Single point barbless hooks required on North Nemah upstream to the lower bridge on dead end lower Nemah Road October 1 through November 30, on Middle Nemah upstream to the Department of Natural Resources Bridge on Middle Nemah A-line Road August 16 through November 30, and on South Nemah upstream to confluence with Middle Nemah August 16 through November 30. Selective gear rules on Middle Nemah above DNR Bridge and South Nemah above confluence with Middle Nemah. Night closure August 16 through November 30 on South Nemah to the confluence with Middle Nemah and Middle Nemah and October 1 through November 30 on North Nemah. Nonbuoyant lure restriction on North Nemah upstream from bridge on dead end lower Nemah Road and the Middle Nemah from the

DNR Bridge on A-line Road upstream August 16 through November 30. On the North Nemah from the mouth to the lower bridge on dead end lower Nemah Road, stationary gear restriction during the period August 16 through November 30. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only August 1 through January 31 on Middle Nemah from mouth to DNR Bridge and South Nemah from mouth to confluence with Middle Nemah and October 1 through January 31 on North Nemah from mouth to the lower bridge on dead end Lower Nemah Road. Middle and South Nemah: Daily limit 6 fish of which no more than 2 may be adult salmon and of the two adult fish no more than one may be a wild adult coho. North Nemah: Daily limit 6 salmon of which not more than 3 may be adult salmon and of the adult fish no more than one may be a wild adult coho and no more than two may be adult chinook. No more than two chum may be retained.

Newhalem Ponds (Whatcom County): Closed waters.

Newaukum River, main river and South Fork upstream to Highway 508 Bridge near Kearny Creek (Lewis County): June 1 through March 31 season. Night closure and single point barbless hooks required August 16 through November 30 from mouth to Leonard Road. Trout: Minimum length fourteen inches mouth to Highway 508 Bridge near Kearny Creek. Salmon: Open only October 16 through last day in February from mouth to Leonard Road. Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook. Release wild adult coho December 1 through last day in February.

Newaukum River, Middle Fork, mouth to Taucher Road Bridge (Lewis County): June 1 to March 31 season. Trout: Minimum length fourteen inches.

Newaukum River, North Fork (Lewis County):

From mouth to four hundred feet below Chehalis city water intake: June 1 through March 31 season. Trout: Minimum length fourteen inches.

From 400 feet below Chehalis city water intake upstream: Closed waters.

Niawiakum River (Pacific County): From Highway 101 Bridge to the South Bend/Palix Road Bridge: Night closure and single point barbless hooks required August 16 through November 30. All game fish: Release all fish. Salmon: Open only September 1 through November 30 from Highway 101 Bridge to South Bend/Palix Road Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon and of the adult fish not more than one may be a wild adult coho. Release adult chinook.

Nile Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Nisqually River (Pierce County), from mouth to Military Tank Crossing Bridge: ~~((June))~~ July 1 through January 31 season. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches. All species: Release all species except salmon December 1 through January 31. Salmon: Open only July 1 through January 31 from mouth to Military Tank Crossing

Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult chinook.

From Military Tank Crossing Bridge to four hundred feet below LaGrande Falls: July 1 through October 31 season. Selective gear rules. Nonbuoyant lure restriction and night closure August 1 through October 31. Trout: Minimum length fourteen inches.

Nooksack River (Whatcom County), from mouth to forks, Middle Fork to Dam and North Fork to Nooksack Falls: June 1 through last day in February season except closed June 1 through September 30 in mainstem from yellow marker at the FFA High School barn at Deming to confluence of the North and South Forks. Fishing from floating devices equipped with motors prohibited on the North and Middle Forks November 1 through last day in February. Nonbuoyant lure restriction and night closure August 1 through November 30 on mainstem and North Fork to Maple Creek. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31 in mainstem from Lummi Indian Reservation boundary to yellow marker at the FFA High School barn in Deming. Open only October 16 through December 31 in mainstem from the FFA barn to the confluence of the North and South Forks, and October 1 through October 31 on the North Fork from confluence to Maple Creek. Daily limit 2 salmon, except release wild coho, release wild chinook from mouth to FFA barn, and release chinook from FFA barn to forks and in North Fork.

Nooksack River, South Fork (Skagit/Whatcom counties): From mouth to Skookum Creek: June 1 through last day in February season except closed July 1 through October 15 from Saxon Road Bridge to mouth of Skookum Creek. Selective gear rules. Night closure August 1 through October 31. Trout: Minimum length fourteen inches. Salmon: Open only October 16 through December 31. Daily limit 2 salmon, except release chinook and wild coho.

From Skookum Creek upstream: Closed waters.

No Name Lake (Pend Oreille County): Last Saturday in April through October 31 season.

North Creek (Okanogan County): From mouth to falls at river mile 0.8: Selective gear rules.

North Creek (tributary of Sammamish River) (Snohomish/King counties): June 1 through August 31 season. Juveniles only.

North Elton Ponds (Yakima County): December 1 through March 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited. Trout: Daily limit two.

North Lake (King County): Last Saturday in April through October 31 season.

North Potholes Reserve Ponds (Grant County): February 1 through the day before opening of waterfowl season. Fishing from any floating device prohibited, except float tubes permitted.

North River (Grays Harbor/Pacific counties), from Highway 105 Bridge upstream to Falls River: June 1 through last day

in February season, except sturgeon. Night closure August 16 through November 30. Single point barbless hooks required August 16 through November 30 upstream to Salmon Creek. Nonbuoyant lure restriction from Salmon Creek to Falls River August 16 through November 30. All game fish: Release all fish except that up to two hatchery steelhead per day may be retained. Salmon: Open only September 1 through November 30 from Highway 105 Bridge to Salmon Creek. Daily limit 6 fish of which no more than 2 may be adult salmon and of the adult fish not more than one may be a wild adult coho. Release adult chinook. Sturgeon: Open year-round from Highway 105 Bridge to Salmon Creek.

Upstream from Falls River: Selective gear rules. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Northern State Hospital Pond (Skagit County): Last Saturday in April through October 31 season. Juveniles only.

Northwestern Reservoir (Klickitat/Skamania counties): Last Saturday in April through last day in February season.

Nunnally Lake (Grant County): March 1 through November 30 season. Closed waters: Outlet stream of Nunnally Lake. Selective gear rules. Trout: Daily limit one.

Oakland Bay freshwater tributaries (Mason County), except Goldsborough Creek (including Shelton Creek, Canyon Creek, Uncle John Creek, Campbell Creek, Melaney Creek, Deer Creek, John's Creek, and Cranberry Creek to Lake Limerick): Closed waters.

Ohanapecosh Creek (tributary to Cowlitz River) (Lewis/Pierce counties): Selective gear rules. Trout: Minimum length twelve inches.

Ohop Lake (Pierce County): Last Saturday in April through October 31 season.

Okanogan River (Okanogan County):

From the mouth to the highway bridge at Malott: Year-round season. Trout: Release all trout. Upstream from the highway bridge at Malott: June 1 through August 31 season. Trout: Release all trout. Salmon: Open only July 1 through October 15 from mouth to Highway 97 Bridge immediately upstream of mouth. Daily limit 6 fish of which no more than 2 may be adult salmon. Release coho and sockeye.

Closed waters: From Zosel Dam downstream to (~~one-quarter mile below the railroad trestle~~) first Highway 97 Bridge.

Old Fishing Hole Pond (Kent) (King County): Last Saturday in April through October 31 season. Juveniles only.

Old Mill Stream (Chelan County): Closed waters.

Olequa Creek (Lewis County): June 1 through last day in February season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Osborne Lake (Mason County): Last Saturday in April through October 31 season.

Outlet Creek (Klickitat County): Trout: Daily limit five.

Owens Pond (Pacific County): June 1 through October 31 season.

Packwood Lake (Lewis County): Closed waters: All inlet streams and outlet from log boom to dam. Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit five, minimum length ten inches.

Padden Lake (Whatcom County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Palix River, including all forks (Pacific County): June 1 through March 31 season, except sturgeon. Single point barbless hooks and night closure August 16 through November 30 upstream to the confluence of the South and Middle Forks. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Above the confluence of the South and Middle Forks: Selective gear rules. Nonbuoyant lure restriction and night closure August 16 through November 30. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only September 1 through November 30 from the Highway 101 Bridge to the confluence of the South and Middle Forks. Daily limit 6 fish of which no more than 2 may be adult salmon and of the adult salmon not more than one may be a wild adult coho. Release adult chinook. Sturgeon: Open year-round from the Highway 101 Bridge to the confluence of the South and Middle Forks.

Palouse River and tributaries, except Rock Creek (Whitman County): Year-round season. Mainstem from mouth to base of Palouse Falls. Trout: Daily limit 6 fish, minimum length 10 inches, no more than 3 trout over 20 inches may be retained, except release all trout April 1 through June 15 and release steelhead June 16 through August 31. Barbless hooks required when fishing for steelhead. Bass: Fish 12 to 15 inches in length may be retained, but not more than 3 bass over 15 inches in length may be retained. Walleye: Daily limit 10 fish, no minimum size. No more than 5 walleye over 18 inches in length may be retained, and no more than 1 walleye over 24 inches in length may be retained. Channel catfish: No daily limit.

Palouse River mainstem above Palouse Falls and tributaries except Rock Creek: Year-round season.

Pampa Pond (Whitman County): March 1 through September 30 season. Fishing from any floating device prohibited.

Panhandle Lake (Mason County): Last Saturday in April through October 31 season.

Panther Creek (Chelan County): Closed waters.

Panther Creek (tributary to Wind River) (Skamania County): Closed waters.

Panther Lake (Kitsap/Mason counties): Last Saturday in April through October 31 season.

Para-Juvenile Lake (Adams/Grant counties): April 1 through September 30 season. Juveniles only.

Park Lake (Grant County): Last Saturday in April through September 30 season.

Parker Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Pass Lake (Skagit County): Fly fishing only. Fishing from a floating device equipped with a motor prohibited. All species: Release all fish.

Pataha Creek (Garfield County):

Within the city limits of Pomeroy: Juveniles only.

From city limits of Pomeroy upstream: Selective gear rules.

Patterson Lake (Okanogan County): Last Saturday in April through October 31 season.

Pattison Lake (Thurston County): Last Saturday in April through October 31 season.

Peabody Creek (Clallam County): Juveniles only.

Pearrygin Lake (Okanogan County): Last Saturday in April through September 30 season.

Pend Oreille River (Pend Oreille County): Year-round season. All sloughs within the boundaries of the Kalispell Reservation except Calispell Slough: Closed waters.

Perch Lake (Grant County): Last Saturday in April through September 30 season.

Percival Creek (Thurston County): Trout: Minimum length fourteen inches.

Peshastin Creek (Chelan County): Mouth to Ruby Creek: Closed waters.

Petit Lake (Pend Oreille County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Phalon Lake (Stevens County): Closed waters.

Pheasant Lake (Jefferson County): Last Saturday in April to October 31 season.

Phelps Creek (Chelan County): From mouth to falls at river mile 1: Selective gear rules.

Philippa Creek (tributary to N.F. Snoqualmie River) (King County): Closed waters.

Phillips Lake (Mason County): Last Saturday in April through October 31 season.

Phillips Lake (Stevens County): Last Saturday in April through October 31 season.

Pilchuck Creek (Snohomish County), mouth to Highway 9 Bridge: June 1 through November 30 season. Selective gear rules. Trout: Minimum length fourteen inches. Additional December 1 through last day in February season. Trout: Minimum length fourteen inches.

Pilchuck River (Snohomish County)

From its mouth to five hundred feet downstream from the Snohomish City diversion dam: December 1 through last day in February season. Fishing from any floating device prohibited. Trout: Minimum length fourteen inches.

From 500 feet below diversion dam upstream: Closed waters.

Pillar Lake (Grant County): April 1 through September 30 season.

Pine Lake (King County): Last Saturday in April through October 31 season.

Pine Lake (Mason County): Last Saturday in April through October 31 season.

Ping Pond (Grant County): Third Saturday in April through Labor Day season. Juveniles and holders of reduced fee disability licenses only. Game fish: Daily limit of five fish in the aggregate. No minimum or maximum size for any species.

Pioneer Ponds (tributary to Stillaguamish River) (Snohomish County): Closed waters.

Pipers (Carkeek) Creek (King County), from its mouth to its source, including tributaries: Closed waters.

Pit Lake (Douglas County): Juveniles only.

Pleasant Lake (Clallam County): Trout: Kokanee minimum length eight inches, maximum length twenty inches.

Plummer Lake (Lewis County): Last Saturday in April through last day in February season.

Poacher Lake (Grant County): April 1 through September 30 season.

Portage Creek (tributary to Stillaguamish River) (Snohomish County): Closed waters.

Potholes Reservoir (Grant County): Crappie: Minimum length nine inches. Crappie and bluegill: Combined daily limit twenty-five fish. Perch: Daily limit twenty-five fish. Small mouth bass: Small mouth bass are not included as part of the bass daily limit. No minimum size. Small mouth bass 12 to 17 inches in length may be retained. Daily limit 10 small mouth bass, not more than 1 of which may be greater than 14 inches in length. Walleye: Minimum size 12 inches in length. Daily limit 8 walleye, not more than 1 of which may be greater than 22 inches in length.

Potter's Pond (Stevens County): Last Saturday in April through October 31 season.

Pratt River (tributary to Middle Fork Snoqualmie) (King County): Selective gear rules. All species: Release all fish.

Prices Lake (Mason County): Last Saturday in April through October 31 season. Selective gear rules. All species: Release all fish.

Promised Land Pond (Grays Harbor County): June 1 through October 31 season.

Purdy Creek (Mason County): June 1 through August 15 season. Selective gear rules. All species: Release all fish.

Puyallup River (Pierce County):

From mouth to the Electron power plant outlet: July 1 through last day in February season. Single point barbless hooks, nonbuoyant lure restriction and night closure August 1

through November 30 from the mouth to the Carbon River. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31 from mouth to Carbon River. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild adult chinook.

From Electron power plant outlet upstream: July 1 through October 31 season. Selective gear rules. All species: Release all fish.

Pysht River (Clallam County): June 1 through last day in February season. Trout: Minimum length fourteen inches. December 1 through last day in February, one wild steelhead per day may be retained.

Pysht River South Fork (Clallam County): Trout: Minimum length fourteen inches.

Quail Lake (Adams County): Fly fishing only. Fishing from any floating device equipped with a motor prohibited. All species: Release all fish.

Quarry Pond (Walla Walla County): Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Quigg Lake (Grays Harbor County): June 1 through April 15 season. Trout: Daily limit 2. Minimum length fourteen inches. Salmon: Open only October 1 through January 31. Daily limit 6 hatchery coho salmon of which no more than 4 may be adult hatchery coho.

Quillayute River (Clallam County): Open year-round. May 1 through May 31 release all fish except up to two hatchery steelhead per day may be retained. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead. December 1 through April 30, one wild steelhead per day may be retained. Salmon: Open only February 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon February 1 through August 31 and 3 may be adult salmon September 1 through November 30. September 1 through November 30 the 3 adult salmon may contain no more than 2 adult chinook or 2 adult wild coho or 1 adult chinook and 1 adult wild coho. February 1 through August 31 release wild adult coho and wild adult chinook.

Quinault River, Upper (Jefferson County), from mouth at upper end of Quinault Lake to the National Park boundary: June 1 through April 15 season. Trout: Minimum length fourteen inches. December 1 through April 15, one wild steelhead per day may be retained. Salmon: Open only July 1 through October 31. Daily limit 6 fish except release adult salmon.

Quincy Lake (Grant County): March 1 through July 31 season.

Radar Ponds (Pacific County): Salmon: Landlocked salmon rules apply.

Raging River (King County), from its mouth to the Highway 18 Bridge: June 1 through last day in February season. Trout: Minimum length fourteen inches.

Railroad Pond (Franklin County): Selective gear rules. Trout: Daily limit two.

Rainbow Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Rapjohn Lake (Pierce County): Last Saturday in April through October 31 season.

Rat Lake (Okanogan County): April 1 through November 30: Selective gear rules. All species: Release all fish.

Rattlesnake Creek (Yakima County): Selective gear rules. All species: Release all fish.

Rattlesnake Lake (King County): Last Saturday in April through October 31 season. Selective gear rules.

Ravensdale Lake (King County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit two, minimum length twelve inches.

Reflection Pond (Okanogan County): Last Saturday in April through October 31 season.

Renner Lake (Ferry County): Last Saturday in April through October 31 season.

Riffe Lake (Reservoir) (Lewis County): Mossyrock Dam to 400 feet below Cowlitz Falls Dam. Closed waters: Lewis County PUD safety signs approximately 800 feet below Cowlitz Falls Dam to Dam. Lawful to fish up to the base of Swofford Pond Dam. Salmon: Landlocked salmon rules apply.

Rigley Lake (Stevens County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit two, minimum length twelve inches.

Riley Lake (Snohomish County): Last Saturday in April through October 31 season.

Rimrock Lake (Reservoir) (Yakima County): Chumming permitted. Trout except kokanee: Daily limit five. Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Ringold Springs Creek (Hatchery Creek) (Franklin County): Closed waters.

Robbins Lake (Mason County): Last Saturday in April through October 31 season.

Rock Creek (Adams/Whitman counties): Mouth to Endicott Road year-round season.

Endicott Road to bridge on George Knott Road at Revere: Selective gear rules. All species: Release all fish.

Upstream from bridge on George Knott Road: Year-round season.

Rock Creek (Chelan County): Selective gear rules.

Rock Creek (Cedar River tributary below Landsburg Dam) (King County): Closed waters.

Rock Creek (Skamania County): Mouth to falls: June 1 through March 15 season. Trout: Release all fish except up

to two hatchery steelhead may be retained per day. Above falls, additional November 1 through March 15 season.

Rocky Ford Creek and Ponds (Grant County): Fly fishing only. Fishing from bank only (no wading). All species: Release all fish.

Rocky Lake (Stevens County): Last Saturday in April through October 31 season. June 1 through October 31 selective gear rules and all species: Release all fish.

Roesiger Lake (Snohomish County): Crappie: Daily limit ten, minimum length nine inches.

Roosevelt Lake (Ferry/Lincoln/Stevens counties): All species: Closed January 1 through May 31 in San Poil arm upstream from outlet of French Johns Lake, and April 1 through May 31 in Kettle arm upstream to Barstow Bridge. Trout except kokanee: Daily limit five. No more than two over twenty inches in length. Kokanee daily limit two. Wall-eye: No minimum size. Daily limit 8 fish not more than one of which may be longer than 22 inches. Salmon: Landlocked salmon rules apply. Sturgeon: Unlawful to fish for or retain sturgeon from Roosevelt Lake and tributaries. Carp: Unlawful to fish for carp with bow and arrow. Small mouth bass: Small mouth bass do not count as part of the bass daily limit. Fish between 12 and 17 inches in length may be retained. No minimum size. Daily limit 10 bass, no more than one bass over 14 inches in length may be retained.

Rose Lake (Mason County): Last Saturday in April through October 31 season.

Ross Lake (Reservoir) (Whatcom County): July 1 through October 31 season. Selective gear rules, except fishing from a floating device equipped with an internal combustion motor allowed. Trout: Daily limit three, possession limit six, minimum length thirteen inches.

Ross Lake tributary streams (Whatcom County), except Big Beaver Creek and Ruby Creek: Closed waters: From closed water markers near mouth upstream for one mile. Above closed water marker in tributaries not listed as closed: July 1 through October 31 season.

Round Lake (Okanogan County): Last Saturday in April through September 30 season.

Rowland Lakes (Klickitat County): Last Saturday in April through last day in February season.

Royal Lake (Adams County): Closed waters.

Royal Slough (including Marsh Unit IV impoundments) (Adams County): Closed waters.

Ruby Creek (tributary to Ross Lake) (Whatcom County): Closed waters.

Ruby Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Rufus Woods Lake (Douglas County): Chumming allowed. Trout: Daily limit two. Kokanee not included in daily trout limit. Kokanee daily limit 2. Sturgeon: Unlawful to fish for or retain sturgeon from Rufus Woods Lake and tributaries.

Sacheen Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Saddle Mountain Lake (Grant County): Closed waters.

Sago Lake (Grant County): April 1 through September 30 season.

Salmon Creek (Clark County), from mouth to 72nd Avenue N.E.: June 1 through March 15 season. Trout: Release all fish except up to two hatchery steelhead may be retained per day.

Salmon Creek, including all forks (Jefferson County): Closed waters.

Salmon Creek, mainstem (Okanogan County): Closed waters.

Salmon Creek, North Fork and West Fork from mouth to South Fork (Okanogan County): Selective gear rules.

Salmon Creek (tributary of Naselle River) (Pacific County): June 1 through last day in February season. Selective gear rules. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Salmon River (Jefferson County) outside of Olympic National Park and Quinault Indian Reservation: June 1 through last day in February season. Trout: Minimum length fourteen inches. Hatchery steelhead in this river are steelhead with a dorsal fin height of less than 2-1/8 inches or with an adipose or ventral fin clip. Salmon: Open only September 1 through November 30. Daily limit 6 fish of which no more than 3 may be adult salmon and of the adult salmon not more than 2 may be adult chinook salmon.

Salt Creek (Clallam County): Trout: Minimum length fourteen inches.

From mouth to bridge on Highway 112: Additional November 1 through last day in February season. Trout: Minimum length fourteen inches.

Samish Lake (Whatcom County): Trout: Cutthroat trout daily limit two, minimum length fourteen inches.

Samish River (Whatcom County):

From its mouth to the Hickson Bridge: June 1 through March 15 season. From Highway 99 Bridge to department salmon rack: Closed waters. Nonbuoyant lure restriction and night closure August 1 through December 31.

Trout: Minimum length fourteen inches. Salmon: Open only July 1 through December 31 from mouth to Thomas Road Bridge and October 1 through December 31 from Thomas Road Bridge to I-5 Bridge. Daily limit two salmon.

Sammamish Lake (King County): Trout: Release all kokanee. Kokanee/sockeye under fifteen inches are kokanee while those fifteen inches and over are sockeye salmon. December 1 through June 30: Release all steelhead and rainbow trout over twenty inches in length. Salmon: Closed to

salmon fishing within 100 yards of the mouth of Issaquah Creek. Open only August 16 through November 30. Daily limit two salmon. Release sockeye.

Sammamish River (Slough) (King County), from the 68th Avenue N.E. Bridge to Lake Sammamish: January 1 through August 31 season. Selective gear rules. Trout: Release all trout.

Sandyshore Lake (Jefferson County): Last Saturday in April to October 31 season.

San Poil River (Ferry County): Unlawful to fish for or retain sturgeon.

Sarge Hubbard Park Pond (Yakima County): Juveniles and holders of disability licenses only.

Satsop Lakes (Grays Harbor County): Last Saturday in April through October 31 season.

Satsop River, (Grays Harbor County): Trout: Minimum length 14 inches in mainstem and all forks. Mainstem and East Fork, single point barbless hooks and night closure August 16 through November 30 except only August 16 through October 31 on East Fork upstream from bridge at Schafer State Park. Middle and West forks downstream from Cougar Smith Road nonbuoyant lure restriction and night closure August 16 through November 30. Middle and West Forks upstream from Cougar Smith Road night closure and nonbuoyant lure restriction August 16 through October 31.

From mouth to bridge at Schafer Park: Additional November 1 through March 31 season. Salmon: Open only October 1 through January 31. Daily limit 6 fish of which no more than 2 may be adult salmon, except release adult chinook.

Middle Fork (Turnow Branch), from mouth to Cougar Smith Road: Additional November 1 through last day in February season.

West Fork, from mouth to Cougar Smith Road: Additional November 1 through last day in February season.

Sauk River (Skagit/Snohomish counties):

From mouth to the mouth of the White Chuck River: June 1 through last day in February season. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

From the mouth of the White Chuck River to headwaters, including North Fork and South Fork upstream to Elliot Creek: Selective gear rules. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

South Fork upstream from Elliot Creek: June 1 through August 31 season. Selective gear rules.

From mouth to the Darrington Bridge: Additional March 1 through April 30 season. Selective gear rules. All species: Release all fish.

Sawyer, Lake (King County): Chumming permitted. Crappie: Daily limit ten, minimum length nine inches.

Schaefer Lake (Chelan County): Trout: Daily limit sixteen.

Sekiu River (Clallam County): All open periods: Trout: Minimum length fourteen inches.

From mouth to forks: Additional November 1 through last day in February season.

Serene Lake (Snohomish County): Last Saturday in April through October 31 season.

Shady Lake (King County): June 1 through October 31 season. Trout: No more than one over fourteen inches in length.

Shannon, Lake (Skagit County): Last Saturday in April through October 31 season. Chumming permitted. Trout: Minimum length six inches and maximum length eighteen inches.

Shellneck Creek (Yakima County): Closed waters.

Shelton Creek (Mason County): Closed waters.

Sherman Creek (Ferry County):

From the mouth at Lake Roosevelt upstream to four hundred feet above the water diversion dam for the hatchery: Closed waters, except December 1 through August 31 season from the mouth upstream to the hatchery boat dock.

Sherry Lake (Stevens County): Last Saturday in April through October 31 season.

Sherwood Creek (Mason County): Trout: Minimum length fourteen inches.

Sherwood Creek Mill Pond (Mason County): June 1 through October 31 season. Trout: Minimum length 14 inches, daily limit 2 fish.

Shiner Lake (Adams County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Shoe Lake (Mason County): Last Saturday in April through October 31 season.

Shoveler Lake (Grant County): April 1 through September 30 season.

Shye Lake (Grays Harbor County): June 1 through October 31 season.

Sidley Lake (Okanogan County): Trout: Daily limit two.

Siebert Creek (Clallam County): Trout: Minimum length fourteen inches.

Silent Lake (Jefferson County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited.

Silvas Creek (Klickitat County): Trout: Release all trout.

Silver Creek (tributary to Cowlitz River) (Lewis County), mouth to USFS Road 4778: Selective gear rules. Trout: Minimum length twelve inches.

Silver Lake (Cowlitz County): Crappie: Daily limit ten crappie. Minimum size nine inches in length.

Silver Lake (Pierce County): Last Saturday in April through October 31 season.

Silver Lake (Spokane County): Crappie: Daily limit ten, minimum length nine inches.

Silver Lake, North (Spokane County): March 1 through September 30 and November 1 through December 31 season. Selective gear rules. March 1 through September 30: Trout: Daily limit 2 fish, minimum length 14 inches, except release fish with clipped adipose fin. November 1 through December 31: All species: Release all fish.

Silver Lake (Whatcom County): Last Saturday in April through October 31 season.

Silvernail Lake (Okanogan County): Juveniles only.

Similkameen River (Okanogan County):

From mouth to Enloe Dam: December 1 through March 31 season. Whitefish gear rules apply.

From Enloe Dam to Canadian border: Additional December 1 through March 31 season. Whitefish gear rules apply.

Sinlahekin Creek (Okanogan County), from Palmer Lake to Cecile Creek bridge: June 1 through August 31 season. Selective gear rules. Additional December 1 through March 31 season. Whitefish gear rules apply.

Sixteen Lake (Skagit County): Last Saturday in April through October 31 season.

Skagit River (Skagit/Whatcom counties):

From mouth to the Memorial Highway Bridge (Highway 536 at Mt. Vernon): Year-round season. Selective gear rules March 1 through May 31 except lawful to fish from a floating device equipped with an internal combustion motor. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 1 through December 31. Daily limit three salmon except release chinook.

From Memorial Highway Bridge (Highway 536 at Mt. Vernon) upstream to Gilligan Creek: June 1 through March 15 season. Night closure and nonbuoyant lure restriction July 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 1 through December 31. Daily limit three salmon except release chinook.

From Gilligan Creek to Cascade River: June 1 through March 15 season except closed June 1 through June 30 and August 1 through August 31 between a line 200 feet above the east bank of the Baker River to a line 200 feet below the west bank of the Baker River. Nonbuoyant lure restriction and night closure July 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches. Salmon: Open only September 16 through December 31 Gilligan Creek to the Dalles Bridge at Concrete. Daily limit three salmon except release chinook.

From the Dalles Bridge at Concrete to the Highway 530 Bridge at Rockport - Salmon open July 1 through July 31

except closed 12:01 a.m. July 6 until 2:00 p.m. July 7 and 12:01 a.m. July 10 until 2:00 p.m. July 11, and, except closed from 200 feet above the mouth of the Baker River to the Cascade River. Daily limit two sockeye salmon. Release all salmon except sockeye salmon. Salmon open September 16 through December 31. Daily limit three salmon except release chinook. Additional season: March 16 through April 30. Selective gear rules except lawful to fish from a floating device equipped with an internal combustion motor. Unlawful to fish from a floating device while under power. All species: Release all fish.

From the Highway 530 Bridge at Rockport to the Cascade River - Salmon open June 1 through July 9. Nonbuoyant lure restriction and night closure June 1 through November 30. Daily limit two salmon. Release all salmon except hatchery chinook. Salmon open September 16 through December 31. Daily limit three salmon. Release chinook. Additional season: March 16 through April 30. Selective gear rules except lawful to fish from a floating device equipped with an internal combustion motor. Unlawful to fish from a floating device while under power. All species: Release all fish.

From Cascade River to Gorge Powerhouse: June 1 through March 15 season. Nonbuoyant lure restriction and night closure July 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of the trout daily limit, minimum length twenty inches.

From the Gorge Powerhouse to Gorge Dam: Closed waters.

Skamokawa Creek (Wahkiakum County), mouth to forks just below Oatfield and Middle Valley Road: November 1 through March 15 season. All species: Release all fish other than steelhead. Trout: Minimum length twenty inches.

Skate Creek (tributary to Cowlitz River) (Lewis County): Trout: Daily limit five, no more than one over twelve inches in length. Release cutthroat. Release rainbow trout except rainbow trout having a clipped adipose fin and a healed scar at the site of the clipped fin.

Skokomish River (Mason County), mouth to forks: Night closure, nonbuoyant lure restriction and single point barbless hooks required August 1 through November 30 mouth to Highway 101. June 1 through ~~((last day in February))~~ October 31 season ~~((except closed September 14 through September 30 mouth to Highway 101 Bridge))~~. All game fish: Release all fish ~~((except that up to two hatchery steelhead per day may be retained))~~. Selective gear rules from Highway 101 Bridge to forks. Salmon: Open only August 1 through September 13 and October 1 through December 15 mouth to Highway 101 Bridge. Terminal gear restricted to no closer than 25 feet of a tribal gill net. Daily limit 1 salmon August 1 through September 13. Release chum salmon. Daily limit 6 salmon September 14 through December 15, except daily limit may contain no more than 4 adult fish and of these adults not more than one may be an adult chinook. October 1 through October 15 release chum salmon.

Skokomish River, North Fork (Mason County):

From mouth to lower dam: June 1 through ~~((last day in February))~~ October 31 season. All species: Release all fish

((~~except up to two hatchery steelhead per day may be retained~~)). Selective gear rules.

Above Lake Cushman, mouth to Olympic National Park boundary: June 1 through August 31 season. Selective gear rules. Trout: Release all fish.

Skokomish River, South Fork (Mason County):

From mouth to mouth of Church Creek: June 1 through ~~((last day in February))~~ October 31 season. All species: Release all fish ~~((except up to two hatchery steelhead per day may be retained))~~. Selective gear rules.

From mouth of Church Creek to mouth of Rule Creek: Closed waters.

From mouth of Rule Creek to headwaters: Selective gear rules. Trout: Minimum length twelve inches.

Skookum Creek (Mason County): Trout: Minimum length fourteen inches.

Skookum Lakes, North and South (Pend Oreille County): Last Saturday in April through October 31 season.

Skookumchuck Creek (Klickitat County): Trout: Release all trout.

Skookumchuck Reservoir (Thurston County): June 1 through October 31 season. Trout: Daily limit two, minimum length twelve inches.

Skookumchuck River (Thurston County):

From mouth to four hundred feet below the outlet of the PP&L/WDFW steelhead rearing pond located at the base of the Skookumchuck Dam: June 1 through April 30 season. Single point barbless hooks and night closure August 16 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only October 16 through last day in February. Daily limit 6 fish of which no more than 2 may be adult salmon, except December 1 through the last day in February release adult wild coho. Release adult chinook.

From Skookumchuck Reservoir upstream and all tributaries: Selective gear rules. Trout: Minimum length twelve inches.

Skykomish River (Snohomish County):

From mouth to mouth of Wallace River: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through November 30 mouth to Lewis Street Bridge in Monroe and June 1 through November 30 from Lewis Street Bridge in Monroe to Wallace River. Fishing from any floating device prohibited November 1 through last day in February from the boat ramp below Lewis Street Bridge at Monroe downstream two thousand five hundred feet. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open September 1 through December 31 mouth to Lewis Street Bridge in Monroe. Daily limit 2 salmon. Release chinook and pink. Open June 1 through July 31 Lewis Street Bridge in Monroe to Wallace River. Daily limit 2 hatchery chinook. Open September 1 through December 31 Lewis Street Bridge to Wallace River. Daily limit 2 salmon. Release chinook and pink.

From the mouth of the Wallace River to the forks: June 1 through last day in February season, except closed June 1 to 8:00 a.m. August 1 in those waters one thousand five hundred feet upstream and one thousand feet downstream of the outlet at Skykomish Rearing Ponds. Nonbuoyant lure restriction and night closure August 1 through November 30. Fishing from any floating device prohibited in the area one thousand five hundred feet upstream and one thousand feet downstream of the outlet at Skykomish Rearing Ponds August 1 through last day in February. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 1 through December 31. Daily limit 2 salmon. Release chinook and pink.

Skykomish River, North Fork (Snohomish County):

From mouth to one thousand feet downstream from Bear Creek Falls: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches.

From one thousand feet below Bear Creek Falls to Deer Falls: Closed waters.

Skykomish River, South Fork (King/Snohomish counties):

From mouth to six hundred feet downstream from the Sunset Falls Fishway: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches.

From a point six hundred feet downstream of the Sunset Falls Fishway to the Sunset Falls Fishway: Closed waters.

From Sunset Falls to source: June 1 through November 30 season. Selective gear rules. Trout: Minimum length fourteen inches. Whitefish: Additional December 1 through last day in February season. Release all fish other than whitefish.

Slate Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Smith Creek (near North River) (Pacific County): June 1 through last day in February season, except sturgeon. Single point barbless hooks, and night closure August 16 through November 30 upstream to the Highway 101 Bridge. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only September 1 through November 30 from mouth to Highway 101 Bridge. Daily limit 6 fish of which no more than 2 may be adult salmon and of the adult salmon not more than one may be an adult wild coho. Release adult chinook. Sturgeon: Open year-round from mouth to Highway 101 Bridge.

Snake River: Year-round season. Closed to the taking of all trout April 1 through June 15. Trout: Daily limit six, minimum length ten inches, no more than three over twenty inches. Release all steelhead June 16 through August 31. Barbless hooks required when fishing for steelhead. Stur-

geon: Unlawful to retain sturgeon in mainstem and tributaries upstream from Lower Granite Dam. Bass: Fish twelve to seventeen inches in length may be retained. Up to but not more than 3 bass over fifteen inches in length may be retained. Walleye: Daily limit 10 fish. No minimum size. No more than 5 fish over 18 inches in length. No more than 1 fish over 24 inches in length. Channel catfish: No daily limit.

Closed waters: Within four hundred feet of the base of any dam and within a four hundred foot radius around the fish ladder entrance at Lyons Ferry Hatchery, within a two hundred foot radius upstream of the fish ladder exit above Lower Granite Dam, and within an area one thousand two hundred feet downstream from the base of the west lock gate at Little Goose Dam on the south bank of the Snake River and one hundred feet out into the river from said river bank.

Snipe Lake (Grant County): April 1 through September 30 season.

Snohomish River (Snohomish County), including all channels, sloughs, and interconnected waterways, but excluding all tributaries: June 1 through last day in February season, except sturgeon. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 1 through December 31. Daily limit 2 salmon. Release chinook and pink. Sturgeon: Open year-round from mouth to Highway 2 Bridge.

Snoqualmie River (King County):

From mouth to the falls: June 1 through last day in February season, except waters within the Puget Power tunnel at the falls and within fifty feet of any point on Puget Power's lower Plant # 2 building (north bank) are closed waters. June 1 through November 30 selective gear rules, except fishing from a floating device equipped with an internal combustion motor allowed. Fishing from any floating device prohibited November 1 through last day in February from the mouth of Tokul Creek downstream to the boat ramp at Plumb access, about one-quarter mile. Night closure September 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31. Daily limit 2 fish. Release chinook and pink.

From Snoqualmie Falls upstream, including the North and South Forks: Selective gear rules. Trout: Minimum length ten inches. Additional November 1 through May 31 season. Selective gear rules. All species: Release all fish.

Snoqualmie Middle Fork from mouth to source including all tributaries except Pratt and Taylor rivers: Year-round season. Selective gear rules. All species: Release all fish.

Snow Creek (Jefferson County), including all tributaries: Closed waters.

Snyder Creek (Klickitat County): Trout: Release all trout.

Sol Duc River (Clallam County): Open year-round. May 1 through May 31 release all fish except up to two hatchery steelhead per day may be retained. Selective gear rules from the concrete pump station at the Sol Duc Hatchery to the Highway 101 Bridge downstream of Snider Creek November

1 through April 30, and from the Highway 101 Bridge to Olympic National Park June 1 through October 31. Trout: Minimum length fourteen inches. November 1 through last day in February, daily limit three steelhead from mouth to concrete pump station at Sol Duc Hatchery. December 1 through April 30, from mouth to the concrete pump station at the Sol Duc Hatchery, one wild steelhead per day may be retained. Salmon: Open only February 1 through November 30 from mouth to concrete pump station. Daily limit 6 fish of which no more than 2 may be adult salmon February 1 through August 31 and of which no more than 3 may be adult salmon September 1 through November 30. February 1 through August 31 release wild adult coho and wild adult chinook. September 1 through November 30 the daily limit may contain no more than 2 adult chinook or 2 adult wild coho or 1 adult chinook and 1 adult wild coho.

Sooes River (Suez River) (Clallam County): June 1 through last day in February season. Trout: Minimum length fourteen inches.

Soos Creek (King County), from mouth to bridge near hatchery residence: June 1 through August 31 season except salmon. Trout: Minimum length fourteen inches. Salmon: Open only October 7 through October 29 to fishing by juveniles only. Night closure October 8 through October 30. Terminal gear restricted to one single point hook. Daily limit two coho salmon.

Bridge near hatchery residence to Salmon hatchery rack: June 1 through August 31 season. Trout: Minimum length fourteen inches.

South Bend Mill Pond (Pacific County): Juveniles only.

South Prairie Creek (Pierce County), mouth to Page Creek: Closed waters.

Spada Lake (Reservoir) (Snohomish County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Maximum length twelve inches.

Spada Lake (Reservoir) tributaries (Snohomish County): Closed waters.

Spanaway Lake and Spanaway Lake outlet downstream to the dam (approximately 800 feet) (Pierce County): Year-round season.

Spearfish Lake (Klickitat County): Last Saturday in April through last day in February season.

Spectacle Lake (Okanogan County): April 1 through September 30 season.

Spirit Lake (Skamania County): Closed waters.

Spokane River (Spokane County):

From SR 25 Bridge upstream to the upstream boundary at Plese Flats Day Use Area (Riverside State Park), except Long Lake, formed by Long Lake Dam (see also Long Lake): Year-round season except walleye. Trout: Daily limit five, no more than two over twenty inches in length. Walleye: Daily limit eight, no minimum length, no more than one over twenty-two inches in length. April 1 through May 31 release all walleye. Salmon: Landlocked salmon rules apply. Stur-

geon: Unlawful to fish for or retain sturgeon. Small mouth bass: Small mouth bass do not count as part of the bass daily limit. Small mouth bass 12 to 17 inches in length may be retained. No minimum size. Daily limit 10 bass, no more than one bass greater than 14 inches in length may be retained.

From the upstream boundary at Plese Flats Day Use Area (Riverside State Park) upstream to the Monroe Street Dam: Year-round season. Selective gear rules. Trout: Daily limit one. Release wild trout. Salmon: Landlocked salmon rules apply. Sturgeon: Unlawful to fish for or retain sturgeon.

From Monroe Street Dam upstream to Upriver Dam: Year-round season. Salmon: Landlocked salmon rules apply.

From Upriver Dam upstream to the Idaho/Washington state line: June 1 through March 15 season. Selective gear rules, except fishing from a floating device equipped with an internal combustion motor permitted. All species: Release all fish.

Sprague Lake (Adams/Lincoln counties):

Waters south of the lakeside edge of the reeds and waters of Cow Creek south to Danekas Road: July 1 through September 15 season. Crappie: Daily limit ten, minimum length nine inches. Walleye: Minimum size 12 inches in length. Daily limit 8 walleye, not more than 1 of which may be greater than 22 inches in length.

Spring Creek (Klickitat County): Trout: Daily limit five.

Spring Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Spring Lakes (Grant County): March 1 through July 31 season.

Squalicum Lake (Whatcom County): Fly fishing only. Fishing from a floating device equipped with a motor prohibited. Trout: Daily limit two.

Stan Coffin Lake (Grant County): Bass: Release all bass.

Starvation Lake (Stevens County): Last Saturday in April through May 31 season. Additional June 1 through October 31 season. Selective gear rules. All species: Release all fish.

Steel Lake (King County): Last Saturday in April through October 31 season.

Stehekin River (Chelan County), from the mouth to Agnes Creek: July 1 through October 31 season. Selective gear rules. Trout: Minimum length fifteen inches. Release cut-throat. Additional March 1 through June 30 season. Selective gear rules. All species: Release all fish.

Stetattle Creek (Whatcom County), from its mouth to mouth of Bucket Creek (one and one-half miles upstream): Closed waters.

Stevens Creek (Grays Harbor County), mouth to Highway 101 Bridge: June 1 through September 30 and December 1 through last day in February season. Trout: Minimum length fourteen inches.

Stevens, Lake (Snohomish County): Chumming permitted. Kokanee: Kokanee not included in trout daily limit. Kokanee daily limit ten fish.

Steves Lake (Mason County): Last Saturday in April through October 31 season.

Stickney Lake (Snohomish County): Last Saturday in April through October 31 season.

Stillaguamish River (Snohomish County):

From mouth to Marine Drive, including all sloughs: Year-round season. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches. Salmon: Open only September 1 through December 31. Daily limit 2 salmon. Release chinook and pink salmon.

From Marine Drive to the forks, except from the barrier dam (downstream of I-5) downstream two hundred feet which is closed waters: June 1 through last day in February season. Night closure August 1 through November 30. Selective gear rules June 1 through November 30 except fishing from a floating device equipped with an internal combustion motor allowed. Game fish: June 1 through November 30 release all fish except up to two hatchery steelhead per day may be retained. Trout: Minimum length fourteen inches December 1 through last day in February. Salmon: Open only September 1 through December 31. Daily limit 2 salmon. Release chinook and pink salmon.

Stillaguamish River, North Fork (Snohomish County), from mouth to Swede Heaven Bridge: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through November 30. Fishing from any floating device prohibited upstream of the Highway 530 Bridge at mile post 28.8 (Cicero Bridge). Fishing from any floating device equipped with a motor prohibited downstream from the Highway 530 Bridge. June 1 through November 30: All species: Release all fish except hatchery steelhead. June 1 through November 30 fly fishing only. December 1 through last day in February: Trout: Minimum length fourteen inches.

Stillaguamish River, South Fork (Snohomish County):

From mouth to four hundred feet downstream of the outlet to fishway at Granite Falls: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through November 30. Trout: Minimum length fourteen inches.

From four hundred feet below the outlet of the end of the fishway to Mt. Loop Highway bridge above Granite Falls: Closed waters.

From Mt. Loop Highway Bridge above Granite Falls to source: June 1 through November 30 season. Nonbuoyant lure restriction and night closure August 1 through November 30.

Storm Lake (Snohomish County): Last Saturday in April through October 31 season.

Stratford/Brook Lake (Grant County): February 1 through September 30 season.

Stump Lake (Mason County): Last Saturday in April through October 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited.

Suiattle River (Skagit County): Trout: Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

Sullivan Creek (Pend Oreille County), from Mill Pond upstream and tributaries: Selective gear rules. Trout: Eastern brook trout not counted in daily trout limit. Eastern brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Sullivan Lake (Pend Oreille County): Trout: Daily limit 2 trout, except kokanee not counted in daily trout limit. Kokanee daily limit ten.

Sultan River (Snohomish County), from its mouth to a point four hundred feet downstream from the diversion dam at river mile 9.7: June 1 through last day in February season. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

Sultan River, North and South Forks (Snohomish County): Closed waters.

Summit Lake (Stevens County): Last Saturday in April through October 31 season.

Summit Lake (Thurston County): Last Saturday in April through October 31 season.

Sunday Creek (tributary to N.F. Snoqualmie River) (King County): Closed waters.

Sutherland Lake (Clallam County): Chumming permitted.

Swale Creek (Klickitat County): Trout: Release all trout.

Swamp Creek (tributary to Sammamish River) (Snohomish/King counties): June 1 through August 31 season. Juveniles only.

Swan Lake (Ferry County): Last Saturday in April through October 31 season.

Swan's Mill Pond (Stossel Creek) (King County): June 1 through October 31 season.

Swauk Creek (Kittitas County): Selective gear rules.

Swift Reservoir (Skamania County): Last Saturday in April through October 31 season. From posted markers below Eagle Cliff Bridge to Bridge: Selective gear rules except fishing from a floating device equipped with an internal combustion motor allowed. Salmon: Landlocked salmon rules apply.

Swofford Pond (Lewis County): Fishing from a floating device equipped with an internal combustion motor prohibited.

Tacoma Creek and tributaries (Pend Oreille County): Trout: Eastern brook trout not counted in daily trout limit. Eastern

brook trout daily limit ten. Once the daily limit of trout other than eastern brook trout has been achieved, the entire daily limit for trout other than eastern brook trout and eastern brook trout has been taken.

Tahuya River (Mason County): Selective gear rules and release all fish except salmon. Salmon: Open only September 16 through October 31 mouth to marker one mile above North Shore Road Bridge. Daily limit 2 coho salmon.

Taneum Creek (Kittitas County): Selective gear rules.

Tanwax Lake (Pierce County): Last Saturday in April through October 31 season. Crappie: Daily limit ten, minimum length nine inches.

Tapps Lake (Reservoir) and Tapps Lake (Reservoir) intake canal (Pierce County), to within four hundred feet of the screen at Dingle Basin: Year-round season.

Tarboo Lake (Jefferson County): Last Saturday in April through November 30 season. Fishing from a floating device equipped with an internal combustion engine prohibited. Salmon: Landlocked salmon rules apply.

Tate Creek (tributary to N.F. Snoqualmie River) (King County): Closed waters.

Taylor River (tributary to the Middle Fork Snoqualmie) (King County): Selective gear rules. All species: Release all fish.

Teal Lakes (North and South) (Grant County): April 1 through September 30 season.

Teal Lake (Jefferson County): Last Saturday in April to August 31 season. Fishing from a floating device equipped with an internal combustion engine prohibited. Additional September 1 through March 30 season. Selective gear rules. All species: Release all fish.

Teanaway River, including North Fork (Kittitas County): Selective gear rules.

Tenas Lake (Mason County): Last Saturday in April through October 31 season.

Tennant Lake (Whatcom County): Fishing from any floating device prohibited from first Friday in October through January 15.

Terrell, Lake (Whatcom County): Fishing from any floating device prohibited the first Saturday after Labor Day through the following Friday and from October 1 through January 31 except fishing from floating dock permitted.

Thomas Lake (Stevens County): Last Saturday in April through October 31 season.

Thornton Creek (tributary to Lake Washington) (King County): June 1 through August 31 season. Juveniles only.

Thread Lake (Adams County): April 1 through September 30 season.

Tibbetts Creek (tributary to Lake Sammamish) (King County): June 1 through August 31 season. Juveniles only.

Tieton River (Yakima County): Lawful to fish to base of Tieton (Rimrock) Dam. Selective gear rules June 1 through October 31. Additional December 1 through March 31 season: Whitefish gear rules apply.

Tieton River, North Fork (Yakima County), upstream from Rimrock Lake: Closed waters: Spillway channel. June 1 through August 15 season.

Tieton River, South Fork (Yakima County): From mouth to bridge on USFS Rd. 1070 (approximately 12.5 miles): Closed waters.

Tiger Lake (Kitsap/Mason counties): Last Saturday in April through October 31 season.

Tilton River (Lewis County), from mouth to West Fork: June 1 through March 31 season. Trout: Daily limit five, no more than one over twelve inches in length. Release cutthroat. Release rainbow trout except rainbow trout having a clipped adipose fin and a healed scar at the site of the clipped fin. Salmon: Open only June 1 through December 31. Daily limit 6 fish of which no more than 2 may be adult fish. Release wild coho.

Tilton River, East, North, South and West Forks (Lewis County): Selective gear rules. Trout: Minimum length twelve inches.

Toad Lake (Whatcom County): Last Saturday in April through October 31 season.

Tokul Creek (King County):

From mouth to the Fish Hatchery Road Bridge: December 1 through last day in February season, closed 5:00 p.m. to 7:00 a.m. daily. Nonbuoyant lure restriction. Trout: Minimum length fourteen inches.

From Fish Hatchery Road Bridge to posted cable boundary marker located approximately four hundred feet downstream of the hatchery intake: January 15 through last day in February season, closed 5:00 p.m. to 7:00 a.m. daily. Nonbuoyant lure restriction. Trout: Minimum length 14 inches.

From the posted cable boundary marker located approximately four hundred feet downstream of the hatchery intake to the railroad trestle: Closed waters.

Tolt River (King County):

From mouth to the USGS trolley cable near the confluence of the North and South Forks: June 1 through last day in February season. June 1 through November 30, selective gear rules. Trout: Minimum length fourteen inches.

From the USGS trolley cable to the falls in Sec. 21, Twp 26N., R 8 E. on the North Fork, and to the dam on the South Fork: Closed waters.

From falls upstream on North Fork: Selective gear rules. All species: Release all fish.

From dam upstream on South Fork: Selective gear rules. Trout: Minimum length ten inches.

Touchet River (Columbia/Walla Walla counties):

Bass: Bass 12 to 17 inches in length may be retained. Up to but not more than 3 greater than 15 inches may be retained as part of the daily limit.

From confluence of north and south forks upstream, including Robinson and Wolf Forks: Selective gear rules. Bass: Statewide rules apply. Trout: Release all steelhead. Tributaries other than North Fork, South Fork, Robinson Fork, and Wolf Fork: Closed waters.

North Fork: Upstream of Spangler Creek June 1 through August 31 season.

South Fork: Upstream from Griffin Creek June 1 through August 31 season.

Wolf Fork: Upstream from Coates Creek June 1 through August 31 season.

From mouth to confluence of north and south forks: Additional season: November 1 through April 15. Barbless hooks required. All species: Release all fish except hatchery steelhead and brown trout. Trout: Daily limit three fish.

Toutle River (Cowlitz County):

From mouth to forks, and North Fork from the mouth to the posted deadline below the fish collection facility: June 1 through November 30 season. Nonbuoyant lure restriction and night closure September 1 through October 15 on North Fork from confluence with South Fork to mouth of Green River. All game fish: Release all fish except up to two hatchery steelhead per day may be retained. Salmon: Open only August 1 through November 30. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild coho. Release all chinook October 1 through November 30 in North Fork upstream from Kidd Valley Bridge.

From the posted deadline below the fish collection facility upstream to the headwaters, including all tributaries, but excepting Castle and Coldwater Lakes: Closed waters.

Toutle River, South Fork (Cowlitz County), mouth to source: Closed waters: All tributaries. June 1 through November 30 season. All species: Release all fish except hatchery steelhead. Trout: Minimum length twenty inches. Mouth to 4100 Road Bridge: Additional December 1 through March 31 season. Selective gear rules. All species: Release all fish except hatchery steelhead.

Trapper Lake (Chelan County): Trout: Daily limit two.

Trout Creek (tributary to Wind River) (Skamania County): Closed waters.

Trout Lake (Ferry County): Last Saturday in April through October 31 season.

Trout Lake (tributary to Big White Salmon River) (Klickitat County): June 1 through October 31 season.

Tucannon River (Columbia/Walla Walla counties): Closed waters: All tributaries.

From the mouth upstream to Turner Road Bridge: Additional November 1 through April 15 season. Barbless hooks required. All species: Release all fish except hatchery steelhead and whitefish. Trout: Daily limit three hatchery steelhead.

From the Turner Road Bridge upstream to the Tucannon Hatchery Bridge: Selective gear rules June 1 through October 31. Additional season November 1 through April 15. Barbless hooks required. All species: Release all fish except

hatchery steelhead and whitefish. Trout: Daily limit three hatchery steelhead.

From the Tucannon Hatchery Bridge upstream to 500 feet above the Rainbow Lake intake: Closed waters.

From 500 feet above the Rainbow Lake intake to the Cow Camp Bridge: Selective gear rules. Release steelhead.

From Cow Camp Bridge upstream: Closed waters.

Tucquala Lake (Kittitas County): June 1 through October 31 season.

Tunnel Lake (Skamania County): Trout: No more than 2 trout 20 inches in length or greater may be retained.

Twin Lake (Jefferson County): Last Saturday in April through October 31 season.

Twin Lakes (Chelan County) and tributaries and outlet stream to junction with the Napeequa River: Closed waters.

Twisp River (Okanogan County), from mouth to War Creek: June 1 through August 15 season. Selective gear rules. All species: Release all fish. War Creek to South Fork Twisp River: Closed waters.

Tye River (King County): Foss River to Alpine Falls June 1 through October 31 season: Selective gear rules. Trout: Minimum length fourteen inches. Whitefish: Additional November 1 through last day in February season. Release all fish other than whitefish. From Alpine falls upstream: Trout: Minimum size ten inches.

U Lake (Mason County): Last Saturday in April through October 31 season.

Umtanum Creek (Kittitas County): Selective gear rules.

Uncle John Creek (Mason County): Closed waters.

Union Creek (Yakima County): From mouth upstream to falls (approximately 1/4 mile): Closed waters.

Union River (Mason County): Mouth to North Shore Road Bridge. All species: Release all fish except sturgeon.

From North Shore Road Bridge to lower bridge on Old Belfair Highway: June 1 through August 15 season. Selective gear rules. All species: Release all fish except sturgeon.

From lower bridge on Old Belfair Highway upstream to watershed boundary: Selective gear rules. All species: Release all fish except sturgeon.

From watershed boundary to source, including all tributaries: Closed waters.

Upper Wheeler Reservoir (Chelan County): Closed waters.

Valley Creek (Clallam County): Juveniles only.

Vance Creek (Mason County): Trout: Minimum length fourteen inches.

Vance Creek/Elma Ponds (Grays Harbor County): Pond One: Last Saturday in April through November 30 season. Juveniles, holders of a senior license and holders of a department disability license only. Salmon: Landlocked salmon rules apply. Pond Two: Last Saturday in April through November 30 season. Salmon: Landlocked salmon rules apply.

Vancouver Lake and all other waters west of Burlington-Northern Railroad from Columbia River drawbridge near Vancouver downstream to Lewis River (Clark County): Closed waters: April 1 through May 30 the Vancouver Lake flushing channel is closed and it is closed to fishing from the lake shoreline within 400 feet east and west of the channel exit. Chumming permitted. Trout: Daily limit two, minimum length twelve inches. Sturgeon: Seasons, days of the week, daily limits, and size limits same as in adjacent waters of mainstem Columbia River.

Vanes Lake (Pend Oreille County): Last Saturday in April through October 31 season.

Van Winkle Creek (Grays Harbor County): Mouth to 400 feet below outlet of Lake Aberdeen Hatchery: Game fish: Minimum length 14 inches. Salmon: Open only September 1 through January 31. Daily limit 6 fish of which not more than 2 may be adult fish. Release chum, adult chinook and wild adult coho.

Vic Meyers (Rainbow) Lake (Grant County): Last Saturday in April through September 30 season.

Vogler Lake (Skagit County): Last Saturday in April through October 31 season. Fly fishing only. All species: Release all fish.

Voight Creek (Pierce County): From mouth to Highway 162 Bridge: Closed waters.

Wagners Lake (Snohomish County): Last Saturday in April through October 31 season.

Wahkiacus Creek (Klickitat County): Trout: Release all trout.

Waitts Lake (Stevens County): Last Saturday in April through last day in February season.

Walker Lake (King County): Last Saturday in April through October 31 season.

Wallace River (Snohomish County):

From its mouth to 200 feet upstream of the water intake of the salmon hatchery: June 1 through last day in February season. Closed waters: From the first Burlington-Northern Railroad bridge (below Highway 2) to a point two hundred feet upstream of the water intake of the salmon hatchery during the period June 1 through August 31. Fishing from any floating device prohibited November 1 through last day in February. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches. Salmon: Open only September 1 through November 30. Daily limit 2 coho.

From 200 feet upstream of the water intake of the salmon hatchery to mouth of Olney Creek: November 1 through last day in February season. Fishing from any floating device prohibited. Trout except Dolly Varden/Bull Trout: Minimum length fourteen inches. Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

Walla Walla River (Walla Walla County):

From mouth to the Touchet River: Year-round season. Trout: Barbless hooks required when fishing for steelhead. Trout: Release trout April 1 through May 31. Daily limit three hatchery steelhead. Bass: No minimum or maximum size. No more than three fish over fifteen inches in length may be retained.

From the Touchet River upstream to state line: Trout: All tributaries except Mill Creek, maximum length twenty inches. Bass: No minimum or maximum size. No more than three fish over fifteen inches in length may be retained. Additional season November 1 through April 15. All species: Barbless hooks required and release all fish except hatchery steelhead. Trout: Daily limit three hatchery steelhead.

Walupt Lake (Lewis County): Closed waters: All inlet streams. Last Saturday in April through October 31 season. Selective gear rules except fishing from a floating device equipped with an internal combustion motor allowed. Trout: Minimum length ten inches.

Wannacut Lake (Okanogan County): Last Saturday in April through October 31 season.

Wapato Lake (Chelan County): Last Saturday in April through October 31 season. (~~Trout: Release all trout.~~) From August 1 through October 31: Selective gear rules except fishing from a device equipped with an internal combustion motor permitted. Trout: Release all trout.

Wapato Lake (Pierce County): Juveniles only.

Ward Lake (Ferry County): Last Saturday in April through October 31 season.

Ward Lake (Thurston County): Last Saturday in April through October 31 season.

Warden Lake and Warden Lake, South (Grant County): Last Saturday in April through September 30 season.

Washburn Island Pond (Okanogan County): April 1 through September 30 season. Fishing from a floating device equipped with an internal combustion motor prohibited.

Washburn Lake (Okanogan County): Last Saturday in April through October 31 season. Trout: Daily limit two.

Washington, Lake, including that portion of the Sammamish River from the 68th Avenue N.E. Bridge downstream (King County): Fishing from floating device prohibited one hundred yards either side of the floating bridges. Chumming permitted. Trout: December 1 through last day in February, daily limit 5, no minimum length. Release steelhead and rainbow trout over twenty inches in length. March 1 through June 30, daily limit 5, minimum length twelve inches. Release steelhead and rainbow trout over twenty inches in length. Kokanee/sockeye under fifteen inches are kokanee while those fifteen inches and over are sockeye salmon. Salmon: Open only September 16 through October 31 north of Highway 520 Bridge and east of Montlake Bridge. Daily limit two coho salmon.

Washington, Lake, Ship Canal (King County) (waters east of a north-south line 400 feet west of the fish ladder at the Chit-

tenden Locks and west of a north-south line at the eastern ends of the concrete abutments east of the Montlake Bridge): West of Fremont Bridge: Fishing from floating device prohibited. East of Fremont Bridge: Chumming permitted.

From west boundary to a north-south line 400 feet east of the eastern end of the northern wing wall of Chittenden Locks: Closed waters.

From 400 feet east of the eastern end of the northern wing wall of Chittenden Locks to the east boundary: Open year-round. Trout: December 1 through last day in February daily limit five, no minimum length. Release steelhead and rainbow trout over twenty inches in length. March 1 through June 30, daily limit five, minimum length twelve inches. Release steelhead and rainbow trout over twenty inches in length. July 1 through November 30, daily limit five, no minimum length. Kokanee/sockeye less than fifteen inches in length are kokanee and fifteen inches and over in length are sockeye salmon.

Washougal River (Clark County): Night closure year-round.

From mouth to bridge at Salmon Falls: June 1 through March 15 season. Nonbuoyant lure restriction and stationary gear restriction July 1 through October 31. When nonbuoyant lure restriction is in effect, only fish hooked inside the mouth may be retained. Trout: Release all trout except up to 2 hatchery steelhead per day may be retained. Salmon: Open only August 1 through March 15. Daily limit 6 fish of which no more than 2 may be adult salmon. Release chum and wild coho. Upstream of Little Washougal River, release chinook October 1 through November 30.

From mouth to Mt. Norway Bridge: Additional (~~March~~) April 16 through May 31 season. Selective gear rules. Trout: Release all trout except up to 2 hatchery steelhead per day may be retained.

From bridge at Salmon Falls to its source, including tributaries: Closed waters.

Washougal River, West (North) Fork (Clark/Skamania counties):

From mouth to the water intake at the department hatchery: Closed waters.

From intake at department hatchery to source: June 1 through March 15 season. Trout: Release all trout except up to 2 hatchery steelhead per day may be retained.

Watson Lake (Columbia County): March 1 through October 31 season. Fishing from any floating device prohibited. Trout: No more than 2 trout over 13 inches in length may be retained.

Wauhup Lake (Pierce County): Salmon: Landlocked salmon rules apply.

Wenas Lake (Yakima County): Trout: Daily limit five, of which not more than two may be brown trout.

Wenaha River tributaries within Washington: June 1 through August 31 season.

Wenatchee Lake (Chelan County): Selective gear rules except fishing from a floating device equipped with an internal combustion motor allowed. Trout except kokanee: Daily limit two, minimum length twelve inches. Release kokanee.

Kokanee/sockeye under sixteen inches will be considered kokanee while those sixteen inches and over will be considered sockeye salmon.

Wenatchee River, including Lake Jolanda (Chelan County):

December 1 through March 31 season, from mouth to Highway 2 Bridge at Leavenworth only. Whitefish gear rules apply.

West Evans Pond (Asotin County): Trout: No more than 2 trout over 13 inches in length may be retained.

West Twin River (Clallam County): June 1 through ~~(last day in February)~~ October 31 season. Trout: Minimum length fourteen inches.

Whatcom Creek (Whatcom County):

From mouth to stone bridge at Whatcom Falls Park: June 1 through last day in February season. Nonbuoyant lure restriction and night closure August 1 through December 31. Closed waters: Woburn Street Bridge upstream to the stone bridge. Trout: Minimum length fourteen inches. Salmon: Open only August 1 through December 31 from mouth to markers below Dupont Street. Daily limit 6 fish of which not more than 2 may be adult salmon.

From stone bridge at Whatcom Falls Park upstream to Lake Whatcom: Last Saturday in April through October 31 season. Juveniles only. Nonbuoyant lure restriction and night closure August 1 through October 31. Trout: No minimum length.

Whatcom, Lake (Whatcom County): Last Saturday in April through October 31 season, except those waters between the Electric Avenue Bridge and the outlet dam are closed waters: Trout: Release cutthroat trout.

Whatcom, Lake, tributaries (Whatcom County): Closed waters.

Wheeler Creek (Klickitat County): Trout: Release all trout.

White River (Chelan County), from mouth upstream to White River Falls: Closed waters.

White (Stuck) River (Pierce County):

From mouth to R Street Bridge in Auburn: October 1 through last day in February season: Nonbuoyant lure restriction and night closure October 1 through November 30. Trout: Minimum length fourteen inches.

From R Street Bridge to Highway 410 Bridge at Buckley: October 1 through October 31 season. Closed waters: Puget Power canal, including the screen bypass channel, above the screen at Dingle Basin. Nonbuoyant lure restriction and night closure. Trout: 14 inch minimum size.

From the Weyerhaeuser 6000 Road Bridge (Bridge Camp) to its source: July 1 through October 31 season. Nonbuoyant lure restriction and night closure October 1 through October 31. Selective gear rules July 1 through October 31. Trout: Minimum length fourteen inches. Whitefish: Additional November 1 through January 31 season. Whitefish gear rules apply.

Whitechuck River (Snohomish County): Trout: Legal to retain Dolly Varden/Bull Trout as part of trout daily limit, minimum length twenty inches.

White Salmon River (Klickitat/Skamania counties):

From mouth to powerhouse: Open year-round. Bank fishing only downstream from the Highway 14 Bridge. August 1 through December 31: Nonbuoyant lure restriction. Trout: Minimum length fourteen inches. Salmon and steelhead: Open April 1 through June 30, daily limit two fish, one or both of which may be salmon or hatchery steelhead. Release all fish except salmon or hatchery steelhead. Release wild coho and wild chinook. Salmon: Open July 1 through March 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho. October 1 through December 31 release chinook upstream from posted markers upstream of Highway 14 Bridge.

From powerhouse to within four hundred feet of Northwestern Dam: November 16 to April 30 season except salmon and steelhead. Trout: Minimum length fourteen inches. Release trout April 1 through April 30. Salmon: Open November 16 through March 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho. November 16 through December 31 release chinook. Salmon and steelhead: Open April 1 through June 30, daily limit two fish, one or both of which may be salmon or hatchery steelhead. Release all fish except salmon or hatchery steelhead. Release wild coho and wild chinook.

From gas pipeline crossing above Northwestern Lake to Gilmer Creek: Selective gear rules. Trout: Minimum length twelve inches.

Wide Hollow Creek (Yakima County): Trout: Daily limit five, no minimum length.

Widgeon Lake (Grant County): April 1 through September 30 season.

Wildberry Lake (Mason County): Last Saturday in April through October 31 season.

Wildcat Lake (Kitsap County): Last Saturday in April through October 31 season.

Wilderness Lake (King County): Last Saturday in April through October 31 season. Salmon: Landlocked salmon rules apply.

Willame Lake (Lewis County): Last Saturday in April through October 31 season. Selective gear rules. Trout: Daily limit two, minimum length fifteen inches.

Willapa River (Pacific County): Mouth to Highway 6 Bridge: June 1 through March 31 season. All game fish: Release all game fish except that up to two hatchery steelhead may be retained per day. All species: August 16 through November 30 night closure ~~(?)~~ and single point barbless hooks ~~((and stationary gear restriction))~~ required. August 16 through November 30 above the WDFW access at the mouth of Ward/Wilson Creek stationary gear restriction. Fishing from a floating device prohibited November 1 through March 31 from the bridge on Willapa Road to Fork Creek. Highway 6 Bridge to Fork Creek: June 1 through July 15 and October 16 through March 31 season. Night closure, single point barbless hooks, and stationary gear restriction October 16 through November 30. November 1 through March 31 fish-

ing from any floating device prohibited from the bridge on Willapa Road to Fork Creek.

All game fish: Release all fish except that up to two hatchery steelhead may be retained. Salmon: Open only August 1 through January 31 from mouth to Highway 6 Bridge approximately 2 miles below mouth of Trap Creek and open October 16 through January 31 from Highway 6 Bridge to Fork Creek. Daily limit 6 fish of which no more than 3 may be adult salmon and of the adult salmon not more than one may be a wild adult coho and not more than two may be adult chinook and not more than two may be chum.

Sturgeon: Open year round from mouth to Highway 6 Bridge.

Upstream from Fork Creek: Selective gear rules. August 16 through October 31, nonbuoyant lure restriction and night closure. All species: Release all fish except up to two hatchery steelhead per day may be retained.

South Fork: June 1 through last day in February season. Selective gear rules June 1 through October 31. Nonbuoyant lure restriction and night closure August 16 through November 30. All species: Release all fish except up to two hatchery steelhead may be retained.

Williams Creek (Pacific County): June 1 through last day in February season. Selective gear rules. All species: Release all fish except up to two hatchery steelhead per day may be retained.

Williams Lake (Spokane County): Last Saturday in April through September 30 season.

Williams Lake (Stevens County): December 1 through March 31 season.

Wilson Creek (two branches within Ellensburg city limits) (Kittitas County): Open year-round. Juveniles only. Trout: Daily limit five, no minimum length.

Winchester Wasteway (Grant County): Within Winchester Game Reserve: February 1 through September 30 season.

Wind River (Skamania County):

Mouth to four hundred feet below Shipherd Falls: July 1 through March 15 season, except salmon and steelhead. May 1 through June 30: Nonbuoyant lure restriction and night closure. August 1 through October 31: Nonbuoyant lure restriction. When nonbuoyant lure restriction is in effect, only fish hooked inside the mouth may be retained. Salmon and steelhead: Open March 16 through June 30 daily limit 2 fish, one or both of which may be a salmon or hatchery steelhead. Release all fish except salmon and hatchery steelhead. Release wild coho and wild chinook. Trout: Minimum length fourteen inches. Salmon: Open August 1 through October 31. Daily limit 6 fish of which no more than 2 may be adult salmon. Release wild coho. Release chinook from Burlington-Northern Railroad Bridge upstream.

From four hundred feet below to one hundred feet above Shipherd Falls fish ladder: Closed waters.

From one hundred feet above Shipherd Falls to source, including all tributaries: May 1 through June 30 season. Closed waters: From 400 feet below to 100 feet above the Coffey Dam and from a boundary marker approximately 800 yards downstream from Carson National Fish Hatchery

upstream, including all tributaries. Night closure and non-buoyant lure restriction. When nonbuoyant lure restriction is in effect, only fish hooked inside the mouth may be retained. Salmon and steelhead: Daily limit 2 fish, one or both of which may be a salmon or hatchery steelhead. Release all fish except salmon and hatchery steelhead. Additional season September 16 through November 30. Selective gear rules. All species: Release all fish.

Winston Creek (tributary to Cowlitz River) (Lewis County): Selective gear rules. Trout: Minimum length ten inches.

Wishkah River (Grays Harbor County), including all forks: Closed waters: ~~((Mainstem)) From ((four hundred feet below outlet of)) dam at Wishkah Rearing Ponds (formerly Mayr Bros.)~~ downstream to 400 feet below outlet channel, except open during salmon season to within 200 feet of dam. Trout: Minimum length fourteen inches. Release wild cutthroat. Mouth to West Fork: June 1 through March 31 season. Single point barbless hooks required August 16 through November 30. Selective gear and all species: Release all fish except up to two hatchery steelhead may be retained per day, March 1 through March 31. Salmon: Open only October 1 through December 31 ~~((from mouth to 200 feet below the weir at the Long Live the Kings/Mayr Brothers facility)).~~ Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook.

From the West Fork to four hundred feet below outlet: June 1 through March 31 season. ~~((Trout: Minimum length fourteen inches-))~~ Selective gear rules. All species: Release all fish except up to two hatchery steelhead may be retained per day March 1 through March 31. Salmon: Open only October 1 through December 31 to 200 feet below the weir at the Long Live the Kings/Mayr Brothers facility. Daily limit 6 fish of which no more than 2 may be adult salmon. Release adult chinook.

Wolf Creek, mouth to mouth of south fork (Okanogan County): Closed waters.

Wood Lake (Mason County): Last Saturday in April through October 31 season.

Woodland Creek (Thurston County): Trout: Minimum length fourteen inches.

Wooten Lake (Mason County): Last Saturday in April through October 31 season.

Wye Lake (Kitsap County): Last Saturday in April through October 31 season.

Wynoochee River (Grays Harbor County): Trout: Minimum length fourteen inches. Mouth to 7400 line bridge above mouth of Schafer Creek: June 1 through March 31 season. Single point barbless hooks required August 16 through November 30. Salmon: Open only October 1 through January 31. Daily limit 6 fish of which no more than 2 may be adult salmon, except daily limit may contain no more than 1 wild adult coho December 1 through January 31. Release adult chinook.

7400 line bridge upstream: Additional December 1 through March 31 season. Selective gear rules. Fishing from

a floating device prohibited. All species: Release all fish except up to two hatchery steelhead may be retained.

Wynoochee Reservoir (Grays Harbor County): June 1 through October 31 season. Trout: Daily limit two, minimum length twelve inches. Salmon: Landlocked salmon rules apply.

Yakima River (Yakima County): Release all steelhead in mainstem and tributaries. Channel catfish: No daily limit.

From mouth to 400 feet below Prosser Dam: Chumming permitted. Salmon: Open only September 1 through October 22. Daily limit 6 fish of which not more than 2 may be adult salmon. Nonbuoyant lure restriction and night closure.

From mouth to Highway 223 Bridge: Bass: Bass 12 to 17 inches in length may be retained. No daily limit for bass, but not more than 3 bass greater than 15 inches in length may be retained.

From Highway 223 Bridge to 400 feet below Sunnyside Dam: Salmon: Open only September 1 through October 22. Daily limit 6 fish of which not more than 2 may be adult salmon. Nonbuoyant lure restriction and night closure.

From mouth to thirty-five hundred feet below Roza Dam: Year-round season. Closed waters: From Yakima Avenue-Terrace Heights Bridge upstream 400 feet. March 1 through November 30, closed from thirty-five hundred feet below Roza Dam to Roza Dam. Trout: Minimum length twelve inches and maximum length twenty inches. Release all trout April 1 through May 31. Thirty-five hundred feet below Roza Dam to four hundred feet below Roza Dam: December 1 through last day in February season. Whitefish gear rules apply.

From Roza Dam to four hundred feet below Easton Dam and from Lake Easton to the base of Keechelus Dam: Year-round season. Fishing from floating devices equipped with motors allowed only from the U.S. Bureau of Reclamation restricted area signs at Roza Dam upstream to the boat launch ramp on the Roza Access Area (approximately one-half mile). Selective gear rules except bait and one single point barbed hook three-sixteenths or smaller point to shank may be used December 1 through last day in February. Trout: From Roza Dam to 400 feet below Easton Dam: Release all trout. Lake Easton to the base of Keechelus Dam. Release all trout except eastern brook trout. Eastern brook trout: No daily limit and no minimum size.

Yakima Sportsmen's Park Ponds (Yakima County): Juveniles only.

Yale Reservoir (Cowlitz County): Trout: Kokanee not counted in daily trout limit. Kokanee daily limit sixteen.

Yellowjacket Creek (tributary to Cispus River) (Lewis County): Selective gear rules. Trout: Minimum length twelve inches.

~~((Yellowjacket Ponds (Lewis County): Last Saturday in April through last day in February season. Trout: No more than one over twelve inches in length.))~~

Yokum Lake (Pend Oreille County): Last Saturday in April through October 31 season.

WSR 07-05-058

PERMANENT RULES

SUPERINTENDENT OF PUBLIC INSTRUCTION

[Filed February 20, 2007, 11:12 a.m., effective November 1, 2007]

Effective Date of Rule: November 1, 2007.

Purpose: To update out-of-date language, add new requirements and definitions, and rearrange sections that would assist an individual in finding information more efficiently.

Citation of Existing Rules Affected by this Order: Repealing WAC 392-145-010, 392-145-015, 392-145-020, 392-145-025, 392-145-030, 392-145-035, 392-145-040, and 392-145-045; and amending WAC 392-145-001 and 392-145-005.

Statutory Authority for Adoption: RCW 46.61.380.

Adopted under notice filed as WSR 06-21-018 on October 6, 2006.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 9, Amended 2, Repealed 8.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 9, Amended 2, Repealed 8.

Number of Sections Adopted Using Negotiated Rule Making: New 9, Amended 2, Repealed 8; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: February 20, 2007.

Dr. Terry Bergeson
Superintendent of
Public Instruction

AMENDATORY SECTION (Amending Order 83-10, filed 10/10/83)

WAC 392-145-001 Authority and purpose. The authority for this chapter is RCW 46.61.380 which authorizes the superintendent of public instruction to adopt and enforce regulations to cover the operation of all school buses transporting common school students. The purpose of this chapter is to establish the manner of operating all school buses owned and operated by any school district and all school buses which are privately owned and operated under contract or otherwise with any school district in the state for the transportation of students. This chapter does not apply to the operation of buses by common carrier in the urban transportation of students (e.g., the transportation of students via a municipal transit system).

AMENDATORY SECTION (Amending Order 84-40, filed 10/2/84)

WAC 392-145-005 ((Purpose and)) Definition of a "school bus." ~~((The purpose of this chapter is to establish the manner of operating all school buses owned and operated by any school district and all school buses which are privately owned and operated under contract or otherwise with any school district in the state for the transportation of students. The provisions of this chapter shall be incorporated by express reference into all school district contracts for the transportation of students in privately owned and operated school buses. Every school district, its officers and employees, and every person employed under contract or otherwise by a school district shall be subject to the applicable provisions of this chapter.~~

~~This chapter does not apply to the operation of buses by common carriers in the urban transportation of students (e.g., the transportation of students via a municipal transit system).))~~ The definition of "school bus" as the term is used in this chapter shall be as now or hereafter set forth in WAC 392-143-010.

NEW SECTION

WAC 392-145-011 School district requirements. All school districts shall comply with the following requirements:

(1) The provisions of this chapter shall be incorporated by express reference into all school district contracts for the transportation of students in privately owned and operated school buses. Every school district, its officers and employees, and every person employed under contract or otherwise by a school district shall be subject to the provisions of this chapter.

(2) School district boards of directors shall adopt written policies or rules for passengers riding school buses not inconsistent with applicable state law and rules. A copy of these policies or rules shall be provided to each student who is scheduled to ride the school bus.

(3) Every school bus driver shall be provided a copy of and shall be thoroughly familiar with all state and local rules and regulations pertaining to the operation of a school bus.

(4) School bus drivers shall be provided a copy of and training in school district rules and regulations pertaining to bullying, harassment, and for reporting sexual misconduct allegations.

(5) On highways divided into separate roadways as provided in RCW 46.61.150 and highways with three or more marked traffic lanes, school districts shall design bus routes that serve each side of the highway so that students do not have to cross the highway, unless there is a traffic control signal as defined in RCW 46.04.600 or an adult crossing guard within three hundred feet of the bus stop to assist students while crossing such multiple-lane highways.

(6) No school bus stop shall be located on a curve or a hill where visibility is not at least five hundred feet. If it is impossible to secure a distance of at least five hundred feet of visibility for a school bus stop, the school authorities, the state patrol, and the traffic engineering department of the

jurisdiction responsible for the roadway shall be advised and the stop shall be changed or proper signs installed.

NEW SECTION

WAC 392-145-016 Rules for students riding school buses. The policies or rules for students riding school buses shall include, but are not necessarily limited to, the following:

- (1) Identification of the individual who has authority over the passengers;
- (2) Student riding privileges;
- (3) Loading and unloading procedures, including that if students must cross the roadway, they shall only cross in front and never behind the school bus;
- (4) Seat assignment;
- (5) Student conduct, including acceptable practices with respect to talking, moving around the school bus, use of windows, behavior at highway rail grade crossings, and other behavior;
- (6) Unacceptable hazards that may cause injury to others, e.g., firearms, breakable containers, etc.;
- (7) School bus cleanliness; and
- (8) Emergency exit procedures.

NEW SECTION

WAC 392-145-021 General operating requirements. The following operating procedures are required to assure maximum passenger safety:

(1) No school bus shall be operated unless each passenger aboard has been provided with a safe seat of sufficient size to accommodate each passenger within the seat compartment. There shall be no auxiliary seating accommodations such as temporary or folding jump seats in any school bus. Students shall remain seated while the school bus is in motion.

(2) Passengers in school buses equipped with seat belts shall be required to wear them properly adjusted whenever the school bus is in motion.

(3) Heavy, sharp, bulky, and/or other articles which may be hazardous in the event of an accident or an emergency stop shall not be transported unsecured in the passenger area of any school bus. Specific attention is directed to items such as skis, ski poles, vaulting poles, large musical instruments, riser platforms, etc. In no case will items be secured in such a manner as to impede access to any exit. Items which shall not be transported within the passenger area of a school bus include all forms of animal life (except service animals), firearms, weapons, breakable containers, flammables, and all other articles which could adversely affect the safety of the school bus and passengers.

Teachers and all other school district staff members shall be annually notified that students shall not be requested to transport prohibited items between home and school on a school bus.

(4) When a teacher, coach, or other certificated staff member is assigned to accompany students on a school bus, such person shall be responsible for the behavior of the students in his or her charge and shall ensure that passengers comply with state rules, and district policies and procedures

for student transportation. However, the school bus driver shall have final authority and responsibility.

NEW SECTION

WAC 392-145-031 General school bus driver requirements. The following are school bus driver requirements:

(1) School bus drivers shall wear a properly adjusted seat belt whenever the school bus is in motion.

(2) School bus drivers shall immediately report any suspected malfunction or needed repair of the school bus in their charge.

(3) A school bus driver shall only allow individuals authorized under the provisions of chapter 392-144 WAC to operate the school bus with passengers on board. No person except the driver shall be allowed to sit in the driver's seat.

(4) Except in accordance with district policy no school bus driver shall leave the driver's seat without first securing the school bus by setting the parking brake, placing the transmission in the manufacturer's recommended position, shutting off the engine, and removing the key from the ignition switch. The keys shall be kept in the driver's or other authorized school official's possession.

(5) All school bus drivers shall meet the qualifications established in chapter 392-144 WAC prior to transporting students.

NEW SECTION

WAC 392-145-041 Pretrip and posttrip requirements. The following are requirements to assure safety and security of the school bus during operation:

(1) Motor fuel shall not be put into the tank while the engine is running or while passengers are on the school bus. School bus drivers, prior to commencement of any trip, shall assure that the school bus has sufficient fuel to prevent the school bus from running out of fuel.

(2) School bus drivers, prior to commencement of any trip, shall assure that the mirrors, windshield and rear window(s) of the school bus are clean.

(3) Prior to commencement of and during any trip, with passengers aboard, every school bus driver shall ensure there are no articles in the following areas that could impede normal movement, visibility, or emergency egress: The service entrance step well; the entire main aisle from front to rear; the aisles or passage ways to any emergency door; the entire shelf area between the rearmost passenger seats and the rear emergency window (if so equipped).

(4) Tools and other miscellaneous articles shall be carried in appropriate compartments. They shall not be carried loose upon the floor or dashboard area of the school bus.

(5) School bus drivers shall be certain that all brakes, lights, stop signs, warning signal lamps, and other safety devices are working properly before starting on any trip and shall assure that the school bus is equipped with a fully stocked first-aid kit, three reflective triangles, a body fluid clean-up kit and a fire extinguisher certified to be in good working order.

(6) School bus drivers shall check the latch, safety lock, and warning system for all emergency exits prior to each trip

and no school bus shall be operated with passengers aboard unless all the emergency exits are functioning properly.

(7) At the end of each trip or route segment, the school bus driver shall thoroughly check the school bus to insure that no students are left on the school bus. Additionally, the school bus driver shall take reasonable action to insure that any articles left behind by students are safe, secure, and dealt with according to district policy.

NEW SECTION

WAC 392-145-050 Driving requirements. In addition to the following school bus operating requirements, school bus drivers shall observe all driving regulations set forth in the laws of the state of Washington relating to the operation of motor vehicles (chapter 46.61 RCW, Rules of the road).

(1) School bus drivers shall not manually change gears while proceeding downhill. Necessary gear changes shall be made before starting down a hill.

(2) No school bus driver shall disengage the clutch or place the transmission into neutral and allow the school bus to coast.

(3) Backing a school bus is prohibited unless an adult flagman assists or an emergency exists. Any deviation from this regulation shall require prior approval by an authorized school district administrator. In all cases, the school bus driver will minimize the extent of such backing. In the event of an emergency, backing of a school bus shall be permitted only when there is no danger to pedestrians or passengers.

(4) School bus drivers shall yield the right of way to emergency vehicles.

(5) The speed of a school bus shall not be allowed to exceed the legal truck speed or any other applicable posted speed limit.

(6) When it is necessary to overtake and pass a slow moving vehicle, school bus drivers shall take reasonable action to assure that no third vehicle is drawing near. There shall be a visual road clearance of at least eight hundred feet on the road surface.

(7) All school buses shall slow down to ten miles an hour or less before making a ninety degree right or left turn.

(8) All school buses shall be operated with the headlights on when carrying passengers or traveling on a public roadway.

(9) All school buses shall be operated with the doors closed when carrying passengers or traveling on a public roadway.

NEW SECTION

WAC 392-145-060 Loading and unloading procedures. The following procedures are required to assure maximum student safety:

(1) A school bus driver shall not order or allow a student to depart the school bus other than at his or her regular stop unless permission is first obtained in accordance with district policy.

(2) School bus drivers shall pick up only the students and persons designated by an authorized school district administrator.

(3) School bus drivers shall have the primary responsibility for the safety of passengers while they are boarding the school bus, while they are on the school bus, and while they are disembarking the school bus and crossing the roadway. If passengers must cross the road, the driver shall make every reasonable effort to insure that they cross safely and that they pass in front of the school bus and never behind the school bus. The driver shall likewise insure that passengers boarding or disembarking from the school bus are within his/her view at all times.

(4) Prior to stopping the school bus on the roadway for the purpose of loading or unloading passengers, school bus drivers shall activate the alternating flashing amber lamps by means of a master sequencing switch. The driver shall activate the alternating flashing amber lamps:

(a) No less than one hundred feet and no more than three hundred feet from the school bus stop where the posted speed limit is thirty-five miles per hour or less; and

(b) No less than three hundred feet and no more than five hundred feet from the school bus stop where the posted speed limit is more than thirty-five miles per hour.

(5) No school bus shall pull over to the left-hand side of the road to load or unload passengers.

(6) The stop sign and alternately flashing red lamps shall be activated whenever a school bus is stopped on any portion of a traveled roadway to load or unload school children. Simultaneously flashing amber hazard lamps shall be activated whenever a school bus is stopped off the roadway to load or unload school children.

(7) Whenever school children have to cross the roadway, the school bus shall stop on the roadway and display the stop sign and alternately flashing red lamps. A school bus driver shall not allow school children to cross any roadway having three or more marked traffic lanes or any highway divided into separate roadways as provided in RCW 46.61.150.

(8) The stop sign and alternately flashing red lamps on a school bus shall not be used while the school bus is moving or to indicate that the school bus is going to stop.

(9) While loading and unloading passengers on a traveled portion of the roadway, the school bus driver shall activate the alternating flashing red lights by means of a sequencing switch prior to opening the passenger load door.

(10) The school bus driver shall set the parking brake and place the transmission in neutral or park prior to loading or unloading passengers. When it is possible, the school bus driver shall maintain light pressure on the service brake to activate the brake lamps when loading or unloading passengers.

(11) The school bus driver shall assure that all students are seated or secure prior to releasing the brake.

(12) In any case in which a school bus passes a stopped school bus which is loading and unloading students off the traveled portion of the roadway, the passing school bus shall reduce speed and proceed with caution.

NEW SECTION

WAC 392-145-070 Rail grade crossings. The following requirements apply to drivers of school buses during rail grade crossings:

(1) All school buses shall stop at all rail grade crossings except:

(a) Where traffic is controlled by a police officer or duly authorized flagman;

(b) Where an official traffic control device gives notice that the general stopping requirements do not apply;

(c) Where local regulations or school district policy expressly prohibit stopping.

(2) In order to lessen the potential for collisions, school bus drivers shall use simultaneously flashing amber hazard lamps within two hundred feet prior to stopping for a rail grade crossing.

(3) The school bus driver shall open the door and driver window to listen for approaching trains.

(4) Drivers shall take reasonable action to insure that passengers are quiet and shall turn off all noise making devices such as fans and radios while listening for approaching trains.

(5) Drivers shall not proceed until the door is closed, visibility is clear, and the school bus can safely proceed across and completely clear the rail grade.

(6) Drivers shall not change gears of a school bus equipped with a manual transmission while the school bus is crossing a rail grade.

NEW SECTION

WAC 392-145-080 Emergency exit drills and procedures. The following requirements are designed to provide maximum passenger safety in emergency situations:

(1) All school districts shall prepare written policies or rules which establish procedures for school bus safety and emergency exit drills.

(2) One actual emergency evacuation drill shall be held within the first six weeks of school each semester. The first actual exit drill shall be followed by at least one verbal review of the emergency exit drill prior to the second actual exit drill. For schools on a trimester system, an actual emergency evacuation drill shall be held within the first six weeks of school of each trimester and no verbal review is required.

(3) Only those passengers whose participation in an exit drill poses substantial difficulty to themselves or to other passengers shall be excused and/or excluded from exit drill participation. Passengers who are excluded from such participation shall receive oral instruction in school bus safety and exit drills at least three times during the school year.

(4) Required exit drills shall be held upon school premises.

(5) The school bus driver shall:

(a) Assure that emergency exit drills make allowance for individual differences;

(b) Provide instructions on the location and use of emergency equipment;

(c) Provide instruction to helpers that they should offer a helping hand palm up and avoid grasping a student's hand or arm; and

(d) Time the exit drill to assure that procedures provide for an orderly and expedient exiting from the vehicle.

(6) At the start of each field trip or extracurricular trip, the school bus driver shall review with all passengers, the

location and use of the emergency exits and emergency equipment, and any district emergency procedures.

(7) No school bus driver, except in accordance with emergency procedures adopted by the district, shall leave the immediate vicinity of his/her school bus while there are passengers aboard. In the event of a school bus breakdown, assistance shall be sought in accordance with school district policy.

(8) The emergency evacuation of a school bus shall only be conducted when staying on the school bus is more hazardous than exiting the school bus.

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|-----------------|--|
| WAC 392-145-010 | Seating and seatbelt requirements. |
| WAC 392-145-015 | General operating regulations. |
| WAC 392-145-020 | Rules for school bus drivers. |
| WAC 392-145-025 | Additional rules for school bus drivers. |
| WAC 392-145-030 | Additional rules for school bus drivers. |
| WAC 392-145-035 | Rules for students riding school buses. |
| WAC 392-145-040 | Emergency exit procedures. |
| WAC 392-145-045 | Emergency drills. |

WSR 07-05-062
PERMANENT RULES
DEPARTMENT OF
LABOR AND INDUSTRIES

[Filed February 20, 2007, 11:53 a.m., effective April 1, 2007]

Effective Date of Rule: April 1, 2007.

Purpose: The Occupational Safety and Health Administration (OSHA) recently adopted rules regulating hexavalent chromium. We made changes to our permissible exposure limit table to remain as-effective-as OSHA. In addition, general ventilation requirements in chapter 296-62 WAC, the general occupational health standards were repealed from that chapter and moved into chapter 296-841 WAC, the general exposure control sections. We also changed the title of the rule, reformatted it, and clarified some language.

Amended sections:

Chapter 296-841 WAC, Respiratory hazards:

- Changes were being made throughout this rule to bring it into compliance with OSHA, to change the title to airborne hazards, and to further clarify language.

- General ventilation requirements were moved from chapter 296-62 WAC into this chapter.

The following sections were amended to correct references to chapter 296-841 WAC: WAC 296-78-71015, 296-155-20301, 296-304-01009, 296-806-47502, 296-809-800, 296-824-800, 296-828-100, 296-828-20005, 296-839-30005, 296-849-11030, 296-849-13005, and 296-849-13020.

Repealed sections:

Chapter 296-62 WAC, General occupational health standards.

- General ventilation requirements were repealed from this chapter and moved into chapter 296-841 WAC.

Citation of Existing Rules Affected by this Order: Amending WAC 296-841-100 Scope, 296-841-200 Evaluate and control employee exposures, 296-841-20005 Exposure evaluations, 296-841-20010 Exposure controls, 296-841-20015 Respirators, 296-841-20020 Notification, 296-841-20025 Permissible exposure limits, 296-841-300 Definitions, 296-78-71015 Tanks and chemicals, 296-155-20301 Definitions, 296-304-01009 Precautions for hot work, 296-806-47502 Guard drum sanders, 296-809-800 Definitions, 296-824-800 Definitions, 296-828-100 Scope, 296-828-20005 Chemical hygiene plan, 296-839-30005 Develop or obtain material safety data sheets (MSDSs), 296-849-11030 Exposure evaluations, 296-849-13005 Exposure control plan and 296-849-13020 Exposure controls; and repealing WAC 296-62-100 Oxygen deficient atmospheres, 296-62-110 Ventilation, 296-62-11001 Definition, 296-62-11003 Ventilation guide, 296-62-11005 Adequate system, 296-62-11007 Exhaust, 296-62-11009 Make-up air quantity, 296-62-11011 Design and operation, 296-62-11013 Compatibility of systems, and 296-62-11017 Grinding, polishing, and buffing operations.

Statutory Authority for Adoption: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.

Adopted under notice filed as WSR 07-01-079 on December 19, 2007 [2006].

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 1, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 20, Repealed 10.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 21, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: February 20, 2007.

Judy Schurke
Acting Director

Chapter 296-841 WAC

~~((RESPIRATORY HAZARDS))~~
AIRBORNE CONTAMINANTS

AMENDATORY SECTION (Amending WSR 06-08-087, filed 4/4/06, effective 9/1/06)

WAC 296-841-100 Scope. ~~((This chapter applies only if your employees:~~

- Are exposed to a respiratory hazard

OR

• Could be exposed to one of the specific hazards listed below:

This chapter applies to any workplace with potential or actual employee exposure to respiratory hazards. It requires you to protect employees from respiratory hazards by applying this protection strategy:

- Evaluate employee exposures to determine if controls are needed
- Use feasible controls. For example, enclose or confine the operation, use ventilation systems, or substitute with less toxic material
- Use respirators if controls are not feasible or if they cannot completely remove the hazard.

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.

Note:

- Examples of substances that may be respiratory hazards when airborne include:
 - Chemicals listed in Table 3
 - 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 kept by, or known to, the employer
- Atmospheres considered oxygen deficient
- Biological agents such as harmful bacteria, viruses or fungi
- Examples include airborne TB aerosols and anthrax
- Pesticides with a label requirement for respirator use
- Chemicals used as crowd control agents such as pepper spray
- Chemicals present at clandestine drug labs.
- These substances can be airborne as dusts, fibers, fogs, fumes, mists, gases, smoke, sprays, vapors, or aerosols.
- Substances in Table 3 that are marked with an X in the "skin" column may require personal protective equipment (PPE). See WAC 296-800-160, Personal protective equipment, for additional information and requirements.
- If any of the following hazards are present in your workplace, you will need both this chapter and any of the following specific rules that apply:

Reference:**Hazard**

Acrylonitrile

Hazard

Arsenic (inorganic)
Asbestos
Benzene
Butadiene
Cadmium
Carcinogens
Coke ovens
Cotton dust
1,2-Dibromo-3-chloropropane
Ethylene oxide
Formaldehyde
Lead
Methylene chloride
Methylenedianiline
Thiram
Vinyl chloride))

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.

AMENDATORY SECTION (Amending WSR 03-20-115, filed 10/1/03, effective 1/1/04)

WAC 296-841-200 Evaluate and control employee exposures.

((Summary

Your responsibility:

To protect your employees from exposure to respiratory hazards in the workplace by identifying and controlling the hazards.

You must:

Identify and evaluate employee exposures

~~WAC 296-841-20005~~

Control employee exposures

~~WAC 296-841-20010~~

Use respirators

~~WAC 296-841-20015~~

Notify employees

~~WAC 296-841-20020.))~~

NEW SECTION

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.

AMENDATORY SECTION (Amending WSR 04-18-079, filed 8/31/04, effective 11/1/04)

WAC 296-841-20005 ((Identify and evaluate respiratory hazards.)) Exposure evaluations.

((You must:

~~• Make sure employees are protected from potentially hazardous exposure while you perform your evaluation~~

~~• Perform your evaluation without considering the protection provided to employees by a respirator~~

~~• Determine the form of the hazard, such as dust, mist, gas, oxygen deficiency, or biological agent.~~

~~• Make sure you consider:~~

~~— Potential emergency and rescue situations that may occur, such as equipment or power failures, uncontrolled chemical reactions, fire, explosion, or human error~~

~~— Workplace conditions such as work processes, types of material, control methods, work practices and environmental conditions.~~

~~• Determine or reasonably estimate whether any employee is or could be exposed to any of the following:~~

~~— Any airborne substance above a permissible exposure limit (PEL) listed in Table 3~~

~~— A substance at or above the action level (AL) specified in the rule for that substance~~

~~— Any other respiratory hazard.~~

~~• Use any of the following to determine employee exposure:~~

~~— Information that would allow an estimate of the level of employee exposure, such as MSDSs or pesticide labels, observations, measurements or calculations~~

~~— Data demonstrating that a particular product, material or activity cannot result in employee exposure at or above the AL or PEL~~

~~— Personal air samples that represent an employee's usual or worst case exposure for the entire shift.~~

Note:

- Rules for specific substances may contain additional requirements for determining employee exposure.
- Use methods of sampling and analysis that have been validated by the laboratory performing the analysis.
- 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.

You must:

~~• Consider the atmosphere to be immediately dangerous to life or health (IDLH) when you cannot determine or reasonably estimate employee exposure~~

~~• Make sure employee exposure, to two or more substances with additive health effects, is evaluated using this formula:~~

$$E_m = \frac{C_1}{L_1} + \frac{C_2}{L_2} + \dots + \frac{C_n}{L_n}$$

| The symbol | Is the ... |
|------------|---|
| E | Equivalent exposure for the mixture. When the value of E is greater than 1, a respiratory hazard is present. |
| C | Concentration of a substance. |
| L | TWA, STEL, or ceiling for that substance, from Table 3.)) |

(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 sampling 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:

$$E_m \equiv \frac{C_1}{L_1} \pm \frac{C_2}{L_2} \pm \dots \pm \frac{C_n}{L_n}$$

| The symbol | Is the . . . |
|-------------------|--|
| <u>E</u> | <u>Equivalent exposure for the mixture. When the value of E is greater than 1, an airborne hazard is present.</u> |
| <u>C</u> | <u>Concentration of a specific airborne contaminant.</u> |
| <u>L</u> | <u>TWA_{8h}, STEL, or ceiling limit for that airborne contaminant, from Table 3, Permissible Exposure Limits (PELs) for Airborne Contaminants.</u> |

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.

AMENDATORY SECTION (Amending WSR 04-18-079, filed 8/31/04, effective 11/1/04)

WAC 296-841-20010 ((Control employee exposures-)) Exposure controls.

((You must:

• Use feasible controls to protect employees from exposure to respiratory hazards by:

– Reducing employee exposure to a level that removes the respiratory hazard, such as to a level below the permissible exposure limits (PEL) in Table 3;

OR

– Reducing the exposure to the lowest achievable level, when the respiratory hazard cannot be removed.

IMPORTANT:

Using respirators and other PPE is not a substitute for the feasible controls required by this section.

Note: The following table gives you examples of control methods-)) **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**

| <u>((Control)) Preferred exposure controls include:</u> | <u>For example:</u> |
|--|---|
| <u>Using a different chemical (this is also known as substitution)</u> | <ul style="list-style-type: none"> • <u>Choose a chemical with a lower evaporation rate or vapor pressure</u> • <u>Choose a chemical ((without)) that's not hazardous ((ingredients))</u> |

| | |
|--|---|
| Changing a process to ((lessen)) 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 |
| ((Removing emissions at or near the source (local exhaust ventilation))) 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 Note: <u>This isn't recommended for control of highly toxic airborne contaminants such as carcinogens, where low exposures can still present a health hazard</u> | <ul style="list-style-type: none"> • Allow natural air movement to create an adequate airflow through an area • Use mechanical fans |
| ((Diluting and removing emissions in the work area (general exhaust ventilation)) | <ul style="list-style-type: none"> • Allow natural air movement to create an adequate airflow through an area • Use mechanical fans |
| ((Modify)) Modifying work practices | <ul style="list-style-type: none"> • Change the position of the ((worker)) employee relative to the work so fumes, vapors, or smoke ((do not go into their face)) 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 <u>prep work that don't need to be done in the exposure area</u> |
| ((Rotate employees — Some specific rules prohibit the use of this control method | <ul style="list-style-type: none"> • Move employees to another job that is without exposure, on a schedule to keep their total exposure below the permissible exposure limit |

| | |
|--|--|
| Implementing an employee rotation schedule | Have employees alternate working in the exposure area so that each employee gets less overall exposure |
| Note: <u>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.</u> | |

AMENDATORY SECTION (Amending WSR 03-20-115, filed 10/1/03, effective 1/1/04)

WAC 296-841-20015 ((Use)) Respirators.

~~((You must:))~~

•) Require employees to use ~~((respiratory protection))~~ respirators when ~~((respiratory))~~ 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 ~~((respiratory))~~ airborne hazard is not completely removed
- When exposure controls are NOT feasible.

~~((Reference:))~~

See chapter 296-842 WAC, Respirators, for respirator program requirements.)

AMENDATORY SECTION (Amending WSR 04-18-079, filed 8/31/04, effective 11/1/04)

WAC 296-841-20020 ((Notify employees)) Notification.

~~((You must:))~~

•) Notify employees who are or may be exposed to ~~((respiratory))~~ 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 |
| The corrective action being taken to reduce employee exposure to or below the PEL | Within fifteen business days, after the employee's exposure result is known to the employer |
| AND | |

| Notify employees of: | As follows: |
|--|--|
| The schedule for completion of the corrective action and any reasons why exposures cannot be lowered to below the PEL | |
| <p>((An exposure to these substances:</p> <ul style="list-style-type: none"> • Acrylonitrile • Arsenic (inorganic) • Asbestos • Benzene • Butadiene • Cadmium • Coke oven emissions • Cotton dust • 1,2-Dibromo-3-chloropropane • Ethylene oxide • Formaldehyde • Lead • Methylene chloride • Methylenedianiline • Vinyl chloride)) | In writing, as specified in the rule specific to the substance |

individual compounds of the metal are not provided. For more information about CAS registry numbers see the web site: <http://www.cas.org>.

~~((Time-weighted averages (TWA₈) represent the maximum allowed average exposure for any 8-hour time period. For work periods longer than 8-hours the TWA₈ needs to be determined using the 8 continuous hours with the highest average concentration.))~~

• Short-term exposure limits (STEL) ~~((represent maximum allowed average exposure for any))~~ pertain to fifteen-minute exposure periods, unless another time period is noted in Table 3.

~~((The ceiling represents the maximum allowed exposure for the shortest time period that can feasibly be measured.))~~

• An "X" in the "skin" column indicates the ~~((substance))~~ 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 |
| 6 | 17 |
| 7 | 9 |
| 8 | 5 |
| 10 | 1 |

AMENDATORY SECTION (Amending WSR 04-18-079, filed 8/31/04, effective 11/1/04)

WAC 296-841-20025 Permissible exposure limits ((of air contaminants)) (PELs).

IMPORTANT:

The following information applies to Table 3, Permissible Exposure Limits (PELs) for ((A+)) Airborne Contaminants.

~~((Exposure needs to be determined from personal air samples taken in the breathing zone OR from monitoring representative of the employee's breathing zone.))~~

• 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 ~~((substance))~~ 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

Table 3 "Permissible Exposure Limits (PELs) for ((A+)) Airborne Contaminants"

| ((Substance)) 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 | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|------------------------|------------------------|---------|------|
| <u>Actinolite (asbestiform) (as asbestos)</u> (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 | — | — |
| <u>Amosite (as asbestos)</u> (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 ((Air)) Airborne Contaminants"

| ((Substance)) 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 ((WAC- 296-62-07347)) chapter 296-848 WAC) | 7440-38-2 | 0.01 mg/m ³ | — | — | — |
| Arsenic, inorganic compounds (as As) (when use is not covered by ((WAC 296-62-07347)) 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 min- utes) | — | — |
| 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 ((WAC 296-62-07523)) chapter 296-849 WAC) | 71-43-2 | 1 ppm | 5 ppm | — | — |
| Benzidine (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 | 1ppm | 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|-------------------------------|-----------------------|-----------------------|------|
| 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 | — | — |
| 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 ((CrO ₃)) 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 ((WAC 296-62-07347)) 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|------------|-----------------------|-----------------------|-----------|------|
| 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 | — | — |
| 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 (Epichlorhydrin) | 106-89-8 | 2 ppm | 4 ppm | — | X |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA _s | STEL | Ceiling | Skin |
|--|-------------------------|---------------------------------------|-------------------------------|-----------------------------|------|
| 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 ((CrO ₃)) Cr) (when the compound is not covered by WAC 296-62-08003) | Varies with compound | ((0.1 mg/m ³)) — | ((0.3 mg/m ³)) — | ((—)) 0.1 mg/m ³ | — |
| ((Chromium, soluble, chromic and chromous salts (as Cr) | 7440-47-3 | 0.5 mg/m ³ | 1.5 mg/m ³ | — | —)) |
| Chromium | — | — | — | — | — |
| Chromium (VI) compounds (as Cr) (when the compound is covered by WAC 296-62-08003) | — | ((0.05)) 0.005 mg/m ³ | ((0.15 mg/m ³)) — | — | — |
| Chromium metal (and insoluble salts) or Chromium (II) compounds Or Chromium (III) compounds | 7440-47-3 | 0.5 mg/m ³ | ((1.5 mg/m ³)) — | — | — |
| Chromyl chloride (as Cr) (see WAC 296-62-08003) | 14977-61-8 | ((0.025 ppm)) 0.005 mg/m ³ | ((0.075 ppm)) — | — | — |
| 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 ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|-------------------------|--|---|-------------|-------------|
| Coal tar pitch volatiles (benzene soluble fraction) (((Particulate polycyclic aromatic hydrocarbons))) <u>Acridine</u> <u>Anthracene</u> <u>Benzo (a) pyrene</u> <u>Chrysene</u> <u>Phenanthrene</u> <u>Pyrene</u> | 65996-93-2 | 0.2 mg/m ³ | 0.6 mg/m ³ | — | — |
| 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) Fume | 7440-50-8 — | — 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) Total particulate Respirable fraction | 7429-90-5 — — | — 10 mg/m ³ 5 mg/m ³ | — 20 mg/m ³ 10 mg/m ³ | — — — | — — — |
| Crag herbicide (Sesone, Sodium-2, 4-dichloro-phenoxyethyl sulfate) Total particulate Respirable fraction | 136-78-7 — — | — 10 mg/m ³ 5 mg/m ³ | — 20 mg/m ³ 10 mg/m ³ | — — — | — — — |
| Cresol (all isomers) | 1319-77-3 | 5 ppm | 10 ppm | — | X |
| <u>Crocidolite (as asbestos)</u> (see WAC 296-62-077 and chapter 296-65 WAC) | — | <u>0.1 f/cc</u> | <u>1.0 f/cc (30 minutes)</u> | — | — |
| 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 (Dichlorodiphenyltri-chloroethane) | 50-29-3 | 1 mg/m ³ | 3 mg/m ³ | — | X |
| DDVP, (Dichlorvos) | 62-73-7 | 0.1 ppm | 0.3 ppm | — | X |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|------------------------|------------------------|-----------|------|
| 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 |
| 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 ((WAC 296-62-07470)) 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|-----------------------------------|-----------------------|-----------------------|----------|------|
| 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 |
| 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 | — | — |
| Disulfram | 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|-----------------------|-----------------------|---------|------|
| 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 |
| Ethyleneimine (see WAC 296-62-073) | 151-56-4 | — | — | — | X |
| Ethylene oxide (see ((WAC 296-62-07359)) 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|----------------------|-----------------------|-----------------------|-----------|------|
| 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 ((WAC 296-62-07540)) 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)) 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|-------------------------|-----------------------|-----------------------|---------|------|
| 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 | — | — |
| 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ~~(Air)~~ Airborne Contaminants"

| (Substance) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|-------------------------|-------------------------|---------------------|------|
| 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 (296-62-07347) <u>296-62-07521, 296-155-176,</u> <u>and chapter 296-848 WAC</u>) | 3687-31-8 | 0.05 mg/m ³ | — | — | — |
| Lead chromate (as Pb) (see WAC 296-62-08003, <u>296-62-07521, and</u> <u>296-155-176</u>) | 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 | — | — |
| 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 | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|------------|------------------------|------------------------|----------|------|
| 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 | — | — |
| Methyl chloroform (1, 1, 1-trichlorethane) | 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 | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|------------------------|------------------------|----------|------|
| 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 ((WAC 296-62-07470)) 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) | 7439-98-7 | — | — | — | — |
| Soluble compounds | — | 5 mg/m ³ | 10 mg/m ³ | — | — |
| Insoluble compounds | — | 10 mg/m ³ | 20 mg/m ³ | — | — |
| Monochlorobenzene (Chlorobenzene) | 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 | — | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|------------|-----------------------|-----------------------|----------|------|
| Nickel carbonyl (as Ni) | 13463-39-3 | 0.001 ppm | 0.003 ppm | — | — |
| Nickel (as Ni) | 7440-02-0 | — | — | — | — |
| 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 (2-Chloro-6 trichloromethyl pyridine) | 1929-82-4 | — | — | — | — |
| 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 (Nitrous 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 | — | — |
| <u>Nuisance dusts (see Particulates not otherwise regulated)</u> | — | — | — | — | — |
| 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 | — | — |
| <u>Oxygen</u> | — | — | — | — | — |
| <u>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</u> | — | — | — | — | — |
| Oxygen difluoride | 7783-41-7 | — | — | 0.05 ppm | — |
| Ozone | 10028-15-6 | 0.1 ppm | 0.3 ppm | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|-------------------------------------|------------------------|-------------------------|----------|------|
| 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 1910-42-5 2074-50-2 | 0.1 mg/m ³ | 0.3 mg/m ³ | — | X |
| Parathion | 56-38-2 | 0.1 mg/m ³ | 0.3 mg/m ³ | — | X |
| Particulate polycyclic aromatic hydrocarbons ((benzene soluble fraction)) (see coal tar pitch volatiles) | ((65996-93-2)) | 0.2 mg/m ³ | 0.6 mg/m ³) | — | — |
| Particulates not otherwise regulated | — | — | — | — | — |
| 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 (methyl propyl ketone) | 107-87-9 | 200 ppm | 250 ppm | — | — |
| Perchloroethylene (tetrachloroethylene) | 127-18-4 | 25 ppm | 38 ppm | — | — |
| 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 (Naptha, rubber solvent) | — | 100 ppm | 150 ppm | — | — |
| Phenacyl chloride (a-Chloroacetophenone) | 532-21-4 | 0.05 ppm | 0.15 ppm | — | — |
| 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 | — | — |
| Phenylhydrazine | 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|-------------------------|-------------------------|---------------------|------|
| 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 (2-Pivalyl-1, 3-indandione, Pival) | 83-26-1 | 0.1 mg/m ³ | 0.3 mg/m ³ | — | — |
| 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 (see WAC 296-62-073) | 57-57-8 | — | — | — | — |
| 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 | — | — |
| Pyrocatechol (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 | — | — | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|-------------|-------------------------|-----------------------------|---------|------|
| 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) | — | — | — | — | — |
| 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|------------------------|--|---------------------|------|
| 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 HN ₃ or NaN ₃) | 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 | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|--|------------|-------------------------|----------------------------------|---------|------|
| 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 | — |
| 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 | — | — |
| 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 min- utes) | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|------------|------------------------|------------------------|-----------|------|
| 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 | — | — |
| 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) (see WAC 296-62-07329) | 75-01-4 | 1 ppm | 5 ppm | — | — |
| Vinyl cyanide (Acrylonitrile) (see WAC 296-62-07336) | 107-13-1 | 2 ppm | 10 ppm | — | — |
| Vinyl cyclohexene dioxide | 106-87-6 | 10 ppm | 20 ppm | — | X |
| Vinyl toluene | 25013-15-4 | 50 ppm | 75 ppm | — | — |
| Vinylidene chloride (1, 1-Dichloroethylene) | 75-35-4 | 1 ppm | 3 ppm | — | — |
| VM & P Naphtha | 8032-32-4 | 300 ppm | 400 ppm | — | — |

Table 3 "Permissible Exposure Limits (PELs) for ((Air)) Airborne Contaminants"

| ((Substance)) Airborne contaminant | CAS | TWA ₈ | STEL | Ceiling | Skin |
|---|---------------------------|----------------------------------|-----------------------|-----------------------|------|
| Warfarin | 81-81-2 | 0.1 mg/m ³ | 0.3 mg/m ³ | — | — |
| Welding fumes (total particulate) | — | 5 mg/m ³ | 10 mg/m ³ | — | — |
| Wood dust | — | — | — | — | — |
| Nonallergenic; (All woods except allergenics) | — | 5 mg/m ³ | 10 mg/m ³ | — | — |
| 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 ((CrO ₃)) Cr) (see WAC 296-62-08003) | Varies with com- pound | ((0.05)) 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 | — | — |

AMENDATORY SECTION (Amending WSR 04-18-079, 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

((An exposure limit, measured over the shortest time period feasible, that must not be exceeded during any part of the employee's workday.)) See Permissible exposure limits (PELs).

Dust

Solid particles suspended in air. Dusts are generated by handling, drilling, crushing, grinding, rapid impact, detonation, 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)

~~((Permissible exposure limits (PELs) are employee exposures to toxic substances or harmful agents that must not be exceeded. PELs are specified in applicable WISHA rules.))~~ 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:

- TWA₈. 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)

~~((An exposure limit averaged over a short time period (usually measured for fifteen minutes) that must not be exceeded during any part of an employee's workday.))~~ See Permissible exposure limits (PELs).

Temper

To condition air for a specific work environment by changing its temperature or moisture content.

Time weighted average (TWA₈)

~~((An exposure limit averaged over eight hours that must not be exceeded during an employee's workday.))~~ 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.
- 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.

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|------------------|-------------------------------|
| WAC 296-62-100 | Oxygen deficient atmospheres. |
| WAC 296-62-110 | Ventilation. |
| WAC 296-62-11001 | Definition. |
| WAC 296-62-11003 | Ventilation guide. |
| WAC 296-62-11005 | Adequate system. |
| WAC 296-62-11007 | Exhaust. |

| | |
|------------------|--|
| WAC 296-62-11009 | Make-up air quantity. |
| WAC 296-62-11011 | Design and operation. |
| WAC 296-62-11013 | Compatibility of systems. |
| WAC 296-62-11017 | Grinding, polishing, and buffing operations. |

AMENDATORY SECTION (Amending WSR 05-20-055, filed 10/3/05, effective 12/1/05)

WAC 296-78-71015 Tanks and chemicals. (1) All open vats and tanks into which workers may fall shall be guarded with standard railings or screen guards in all cases where such guarding is possible with regard to practical operation.

(2) Foundations of elevated tanks shall be accessible for inspections. When the tank platform is more than five feet above the ground a stairway or ladder shall be permanently attached.

(3) Every open tank over five feet in height shall be equipped with fixed standard ladders both inside and out, extending from the bottom to the rim of the tank arranged to be accessible to each other, so far as local conditions permit.

(4) The use of chemicals for treating of lumber for prevention of sap stain or mold or as preservatives, shall conform to the requirements of chapter 296-835 WAC, Dipping and coating operations (dip tanks).

(a) Storage, handling, and use of chemicals. Threshold limits. Employees shall not be exposed to airborne concentration of toxic dusts, vapors, mists or gases that exceed the threshold limit values set forth in chapter 296-62 WAC, Part H, and chapter 296-841 WAC, ~~((Respiratory hazard))~~ Airborne contaminants.

(b) Protective equipment. The use of chemicals shall be controlled so as to protect employees from harmful exposure to toxic materials. Where necessary, employees shall be provided with and required to wear such protective equipment as will afford adequate protection against harmful exposure as required by WAC 296-800-160, and chapter 296-842 WAC, Respirators.

(5)(a) Means shall be provided and used to collect any excess of chemicals used in treating lumber so as to protect workers from accidental contact with harmful concentrations of toxic chemicals or fumes.

(b) Dip tanks containing flammable or combustible liquids shall be constructed, maintained and used in accordance with chapter 296-835 WAC, Dipping and coating operations (dip tanks).

(c) An evacuation plan shall be developed and implemented for all employees working in the vicinity of dip tanks using flammable and/or combustible liquids. A copy of the plan shall be available at the establishment for inspection at all times. Every employee shall be made aware of the evacuation plan and know what to do in the event of an emergency and be evacuated in accordance with the plan. The plan shall be reviewed with employees at least quarterly and documented.

(d) When automatic foam, automatic carbon dioxide or automatic dry chemical extinguishing systems are used, an alarm device shall be activated to alert employees in the dip

tank area before and during the activation of the system. The following combinations of extinguishment systems when used in conjunction with the evacuation plan as stated above will be acceptable in lieu of bottom drains:

(i) A dip tank cover with an automatic foam extinguishing system under the cover, or an automatic carbon dioxide system, or an automatic dry chemical extinguishing system, or an automatic water spray extinguishing system;

(ii) An automatic dry chemical extinguishing system with an automatic carbon dioxide system or a second automatic dry chemical extinguishing system or an automatic foam extinguishing system;

(iii) An automatic carbon dioxide system with a second automatic carbon dioxide system or an automatic foam extinguishing system.

(e) The automatic water spray extinguishing systems, automatic foam extinguishing systems, and dip tank covers shall conform with the requirements of chapter 296-835 WAC, Dipping and coating operations (dip tanks). The automatic carbon dioxide systems and dry chemical extinguishing system shall conform with the requirements of WAC 296-24-615 and 296-24-620.

(6) Where workers are engaged in the treating of lumber with chemicals or are required to handle lumber or other materials so treated, the workers shall be provided with, at no cost to the worker, and required to use such protective equipment as will provide complete protection against contact with toxic chemicals or fumes therefrom.

(7) Sanitation requirements. The requirements of WAC 296-800-220 and 296-800-230 (safety and health core rules), shall govern sanitation practices.

(8) The sides of steam vats and soaking pits unless otherwise guarded shall extend forty-two inches above the floor level. The floor adjacent thereto shall be of nonslip construction.

(9) Large steam vats or soaking pits, divided into sections, shall be provided with substantial walkways between each section, each walkway to be provided with standard railings which may be removable if necessary.

(10) Covers shall be removed only from that portion of the steaming vats on which workers are working and a portable railing shall be placed at this point to protect the operators.

(11) Workers shall not ride or step on logs in steam vats.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-155-20301 Definitions. Confined space means a space that:

(1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and

(2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and

(3) Is not designed for continuous employee occupancy.

"Corrosives" means substances which in contact with living tissue cause destruction of the tissue by chemical action.

"Hazardous atmosphere" means 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 space), injury, or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of ten percent of its lower flammable limit (LFL);

(2) 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 (1.52m) or less.

(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in chapter 296-62 WAC, general occupational health standards, or chapter 296-841 WAC, (~~identifying and controlling respiratory hazards~~) Airborne contaminants, and which could result in employee exposure in excess of its dose or permissible exposure limit;

Note: An atmospheric concentration of any 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 provision.

(5) Any other atmospheric condition that is immediately dangerous to life or health.

Note: For air contaminants for which WISHA has not determined a dose or permissible exposure limit, other sources of information, such as material safety data sheets that comply with the Chemical Hazard Communication Standard, WAC 296-800-170, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

"Irritants" means substances which on immediate, prolonged, or repeated contact with normal living tissue will induce a local inflammatory reaction.

"Oxygen deficient atmospheres" means atmospheres at sea level having less than 19.5% oxygen by volume or having a partial pressure of 148 millimeters of mercury or less. This may deviate when working at higher altitudes and should be determined for an individual location. Factors such as acclimatization, physical condition of persons involved, etc., must be considered for such circumstances and conditions. (See chapter 296-62 WAC, Part M, permit-required confined spaces.)

"Toxicants" means substances which have the inherent capacity to produce personal injury or illness to persons by absorption through any body surface.

AMENDATORY SECTION (Amending WSR 05-19-086, filed 9/20/05, effective 12/1/05)

WAC 296-304-01009 Precautions for hot work. (1) General requirements.

(a) **Designated areas.** The employer may designate areas for hot work in sites such as vessels, vessel sections, fabricating shops, and subassembly areas that are free of fire hazards.

(b) Nondesignated areas.

(i) Before authorizing hot work in a nondesignated area, the employer must visually inspect the area where hot work is to be performed, including adjacent spaces, to ensure the area is free of fire hazards, unless a marine chemist's certificate or shipyard competent person's log is used for authorization.

(ii) The employer shall authorize employees to perform hot work only in areas that are free of fire hazards, or that have been controlled by physical isolation, fire watches, or other positive means.

Note: The requirements of (b) of this subsection apply to all hot work operations in shipyard employment except those covered by WAC 296-304-02007.

(2) Specific requirements.

(a) **Maintaining fire hazard-free conditions.** The employer must keep all hot work areas free of new hazards that may cause or contribute to the spread of fire. Unexpected energizing and energy release are covered by WAC 296-304-120. Exposure to toxic and hazardous substances is covered in chapter 296-841 WAC, (~~Respiratory hazards~~) Airborne contaminants; chapter 296-802 WAC, Employee medical and exposure records; and WAC 296-800-170, Employer chemical hazard communication—Introduction.

(b) **Fuel gas and oxygen supply lines and torches.** The employer must make sure that:

(i) No unattended fuel gas and oxygen hose lines or torches are in confined spaces;

(ii) No unattended charged fuel gas and oxygen hose lines or torches are in enclosed spaces for more than fifteen minutes;

(iii) All fuel gas and oxygen hose lines are disconnected at the supply manifold at the end of each shift; and

(iv) All disconnected fuel gas and oxygen hose lines are rolled back to the supply manifold or to open air to disconnect the torch; or extended fuel gas and oxygen hose lines are not reconnected at the supply manifold unless the lines are given a positive means of identification when they were first connected and the lines are tested using a drop test or other positive means to ensure the integrity of fuel gas and oxygen burning system.

AMENDATORY SECTION (Amending WSR 04-14-028, 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. (~~For requirements about air contaminants, see Respiratory hazards.~~) 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.

AMENDATORY SECTION (Amending WSR 04-03-081, 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, (~~WAC 296-24-110 or respiratory hazards, chapter 296-841 WAC~~) 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, (~~Respiratory hazards~~)

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.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

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, (~~identifying and controlling respiratory hazards~~) 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.

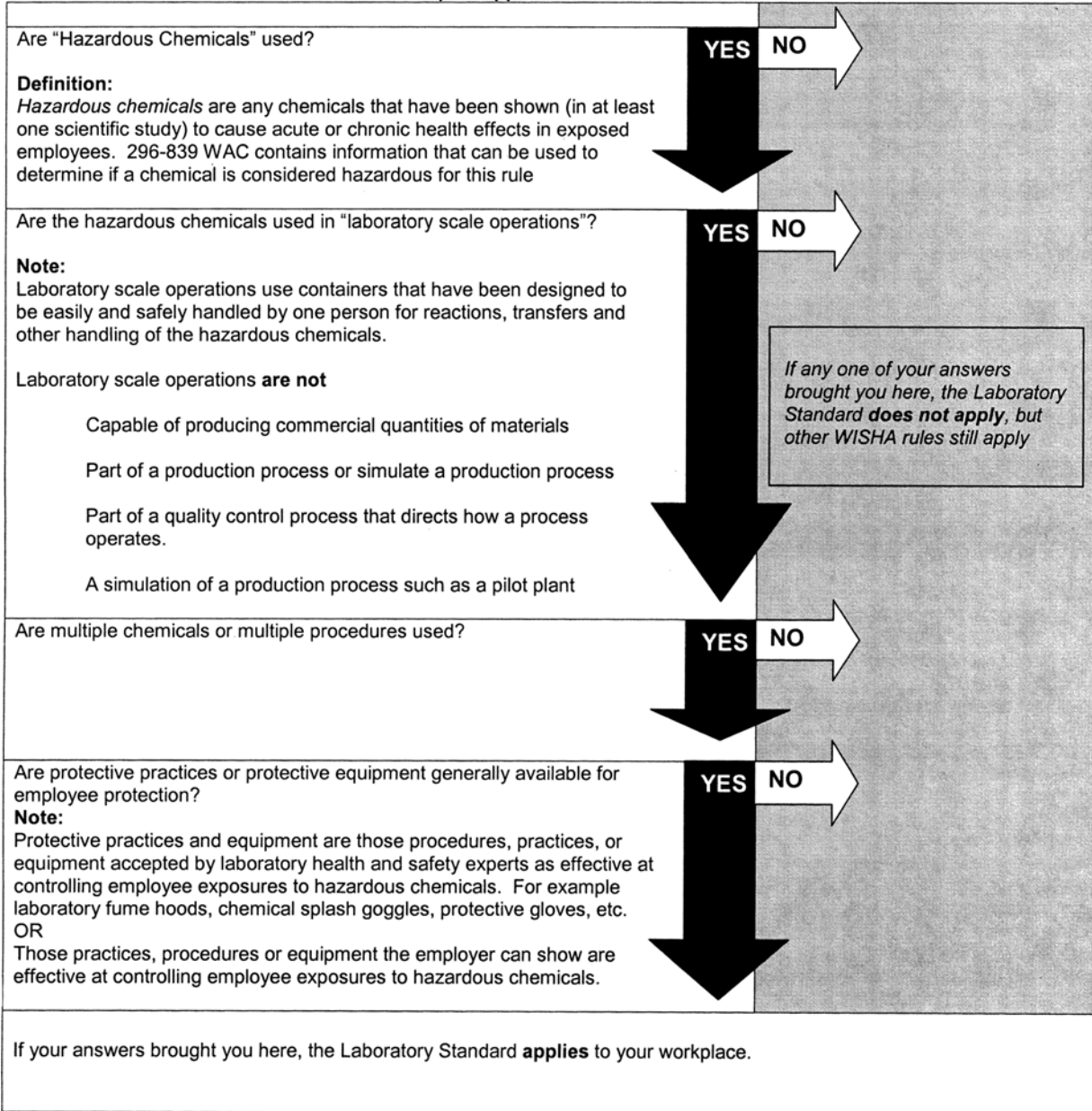
You

The employer. For a complete definition of "employer" see Safety and health core rules, chapter 296-800 WAC.

AMENDATORY SECTION (Amending WSR 06-02-060, filed 1/3/06, effective 4/1/06)

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**



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, (~~Respiratory hazards~~) Airborne contaminants.

Table 2
WISHA Regulated Hazardous Chemicals

| |
|--|
| Acrylonitrile |
| Arsenic (inorganic) |
| Asbestos |
| Benzene |
| Butadiene |
| Cadmium |
| Coke ovens |
| Cotton dust |
| 1, 2-Dibromo-3-chloropropane |
| Ethylene oxide |
| Formaldehyde |
| Lead |
| Methylene chloride |
| 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 |

AMENDATORY SECTION (Amending WSR 06-02-060, 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 ((~~Respiratory hazards~~)) 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.

- 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.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

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 |
|--|
| • 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 ingredients ¹ 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 |

| Table 8 Information Required on MSDSs |
|---|
| <ul style="list-style-type: none"> ■ The International Agency for Research on Cancer (IARC) Monographs as a potential carcinogen <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ■ 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 |
| • 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, (~~identifying and controlling respiratory hazards~~) 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.

AMENDATORY SECTION (Amending WSR 05-13-152, filed 6/21/05, effective 8/1/05)

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 (~~another chapter, Respiratory hazards,~~) 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.

AMENDATORY SECTION (Amending WSR 05-01-172, 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.

~~((Reference: To see examples of exposure controls, go to Respiratory hazards, chapter 296-841 WAC, and find Table 1 in Control employee exposure, WAC 296-841-20010.))~~

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.

AMENDATORY SECTION (Amending WSR 05-01-172, 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.

~~((Reference: To see examples of exposure controls, go to Respiratory hazards, chapter 296-841 WAC, and find Table 1 in Control employee exposures, WAC 296-841-20010.))~~

**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. |

| If: | Then you must use feasible controls to: |
|--|--|
| 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. |

**WSR 07-05-063
PERMANENT RULES
DEPARTMENT OF
LABOR AND INDUSTRIES**

[Filed February 20, 2007, 12:34 p.m., effective April 1, 2007]

Effective Date of Rule: April 1, 2007.

Purpose: Chapter 296-150F WAC, Factory-built housing and commercial structures and chapter 296-150M WAC, Manufactured homes. The purpose of this rule making is to amend the factory assembled structure rules in order to be consistent with the statute. The rule making will also make clarifying and housekeeping changes to the rules. The program implemented a new online permitting system and these clarifying changes will help alleviate questions from our customers.

Citation of Existing Rules Affected by this Order: Amending WAC 296-150F-0020 What definitions apply to this chapter?, 296-150F-0320 What must I provide with my request for design-plan approval by the department?, 296-150F-0580 Must I obtain an insignia for used factory-built structures?, 296-150F-3000 Factory-built housing and commercial structure fees, 296-150M-0306 What codes are used when altering a manufactured/mobile home?, 296-150M-0600 Who establishes standards for installation of manufactured homes?, 296-150M-0614 How may I obtain a copy of the American National Standards Institute (ANSI) A225.1- Manufactured Homes Installation? and 296-150M-3000 Manufactured/mobile home fees; and new WAC 296-150M-0323 What is the requirement for emergency conservation permits? and 296-150M-0410 What are the requirements for altering mobile/manufactured homes?

Statutory Authority for Adoption: Chapter 43.22 RCW.

Adopted under notice filed as WSR 06-23-128 and 06-23-129 on November 21, 2007 [2006].

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 2, Amended 8, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 2, Amended 8, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 2, Amended 8, Repealed 0.

Date Adopted: February 20, 2007.

Judy Schurke
Acting Director

AMENDATORY SECTION (Amending WSR 05-23-002, filed 11/3/05, effective 12/4/05)

WAC 296-150F-0020 What definitions apply to this chapter? "Approved" is approved by the department of labor and industries.

"Building site" is a tract, parcel, or subdivision of land on which a factory-built house or commercial structure will be installed.

~~("Commercial structure" is a structure designed or used for human habitation (such as a dormitory) or human occupancy for industrial, educational, assembly, professional, or commercial purposes. It may also include a component.)~~

"Component" is a ~~((discrete element that cannot be inspected at the time of installation either in the factory or in a site-built unit, but))~~ part or element of another system as defined by the International Building Code, section 202, and is:

- Designed to be installed in a structure;
- Manufactured as a unit; and
- Designed for a particular function or group of functions.

A component may be a ~~((floor, wall panel, roof panel, plumbing wall, electrical service wall, or heating assembly.~~

It may also be a service core. A)) service core or other assembly that is a factory assembled((, three-dimensional)) section of a building. It may include mechanical, electrical, plumbing, and related systems. It may be a complete kitchen, bathroom, or utility room. Service cores are referred to as "wet boxes," "mechanical cores," or "utility cores."

Note: A roof truss is not considered a component.

"Damaged in transit" is damage that effects the integrity of the structural design or damage to any other system referenced in the codes required by the State Building Code, or other applicable codes.

"Department" is the department of labor and industries. The department may also be referred to as "we" or "us" in this chapter. Note: You may contact us at: Department of Labor and Industries, Specialty Compliance, PO Box 44440, Olympia, WA 98504-4440.

"Design plan" is a plan for the construction of factory-built housing, commercial structures, or components that includes floor plans, elevation drawings, specifications, engineering data, or test results necessary for a complete evaluation of the design.

"Design option" is a design that a manufacturer may use as an option to its design plan.

"Educational facility" is a building or portion of a building used primarily for educational purposes by six or more persons at one time for twelve hours per week or four hours in any one day. Educational occupancy includes: Schools (preschool through grade twelve), colleges, academies, universities, and trade schools.

"Equipment" is all material, appliances, devices, fixtures, fittings, or accessories used in the manufacture, assembly, installation, or alteration of factory-built housing, commercial structures, and components.

"Factory assembled structure (FAS) advisory board" is a board authorized to advise the director of the department regarding the issues and adoption of rules relating to factory-built housing, commercial structures and components. (See RCW 43.22.420.)

~~("Factory built housing" is housing designed for human occupancy such as a single family dwelling. The structure of any room is entirely or substantially prefabricated or assembled at a place other than a building site. It may also include a component. A factory built house is also referred to as a "modular" structure. Factory built housing does not include manufactured (mobile) housing. (See RCW 43.22.450(3).))~~

"Health or personal care facilities" are buildings or parts of buildings that contain, but are not limited to, facilities that are required to be licensed by the department of social and health services or the department of health (e.g., hospitals, nursing homes, private alcoholism hospitals, private psychiatric hospitals, boarding homes, alcoholism treatment facilities, maternity homes, birth centers or childbirth centers, residential treatment facilities for psychiatrically impaired children and youths, and renal hemodialysis clinics) and medical, dental or chiropractic offices or clinics, outpatient or ambulatory surgical clinics, and such other health care occupancies where patients who may be unable to provide for their own needs and safety without the assistance of another person are treated. (Further defined in WAC 296-46B-010.)

"Insignia" is a label that we attach to a structure to verify that a factory-built house or commercial structure meets the requirements of this chapter. It could also be a stamp or label attached to a component to verify that it meets the requirements of this chapter.

"Install" is to erect or set in place a structure at a building site. It may also be the construction or assembly of a component as part of a factory-built house or commercial structure.

"Institutional facility" is a building or portion of a building used primarily for detention and correctional occupancies where some degree of restraint or security is required for a time period of twenty-four or more hours. Such occupancies include, but are not restricted to: Penal institutions, reformatories, jails, detention centers, correctional centers, and residential-restrained care.

~~("Listed" is a piece of equipment, a component, or an installation that appears in a list published by a testing or listing agency and is suitable for use in a specified manner.)~~

"Listing agency" is an organization whose business is approving equipment, components, or installations for publication.

"**Local enforcement agency**" is an agency of city or county government with power to enforce local regulations governing the installation of factory-built housing and commercial structures.

"**Master design plan**" is a design plan that expires when a new State Building Code has been adopted.

"**Manufacturing**" is making, fabricating, forming, or assembling a factory-built house, commercial structure, or component.

"**One-year design plan**" is a design plan that expires one year after approval or when a new State Building Code has been adopted.

"**Repair**" is the replacement, addition, modification, or removal of any construction, equipment, system, or installation to correct damage in transit or during on-site installation before occupancy.

"**Unit**" is a factory-built house, commercial structure, or component.

"Used structure" is a building as defined by section 202 of the International Building Code that has been given a certificate of occupancy by the local building department and has been occupied.

AMENDATORY SECTION (Amending WSR 05-23-002, filed 11/3/05, effective 12/4/05)

WAC 296-150F-0320 What must I provide with my request for design-plan approval by the department? All requests for design-plan approval must include:

- (1) A completed design-plan approval request form;
- (2) (~~One~~) Two complete sets of design plans, specifications, engineering analysis, test procedures and results plus one additional set for each manufacturing location where the design plan will be used (see WAC 296-150F-0340 and 296-150F-0350);
- (3) At least one set of design plans must have an original wet stamp from a professional engineer or architect licensed in Washington state. All new, renewed, and resubmitted plans, specifications, reports and structural calculations prepared by or prepared under his or her direct supervision shall be signed, dated and stamped with their seal. Specifications, reports, and structural calculations may be stamped only on the first sheet, provided this first sheet identifies all of the sheets that follow are included and identified in the same manner. Plans that have not been prepared by or under the engineer's or architect's supervision shall be reviewed by them and they shall prepare a report concerning the plans reviewed. This report shall:
 - (a) Identify which drawings have been reviewed by drawing number and date;
 - (b) Include a statement that the plans are in compliance with current Washington state regulations; and
 - (c) The report shall be stamped and signed by the reviewer.

Any deficiencies shall be corrected on the drawings before submitting to the department or be included in the report and identify as to how they are to be corrected. This report shall be attached to the plan(s) that were reviewed. We will retain the set with the original wet stamp;

(4) A one-time initial filing fee and the design-plan fee (see WAC 296-150F-3000); and

(5) A "key drawing" to show the arrangement of modules if the plan covers three or more modules.

(6) Electrical plan review for educational, institutional or health care facilities and other buildings. Plan review is a part of the electrical inspection process; its primary purpose is to determine:

(a) That loads and service/feeder conductors are calculated and sized according to the proper (~~NCE~~) NEC or WAC article or section;

(b) The classification of hazardous locations; and

(c) The proper design of emergency and standby systems.

(7) All electrical plans for new or altered electrical installations in educational, institutional, and health or personal care occupancies classified or defined in this chapter must be reviewed and approved before the electrical installation or alteration is started. Approved plans must be available for use during the electrical installation or alteration and for use by the electrical inspector.

(8) All electrical plans for educational facilities, hospitals and nursing homes must be prepared by, or under the direction of, a consulting engineer registered under chapter 18.43 RCW in compliance with chapters 246-320, 180-29, and 388-97 WAC as applicable and stamped with the engineer's mark and signature.

(9) Plans to be reviewed by the department must be legible, identify the name and classification of the facility, clearly indicate the scope and nature of the installation and the person or firm responsible for the electrical plans. The plans must clearly show the electrical installation or alteration in floor plan view, include switchboard and/or panel board schedules and when a service or feeder is to be installed or altered, must include a riser diagram, load calculation, fault current calculation and interrupting rating of equipment. Where existing electrical systems are to supply additional loads, the plans must include documentation that proves adequate capacity and ratings. The plans must be submitted with a plan review submittal form available from the department.

AMENDATORY SECTION (Amending WSR 96-21-146, filed 10/23/96, effective 11/25/96)

WAC 296-150F-0580 Must I obtain an insignia for used factory-built structures? All used factory-built housing and commercial structures that are to be installed on a building site in Washington state must have an insignia of approval from (~~us~~) the department prior to being installed on a building site or it must be approved by the local building official as a moved building as allowed by section 101.2 of the International Building Code.

AMENDATORY SECTION (Amending WSR 06-10-066, filed 5/2/06, effective 6/30/06)**WAC 296-150F-3000 Factory-built housing and commercial structure fees.**

| | |
|---|----------------------------|
| INITIAL FILING FEE | \$58.90 |
| DESIGN PLAN FEES: | |
| INITIAL FEE - MASTER DESIGN (CODE CYCLE) | \$290.70 |
| INITIAL FEE - ONE YEAR DESIGN | \$170.30 |
| RENEWAL FEE | \$58.90 |
| RESUBMIT FEE | \$85.10 |
| ADDENDUM (Approval expires on same date as original plan.) | \$85.10 |
| ELECTRONIC PLAN SUBMITTAL FEE \$4.80 per page for the first set of plans and \$0.30 per page for each additional set of plans. These fees are in addition to any applicable design plan fees required under this section. | |
| ELECTRICAL PLAN REVIEW (Plan review for educational, institutional or health care facilities and other buildings): | |
| Electrical Plan submission fee | \$64.80 |
| Service/feeder Ampacity: | |
| 0 - 100 | \$28.70 |
| 101 - 200 | \$35.80 |
| 201 - 400 | \$67.10 |
| 401 - 600 | \$79.20 |
| 601 - 800 | \$102.10 |
| 801 - 1000 | \$124.90 |
| Over 1000 | \$135.50 |
| Over 600 volts surcharge | \$21.40 |
| Thermostats: | |
| First | \$12.70 |
| Each additional | \$3.00 |
| Low voltage fire alarm and burglar alarm: | |
| Each control panel and up to four circuits or zones | \$11.60 |
| Each additional circuit or zone | \$2.00 |
| Generators, refer to appropriate service/feeder ampacity fees | |
| <i>Note: Altered services or feeders shall be charged the above rate per the service/feeder ampacity fees.</i> | |
| Supplemental submissions of plans (resubmittals, addendums, renewals, code updates, etc.) will be charged per hour or fraction of an hour* | \$76.70 |
| ELECTRICAL COMMERCIAL/INDUSTRIAL | |
| Electrical Service /feeders <u>200 Ampacity plus</u> | ((212.80 plus)) |
| Service/feeder | \$195.10 |
| Additional Feeder | \$37.00 |
| ELECTRICAL MULTIFAMILY RESIDENTIAL | |
| Electrical Service/feeders <u>200 Ampacity plus</u> | ((212.80 plus)) |
| Service/feeder | \$103.50 |
| Additional Feeder | \$26.40 |
| MEDICAL GAS PLAN REVIEW: | |
| SUBMISSION FEE | \$80.80 |
| FIRST STATION | \$80.80 |
| EACH ADDITIONAL STATION | \$29.40 |

| | |
|--|----------|
| RECIPROCAL PLAN REVIEW: | |
| INITIAL FEE-MASTER DESIGN | \$130.00 |
| INITIAL FEE-ONE YEAR DESIGN | \$78.60 |
| RENEWAL FEE | \$78.60 |
| ADDENDUM | \$78.60 |
| PLANS APPROVED BY DESIGN PROFESSIONALS | |
| | |
| APPROVAL OF EACH SET OF DESIGN PLANS BEYOND FIRST ((TWO) <u>THREE</u>) SETS | \$15.20 |
| DEPARTMENT INSPECTION FEES | |
| INSPECTION/REINSPECTION (Per hour* plus travel time* and mileage**) | \$75.30 |
| TRAVEL (Per hour*) | \$75.30 |
| PER DIEM** | |
| HOTEL*** | |
| MILEAGE** | |
| RENTAL CAR*** | |
| PARKING*** | |
| AIRFARE*** | |
| DEPARTMENT AUDIT FEES: | |
| AUDIT (Per hour*) | \$75.30 |
| TRAVEL (Per hour*) | \$75.30 |
| PER DIEM** | |
| HOTEL*** | |
| MILEAGE** | |
| RENTAL CAR*** | |
| PARKING*** | |
| AIRFARE*** | |
| INSIGNIA FEES: | |
| FIRST SECTION | \$240.30 |
| EACH ADDITIONAL SECTION | \$21.70 |
| REISSUED-LOST/DAMAGED | \$58.90 |
| OTHER FEES: | |
| FIELD TECHNICAL SERVICE (Per hour* plus travel time* and mileage**) | \$75.30 |
| NOTIFICATION TO LOCAL ENFORCEMENT AGENCY (NLEA) | \$32.60 |
| PUBLICATION PRINTING AND DISTRIBUTION OF RCW'S AND WAC'S (One free copy per year upon request) | \$12.20 |
| * Minimum charge of 1 hour; time spent greater than 1 hour is charged in 1/2 hour increments. | |
| ** Per state guidelines. | |
| *** Actual charges incurred. | |

AMENDATORY SECTION (Amending WSR 05-24-020, filed 11/29/05, effective 1/1/06)

WAC 296-150M-0306 What codes are used when altering a manufactured/mobile home? Alterations to a manufactured/mobile home must be in compliance with the Manufactured Home Construction and Safety Standards, 24 CFR Part 3280, as adopted by the Secretary for the Department of Housing and Urban Development (HUD) and the amendments to that federal standard adopted in this WAC chapter. The department will accept the following provisions, which supersede the applicable requirements in 24 CFR Part 3280.

(1) Tested equivalent air conditioning/heat pump components that have been tested and listed for use with a particular furnace by a nationally recognized testing laboratory.

(2) Water heaters that are listed by a nationally recognized testing laboratory and installed per the manufacturer's installation instructions.

Note: For installation of electrical furnaces and/or water heater in pre-HUD homes, the requirement of 24 CFR Part 3280.203 for flame spread limitations is waived as long as the installation meets the requirement of the installed appliance for distance from combustibles.

(3) Pellet stoves for installation that have been listed by a department approved nationally recognized testing laboratory. For a current list of approved laboratories, contact any

department field office or the department at the address shown in WAC 296-150M-0020.

(4) All electrical alterations and additions to the manufactured/mobile home shall comply with the current edition of the National Electrical Code.

(5) The International Residential Code for structural alterations.

Note: The replacement of exterior siding is an alteration and requires the approval of the department and an alteration insignia.

(6) The use of corrugated stainless steel tubing (CSST) is allowed when installed according to the manufactured installations instructions for mobile/manufactured homes by the following CSST manufacturers:

(a) Gastite;

(b) TracPipe;

(c) Pro-Flex.

(7) Installation of gas room heaters in bedrooms must:

(a) Have direct vented (sealed combustion) and be listed as UL 307A for liquid fuel burning heater or ANSI Z21.88 for vented gas fireplaces.

(b) Not be able to draw combustion air from the living space and must be designed so that it will become inoperative if any door, latch, or opening is not properly sealed.

(c) Have a smoke detector, listed to UL 217. The smoke detector can either be hardwired or battery powered and installed according to the manufacturer's installation requirements.

(d) Have a carbon dioxide (CO₂) detector, listed to UL 2034. The CO₂ detector must be installed according to the manufacturer's installation requirements.

(e) Have at least one means of egress.

NEW SECTION

WAC 296-150M-0323 What is the requirement for energy conservation inspection? Energy conservation inspections are random inspections for utilities and/or their contractors who have prior approval from the department and who provide energy conservation related equipment which affects the electrical systems of a manufactured or mobile home.

See WAC 296-150M-3000 for the fee for an energy conservation permit.

NEW SECTION

WAC 296-150M-0410 What are the requirements for altering mobile/manufactured homes? (1) Roof over framing (dormer) additions to manufactured/mobile homes must meet the following requirements:

(a) Maintain a minimum twenty pound roof, live load, and provide documentation to the department.

(b) The dead load for the dormer must be the difference between the live load design of the roof and the roof design snow load of the manufactured/mobile home location (as per Snow Load Analysis for Washington, by Structural Engineers Association of Washington).

(c) Existing roofing material, other than the sheathing, must be completely removed under the dormer.

(d) An engineering analysis shall take into account the wind load on the structure, when the dormer extends above the original ridge line of the manufactured/mobile home.

(e) The engineer or architect of record must clarify in writing on the original stamped drawings that the design plans may be used on other manufactured/mobile homes of the same live load, for generic designs that are to be used more than one time.

(f) Submit all manufactured/mobile home alterations to the department to be reviewed by plan review for compliance.

(2) Reroofing of a manufactured/mobile home must be installed and vented according to the manufacturer's installation instructions.

(a) Existing asphalt roof will require removal of the original asphalt roofing material prior to the installation of new asphalt roofing.

(b) If the original asphalt roofing material is not removed and a second layer of asphalt roofing is added, an engineering analysis must be completed to ensure that the existing roof structure can support the additional load while maintaining a 20 psf live roof load.

(c) Metal roofing with or without insulation board applied after removing existing asphalt shingles must:

(i) Follow the roofing manufacturer's installation requirements.

(ii) Maintain minimum pitch of the roof as required by the roofing manufacturer's installation requirements.

(d) Metal roofing with or without insulation board over an existing metal roof must:

Allow the metal roof to be installed over another metal roof as required by the manufacturer's installation requirements.

(3) Replacing floor decking must meet the following requirements:

(a) Plan review is not required for the following:

(i) The floor decking being replaced is not bigger than forty-eight inches by ninety-six inches (each section of home).

(ii) Two-by-six blocking is added to each floor joist and secured with 16d nails at six inches on center.

(iii) Two-by-six blocking is added at the ends of the cut such that one-half is under the existing decking and one-half is under the decking being replaced and is secured with 16d nails, two at each joint.

(iv) Adding floor decking that is the same thickness and grade as originally installed.

(v) Adding decking that is secured with construction adhesive bead and #8x1-3/4 inch screws at six inches on center.

(b) Plan review is required, but engineering will not be required under the following condition:

(i) The floor decking being replaced is greater than forty-eight inches by ninety-six inches.

(ii) The decking being replaced is no more than fifty percent of the floor length, each section of home.

(iii) The decking being replaced is no more than seventy-five percent of the floor width, each section of home.

(c) If the floor decking being replaced is larger than forty-eight inches by ninety-six inches, both plan review and engineering will be required.

(d) On generic designs that are to be used more than once, an engineer or architect must clearly state in writing on the original stamped drawings that the design plans may be used on other manufactured/mobile homes of the same manufacturer.

(4) Additions (i.e., rooms, garages, carports, etc.) added to manufactured/mobile homes.

(a) Labor and industries factory assembled structures section is responsible for any alterations to the manufactured/mobile home. This includes:

- (i) Any opening that is added or changed.
- (ii) Electrical circuits added to the addition that come from the electrical panel in the manufactured/mobile home.
- (iii) Using the manufactured/mobile home for support of the addition.

(b) A plan review is required when adding an addition to a manufactured/mobile home for:

- (i) Openings not constructed per the department.
- (ii) Manufactured/mobile homes which use the structure for support of the addition.
- (iii) Adding a dormer on the home.

Note: An engineer or architect licensed in Washington state must design the plans and seal the plans and calculations. The department's FAS plan review section will perform a plan review.

(c) Labor and industries electrical section is responsible for any electrical circuits added to the manufactured/mobile home that come from the pedestal where the electrical section has electrical inspection authority. Some cities have electrical inspection authority and would make those electrical inspections in their jurisdiction.

(d) Local jurisdiction (city or county) is responsible for the inspection of the addition except as noted above.

(e) Items to pay particular attention to:

(i) If the addition is being served by a required egress door:

- The lock must be removed and nonlocking passage hardware installed or the door may be removed entirely leaving a passageway.
- An exit door equal in size to the one removed must be installed in the addition.

(ii) If the addition is being served by a 3rd door and the other doors meet the egress requirements outlined above, no changes to the exterior door are required.

(iii) Electrical circuits run from the manufactured/mobile home electrical panel must:

- Be in conduit if routed under the home; and
- Terminate at the edge of the home in a junction box.

(iv) The addition may be flashed to the manufactured/mobile home for purposes of sealing the exterior joint and may have trim installed on the interior for finishing.

(5) Attaching awnings and carports and garages.

(a) Self-supporting awnings and carports.

When awnings and carports are self-supporting they may be flashed to the manufactured/mobile home and no permit is required from L&I FAS section. Please check with your

local jurisdiction building department for any permits required by them.

(b) Awnings and carports using the home for support.

Aluminum or wood awnings and carports that use the manufactured/mobile home for support will need to:

- Have the connections to the home designed and the additional load on the home analyzed by an engineer or architect licensed in Washington state. The engineer or architect will need to seal these designs and calculations;
- The installer must submit the designs to the FAS plan review section for a review; and
- The installer must have the installation inspected, after the plans are approved.

(c) Manufactured home comes from factory garage ready.

If the manufactured home comes from the factory garage ready, no inspection is required by L&I. Garage ready from the factory means:

- Dormers, if required, are installed by the factory;
- All gypsum board required on the home has been installed at the factory;
- Any door between the home and the garage meets the requirements for separation of a residence from a garage as required by the building code;
- All electrical installations meet the requirements of the National Electrical Code for one hour walls;
- The dryer outlet termination has been designed at the factory to not exhaust into the garage; and
- No other changes are required to the manufactured home at the installation site.

Note: If any changes are required to the manufactured home at the installation site, an alteration permit is required from the department.

(d) Manufactured/mobile home is not garage ready.

If the manufactured/mobile home is not garage ready when it leaves the factory, an alteration permit is required. Engineering analysis and plan review may also be required if additional loads are placed upon the home or openings are made or changed.

The following are some examples of when a plan review would be required:

- A dormer is added;
- An opening in the home is made or changed (Note: Openings constructed to the department's approved details would not require a plan review); and
- Gypsum board is added to the wall of the home.

Items to also be aware of:

When a garage is to be attached to a manufactured/mobile home, the following must also be considered:

- The means of egress through exterior doors is not compromised (two are required);
- The means of egress from the bedroom(s) is not compromised (one egress directly to the exterior from each); and/or endwalls are usually shearwalls and any additional openings in them will need an engineering analysis and plan review to substantiate.

(6) Decertification of a manufactured/mobile home.

(a) Can only be decertified if the jurisdiction having authority will allow the unit to remain on the property.

(b) All electrical components, including the electrical panel, receptacles, switches and light must be removed and wires cut to where they enter the device.

(c) All plumbing fixtures and exposed plumbing water, drain and waste lines must be cut off where they enter any wall, floor or ceiling.

(d) All mechanical components including water heaters, furnaces, and kitchen appliances must be removed from the home.

AMENDATORY SECTION (Amending WSR 99-13-010, filed 6/4/99, effective 7/5/99)

WAC 296-150M-0600 Who establishes standards for installation of manufactured homes? (1) The director of labor and industries is responsible for establishing uniform installation standards where possible and practical for persons or entities engaged in performing the installation of manufactured homes within the state.

(2) Local jurisdictions may adopt additional installation requirements only for those installation situations not covered by federal standards. For example, local jurisdictions may impose noise control construction ordinances, prescribe the frost depth and soil bearing capacity at the installation site, and adopt requirements to protect manufactured homes in hazardous areas, (see WAC 296-150M-0620).

Also, local jurisdictions may impose their requirements for snow (~~and wind~~) loads as long as all structures within their jurisdiction are required to comply with the same standard and provided those installing the manufactured home are given options in satisfying that standard. Such an option might include, but not be limited to, allowing an installer to

erect an additional structure, which meets local standards, and protects the manufactured home. For example, an installer could erect a free standing ramada over a manufactured home to protect it from local snow loads.

Local jurisdictions may not:

(a) Dictate foundation design and construction which is built according to either the manufacturer's installation instructions or a design created by an engineer or architect licensed in Washington state.

(b) Impose regulations on smoke detectors because they are regulated by federal standards.

AMENDATORY SECTION (Amending WSR 05-01-102, filed 12/14/04, effective 2/1/05)

WAC 296-150M-0614 How may I obtain a copy of the American National Standards Institute (ANSI) A225.1-Manufactured Homes Installation? Copies of the standard are available from:

((National Fire Protection Agency
~~Item Number: ANSIA2251~~
~~Phone: 800-344-3555~~
~~Address: 1 Batterymarch Park~~
~~P.O. Box 9101~~
~~Quincy, MA 02269 9101~~)) Office of Manufactured Housing, Installer Certification, Department of Community, Trade and Economic Development
Post Office Box 42525
Olympia, Washington 98505-2525
Or call 1-800-946-0852

AMENDATORY SECTION (Amending WSR 06-10-066, filed 5/2/06, effective 6/30/06)

WAC 296-150M-3000 Manufactured/mobile home fees.

| | |
|---|----------|
| INITIAL FILING FEE | \$32.20 |
| DESIGN PLAN FEES: | |
| STRUCTURAL ALTERATION - MASTER DESIGN (CODE CYCLE) | \$130.10 |
| STRUCTURAL ALTERATION - ONE YEAR DESIGN | \$87.20 |
| RENEWAL FEE | \$38.80 |
| RESUBMITTAL FEE | \$64.80 |
| ADDENDUM (Approval expires on the same date as original plan.) | \$64.80 |
| ELECTRONIC PLAN SUBMITTAL FEE \$4.90 per page for the first set of plans and \$0.30 per page for each additional set of plans. These fees are in addition to any applicable design plan fees required under this section. | |
| DEPARTMENT INSPECTION FEES: | |
| INSPECTION | |
| MECHANICAL | |
| Heat Pump | \$31.80 |
| Combination Heat Pump (new) and Furnace (replacement) | \$42.40 |
| Air Conditioning | \$31.80 |
| Combination Air Conditioning (new) and Furnace (replacement) | \$42.40 |
| Furnace Installation (gas*** or electric) | \$31.80 |
| Gas*** Piping | \$31.80 |
| Wood Stove | \$31.80 |
| Pellet Stove | \$31.80 |

| | |
|--|---------|
| Gas*** Room Heater | \$31.80 |
| Gas*** Decorative Appliance | \$31.80 |
| Range: Changing from electric to gas*** | \$31.80 |
| Gas*** Water Heater Replacement | \$21.20 |
| Water Heater: Changing from electric to gas*** | \$21.20 |
| Any combination of Furnace, Range, and Water Heater changing from electric to gas*** and includes Gas Piping charge | \$63.70 |
| ELECTRICAL | |
| Heat Pump | \$42.40 |
| Heat Pump (when home is prewired for a heat pump) | \$10.60 |
| Combination Heat Pump (new) and Furnace (replacement) | \$53.10 |
| Air Conditioner | \$42.40 |
| Air Conditioner (when home is prewired for an air conditioner) | \$10.60 |
| Combination Air Conditioner (new) and Furnace (replacement) | \$53.10 |
| Furnace Installation (gas or electric) | \$42.40 |
| Wood Stove (if applicable) | \$42.40 |
| Pellet Stove (if applicable) | \$42.40 |
| Gas*** Room Heater (if applicable) | \$42.40 |
| Gas*** Decorative Appliance (if applicable) | \$42.40 |
| Range: Changing from gas*** to electric | \$42.40 |
| Electric Water Heater Replacement | \$42.40 |
| Electric Water Heater replacing Gas*** Water Heater | \$42.40 |
| Each added or modified 120 volt circuit (maximum charge is two circuits) | \$42.40 |
| Each added 240 volt circuit (for other than Heat Pumps, Air Conditioners, Furnaces, Water Heaters, Ranges, Hot Tubs or Spas) | \$42.40 |
| Hot Tub or Spa (power from home electrical panel) | \$42.40 |
| Replace main electrical panel | \$42.40 |
| Low voltage fire/intrusion alarm | \$42.40 |
| Fire Safety | \$42.40 |
| Any combination of Furnace, Range and Water Heater changing from electric to gas*** | \$42.40 |
| PLUMBING | |
| Fire sprinkler system (also requires a plan review) | \$21.20 |
| Each added fixture | \$21.20 |
| Replacement of water piping system (this includes two inspections) | \$95.60 |
| STRUCTURAL | |
| Inspection as part of a mechanical/fire safety installation (cut truss/floor joist, sheet rocking) | \$42.40 |
| Reroofs (may require a plan review) | \$74.30 |
| Changes to home when additions bear loads on home per the design of a professional (also requires a plan review) | \$74.30 |
| Other structural changes (may require a plan review) | \$74.30 |
| Fire Safety (may also require an electrical fire safety inspection) | \$42.40 |
| MISCELLANEOUS | |
| Other structural changes (may require a plan review) | \$74.30 |
| Plan Review | \$84.90 |
| OTHER REQUIRED INSPECTIONS (Per hour*) | \$58.40 |
| ALL REINSPECTIONS (Per hour*) | \$58.40 |
| Refund | \$10.60 |
| INSIGNIA FEES: | |
| ALTERATION | \$10.60 |
| FIRE SAFETY CERTIFICATE | \$10.60 |
| REISSUED - LOST/DAMAGED | \$10.60 |
| IPIA | |
| DEPARTMENT AUDIT FEES | |

| | |
|---|---------|
| REGULARLY SCHEDULED IPIA AUDIT: | |
| First inspection on each section (one time only) | \$29.50 |
| Second and succeeding inspections of unlabeled sections (Per hour*) | \$64.80 |
| OTHER IPIA FEES: | |
| Red tag removal during a regularly scheduled IPIA audit (Per hour*separate from other fees) | \$64.80 |
| Red tag removal at a time other than a regularly scheduled IPIA audit (Per hour* plus travel time* and mileage**) | \$64.80 |
| Increased frequency surveillance (Per hour* plus travel time* and mileage**) | \$64.80 |
| Attendance at manufacturers training classes (Per hour* only) | \$64.80 |
| Subpart "I" investigations (Per hour* plus travel time* and mileage**) | \$64.80 |
| Alterations to a labeled unit (Per hour* plus travel time* and mileage**) | \$64.80 |
| IPIA Issues/Responses (Per hour* Plus travel time* and mileage**) | \$64.80 |
| Monthly surveillance during a regularly scheduled IPIA audit (Per hour*plus travel time* and mileage**) | \$64.80 |
| Monthly surveillance at a time other than a regularly scheduled IPIA audit (Per hour* plus travel time* and mileage**) | \$64.80 |
| Plant certifications, recertifications and addenda updates (Per hour* plus travel time* and mileage** per each inspector) | \$64.80 |
| Response to HBT Audit during a regularly scheduled IPIA audit (Per hour*) | \$64.80 |
| Response to HBT Audit at a time other than a regularly scheduled IPIA audit (Per hour* plus travel time*and mileage**) | \$64.80 |
| Alternative construction (AC) letter inspections at placement site (Per hour* plus travel time*and mileage**) | \$64.80 |
| Replacement of HUD labels (Per hour* plus travel time* and mileage**) | \$64.80 |
| State Administrative Agency (SAA) inspection fee (Per hour* plus travel time* and mileage**) | \$64.80 |
| OTHER FEES: | |
| FIELD TECHNICAL SERVICE (Per hour plus travel time* and mileage**) | \$60.00 |
| PUBLICATION PRINTING AND DISTRIBUTION OF RCWs AND WACs (One free copy per year upon request) | \$11.90 |
| VARIANCE INSPECTION FEE | \$84.90 |
| HOMEOWNER REQUESTED INSPECTION | \$84.90 |
| DECERTIFICATION OF A MOBILE/MANUFACTURED HOME | \$84.90 |
| DEMOLITION OF A MOBILE/MANUFACTURED HOME | \$84.90 |
| ENERGY CONSERVATION PERMIT | \$15.00 |
| NOTE: Local jurisdictions may have other fees that apply. | |
| * Minimum charge of 1 hour; time spent greater than 1 hour is charged in 1/2 hour increments. | |
| ** Per state guidelines. | |
| *** Gas means all gases; natural, propane, etc. | |

WSR 07-05-064

PERMANENT RULES

DEPARTMENT OF TRANSPORTATION

[Filed February 20, 2007, 1:47 p.m., effective March 23, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: Updating this chapter of the Washington Administrative Code will clarify the intent and requirements of the trip reduction performance program.

Citation of Existing Rules Affected by this Order: Amending chapter 468-60 WAC.

Statutory Authority for Adoption: RCW 70.94.996.

Adopted under notice filed as WSR 07-01-096 on December 19, 2006.

Changes Other than Editing from Proposed to Adopted Version: The revisions will clarify the program and enhance some elements. Revisions will also eliminate having to update the rules every two years.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal

Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 1, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 29, 2007.

P. J. Hammond
Chief of Staff

AMENDATORY SECTION (Amending WSR 05-19-042, filed 9/14/05, effective 10/15/05)

WAC 468-60-010 Trip reduction performance program. The Washington state department of transportation (WSDOT), together with the commute trip reduction (CTR) ~~((task force))~~ board, will administer the trip reduction performance program (TRPP). This program is designed to create cost-effective trip reduction projects that reduce the number of commute vehicle trips and commute vehicle miles traveled (VMT). The 2003 legislature created this program to provide financial incentives or compensation to organizations that implement and administer cost-effective projects that increase the capacity of the transportation system by reducing the number of vehicle trips and miles traveled for commute purposes. ~~((The amounts awarded will be based on the estimated cost))~~ WSDOT awards funds for cost-effective trip reduction projects, based on a price that the project charges WSDOT to reduce an annualized trip, and the projected number of annual commute vehicle trips and commute VMT reduced during the project period (the project goal). Up to half of the award amount is available through reimbursement for start-up costs. WSDOT will determine the remaining award amount, as well as any bonus funds, ((will be determined)) based on the actual performance of ((their)) the project in meeting or exceeding ((their)) the goal. ((H)) As necessary, WSDOT will revise these rules periodically to create a more efficient, cost-effective, trip reduction program.

(1) **What are trip reduction performance projects?** WSDOT awards funds ((are awarded)) on a competitive basis to organizations that create cost-effective projects designed to reduce commute vehicle trips and commute VMT (based on the morning commute). The organization will receive funds based on the ((value)) price associated with each trip and overall project performance. The TRPP is available to private employers, public agencies, nonprofit organizations, developers, and property managers who find new (to the area), sustainable ways to reduce the number of vehicle trips and vehicle miles traveled per person for commuting, ((or)) and who provide financial incentives to their own or other employees for ridesharing, public transportation, nonmotorized transportation, telework, and alternative work schedules.

(2) **Definitions.** For purposes of this section, the following definitions apply.

(a) A *financial incentive*((s)) is defined as a policy, procedure, capital investment or payment intended to provide employees a financial gain if they commute in ways other than by driving alone. For example, the eligible incentives may include, but are not limited to: Providing a free transit pass, reducing the parking charge for rideshare vehicles, initiating parking charges for employee vehicles, reducing the cost of a transportation service such as a transit pass, paying the membership fee for a car sharing program, providing employees alternative work week schedules, providing a direct cash payment, reducing the insurance rate for employees who reduce the use of their vehicle for commuting, or reducing the distance an employee travels to work by reassigning their work location to a worksite closer to their home.

(b) *Car sharing* means a membership program intended to offer an alternative to car ownership under which persons

or entities that become members are permitted to use vehicles from a fleet on an hourly basis.

(c) *Telework* means a program where an employee performs work functions that are normally performed at a traditional workplace ((are)), but does so instead ((performed by an employee at his or her home)) at the employee's home, or at a work center that is located closer to the employee's home than to the employee's workplace, for at least one day a week ((for the purpose)) with the effect of reducing the number of trips to the employee's workplace.

(d) *Commute vehicle trips* is defined as the number of vehicle trips made to bring employees to work at a worksite or specified collection of worksites each morning.

~~((e)) *Reduced commute vehicle trips* is defined as the change in the number of vehicle trips made to bring a consistent number of employees to a worksite or collection of worksites. Reduced vehicle trips can be calculated using a baseline survey that measures the number of vehicles arriving at the specified worksite(s) and the mode split, and a subsequent survey that includes the same audience, the mode split, and an adjustment made for the change in the number of employee responses between the two surveys. The difference between the two surveys will show an increase or reduction in commute vehicle trips. Subsection (15) of this section describes in detail the process used by WSDOT to calculate reduced commute vehicle trips.~~

~~((f)) *Commute vehicle miles traveled per person (VMT)* is the average distance employees travel to work (one way) in a motor vehicle, divided by the vehicle occupancy. For passenger cars, trucks, vans, and motorcycles, WSDOT will calculate the vehicle occupancy from survey data using CTR task force guidelines, or from equivalent data as agreed by WSDOT and the applicant. For buses, WSDOT will assume an average occupancy of twenty five persons. Bicycling, walking, train ridership, and the avoidance of commute vehicle trips via telework and use of compressed workweeks, will not be considered as using motor vehicles.~~

~~((g)) *Reduced VMT* is defined as the measured change in the number of vehicle miles traveled per employee. Reduced VMT can be calculated from two separate surveys that measure the commute distance per employee and the way they commute to work.~~

~~((h)) *A person-trip* is one one-way commute trip made by one person to get to work. A trip avoided because the employee teleworks, or because the employee works a compressed work week schedule, is also considered a person-trip.~~

~~((e)) *A mode* is the means of transportation an employee took to work. Driving alone, carpooling, working an alternative work schedule, teleworking, bicycling, etc., are examples of modes.~~

((f)) *A measurement* records the number of person-trips made by employees commuting to work during a period such as a week or month, using each specific transportation mode. A measurement also records the distance each employee commutes to work; the type of work schedule or compressed work week that each employee works; and the number of persons in the employee's carpool or vanpool if the employee uses one of these modes. WSDOT may require that a measurement record additional information.

(g) Mode share is the percentage of person-trips made by a population of employees commuting to work using specific modes of transportation. For example, if twenty-three percent of the person-trips made in commuting to a worksite are by carpool, the carpool mode share for that worksite is twenty-three percent.

(h) A mode split is the set of mode shares for a population of employees, such as those commuting to a worksite. The sum of the mode shares for the population is one hundred percent. When calculating mode shares and mode split from measurement data, WSDOT makes adjustments as necessary for missing data, days reported by employees as not worked, inconsistency between commute mode and vehicle occupancy data, and reported use of compressed work weeks. When making these adjustments, WSDOT follows CTR board guidelines when these are available, and makes reasonable adjustments otherwise.

(i) Commute vehicle trips is the number of vehicle trips made to bring employees to work at a worksite or specified collection of worksites on an average weekday morning, using the mode split from a measurement. WSDOT will provide information to applicants on calculating commute vehicle trips.

Calculation: WSDOT calculates a vehicle trip by dividing a person-trip by the number of persons in the vehicle. For passenger cars, trucks, vans, and motorcycles, WSDOT calculates the vehicle occupancy from measurement data using CTR board guidelines, or from equivalent data as agreed by WSDOT and the applicant. For buses, WSDOT assumes an average occupancy of twenty-five persons. If the CTR board issues guidelines for using bus occupancy, WSDOT will follow the board's guidelines in subsequent projects. A person-trip made by bicycling, walking, or other nonmotorized means of transportation; by riding a train; or avoided either because the employee teleworks or because the employee works a compressed work week schedule, is not considered as using a motor vehicle under this definition. If employees at a worksite work at jobs that last less than a full year, WSDOT annualizes the commute vehicle trips. For example, if the jobs at a worksite last for only nine months, then WSDOT will annualize the commute vehicle trips as three quarters of the commute vehicle trips that would be calculated if the employees worked for a full year. WSDOT then will use the annualized values in determining project performance and payments.

(j) Reduced commute vehicle trips is the reduction in the number of commute vehicle trips between a baseline measurement and a subsequent measurement. WSDOT will provide information to applicants on calculating reduced commute vehicle trips.

Calculation: WSDOT calculates reduced commute vehicle trips by subtracting the number of commute vehicle trips made by the employees in the subsequent measurement, from the number of vehicle trips the same number of employees would have made if they had commuted using the mode split from the baseline measurement.

(k) Commute vehicle-miles traveled per person (VMT) is the average daily vehicle trips each employee makes in a motorized vehicle, multiplied by the employee's one-way dis-

tance to work, summed for all employees, and the sum then divided by the number of employees.

(l) Reduced VMT is the reduction in the number of commute vehicle-miles traveled per person between a baseline measurement and a subsequent measurement. WSDOT calculates reduced VMT by subtracting the commute vehicle-miles traveled per person in the subsequent measurement, from the commute vehicle-miles traveled in the baseline measurement.

(m) A project goal is the total number of commute vehicle trips that a TRPP project proposes to reduce when it applies for TRPP funding.

(n) An interim goal is the number of commute vehicle trips that a TRPP project proposes to reduce for specified periods shorter than the project's entire duration. Payments for interim goals are subject to WSDOT approval.

(o) Performance is defined as the reduction in the number of commute vehicle trips to ~~((the))~~ work location ~~((and the))s~~ in the TRPP project, with credit given for reductions in the commute vehicle miles traveled by employees ~~((at the specified))~~ to those work location~~((s))~~. WSDOT will provide directions for calculating this credit as part of the materials used when applying for TRPP funds.

~~((i))~~ Eligible trips are defined in this section as the commute trips taken by employees at the targeted worksite~~((s))~~ established in the applications and measured using the proposed measurement methodology.

~~((j))~~ (p) Agent is an organization or individual who represents the private employer, public agency, nonprofit organization, developer, or property manager and is charged with managing the TRPP or providing the employee the financial incentive.

~~((k))~~ (q) The price per trip (or trip price) is the amount that WSDOT agrees to pay for each annualized commute vehicle trip reduced by a TRPP project, up to the number of trips proposed in the project goal. WSDOT will set a maximum price per trip that it is willing to pay, that does not exceed the estimated annualized cost of providing new roadway capacity. WSDOT may vary the maximum cost by year. WSDOT will provide the maximum cost per trip as part of the documents for applying for TRPP funds.

~~((r))~~ A cost-effective application is one that defines a project that will reduce commute vehicle trips and commute vehicle miles traveled at a ~~((cost))~~ price equal to or less than ~~((the defined roadway capacity cost. This cost will vary by year and will be clearly identified on the TRPP application form))~~ WSDOT's maximum price per trip.

~~((t))~~ Mode split is the percentage of employees traveling to work using various means of transportation (known as modes). For example, if the drive alone mode split for a worksite is seventy-three percent, then seventy-three percent of the employees arriving at that site drove alone.

(m) Commute mode is the means of transportation an employee took to work. For example, their commute mode may be by driving alone, carpooling, alternative work schedule, teleworking, etc.

(n) An annualized commute vehicle trip is the average number of vehicle trips made each working day by a commuting population. If, for example, one hundred employees drive alone to a job that lasts six months, the result would be

fifty "annualized" commute vehicle trips. WSDOT assumes two hundred fifty workdays per year for calculating an annualized trip.) (s) A basic project is a project that lasts up to two years.

(t) A multi-year project is a project that lasts from three to five years.

(u) The award amount for a project is equal to the price per trip multiplied by the project goal.

(3) Who can apply? To be eligible for TRPP funds, the applicant must provide financial incentives to their own or other employees for ridesharing, using public transportation, car sharing, nonmotorized commuting, telework, and/or compressed work weeks. The statewide funds are available on a competitive basis for private employers, public agencies, nonprofit organizations, developers, and property managers or their agents who create ~~((new)), ((sustainable))~~ cost-effective trip reduction projects~~(, and who provide financial incentives to their own or other employees for ridesharing, public transportation, nonmotorized transportation, telework, and compressed work weeks))~~.

(4) What kinds of projects will be funded? To receive funds, the project must meet the program requirements and rank highly in the competitive review. The applicant determines the actual scope and design of the project. New and existing projects are eligible for selection. The primary focus of the review committee will be to select sustainable, cost-effective trip reduction projects, and if they are new or innovative, they will be given additional consideration.

~~((5) ((How much money is available for the program? The amount of funds made available for this program is set in the state transportation budget. For the 2005-2007 biennium, one million five hundred thousand dollars is budgeted for the projects.~~

~~((6))~~ How are the program funds appropriated? The Revised Code of Washington, RCW 70.94.996 authorizes the legislature to appropriate funding for this program.

(6) Are any of the TRPP funds set aside for specific use? Any funds appropriated to TRPP beyond the initial program level of seven hundred fifty thousand dollars per year may be used for projects within growth and transportation efficiency centers (GTEC) and for performance of local jurisdictions.

(a) Up to eighty-five percent of any appropriated funds in excess of the initial program level will be available for GTEC projects.

(b) GTEC projects will be subject to the same competitive processes and rules as projects funded with initial program funds.

(c) Fifteen percent of any appropriated funds in excess of the initial program funds will be made available for CTR affected jurisdictions as local jurisdiction performance funds.

(d) Appropriated funds in excess of the initial program funds will be made available to proposals outside of GTECs if there are funds remaining after all proposals within GTECs that fit the program structure for viable, cost-effective, trip reduction projects have been funded.

(e) Any appropriated funds in excess of the initial program funds and any initial program funds that remain after start-up funds, performance funds, and performance bonuses are paid will be used for local jurisdiction performance funds.

(f) WSDOT will determine the jurisdiction performance levels, and payments to the jurisdictions for performance will not exceed the maximum price per trip allowed by WSDOT.

(7) How will the TRPP funds be distributed? A minimum amount of the TRPP funds is to be available for each of three funding zones: Ten percent of available funds for Central Puget Sound (CPS) (King, Pierce, Snohomish counties), ten percent of available funds for non-Central Puget Sound applications, and ten percent of available funds for statewide applications (applications with worksites in the CPS and outside the CPS). The remaining funds will be awarded based on the project's ranking and available funds. WSDOT is bound to this distribution only if there are applications that fit the program structure and are viable, cost-effective trip reduction projects. This applies to all current and future funds.

~~((7))~~ (8) How much money will be awarded to individual projects? Funds will be allocated based on the estimated commute vehicle trips and miles traveled reduced for the project. The applicant will provide an estimate of the anticipated performance (their goal), and the ~~((amount of funds they request))~~ price per trip that the project will charge WSDOT for reducing a commute vehicle trip. Once the selection committee ranks the projects, WSDOT will award funds based on committee ranking until ~~((seven hundred fifty thousand dollars is))~~ half of the program funds are awarded in each fiscal year or all cost effective projects are funded. ~~((No one employer, etc., may))~~ A project for a single worksite may not receive more than one hundred thousand dollars per fiscal year.

~~((8))~~ (9) How much money can be awarded to applications with multiple partners? Each organization (agency or employer) on the application may receive up to one hundred thousand dollars with the total amount not to exceed two hundred fifty thousand dollars per application, per fiscal year.

~~((9))~~ (10) Who can apply for a "partnership"? An agent "who will provide the financial incentive to the employee" can submit a project partnership application and be the prime recipient for the project.

(11) How does the applicant apply for the TRPP funds? ~~((This subsection describes the application procedures used in the TRPP.))~~ WSDOT will notify eligible applicants of the open period for applications. WSDOT may open more than one application period per year depending on whether all funds are awarded. Applicants apply by submitting a completed "TRPP" application form during an open application period. The "TRPP" application form is available ~~((on))~~ upon request from WSDOT ((and is also available by visiting WSDOT's web site at: <http://wsdot.wa.gov/TDM>)). WSDOT recommends that applicants within a CTR affected area notify the jurisdictional authority, e.g., regional transportation planning organization (RTPO), county, city, or transit agency, that they are submitting an application for TRPP funds.

(a) Applicants may submit more than one project application for consideration; however, when the sum of all the project costs are combined, they cannot exceed what the ((individual)) applicant is eligible to receive.

(b) Applicants may submit an application that will cover one or two years (basic project) or apply for projects that cover three to five years (multi-year projects).

(c) All applicants must describe how they will measure performance for their project. Every project must have a baseline measurement and a final measurement. Additional measurements are required for multi-year projects, and interim measurements are optional for all projects.

(d) All applicants must describe how and when they will implement their project.

(e) For basic projects, ~~((applications))~~ applicants must estimate the number of vehicle trips and VMT reduced for each fiscal year ~~(, and must specify their target audience. Only one baseline measurement will be required for a basic project. A final measurement will be required to determine the project's performance. A two-year basic project can receive the start-up portion of their award in the first year, and the performance portion in the second year. If a basic project is granted a renewal, the applicant may be required to conduct another baseline measurement. Renewal applications may include a proposed adjustment to the trip price and/or goal. Adjustments to the trip price or goal are subject to approval by WSDOT. All basic projects are subject to termination if the project is not performing according to expectations or is not continuing to work towards the reduction of commute trips.~~

~~((d))~~ as well as the project total.

(f) In the case of multi-year projects ~~((three to five years))~~, applicants must estimate the number of vehicle trips and VMT reduced for each ~~((biennium))~~ year, as well as a project total ~~(, and must specify their target audience. Only one baseline measurement will be required for multi-year projects, unless otherwise stated in the scope of work. An interim measurement must be conducted prior to the end of each biennium, and a final measurement at the end of the project. Interim and final performance funds, as well as bonus funds will be based on these measurements. Recipients will be able to receive start-up funds that are phased throughout the life of the project (see subsection (12) of this section for details on start-up fund disbursement). Performance funds will be available at the end of each biennium (interim performance funds) and again at the end of the project. The interim and final performance measurements and requests for funds must be received by WSDOT by June 15th. Projects may apply for an adjustment to the trip price and/or their goal at the end of each biennium. Trip price and goal adjustments will be subject to review and approval by WSDOT. All multi-year projects are subject to termination if the project is not performing according to expectations or is not continuing to work towards the reduction of commute trips. Payments for multi-year projects are contingent upon the provision of legislative funding in future biennia.~~

(e) No TRPP funds will be awarded to an applicant requesting compensation at a rate higher than the estimated annualized cost of providing new roadway capacity (maximum per trip cost) adopted for this program. The maximum per trip cost will be provided by WSDOT as part of the application document.

(f) For purposes of distributing awarded funds, one trip is assumed to equal 13.07 VMT (the average commute distance measured as part of the CTR program) or the average one-way commute distance for the employees covered by the project. The applicant may, through documentation in the

applications, provide a different trip to VMT ratio that is specific to employees in their proposal.

(g) An agent "who will provide the financial incentive to the employee" can submit a project partnership application and be the prime recipient for the project. All procedures in this section will apply to the agent for this type of partnership project.

(h) No applicant may claim full reduction in employee commute vehicle trips or commute VMT that are claimed as part of another project. If the initial screening determines that project overlap will occur, WSDOT will notify the applicants, and will provide them with the opportunity to adjust their trip prices and goals. The payout for areas where WSDOT can determine the overlap will be adjusted by dividing the amount per trip by the number of TRPP projects involved in the overlap.

~~((10))~~.

(12) Can a basic project be renewed? A basic project that performs well may be approved for a renewal; however, the contractor must reapply. If the renewal is approved by the selection committee, the applicant may be required to conduct another baseline measurement. Renewal applications may include a proposed adjustment to the trip price and/or goal. Adjustments to the trip price or goal are subject to approval by WSDOT. All basic projects are subject to termination if the project is not performing according to expectations or is not continuing to work towards the reduction of commute trips.

(13) How will the application be reviewed? ~~((An award))~~ The chair of the CTR board will select a committee comprised of between six and nine members will ~~((be selected by the chair of the CTR task force and))~~ review the applications and selection. The project selection committee will include at least ~~((two))~~ one member ~~((s))~~ of the ~~((commute trip reduction task force))~~ CTR board, at least one member from Central Puget Sound and one from the rest of the state, at least one employer, at least one transit member and at least one city government representative. The committee will include at least one member from the CTR technical advisory group (TAG), a member of WSDOT familiar with performance measurement, and an RTPO representative. The award committee will select projects ((will be selected)) based on the criteria as defined in subsection ~~((11))~~ (12) of this section.

~~((11))~~ (14) What are the review criteria? The applications will be reviewed based on the following criteria:

(a) **Cost effectiveness:** Does the project have a high likelihood of achieving its benefits at a relatively low expenditure of TRPP funds? Are the projected benefits achievable at a cost less than providing the equivalent roadway capacity?

(b) **Sustainability:** If this project is funded, will its benefits continue after the funding element of the project has been completed? Do the project design and partnerships indicate a high probability for continuing the project after all TRPP funds are used? Can the reduction in trips be sustained over a "multi-year project" timeline?

(c) **Innovation:** Is the proposed project a new idea, or something that's been done before but is new to the area? Does the project propose unique ~~((cost-effective))~~ ways to reduce trips?

(d) **Measurability:** The performance of the project must be measurable. If an applicant proposes to use their own measurement approach, a detailed measurement plan (~~(will)~~) must be submitted as a part of the application and must be approved by WSDOT. The measurement approach must be as accurate an estimate of the trips reduced as would be generated if the applicant made use of the WSDOT-developed measurement tool (~~((subsection (15) of this section))~~). Deviations from the approved measurement plan will be subject to review and approval by WSDOT. WSDOT may reject an application or terminate the contract if the measurement deviation is not approved.

(e) **Project implementation:** What is the timeline for implementation of the project? When and how will the project be advertised to the target (~~((audience))~~) population? All projects must conduct a baseline (~~((survey at the beginning of the project prior to implementation of))~~) measurement of all individual participants as they begin taking part in the project. If a project targets an entire worksite, the project must identify the worksite, and all employees must participate in the measurement, or the total number of employees at the worksite must be indicated in the baseline and performance measurements. The applicant must indicate the implementation timeline, proposed measurement methods (if other than WSDOT measurement tool) and measurement schedule in the application. (~~((If the nature of the project does not allow for a single baseline survey, the applicant must indicate the proposed measurement methodology as a part of the application. All projects must be implemented within three months (first quarter) after signing the contract in order to receive one hundred percent of the awarded funds. If the project is not implemented until the second quarter, only seventy-five percent of the awarded funds will be available; fifty percent if implementation does not occur until the third quarter; and twenty-five percent if implementation does not occur until the fourth quarter.~~

~~((f))~~ **Applicant provides incentives:** To be eligible for TRPP funds, the applicant must provide financial incentives to their own or other employees for ridesharing, using public transportation, car sharing, or nonmotorized commuting.

~~((g))~~ **Project predictability:** Are the estimates of employee participation, trip reduction, and VMT reduction likely to be achieved based on the assessment of the review committee?

~~((h))~~ **Redundancy:** Does the project propose to provide services that are already available to the employees?

~~((i))~~ **Thoroughness:** Has the project been thoroughly researched and carefully thought out? Are adequate details presented in the application?

~~((12))~~ **(15) How will the recipient receive the money?** Once the projects have been reviewed, prioritized and selected, the applicant will enter into a contract with the Washington state department of transportation for implementation of the project. This contract will establish the amount of money the award recipient can receive for the project, the timelines (~~(and)~~), performance expectations, and the project's measurement plan. (~~((The funds will be provided to the recipient through three approaches: Start-up, performance and performance bonus. A draft contract will be made available by WSDOT prior to project selection.))~~) The recipient must

submit a TRPP fund disbursement form provided by WSDOT in order to request funds. On this form the recipient will identify the funds requested and provide documentation of performance or expenditures for reimbursement of start-up costs. Applications for multi-year projects must demonstrate the organization's ability to accept payments for performance, as well as bonus funds, through the end of the project time frame. WSDOT will provide funds to the recipient through three approaches: Start-up, performance and performance bonus.

(a) **Start-up funds:** WSDOT will provide start-up funding on a dollar for dollar, cost-reimbursable basis, but will not exceed fifty percent of the total project award for the duration of the project. The recipient of basic project award (recipient) may request (up to fifty percent of the awarded amount after a) start-up funds after the baseline measurement (is completed or accepted) has begun. The recipient can request start-up funds (can be requested in the first year of) throughout the project or until the final performance funds are paid. The recipient of a multi-year project award (recipients are) is eligible for start-up funds through a phased payment approach. To calculate the start-up fund disbursement for multi-year projects, multiply the total project amount by 0.5, then divide that number by the number of years in the project. (Start-up funding will be provided on a dollar for dollar, cost-reimbursable basis, but will not exceed fifty percent of the total project award for the duration of the project. The remaining award amount is considered performancee funds.) This is the amount that will be available as start-up funds each year.

(b) **Performance funds:** The remaining (~~(funds))~~ award amount will be available to the recipient following (~~((the))~~) performance measurement. (~~((For basic projects, the recipient has the option to measure their performance at the halfway point (interim measurement), but is required to measure at the end of their project. If the recipient conducts an interim measurement, they will be eligible to receive half of the performance funding following this measurement with the balance available after the final measurement survey. If the recipient elects to forego an interim measurement, all of the remaining funds will be available after the final measurement, and will be determined by the performance of their project))~~) (s) for the project, based on the project's performance. All basic projects are required to measure at the end of the project and deliver the measurement data to WSDOT by June 1st. Projects that conduct interim measurements will be eligible to receive a prorated portion of the performance funding following each measurement, with the balance available after the final measurement. Projects that do not conduct interim measurements will receive their remaining performance funds after the final measurement. For multi-year projects, the recipient must measure ((their)) the project's performance at the end of each biennium (and deliver the measurement data to WSDOT by June ((15th)) 1st) at a minimum, and at the end of the project. ((A)) The amount of performance funds paid will be calculated from the project's price per trip and performance. Projects must reduce trips to be eligible for any performance funds. The project application must describe the measurement schedule for the project.

and the contract for the project will include a measurement schedule.

(c) **Performance bonus funds:** ~~((These))~~ WSDOT will provide performance bonus funds ((with)) only ((be provided)) at the end of the contract period ((and)). The recipient will receive the funds for additional performance above the award amount based on the same ~~((award rate))~~ price per trip reduced ((and same award rate per)), including credit for VMT reduced, as identified in their contract. The recipient will be eligible to receive additional bonus funds up to one hundred twenty percent of ~~the contracted price per trip,~~ or up to the maximum price per trip ((cost)) allowed (whichever is less), for every trip that exceeds ~~((their anticipated performance (the projected number of trips reduced)))~~ the project goal. ~~((The))~~ WSDOT will make performance bonus ((portion of the funding will only be)) funds available only if funds are remaining in the TRPP account.

~~((13))~~ **Receipt of TRPP funds:** To receive all eligible TRPP funds for the fiscal year, the recipient must provide measured data on their project's performance (baseline, interim and final surveys) to WSDOT by June 15th. The recipient must submit a TRPP fund disbursement form provided by WSDOT in order to request funds. On this form the recipient will identify the funds requested and provide documentation of performance or expenditures for reimbursement of start-up costs. For the performance portion of the TRPP award, no funds will be made available without documentation of actual employee reductions in VMT and vehicle trips. Applications for multi-year projects must demonstrate the organization's ability to accept payments for performance, as well as bonus funds, through the end of the project time frame.

~~(14))~~ **Performance documentation:** The applicant must, as part of the application, describe the measurement approach for their project. WSDOT will make available a survey instrument that can be used to measure performance at employer worksites. The recipient may elect to provide performance data in an alternative format. The alternative format will be subject to approval by WSDOT. The measurement approach used by the applicant must clearly demonstrate how reduced trips and VMT are calculated and how adjustments will be made for changes in employee population.

~~(15))~~ **Measurement of VMT and commute trips reduced:** Measurement of performance must provide actual counts of vehicle trips and VMT made by the employees in the program, preceding and following the project period. The performance measurement must adjust for changes in employee populations during the project period. WSDOT will use the following methodology to calculate changes in the number of commute trips and commute VMT at a project worksite(s):

(a) **Baseline survey.** At the beginning of the project, the worksite(s) will survey their employees about their commuting behavior using the standard WSDOT commute trip reduction employee survey form. This initial survey is called the baseline survey. WSDOT will calculate a baseline mode split, based on results from the baseline survey. In calculating this mode split, and those from subsequent surveys, WSDOT will calculate assumptions to adjust for missing data, days reported by employees as not worked, inconsistency between

commute mode and vehicle occupancy data, and reported use of compressed workweeks as specified in the CTR guidelines published by WSDOT and available on the internet at <http://www.wsdot.wa.gov/tdm/tripreduction/CTRguide/SEC3-efm>. Any start-up costs are contingent upon completion or acceptance of the baseline survey.

~~(b))~~ **Performance measurement survey.** For basic projects (one- to two-year), the recipient will have the option to survey the eligible project employees midway through the project (by June 15th if it is a two-year project), and is required to survey at the end of the project. For multi-year projects (three to five years), the recipient will be required to survey the eligible project employees at the beginning of the project, each biennium (by June 15th), and at the end of the project.

(e) WSDOT will calculate the mode split based on the results of the performance measurement. Using the number of employees at the site and the mode split from the baseline survey, WSDOT will calculate the average number of vehicle trips that employees took per day. Using this same number of employees, WSDOT will calculate the average number of trips the employees took per day during the performance measurement survey (interim or final) and compare it to the mode split calculated from the baseline survey.

(d) The difference between the two numbers calculated under subsection (2)(b) of this section is the change in the average number of trips per day at the site between the two surveys. These calculations take into consideration changes in employment at the site; the employer will not be entitled to increased payments due to a reduction in force or be penalized because of an increase in employment.

(e) WSDOT will calculate the average one-way distance for morning commute trips made by each mode in the performance measurement survey, and multiply this by the change in the average number of trips by that mode per day. The sum of these values for motorized commuting modes is the change in VMT. ~~((d))~~ **Implementation penalties:** All award recipients must implement their projects within three months (first quarter) after signing the contract in order to receive one hundred percent of the awarded funds. If the project is not implemented until the second quarter, only seventy-five percent of the awarded funds will be available; fifty percent if implementation does not occur until the third quarter; and twenty-five percent if implementation does not occur until the fourth quarter. A project is subject to termination if it has not been implemented by the fifth quarter.

(16) What is the measurement/payment schedule? Every project must have a baseline measurement, and the baseline measurement must begin before WSDOT will make payments to reimburse start-up costs. Interim measurements can be conducted monthly or quarterly, and must be completed in order to request interim payments. Submission of interim measurements to receive interim payments is subject to prior WSDOT approval. Every project must submit a final performance measurement at the end of the project in order to receive final payment. WSDOT must receive the final performance measurements and request for funds by June 1st of the contract closure year.

(17) What are interim measurements and payments? When applicable and when approved in advance by WSDOT,

recipients may request monthly and/or quarterly payments for trip and VMT reductions. WSDOT will prorate payments based on the project timeline and the interim performance measurement. The sum of all performance payments will not exceed the total funds awarded to the project. Recipients will also be able to receive start-up funds that are phased throughout the life of the project (see subsection (15)(a) of this section for details on start-up fund disbursement).

(18) Can the price per trip be adjusted? Multi-year projects and basic projects seeking a renewal may apply for an adjustment to the trip price and/or their goal at the end of each biennium. Adjustments to trip price and goal for the project will be subject to review and approval by WSDOT. Payments for multi-year projects are contingent upon the provision of legislative funding in future biennia.

(19) What happens if a project does not perform? All projects are subject to termination if the project is not performing according to expectations or is not continuing to work towards the reduction of commute trips. Projects must reduce trips to be eligible for any performance funds.

(20) How are projects that overlap treated? No applicant may claim full reduction in employee commute vehicle trips or commute VMT that are claimed as part of another project. WSDOT will make an initial screening of awarded projects to determine whether projects overlap. If WSDOT finds that projects being considered for selection are likely to overlap, WSDOT will notify the applicants, and will provide them with the opportunity to adjust their trip prices and goals. If projects are selected that overlap, WSDOT will ask the applicants to propose a solution to the overlap. If a solution cannot be agreed upon by the applicants, WSDOT will adjust the payments for areas where it can determine overlap occurs, by dividing the amount per trip by the number of TRPP projects involved in the overlap. WSDOT will use the lower price per trip in the overlapped projects to calculate payment.

(21) Performance documentation: The applicant must, as part of the TRPP application, describe how the project will measure performance. WSDOT will make measurement instruments available to the project. The applicant may propose alternative ways to measure the project, but must provide a description of the alternative as part of the application. Use of any measurement instrument is subject to approval by WSDOT. WSDOT will incorporate language describing the project's measurement into the contract documents for the project. WSDOT will calculate the reduction in commute vehicle trips for the project, along with any credit for reduction in vehicle miles traveled. At its discretion, WSDOT may make software available to TRPP recipients to calculate the reductions directly.

WSR 07-05-065

PERMANENT RULES

DEPARTMENT OF TRANSPORTATION

[Filed February 20, 2007, 1:52 p.m., effective March 23, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The purpose of the proposal is to specify the requirements for commute trip reduction (CTR) plans so that the plans are consistent statewide and their review and

approval is conducted in a consistent and transparent manner. The proposal's anticipated effect is the development of local, regional, and voluntary CTR plans by local governments and regional transportation planning organizations that are consistent statewide.

Statutory Authority for Adoption: RCW 70.94.537.

Adopted under notice filed as WSR 07-01-097 on December 29 [19], 2006.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 7, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 7, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: January 29, 2007.

P. J. Hammond
Chief of Staff

Chapter 468-63 WAC

COMMUTE TRIP REDUCTION PROGRAM

NEW SECTION

WAC 468-63-010 Purpose. (1) **Background and purpose.** This section describes the background of the commute trip reduction (CTR) law (RCW 70.94.521 through 70.94.555) and the purpose of these rules.

(a) **Program history and goals.** Washington state's laws relating to commute trip reduction (CTR law) were adopted in 1991 and incorporated into the Washington Clean Air Act as RCW 70.94.521 through 70.94.551. The intent of the CTR law is to reduce automobile-related air pollution, traffic congestion, and energy use through employer-based programs that encourage the use of alternatives to the single-occupant vehicle traveling during peak traffic periods for the commute trip. Strategies such as these that encourage travelers to use the transportation system more efficiently are generally known as transportation demand management (TDM). In 2006, the Legislature amended the CTR law to make the program more efficient and effective.

(b) **Purpose of rules.** These rules are intended to ensure consistency in CTR plans and goals among jurisdictions while fairly taking into account differences in employment and housing density, employer size, existing and anticipated levels of transit service, special employer circumstances, and other factors the board determines to be relevant.

(2) **Program overview.** This section describes some general considerations for affected jurisdictions and employers.

(a) **Existing CTR programs.** Those jurisdictions with an existing CTR ordinance as of March 1, 2007, and the employers within those jurisdictions, shall continue to operate their existing CTR programs as necessary to comply with the requirements of the existing CTR ordinance, until the time that the jurisdiction adopts changes to its CTR ordinance to respond to changes in the CTR law and the planning requirements in these rules.

(b) **Relation to other transportation demand management requirements.** The state encourages local jurisdictions to make existing transportation demand management (TDM) requirements compatible with the requirements of RCW 70.94.521 through 70.94.555 and these rules. Several jurisdictions have implemented TDM requirements for employers or developers through the permitting of new facilities under the State Environmental Policy Act (SEPA), or through development requirements under the Growth Management Act (GMA). The state recognizes that jurisdictions may use TDM to satisfy different goals than those in the CTR law because of other considerations. The state encourages jurisdictions to review existing and proposed TDM requirements that are based on SEPA and GMA and make them compatible with the CTR law where feasible. The state intends for property owners to be treated equitably and that, wherever possible, jurisdictions reduce the conflict, duplication and higher cost of separate or conflicting TDM requirements at the same major employer worksite. To this end, the state recommends that TDM development requirements be measured using the same instruments, methodologies, and reporting requirements used for employers subject to the jurisdiction's CTR ordinance.

(c) **Interjurisdictional cooperation.** The state intends that, to the extent possible, jurisdictions in affected urban growth areas enter into cooperative arrangements for the implementation of their CTR plans. Such arrangements may be made with the county, other cities, transit agencies, regional transportation planning organizations, or other entities, as appropriate. The arrangements may be entered into through interlocal agreements or contracts. The advantages of such arrangements include stretching the limited resources available for implementing CTR plans and facilitating consistent treatment of employers across jurisdictional boundaries.

(d) **Cooperation among affected employers.** The state encourages affected major employers to enter into cooperative arrangements with other affected major employers in their immediate vicinity for the development and implementation of CTR programs. These arrangements could be through the formation of transportation management associations (TMAs), or they could be less formal. The advantages of such cooperation include economies of scale, the potential for sharing resources, and the formation of a larger grouping of employees, making ridesharing arrangements or special transit services easier.

(e) **State agency leadership.** RCW 70.94.547 recognizes the state's crucial leadership role in establishing and implementing effective commute trip reduction programs, and intends for the department of general administration and other state agencies, including institutions of higher education, to aggressively develop substantive programs to reduce

commute trips by state employees. The interagency board created in RCW 70.94.551 is responsible for developing policies and guidelines to promote consistency among state agency commute trip reduction programs and for developing the state's leadership role.

NEW SECTION

WAC 468-63-020 Definitions. (1) **Definitions.** The definitions in this section apply throughout these rules.

(a) **Statutory definitions.** The terms listed in this subsection are defined in the CTR statutes (RCW 70.94.521 through 70.94.555).

(i) "A major employer" means a private or public employer, including state agencies, that employs one hundred or more full-time employees at a single worksite who begin their regular work day between 6:00 a.m. and 9:00 a.m. on weekdays for at least twelve continuous months during the year.

(ii) "Major employment installation" means a military base or federal reservation, excluding tribal reservations, at which there are one hundred or more full-time employees, who begin their regular workday between 6:00 a.m. and 9:00 a.m. on weekdays, for at least twelve continuous months during the year.

(iii) "Person hours of delay" means the daily person hours of delay per mile in the peak period of 6:00 a.m. to 9:00 a.m., as calculated using the best available methodology by the department of transportation.

(iv) "Commute trip" means trips made from a worker's home to a worksite during the peak period of 6:00 a.m. to 9:00 a.m. on weekdays.

(v) "Proportion of single-occupant vehicle commute trips" means the number of commute trips made by single-occupant automobiles divided by the number of full-time employees.

(vi) "Commute trip vehicle miles traveled per employee" means the sum of the individual vehicle commute trip lengths in miles over a set period divided by the number of full-time employees during that period.

(vii) "Growth and transportation efficiency center" means a defined, compact, mixed-use urban area that contains jobs or housing and supports multiple modes of transportation. For the purpose of funding, a growth and transportation efficiency center must meet minimum criteria established by the commute trip reduction board under RCW 70.94.537, and must be certified by a regional transportation planning organization as established in RCW 47.80.020.

(viii) "Affected urban growth area" means:

(A) An urban growth area, designated pursuant to RCW 36.70A.110, whose boundaries contain a state highway segment exceeding the one hundred person hours of delay threshold calculated by the department of transportation, and any contiguous urban growth areas; and

(B) An urban growth area, designated pursuant to RCW 36.70A.110, containing a jurisdiction with a population over seventy thousand that adopted a commute trip reduction ordinance before the year 2000, and any contiguous urban growth areas.

(ix) "Certification" means a determination by a regional transportation planning organization that a locally designated growth and transportation efficiency center program meets the minimum criteria developed in a collaborative regional process and the rules established by the department of transportation.

(b) **Terms defined by rule.** The terms listed in this subsection are defined herein and apply throughout these rules.

(i) "Goal" means a purpose toward which efforts are directed.

(ii) "Target" means a quantifiable or measurable value that is expressed as a desired level of performance, against which actual achievement can be compared in order to assess progress.

(iii) "Drive-alone" means single-occupant vehicle.

(iv) "Single-occupant vehicle" means a motor vehicle, including a motorcycle, occupied by one person for commute purposes. If there are other passengers occupying the motor vehicle, but the ages of these passengers are sixteen or under, the motor vehicle is still considered a "single-occupant vehicle" for measurement purposes.

(v) "Nondrive-alone travel" means travel by a method other than single-occupant vehicle. Travel avoided by telework, alternative work schedules, or condensed work weeks shall also be considered as nondrive-alone travel.

(vi) "Base year value" means the measured values of the proportion of single-occupant vehicle commute trips and commute trip vehicle miles traveled per employee at a major employer worksite, on which commute trip reduction targets for the major employer worksite shall be based.

(vii) "Jurisdiction's base year measurement" means the proportion of single-occupant vehicle commute trips by CTR commuters and commute trip vehicle miles traveled per CTR commuter on which commute trip reduction targets for the local jurisdiction shall be based. The jurisdiction's base year measurement, for those jurisdictions with an affected urban growth area as of March 1, 2007, shall be determined based on employee surveys administered in the 2006-2007 survey cycle. If complete employee survey data from the 2006-2007 survey cycle is not available, then the base year measurement shall be calculated from the most recent and available set of complete employee survey data.

(viii) "Affected employee" means a full-time employee who begins his or her regular workday at a major employer worksite between 6:00 and 9:00 a.m. (inclusive) on two or more weekdays for at least twelve continuous months, who is not an independent contractor, and who is scheduled to be employed on a continuous basis for fifty-two weeks for an average of at least thirty-five hours per week.

(ix) "CTR commuter" means a resident or employee in an affected urban growth area who is a participant in the city or county's commute trip reduction program, including any growth and transportation and efficiency center ("GTEC") programs, implemented to meet the city or county's established targets.

(x) "Commute trip vehicle miles traveled per CTR commuter" means the sum of the individual vehicle commute trip lengths in miles over a set period divided by the number of CTR commuters during that period.

(xi) "Major employer worksite" means the physical location occupied by a major employer, as determined by a local jurisdiction.

(xii) "Voluntary employer worksite" means the physical location occupied by an employer who is voluntarily implementing a CTR program.

(2) **Identification of CTR jurisdictions.** This section establishes the process to be used by WSDOT to determine the state's affected urban growth areas and lists the state's affected urban growth areas.

(a) **Process to determine affected urban growth areas.** WSDOT shall use the definition of an affected urban growth area in RCW 70.94.524 to determine the list of affected urban growth areas. WSDOT shall use the most recent set of valid and available data that covers the entire state highway system to calculate the one hundred person hours of delay threshold for state highway segments. WSDOT shall use the most recent geographical information for the state's urban growth areas as provided by the department of community, trade and economic development, or its successor.

(b) **Listing of affected urban growth areas.** The cities and counties within or containing an affected urban growth area, as determined by WSDOT, are:

(i) Clark County and the cities of Camas, Vancouver, and Washougal;

(ii) King County and the cities of Algona, Auburn, Beaux Arts, Bellevue, Black Diamond, Bothell, Burien, Clyde Hill, Covington, Des Moines, Federal Way, Hunts Point, Issaquah, Kenmore, Kent, Kirkland, Lake Forest Park, Maple Valley, Medina, Mercer Island, Newcastle, Normandy Park, Pacific, Redmond, Renton, Sammamish, SeaTac, Seattle, Shoreline, Tukwila, Woodinville, and Yarrow Point;

(iii) Kitsap County and the cities of Bainbridge Island, Bremerton, and Port Orchard;

(iv) Pierce County and the cities of Bonney Lake, DuPont, Edgewood, Fife, Fircrest, Gig Harbor, Lakewood, Milton, Orting, Puyallup, Ruston, Steilacoom, Sumner, Tacoma, and University Place;

(v) Snohomish County and the cities of Arlington, Bothell, Brier, Edmonds, Everett, Lake Stevens, Lynnwood, Marysville, Mill Creek, Monroe, Mountlake Terrace, Mukilteo, Snohomish, and Woodway;

(vi) Spokane County and the cities of Airway Heights, Liberty Lake, Millwood, Spokane, and Spokane Valley;

(vii) Thurston County and the cities of Lacey, Olympia, and Tumwater;

(viii) Whatcom County and the cities of Bellingham and Ferndale; and

(ix) Yakima County and the cities of Selah, Union Gap, and Yakima.

(c) **Listing of affected urban growth areas exempted from CTR requirements for a period not exceeding two years from March 1, 2007.** The cities or counties within an affected urban growth area, as determined by WSDOT, but which the legislature in RCW 70.94.527(12) has exempted from CTR requirements for a period not exceeding two years from March 1, 2007, are:

(i) Benton County and the cities of Kennewick, Richland, and West Richland; and

(ii) Franklin County and the city of Pasco.

(d) **Notification of cities, counties, and regional transportation planning organizations (RTPOs) required to adopt CTR plans.** WSDOT shall notify the cities, counties, and RTPOs that are determined to be in the affected urban growth areas. Cities and counties in the affected urban growth areas shall identify the major employers, if any, within their boundaries. Only those cities and counties containing a major employer in the affected urban growth area within the boundaries of their official jurisdiction shall be required to adopt a local CTR plan. Only those regional transportation planning organizations whose planning territory encompasses a city or county required to adopt a local CTR plan shall be required to adopt a regional CTR plan.

NEW SECTION

WAC 468-63-030 Program goals and measurement.

(1) **Program goals.** This section establishes the goals and targets for the CTR program that every city and county shall seek to achieve at a minimum for the affected urban growth area within the boundaries of its official jurisdiction. Every two years, the state shall measure the progress of each jurisdiction and region toward their established targets for reducing drive-alone commute trips and commute trip vehicle miles traveled per CTR commuter. Local and regional goals and measurement methodologies shall be consistent with the measurement guidelines established by WSDOT and posted on the agency's web site.

(2) **Statewide minimum program goals and targets.** The goals and targets of local jurisdictions for their urban growth areas shall meet or exceed the minimum targets established in this section.

(a) The first state goal is to reduce drive-alone travel by CTR commuters in each affected urban growth area. This will help urban areas to add employment and population without adding drive-alone commute traffic. The first state target based on this goal is a ten percent reduction from the jurisdiction's base year measurement in the proportion of single-occupant vehicle commute trips (also known as drive-alone commute trips) by CTR commuters by 2011.

(b) The second state goal is to reduce emissions of greenhouse gases and other air pollutants by CTR commuters. The second state target based on this goal is a thirteen percent reduction from the jurisdiction's base year measurement in commute trip vehicle miles traveled (VMT) per CTR commuter by 2011.

(3) **Local program goals and targets.** Local jurisdictions shall establish goals and targets that meet or exceed the minimum program targets established by the state. The goals and targets shall be set for the affected urban growth area in the city or county's official jurisdiction, and shall be targets for the year 2011 based on the base year measurement for the urban growth area.

(a) Each local jurisdiction shall implement a plan designed to meet the urban growth area targets. Progress will be determined every two years based on the jurisdiction's performance in meeting its established drive-alone commute trips and VMT targets. Local jurisdictions shall establish base year values and targets for each major employer worksite in the jurisdiction. However, the targets may vary from

major employer worksite to major employer worksite, based on the goals and measurement system implemented by the jurisdiction. Variability may be based on the following considerations:

(i) Previous engagement in trip reduction programs by the employer;

(ii) Current conditions, policies and services designed to reduce drive-alone travel in the vicinity of the major employer worksite;

(iii) Planned investments, services, policy changes and other strategies designed to reduce drive-alone travel in the vicinity of the major employer worksite;

(iv) Transit access to the employer worksite and frequency of transit service during peak periods in the vicinity of the major employer worksite;

(v) Potential for ride matching internally and with other employers in the area;

(vi) Bicycle and pedestrian access to the major employer worksite; and

(vii) Ability to implement compressed work week schedules and/or teleworking.

(b) The base year values for major employer worksites with an existing CTR program as of March 1, 2007, shall be determined based on employee surveys administered in the 2006-2007 survey cycle. If complete employee survey data from the 2006-2007 survey cycle is not available, then the base year values shall be calculated from the most recent and available set of complete CTR employee survey data. The local CTR plan shall use data from the same survey cycle to establish base year values for major employer worksites to ensure consistency.

(c) In their local CTR plans, local jurisdictions shall communicate what local, regional and state benefits would be gained if the established targets were achieved. Benefits may include but are not limited to projected changes in transportation system performance, projected reductions in emissions of pollutants, projected reductions in energy consumption, and projected benefits for economic development. Regional transportation planning organizations (RTPOs) and WSDOT shall provide applicable data, if available, to assist this analysis.

(4) **Goals for employers.** Regardless of the variations in major employer worksite targets that a jurisdiction implements, each major employer worksite shall be accountable for attaining the targets established by the jurisdiction. However, if major employer worksites are meeting the state requirements and giving a good faith effort as defined in RCW 70.94.531, local jurisdictions may not penalize the major employer for not meeting established targets.

(5) **Voluntary employer worksites.** In the local CTR plan, local jurisdictions shall indicate whether voluntary employer worksites that agree to measure will be counted in the calculation of the jurisdiction's progress toward its established targets. Regardless of whether the local jurisdiction chooses to count voluntary employer worksite measurements toward the area goal, jurisdictions shall continue to track results for those employer worksites that agree to measure.

(6) **Other local strategies for achieving the goals.** Jurisdictions may choose to institute trip reduction strategies for residents and employees in the urban growth area who are

not affected by the local CTR ordinance. The progress of these efforts may be used in the jurisdiction's calculation of its progress toward its established urban growth area targets, if it is measured in a manner that is consistent with the measurement guidelines established by WSDOT and posted on the agency's web site.

(7) **Regional goal-setting.** The RTPO in its regional CTR plan shall establish regional CTR program goals and targets. The regional program goals and targets shall be developed based on a compilation of the local jurisdiction goals and targets in the region.

(8) **Conditional review of targets.** WSDOT shall evaluate the minimum state goal and target standard at least once every four years to determine whether, based on the current and planned level of support by transit agencies, local jurisdictions, and other service providers, the targets are attainable in each jurisdiction. As part of its evaluation, WSDOT shall determine the circumstances that have affected the ability of jurisdictions to meet the targets, including whether or not sufficient services and support for trip reduction have been provided.

(9) Local jurisdictions shall not be penalized for not meeting their established four-year targets if they are implementing a plan that meets state requirements and if WSDOT determines that there are circumstances beyond the jurisdiction's control that prevented attainment of the targets.

NEW SECTION

WAC 468-63-040 Local commute trip reduction plan. (1) Purpose and process.

(a) **Purpose of local CTR plan.** The state's intent in requiring local CTR plans is to ensure that CTR program goals and targets help jurisdictions achieve their broader transportation and land use goals, and that the jurisdiction in turn develops services, regulations, policies and programs that support the trip reduction investments of major employers. This can be achieved by integrating the local CTR plan and program with other transportation and land use plans and programs, and collaborating with local service providers, interest groups, and others to develop effective trip reduction strategies. Nothing in these rules is intended to change the requirements for local comprehensive plans developed under the Growth Management Act. The state intends for the CTR planning process to provide a new perspective on the local comprehensive plan; while a jurisdiction may choose to update or amend its comprehensive plan based on the outcome of the CTR planning process, nothing in these rules requires it.

(b) **Plan development process.** RCW 70.94.527(4) requires local CTR plans to be developed in consultation with local transit agencies, the applicable RTPO, major employers, and other interested parties.

(i) Consultation. The local jurisdiction shall invite, as appropriate, representatives of major employers, local transit agencies, the applicable RTPO, business associations and economic development organizations, nonprofit transportation and land use advocacy organizations, pedestrian and bicycle advocacy organizations, public health agencies, tribal governments, and residents, employees and businesses that

will be affected by the CTR plan to participate in the development of the local CTR plan. The state intends for the invited partners to work collaboratively with the local jurisdiction by providing data and plans and discussing opportunities, including new and reprioritized investments and policy changes, to reduce drive-alone commute trips in the jurisdiction and increase transportation access to affected major employer worksites.

(ii) State role. WSDOT shall provide information to support local CTR plan development. This information shall include employer and jurisdiction base year values, calculated from CTR survey data, state highway system performance data, and other information as appropriate. WSDOT shall also provide technical assistance to support implementation of the local CTR plan, which may include but is not limited to:

- (A) Printing and processing of state CTR survey forms;
- (B) Creation of survey reports and customized data reports;
- (C) On-line survey set-up and assistance;
- (D) On-line annual report set-up and assistance; and
- (E) Program reviewer and survey training.

(iii) Regional role. It is critical that the local jurisdiction collaborate with the applicable RTPO in the development of its local CTR plan. By working closely with the RTPO, the local jurisdiction can produce a CTR plan that meets state requirements and is consistent with the regional CTR plan.

(iv) Public outreach. The local jurisdiction shall follow, at a minimum, a comparable process to the local requirements and procedures established for purposes of public outreach for comprehensive plan development, adoption, or amendment, including public notices and public meetings and hearings.

(c) **Consistency and integration with other plans, programs and local requirements.** RCW 70.94.527(5) requires local CTR plans to be consistent with applicable state and regional transportation plans and local comprehensive plans. RCW 70.94.527(5) also requires local CTR plans to be coordinated and consistent with those of adjoining jurisdictions or related regional issues to ensure consistency in the treatment of employers who have worksites in more than one jurisdiction. The local jurisdiction shall review the local comprehensive plan to ensure that it is consistent with the local CTR plan. If the local jurisdiction determines that the local comprehensive plan needs to be updated or amended to be consistent with the local CTR plan, the local jurisdiction shall identify in the local CTR plan what changes may be needed and when the changes will be made. The local jurisdiction shall use the regional CTR planning process as a means to discuss regional issues with adjoining jurisdictions. The local jurisdiction shall follow the administrative guidelines established by WSDOT and posted on the agency's web site to ensure consistency in the treatment of employers who have worksites in multiple jurisdictions.

(d) **Plan review and approval.** RCW 70.94.527(1) requires the local CTR plan to be submitted to the RTPO and be included in the regional CTR plan.

(i) Schedule. In order for a local jurisdiction to receive state CTR program funding in the 2007-2009 biennium, the CTR board must receive the final draft of the local CTR plan

by October 1, 2007. For biennia after 2007-2009, the CTR board must receive updated CTR plans by March 31 every two years thereafter if updates to the local CTR plan have been made or if a jurisdiction is adopting a local CTR plan for the first time.

(ii) RTPO review. RCW 70.94.527(5) requires the RTPO to review the local CTR plans. Local jurisdictions shall submit the final draft of their local CTR plans to the applicable RTPO by the date specified by the RTPO, so that the RTPO may review the plans before submission to the CTR board. The RTPO will review the local CTR plan to determine its consistency with the regional CTR plan and state requirements.

(iii) Determination of consistency. RCW 70.94.527(7) requires the RTPO to collaborate with the CTR board to evaluate the consistency of local CTR plans with the regional CTR plan. When the RTPO submits its regional CTR plan to the CTR board, it shall also submit any final drafts of local CTR plans in the region and recommend to the CTR board which local CTR plans are consistent with the regional CTR plan and state requirements.

(iv) Approval by CTR board. RCW 70.94.527(7) requires local CTR plans to be approved by the CTR board in order to be eligible for state CTR funding. The CTR board shall review the final drafts of local CTR plans and communicate its findings in writing to the submitting RTPO within one hundred twenty days following receipt of the plans. If the CTR board approves a local CTR plan, the local jurisdiction shall then adopt the local CTR plan by ordinance and begin to implement the plan and any other necessary changes to local ordinances, plans, or programs. If the CTR board rejects a local CTR plan, it shall communicate its reasoning and recommendations for improvement to the submitting RTPO. The RTPO shall then work with the local jurisdiction to improve the local plan. Jurisdictions may submit a revised local CTR plan to the RTPO and CTR board in the schedule jointly established by the RTPO and the CTR board.

(v) Appeal. If a local CTR plan is not approved by the CTR board, the local jurisdiction may choose to appeal the decision to the secretary of transportation or his/her designee within sixty days of the board's decision by submitting a written request for appeal to the secretary of transportation or his/her designee. The secretary of transportation or his/her designee shall consider the appeal within sixty days of the jurisdiction's request. If the secretary of transportation or his/her designee grants the appeal, the local CTR plan shall be considered valid by the CTR board and RTPO. If the secretary of transportation or his/her designee denies the appeal, the local jurisdiction is not eligible for state CTR program funding until its revised plan is submitted and approved by the CTR board.

(e) **Plan update cycle.** According to RCW 70.94.527(5), local jurisdictions shall review their local CTR plans annually and revise them as necessary to be consistent with applicable plans developed under RCW 36.70A.070. The local CTR plan shall be updated at least once every four years, in order to establish new four-year targets and program strategies and update other elements as needed.

(2) **Required plan elements.** RCW 70.94.527(4) requires affected local governments to adopt CTR plans con-

sistent with the rules and deadlines established by WSDOT. The state intends for local jurisdictions to use information in existing plans and programs, such as the local comprehensive plan, unified development codes, the transportation improvement program, economic development plans, and others, as much as possible in order to develop the local CTR plan. The local CTR plan is required to meet the requirements specified in these rules, but local jurisdictions may choose to adjust the scope of their local CTR plans as needed to make them more effective. The local CTR plan shall describe how the CTR program will help achieve the jurisdiction's broader land use and transportation goals.

The local CTR plan shall contain the following elements:

(a) **Description of land use and transportation context.** Jurisdictions shall evaluate the significance of local land use and transportation conditions, characteristics and trends to describe the most critical factors to the success of CTR.

The plan shall highlight the existing and future land use and transportation conditions and characteristics considered most critical by the jurisdiction and evaluate the degree to which existing local services, policies, regulations, and programs, as well as any documented future investments, will complement the trip reduction efforts of CTR employers. Jurisdictions may choose to broaden the scope of their local CTR plan by developing a jurisdiction-wide analysis, rather than focusing only on major employers.

The plan shall evaluate the existing barriers to the success of the CTR program, and identify how the jurisdiction and its partners can overcome these barriers. The state intends for the plan to be a mechanism through which employers can describe what policy changes, services and support they need to make their CTR programs more effective.

The plan shall also discuss cross-boundary issues, such as pass-through commute patterns or larger regional issues, and how these affect the local CTR plan.

(b) **Goals and targets.** The plan shall establish the jurisdiction's CTR goals and targets and show how achievement of these goals and targets will contribute to the jurisdiction's other adopted land use and transportation goals. The plan's goals and targets shall be established at a level that meets or exceeds the state minimum standard described in WAC 468-63-030, Program goals and measurement. The plan shall describe the base year values and numerical targets for each major employer worksite required to participate in the CTR program.

(c) **Measurement methodology for determining base year values and progress toward meeting goals and targets.** The plan's measurement methodology shall be consistent with the measurement guidelines established by WSDOT and posted on the agency's web site.

(d) **Description of local services and strategies for achieving the goals and targets.** The plan shall describe what local services and strategies will be implemented to achieve the plan's goals and targets, and how these services and strategies will support the CTR programs of major employers. Strategies may include, but are not limited to:

(i) Modifications of local policies and regulations, including the transportation concurrency system, street design standards, parking, and zoning;

(ii) Investments in services and facilities, including transit services, nonmotorized facilities and amenities; and

(iii) Marketing and incentives.

Transit agencies shall work with counties, cities and towns as a part of their six-year transit development plan established in RCW 35.58.2795 to take into account the location of major employer worksites when planning and prioritizing transit service changes or the expansion of public transportation services, including rideshare services (RCW 70.94.527(5)).

(e) Description of requirements for major employers.

The plan shall describe the requirements for major employers that will be outlined in the local ordinance. The plan shall also describe the program that the local jurisdiction will offer to its employees and how this contributes to the success of the overall plan. The plan shall also identify the major employer worksites, including affected state agency locations, within the jurisdiction's affected urban growth area and any major employment installations.

(f) Documentation of consultation. The plan shall include documentation from the local jurisdiction that verifies consultation with employers, transit agencies and others to develop the plan. If the CTR plan includes new or reprioritized transit service beyond that identified in the six-year transit development plan as a strategy to meet the goals and targets, the plan shall include acknowledgement from the applicable transit agency that it supports the transit element of the plan and has agreed on a plan to fund future service investments. If the plan submittal to the CTR board does not include acknowledgement of support from the applicable transit agency, then the new or reprioritized transit service element of the plan shall not be considered as a valid strategy to meet the plan's goals and targets.

(g) A sustainable financial plan. The plan shall describe the funding revenues from public and private sources that are reasonably expected to be available, as well as the expected costs, to implement the plan and achieve its goals and targets. If a jurisdiction identifies program elements that are not necessary to the success of the plan, but would support the plan and are beyond expected resources, the plan shall describe the level of funding that would be needed to implement the program element and how it would contribute to the success of the plan.

(h) Implementation structure. The plan shall describe how the various strategies identified in the CTR plan will be implemented, either by the local jurisdiction, its partners, or its contracting partners, and when the elements of the plan are expected to be implemented. If the local jurisdiction decides to update its comprehensive plan to be consistent with the CTR plan, it shall describe which elements need updating and when the update will occur.

(i) Growth and transportation efficiency centers. If the jurisdiction has designated a growth and transportation efficiency center, the local jurisdiction shall summarize and incorporate the GTEC program plan into the local CTR plan in the next update of the plan.

NEW SECTION

WAC 468-63-050 Regional commute trip reduction plan. (1) Purpose and process.

(a) Purpose of regional CTR plan. The state's intent in requiring regional CTR plans is to ensure that the region develops a consistent, integrated regional strategy for meeting CTR goals and targets. The region shall use existing plan information as much as possible to determine how the CTR program can help the region achieve its transportation goals. The state intends for CTR services and strategies to be prioritized in regional funding programs.

(b) Plan development process. RCW 70.94.527(6) requires the regional CTR plan to be developed in collaboration with all affected local jurisdictions, transit agencies, and other interested parties within the region.

(i) Collaboration. The RTPO shall invite, as appropriate, local jurisdictions, local transit agencies, major employers, business associations and economic development organizations, nonprofit transportation and land use advocacy organizations, pedestrian and bicycle advocacy organizations, public health agencies, tribal governments, and others as necessary to participate in the development of the regional CTR plan's goals, targets and strategies.

(ii) Development of regional GTEC criteria. The RTPO shall develop minimum land use and transportation criteria for GTECs in collaboration among local jurisdictions, transit agencies, major employers, and other affected parties as part of the regional CTR plan. The state intends for minimum land use and transportation criteria for GTECs to be developed as early in the regional planning process as possible.

(iii) Regional role. The state intends for the RTPO to coordinate the local and regional CTR planning process, and work closely with local jurisdictions to ensure consistency in all of the plans. The RTPO shall provide data and technical assistance to local jurisdictions to aid the development of their local CTR plans.

(iv) Planning framework. The state intends for local plans to follow a planning framework established by the RTPO. However, the state recognizes that during the initial planning phase in fiscal year 2007, development of local and regional CTR plans will be a concurrent, iterative process. Thus the state intent that RTPOs lead the planning process.

(c) Identification of lead agencies. The regional CTR plan shall describe which entities will be implementing the CTR program for each city and county, as determined locally. This description shall include an identification of lead agencies and the expected contractual relationships for program administration.

(d) Consistency and integration with other plans, programs and local requirements. RCW 70.94.527(6) requires the regional CTR plan to be consistent with and incorporated into transportation demand management (TDM) components in the regional transportation plan (as required by RCW 47.80.030). The regional CTR plan shall be consistent with TDM components in the regional transportation plan. The regional CTR plan shall be incorporated by the RTPO into the regional transportation plan by December 31, 2008.

(e) Plan review and approval. According to RCW 70.94.527(6), regions without an approved regional CTR plan shall not be eligible for state CTR funds.

(i) **Schedule.** For jurisdictions in the region to receive CTR program funding, the CTR board must receive final draft regional CTR plans by October 1, 2007, and by March 31 every two years thereafter, if updates have been made to the regional CTR plan or if the RTPO is adopting a regional CTR plan for the first time.

(ii) **Submittal.** RCW 70.94.527(7) requires RTPOs to submit their regional CTR plans, related local CTR plans, and certified GTEC programs to the CTR board. By October 1, 2007, and by March 31 every two years thereafter, the RTPO shall submit the regional CTR plan, all local CTR plans in the region, and GTEC certification reports to the CTR board. Local and regional CTR plan submittals shall include documentation of support from the applicable transit agencies if the plans include a transit element.

(iii) **Determination of consistency.** RCW 70.94.527(7) requires the RTPO to collaborate with the CTR board to evaluate the consistency of local CTR plans with the regional CTR plan. When the RTPO submits local CTR plans to the CTR board, it shall also submit its determination of which local CTR plans are consistent with the regional CTR plan and meet state requirements. If any plans are not consistent or do not meet state requirements, the RTPO shall describe its reasoning and what changes need to be made to the plan before it is approved. The CTR board shall use the RTPO recommendation during its review of the local and regional CTR plans.

(iv) **Approval.** According to RCW 70.94.527(7), regional CTR plans must be approved by the CTR board to be eligible for state CTR funding. The CTR board shall review the regional CTR plan and notify the RTPO in writing whether it approves or denies the plan. If the regional CTR plan is approved, jurisdictions in the region are eligible for state CTR funding. If the regional CTR plan is not approved, the CTR board shall state its reasoning and recommendations for improvement to the RTPO. The RTPO may then choose to submit its revised plan to the CTR board by the deadline established by the CTR board or to appeal the decision.

(v) **Appeal.** If a regional CTR plan is not approved by the CTR board, the RTPO may choose to appeal the decision to the secretary of transportation or his/her designee within sixty days of the board's decision by submitting a written request for appeal to the secretary of transportation or his/her designee. The secretary of transportation or his/her designee shall consider the appeal within sixty days of the RTPO's request. If the secretary of transportation or his/her designee grants the appeal, the regional CTR plan shall be considered valid by the CTR board. If the secretary of transportation or his/her designee denies the appeal, the region is not eligible for state CTR program funding until a revised regional CTR plan is submitted and approved by the CTR board.

(f) **Annual progress report.** RCW 70.94.527(8) requires RTPOs with a regional CTR plan to submit an annual progress report to the CTR board at the end of each state fiscal year. The RTPO is required to submit a progress report to the CTR board by June 30, 2008, and every year thereafter. The report shall describe progress in achieving the regional CTR goals and targets and shall highlight any problems being encountered in achieving the goals and targets.

The information shall be reported in a form established by the CTR board.

(g) **Plan update cycle.** The regional CTR plan shall be updated concurrent with the schedule for the regular update of the regional transportation plan or in order to establish new regional goals and targets and incorporate information from updated local CTR plans.

(2) **Required plan elements.** RCW 70.94.527(6) requires affected RTPOs to adopt a regional CTR plan consistent with the rules and deadlines established by WSDOT.

The regional CTR plan shall contain the following elements:

(a) **Description of land use and transportation context.** The state intends for RTPOs to evaluate the significance of regional land use and transportation conditions, characteristics and trends to highlight factors that are considered critical to the success of the regional CTR plan.

The plan shall discuss the existing and future land use and transportation conditions and characteristics considered most critical by the RTPO and evaluate the degree to which existing local services, policies, regulations, and programs, as well as any documented future investments, will complement the trip reduction efforts of major employers and help employer programs be more effective.

The plan shall evaluate the existing barriers to the success of the CTR plan, and identify how the RTPO and its partners can overcome these barriers.

The plan shall also discuss cross-boundary issues, such as pass-through commute patterns or extra-regional issues, and how these affect the regional plan.

(b) **Minimum criteria for growth and transportation efficiency centers.** The RTPO shall adopt minimum transportation and land use criteria that are appropriately scaled to the regional context. The RTPO may establish either absolute or relative criteria. The regional criteria may include, but are not limited to:

(i) Consistency with local and regional CTR plans and local comprehensive plans;

(ii) Support achievement of goals in the regional transportation plan;

(iii) Minimum existing and/or target density thresholds (i.e., activity density, population density, or employment density);

(iv) Minimum and maximum geographic sizes;

(v) Existing and targeted levels of transit service;

(vi) Existing and targeted commute trip mode splits;

(vii) Current and forecasted level of delay on state and regional facilities of significance;

(viii) Number of employees and/or residents;

(ix) Maximum parking development ratios for new commercial and residential development;

(x) Pricing strategies affecting parking demand (commuter and transient); and

(xi) Bicycle and pedestrian accessibility.

(c) **Regional program goals and targets.** The plan shall describe the established CTR goals and targets for each of the region's affected urban growth areas and designated GTECs. The plan shall also describe the entire region's goals and targets for CTR and how the regional goals and targets relate to the local goals and targets. The plan shall describe

how the regional CTR goals and targets will help the region achieve its other transportation goals.

(d) **Description of how progress will be measured.** The plan shall describe how the measurement of local CTR plan progress will be used to assess regional progress toward CTR goals and targets. The plan's measurement methodology shall be consistent with the measurement guidelines established by WSDOT and posted on the agency's web site.

(e) **Description of regional strategies for achieving the goals and targets.** The plan shall describe what regional services and strategies will be implemented to achieve the plan's goals and targets, and how these services and strategies will support major employer programs and local CTR plans. The regional services and strategies may include modifying regional funding allocations and program prioritization criteria to support the regional CTR plan.

(f) **A sustainable financial plan.** The plan shall describe the funding revenues from public and private sources that are reasonably expected to be available, as well as the expected costs, to implement the plan and achieve its goals and targets. If a RTPO identifies program elements that are not necessary to the success of the plan, but would support the plan and are beyond expected resources, the plan shall describe the level of funding that would be needed to implement the program element and how it would contribute to the success of the plan.

NEW SECTION

WAC 468-63-060 Growth and transportation efficiency centers. (1) Purpose and process.

(a) **Purpose and objective of the growth and transportation efficiency center (GTEC) program.** The state's goal for the GTEC program is to provide greater access to employment and residential centers while increasing the proportion of people not driving alone during peak periods on the state highway system. Counties, cities and towns may designate existing or new activity centers as GTECs in order to establish a transportation demand management (TDM) program in the designated area. The purpose of the rules pertaining to GTECs is to provide a consistent framework for local jurisdictions to exercise their authority to implement a GTEC via comprehensive plans, development regulations, and transportation investments that support population growth and economic development, transportation-efficient land uses, and transportation demand management strategies.

The state intends for GTECs to be developed in a collaborative planning process that builds upon the information in local and regional CTR plans as well as other existing plans and programs such as the local comprehensive plan, unified development codes, the transportation improvement program, economic development plans. The state intends for the development of the GTEC program plan to be informed by and coordinated with the development of local and regional CTR plans.

The state intends to focus state program resources provided for GTECs in those urban areas that can provide the greatest current or future benefits for highway system efficiency.

(b) **Jurisdictional coordination.** The state encourages jurisdictions to discuss interjurisdictional issues and evaluate the possibility of creating a cross-boundary GTEC. While these rules refer to the actions of a single city or county in designating a GTEC, nothing in these sections shall prohibit jurisdictions from cooperating to designate GTECs that cross jurisdictional boundaries. Jurisdictions designating a cross-boundary GTEC shall adopt consistent ordinances and enter into a cooperational partnership to implement the GTEC program.

(c) **Consistency for employers.** Major employers that are affected by the base CTR program, when located within a designated GTEC, shall only be required to fulfill one set of requirements, if the GTEC program and base CTR program requirements vary. Jurisdictions that allow major employers to follow the requirements of the GTEC, rather than the base CTR program, shall ensure that major employer worksites are measured in a manner that allows accountability for the worksite and is consistent with the measurement guidelines established by WSDOT and available on the agency's web site.

(d) **Designation and certification.** RCW 70.94.537(2) requires WSDOT to establish methods for RTPOs to evaluate and certify that designated GTECs meet the minimum requirements and are therefore eligible for funding.

(i) Minimum land use and transportation criteria. RCW 70.94.537(2) requires WSDOT to establish guidance criteria for GTECs. Minimum land use and transportation criteria for GTECs shall be developed by the RTPO in collaboration with local jurisdictions, transit agencies, major employers, and other affected parties as part of the regional CTR plan. The regional CTR plan may include a map that depicts which areas of the region meet the criteria.

The state's intent is to constrain funding resources to those areas that have the greatest potential to reduce single-occupant vehicle commute trips on the state highway system in the future. The state will use the RTPO certification of the GTEC's potential system benefits as part of its funding prioritization process.

(ii) Eligibility and designation process. To be eligible for certification as a designated "growth and transportation efficiency center," the jurisdiction must submit a GTEC certification application to the applicable RTPO that:

(A) Describes how the GTEC meets the minimum land use and transportation criteria established by the RTPO as part of the regional CTR plan;

(B) Includes a copy of the GTEC program plan and the required elements identified in this rule;

(C) Identifies when and how the GTEC program plan will be incorporated into future updates or amendments of the applicable local comprehensive plan; and

(D) Includes letters of support for the GTEC program plan from partners that are expected to contribute resources to the plan or intend to work with the local jurisdiction to develop future strategies and funding resources for the GTEC.

(iii) Schedule. For GTEC programs to be eligible for state CTR program funds, the CTR board must receive GTEC certification reports, or local jurisdiction requests for appeal,

for new or updated GTEC programs by October 1, 2007, and by April 1 every two years thereafter.

These rules do not constrain the ability of local jurisdictions to designate a GTEC at any time, or for RTPOs to certify new or updated GTECs at any time.

GTEC program plans may be updated annually to reflect changing conditions and new information. However, substantial changes to the program plan, including reductions in targets, densities, and investments, may be made no more than once every biennium. RTPOs may require local jurisdictions to update GTEC program plans as part of the regional CTR plan update. Substantially modified GTEC program plans shall be resubmitted to the RTPO for recertification.

(iv) Certification. RCW 70.94.528 (1)(b) requires designated GTECs to be certified by the applicable RTPO to be eligible for state funding. The RTPO shall evaluate the jurisdiction's GTEC certification application to determine if the proposed GTEC meets the requirements outlined in this rule. The RTPO shall, in partnership with the local jurisdiction and WSDOT, evaluate how achievement of the GTEC goal would affect the performance of the state highway system and the regional transportation system.

Within sixty days following receipt of the jurisdiction's application, the RTPO shall issue a certification report to the jurisdiction that either certifies or declines to certify the GTEC. The certification report shall state the rationale for the decision and describe in quantitative terms how the GTEC addresses state and regional highway deficiencies, and what benefits for the transportation system the GTEC is projected to provide. The RTPO shall provide a copy of the certification report and the GTEC program plan report to the CTR board.

(v) Appeal. RCW 70.94.528 (1)(b) allows jurisdictions denied certification of a designated GTEC by an RTPO to appeal the decision to the CTR board. If the RTPO declines to certify a GTEC when requested by the local jurisdiction, the local jurisdiction may appeal the decision to the CTR board within sixty days following receipt of the RTPO's certification report. The CTR board will hear the appeal within sixty days of a jurisdiction request.

If the CTR board concurs with the RTPO decision, the jurisdiction's GTEC will not be eligible for state funding. The local jurisdiction may then choose to implement the GTEC (while ineligible for state funding) or revise its application and request RTPO certification during the next biennial budget cycle. If the CTR board overrules the RTPO and certifies the GTEC, then the jurisdiction's GTEC will be eligible for state funding if it is designated within one hundred twenty days following receipt of the notice of the state GTEC funding allocation.

(vi) Adoption. The jurisdiction shall "designate" the GTEC by adopting the GTEC program plan via official resolution or ordinance within one hundred twenty days following receipt of the notice of the state GTEC funding allocation. If the jurisdiction does not designate the GTEC program plan within this deadline, then it will not be eligible for any state or regional funding intended for GTEC programs for the current biennium.

(vii) Funding. State funding for GTECs shall be allocated by the CTR board, based on the board's funding policy developed pursuant to RCW 70.94.544.

(2) GTEC program plan.

(a) **Program development process.** RCW 70.94.528 (1)(a) requires the GTEC program plan to be developed in consultation with local transit agencies, the applicable RTPO, major employers, and other interested parties.

(i) Collaboration. The local jurisdiction shall invite, as appropriate, representatives of major employers, property managers, local transit agencies, the applicable RTPO, business associations and economic development organizations, nonprofit transportation and land use advocacy organizations, pedestrian and bicycle advocacy organizations, public health agencies, tribal governments, and residents, employees and businesses that will be affected by the GTEC to participate in the development of the GTEC program plan. The local jurisdiction and its invitees shall discuss the findings of the gap analysis portion of the plan and collaboratively develop the program's goals, targets, and program strategies.

(ii) Informal review. The local jurisdiction shall give collaborating entities and those entities affected by the GTEC designation an opportunity to review the draft program plan before it is released to the public and submitted for certification to the RTPO.

(iii) Public outreach. The local jurisdiction shall follow, at a minimum, a comparable process to the local requirements and procedures established for purposes of public outreach for comprehensive plan development, adoption, or amendment, including public notices and public meetings and hearings.

(b) **Required elements.** RCW 70.94.528 (1)(c) requires the TDM program elements in the GTEC to be consistent with the rules established by WSDOT.

The state intends for GTECs to be developed in a collaborative planning process that builds upon the information in local and regional CTR plans as well as other existing plans and programs, such as the local comprehensive plan, unified development codes, the transportation improvement program, and economic development plans. The state intends for the GTEC program plan to be a focused planning element that is coordinated with the local and regional CTR plan.

The GTEC program plan shall describe local conditions and use projections of future growth to define the scope of the problem that the GTEC goals and strategies are designed to address.

The GTEC program plan shall contain the following elements:

(i) Executive summary. The GTEC program plan shall include an executive summary of the jurisdiction's vision for the GTEC, how the GTEC relates to the base CTR program, how the plan's success will affect transportation access to and within the center, and states:

(A) The GTEC program goals and targets;

(B) The GTEC target population;

(C) Proposed program strategies, including policy and service changes needed to execute the plan and proposed land use strategies to support the plan; and

(D) Key funding and service partnerships.

(ii) Background information. The GTEC program plan shall include:

(A) A description of the geographic boundaries of the GTEC;

(B) Documentation that the GTEC is located within the jurisdiction's urban growth area; and

(C) A brief description of the jurisdiction's vision for the GTEC, including information from the local comprehensive plan, other transportation plans and programs, and funded transportation improvements.

(iii) Evaluation of land use and transportation context. Jurisdictions shall evaluate the significance of local conditions, characteristics and trends to determine which factors are most critical to the success of the plan. The RTPO, local transit agencies, state agencies and other appropriate entities shall assist this process by providing data and plans and discussing issues with jurisdictions.

The local jurisdiction shall evaluate existing conditions and characteristics and projected future conditions and characteristics. The jurisdiction may choose to evaluate, but is not limited to, the following issues:

(A) Existing conditions and characteristics. These may include, but are not limited to:

(I) Existing land uses, including the general location and extent of housing, commerce, industry, recreation, open spaces, public utilities, public facilities, and other land uses, and population densities and building intensities, with particular attention to mix of land uses and proximity of residential and employment locations.

(II) Existing transportation network, including:

- Major origins and destinations of trips, including traffic impacts of activity to, from and within a GTEC to state-owned transportation facilities, if adequate information is available from WSDOT to support this evaluation;

- Transit service network and level of service including unused capacity and facilities, service deficiencies and needs, if adequate information is available from transit agencies to support this evaluation;

- Available capacity and performance of other HOV systems serving the GTEC, if adequate information is available from transit agencies and WSDOT to support this evaluation;

- Public and private parking capacity, pricing, and development standards (minimums, maximums, and incentives to reduce parking);

- Significance of the use of and deficiencies in the street, sidewalk, and trail/bicycle path network for bicyclists and pedestrians and deficiencies in end of trip facilities (e.g., bike parking, storage and shower/locker facilities) necessary to support bicyclists and pedestrians;

- Estimated commute mode share in the GTEC for transit, rideshare, bike and walk for all employers;

- Number and size of CTR-affected employers and commute mode share by CTR employees; and

- Local and regional transportation demand management strategies available to businesses in the GTEC, including incentives and programs that promote nondrive-alone travel.

(III) Local and regional economic development plans.

(B) Projected future conditions and characteristics. Jurisdictions shall use existing data, plans and programs to describe anticipated changes in the future. Jurisdictions shall

use projections of future growth to evaluate how it will affect transportation access and economic development in the GTEC. Factors may include, but are not limited to:

(I) Projected population and employment growth for at least ten and twenty years;

(II) Projected changes in land use types and intensities for at least ten and twenty years;

(III) Forecasts of traffic, delay, mode share, and parking needs for at least ten years to provide information on the location, timing, and capacity needs of future growth, as well as to describe the costs to accommodate growth under the status quo (for example, describing the projected parking costs, delay, and other costs that will be incurred from future growth); and

(IV) Identification of jurisdiction plans, policies and capital programs for the provision of infrastructure, services and amenities to support planned growth and reduce single-occupant-vehicle trips, including additional transit routes, HOV capacity, pricing strategies and nonmotorized facilities and amenities.

(iv) Gap analysis. Using the information gathered in discussion of the existing and projected future conditions and characteristics, the local jurisdiction and its partners shall evaluate the degree to which existing and future services, policies, and programs will be sufficient to maintain or improve transportation access and increase the proportion of non-drive-alone travel as the area grows. This evaluation shall describe the gaps between what services, policies and programs will be available versus what may be needed to address the projected conditions. The jurisdiction's evaluation of its own policies, programs, and regulations shall include, but is not limited to an evaluation of land use and transportation regulations, including parking policies and ordinances, streetscape design standards, development requirements, concurrency policies, level of service standards, assessment of impact fees, and zoning, to determine the extent that they can reduce the need for drive-alone travel and attract and maintain a mix of complementary land uses, particularly uses that generate pedestrian activity and transit ridership.

(v) Description of program goals and measurements. The state's goal for the GTEC program is to provide greater access to employment and residential centers while increasing the proportion of people not driving alone during peak periods on the state highway system. The GTEC program plan's established goals and targets shall be more aggressive than the minimum goal for the urban growth area established by the jurisdiction, in accordance with RCW 70.94.528(1). The GTEC's established goals and targets shall be designed to maintain or improve transportation access and increase the proportion of nondrive-alone travel as the area grows. The goals and targets shall be designed to support achievement of local and regional goals for transportation and land use.

(A) Goals and targets. Jurisdictions shall have flexibility in establishing GTEC goals and targets, as long as the targets are certified by the RTPO to be more aggressive than the minimum drive alone and VMT targets for the CTR program established by the state. The RTPO shall certify that the GTEC program targets meet this standard if the GTEC program target is to reduce, on a relative or absolute basis, more

drive-alone trips or more vehicle miles traveled than the minimum base CTR program target in the urban growth area.

The GTEC targets shall be expressed in terms of changes from a base year value.

The RTPO shall determine in the GTEC certification report if the GTEC program target meets the standard defined in RCW 70.94.528(1), and work with WSDOT to evaluate how attainment of the target will affect the performance of the state highway system.

(B) Performance measures. The GTEC program plan shall describe the methodology for measuring the program's performance. The program's performance shall be measured at least once every two years after the base year measurement in order to assess progress toward the established GTEC goals and targets. The program's measurement methodology shall be consistent with the GTEC guidelines established by WSDOT and listed on the agency's web site.

(vi) Description of program strategies. Using the gap analysis evaluation, the local jurisdiction and its partners shall identify what new or revised services, policies and programs may be needed in order to meet the GTEC's established goals and targets.

The local jurisdiction shall consult with appropriate representatives of local transit agencies, the applicable RTPO, business associations and economic development organizations, nonprofit transportation and land use advocacy organizations, public health agencies, and residents, employees and businesses that will be affected by the GTEC so that they may provide their perception of what services, policies and programs are needed to meet the GTEC's established goals and targets. The state's intent is for the discussion to be an open, collaborative process, and for all of the parties to think about how they may be able to improve their own services, policies and programs, or develop stronger partnerships, in order to support the GTEC's established goals and targets.

The GTEC program plan shall identify the target population that will be the focus of the plan, as well as the services, policies and programs that will be needed in order to meet the GTEC's established goals and targets. These may include new services, policies and programs or improvements to existing services, policies and programs. The state recognizes that program strategies will vary across the state, depending on local conditions, needs, partnerships, and resources.

The GTEC program plan may include but is not limited to the following strategies:

- (A) Improvements to policies and regulations;
- (B) New services and facilities; and
- (C) New marketing and incentive programs.

(vii) Financial plan. The GTEC program plan shall include a sustainable financial plan that demonstrates how the jurisdiction plans to implement the GTEC program to meet its goals and targets. The plan shall describe resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommend any innovating financing techniques consistent with chapter 47.29 RCW, including public/private partnerships, to finance needed facilities, services, and programs. The plan shall specifically describe when and how the expected funding resources will fund the plan's strategies. The plan shall

describe how locally derived funding resources will be leveraged as a match to state GTEC program funds allocated through the CTR board according to its funding policy. The plan shall describe the jurisdiction's contingency plan if anticipated funds do not become available to support the plan. Jurisdictions may consider using other state TDM funding resources, including the trip reduction performance program, the vanpool investment program, the rideshare tax credit, and the regional mobility grant program, in funding their GTEC programs.

(viii) Proposed organizational structure for implementing the program. The GTEC program plan shall identify the organization or organizations that are proposed to administer the GTEC program. The plan shall describe the roles of the local jurisdiction's partners by describing who will implement the various strategies identified in the plan and when the elements of the plan are expected to be implemented. If the jurisdiction will update its comprehensive plan to be consistent with the GTEC program plan, it shall describe which elements need updating and when the update will occur.

(ix) Documentation of public outreach. The GTEC program plan shall document the level and frequency of outreach and consultation with local transit agencies, the applicable RTPO, major employers, and other affected parties in the development of the GTEC program plan. The jurisdiction may choose to include letters of support from business associations, developers, employers and others as documentation of consultation. When submitting the plan to the RTPO for certification, the local jurisdiction shall include letters of support from those partners that are expected to contribute resources to the plan or intend to work with the local jurisdiction to develop future strategies and funding resources for the GTEC.

(x) Description of relationship to local CTR plan. Jurisdictions shall describe the relationship of the GTEC program plan to the base CTR program in the local CTR plan. The narrative shall include information about what the GTEC plan adds beyond the requirements and strategies in the base CTR program, and the expected benefits of the GTEC plan for the base CTR program.

(3) Support for GTECs.

(a) **Prioritization.** RCW 70.94.528 requires transit agencies, local governments, and RTPOs to identify certified GTECs as priority areas for new service and facility investments in their respective investment plans. Transit agencies, local governments, regional transportation planning organizations, and the state shall identify certified growth and transportation efficiency centers as priority areas for new service and facility investments in future updates of their investment plans, as required by RCW 70.94.528(1). Periodically, the CTR board shall evaluate the degree to which prioritization of GTECs has occurred.

(i) Transit development plan. The local transit agency shall examine and revise funding prioritization policies, recognizing funding constraints and competing priorities, in order to meet the state's intent to prioritize certified GTECs for investments in facilities, services, and amenities in its transit development plan.

(ii) City and county six-year comprehensive transportation programs. The city or county shall examine and revise

funding prioritization policies, recognizing funding constraints and competing priorities, in order to meet the state's intent to prioritize certified GTECs for investments in facilities, services, and amenities in its comprehensive transportation program.

(iii) **Regional transportation plan.** The RTPO shall examine and revise funding prioritization policies, recognizing funding constraints and competing priorities, in order to meet the state's intent to prioritize certified GTECs for investments in facilities, services, and amenities in its regional transportation plan.

(iv) **State plans.** WSDOT, the department of community, trade, and economic development, the transportation improvement board and the public works trust fund shall examine funding prioritization policies, recognizing funding constraints and competing priorities, in order to meet the state's intent to prioritize certified GTECs for investments in facilities and services as part of state plans and programs.

(b) **Integration.** The GTEC program plan shall be incorporated into other plans and programs, including local comprehensive plans and transportation improvement programs, as they are updated after January 1, 2008.

NEW SECTION

WAC 468-63-070 Opt-in, additions, and exemptions.

(1) **Criteria and process for opt-in.** RCW 70.94.537 (2)(h) requires WSDOT to establish criteria and a process to determine whether jurisdictions that voluntarily implement CTR are eligible for state funding. Jurisdictions that are not required to implement CTR may volunteer to participate in the program. The state CTR board is not required to provide state CTR program funding to jurisdictions that opt-in. WSDOT shall provide technical assistance to opt-in jurisdictions that meet the requirements of these rules. The state intends for each jurisdiction participating in CTR to implement a consistent set of requirements for employers. Therefore, jurisdictions that opt-in to the CTR program shall follow the requirements of the rules, with the following exceptions listed below.

(a) **Local CTR plan.** Voluntary jurisdictions may, instead of developing a stand-alone CTR plan meeting the planning requirements described in these rules, develop an amendment to the transportation element of the local comprehensive plan. The amendment shall contain the following:

(i) Goals and numerical targets for reductions in the proportion of single-occupant vehicle commute trips and vehicle miles traveled per CTR commuter for the area established by the jurisdiction;

(ii) An assessment of current conditions and how attainment of the program goal can help the jurisdiction meet its broader growth and transportation goals;

(iii) A description of local services that will help the jurisdiction and its employers meet the goals and targets;

(iv) A description of the requirements for employers;

(v) A determination of the base year value and how progress toward meeting the program goal will be measured, consistent with the measurement guidelines issued by WSDOT; and

(vi) A description of how the program will be funded and administered.

The jurisdiction must adopt the comprehensive plan amendment and adopt an ordinance implementing the CTR requirements described in the comprehensive plan to be considered an opt-in CTR jurisdiction.

(b) **State technical assistance.** After an opt-in jurisdiction provides confirmation to the CTR board that a CTR ordinance has been adopted and the jurisdiction has updated its comprehensive plan to include CTR plan information, the jurisdiction shall be eligible to receive a comparable level of technical assistance that WSDOT provides to other jurisdictions required to adopt and implement CTR plans.

(2) **Criteria and procedure for RTPOs to propose to add urban growth areas.** RCW 70.94.537 (2)(f) requires WSDOT to establish criteria and procedures for RTPOs in consultation with local jurisdictions to propose to add urban growth areas. In their regional CTR plans, RTPOs may propose to add urban growth areas to the CTR program. The proposal shall list the jurisdictions in the urban growth area proposed to be added, and shall include documentation of the jurisdiction's consent to be added to the CTR program. If the proposed additions are accepted by the CTR board, the identified, consenting jurisdictions in the added urban growth areas shall be considered as opt-in jurisdictions. The opt-in jurisdictions shall be eligible to receive a comparable level of technical assistance that WSDOT provides to other jurisdictions required to adopt and implement CTR plans. The state CTR board is not required to provide state CTR program funding to jurisdictions that opt-in.

The CTR board shall consider proposed additions to the CTR program as part of its review of the regional CTR plan. In order for a jurisdiction to be approved as an opt-in jurisdiction through the regional CTR plan, the regional CTR plan shall include the following elements for each opt-in jurisdiction:

(a) Goals and numerical targets for reductions in the proportion of single-occupant vehicle commute trips and vehicle miles traveled per CTR commuter established by the proposed jurisdiction for the urban growth area and its employers;

(b) An assessment of current conditions and how attainment of the program goal can help the proposed jurisdiction meet its broader growth and transportation goals;

(c) A description of local services that will help the proposed jurisdiction and its employers meet the goals and targets;

(d) A description of the requirements for employers;

(e) A determination of the base year value and how progress toward meeting the program goal will be measured, consistent with the measurement guidelines issued by WSDOT; and

(f) A description of how the program will be funded and administered.

(3) **Criteria and procedure for RTPOs to propose to exempt urban growth areas.** RCW 70.94.537 (2)(f) requires WSDOT to establish criteria and procedures for RTPOs in consultation with local jurisdictions to propose to exempt urban growth areas.

(a) Exemption criteria. In order for their urban growth area to be exempted, jurisdictions must document in the submittal of their local CTR plan that they meet the following criteria:

(i) Development of a local CTR plan that meets the requirements in these rules;

(ii) The jurisdiction is not currently experiencing any problems with traffic congestion or traffic safety; and

(iii) The jurisdiction has not received any state transportation funding, including grant funding, for transportation improvements in the urban growth area within two years of the submittal of the local CTR plan;

(b) **Exemption application process.** A jurisdiction that seeks an urban growth area exemption shall notify its RTPO as part of the submittal of its local CTR plan. If the RTPO concurs with the urban growth area exemption request, the RTPO will submit the urban growth area exemption request with the regional CTR plan to the CTR board. The urban growth area exemption request shall describe why the exemption is justified.

RTPOs shall submit any urban growth area exemption requests to the CTR board by October 1, 2007, or by March 31 every two years thereafter. The CTR board may consider urban growth area exemption requests at other times.

The CTR board shall consider the proposed urban growth area exemption while reviewing the regional CTR plan, and approve or deny the urban growth area exemption. The CTR board shall state the reasoning for its decision and communicate the information in writing to the RTPO.

If the CTR board grants the urban growth area exemption, the jurisdiction is exempt from the requirements of the CTR law until the regional CTR plan is updated and the exemption is reevaluated.

If the CTR board denies the urban growth area exemption, the jurisdiction may appeal the decision to the secretary of transportation or his/her designee within sixty days of the board's decision by submitting a written request for appeal to the secretary of transportation or his/her designee. The secretary of transportation or his/her designee shall consider the appeal within sixty days of the jurisdiction's request. If the secretary of transportation or his/her designee grants the appeal, the exemption shall be granted by the CTR board. If the secretary of transportation or his/her designee denies the appeal, the jurisdiction is required to follow the CTR requirements and the regional CTR plan must reflect the inclusion of the jurisdiction's CTR plan.

(c) **Reevaluation of exemption.** As part of the regional CTR plan update, RTPOs, in consultation with local jurisdictions, shall reevaluate any exempted urban growth areas to assess whether the conditions that qualified the area for the exemption have changed. For each proposed urban growth area, the RTPO shall discuss its reasoning for a continued exemption or removal of exemption with the CTR board, and the CTR board will decide whether or not a change is warranted.

WSR 07-05-072
PERMANENT RULES
DEPARTMENT OF
LABOR AND INDUSTRIES

[Filed February 20, 2007, 2:34 p.m., effective April 1, 2007]

Effective Date of Rule: April 1, 2007.

Purpose: In August, Occupational Safety and Health Administration (OSHA) revised its existing respiratory protection standard to add definitions and requirements for assigned protection factors (APFs) and maximum use concentrations (MUCs). We amended our rules to be consistent with OSHA. In addition, we made housekeeping corrections in these rules.

Amended sections:

The following sections were amended to make our rules match federal regulations: WAC 296-62-07329 Vinyl Chloride, 296-62-07336 Acrylonitrile, 296-62-07342 1,2-Dibromo-3-chloropropane, 296-62-07413 Cadmium, 296-62-07470 Methylene chloride, 296-62-07521 Lead, 296-62-07615 MDA, 296-62-07715 Asbestos, 296-62-14533 Cotton dust, 296-62-20011 Coke ovens, 296-155-17317 MDA, 296-155-174 Cadmium, 296-155-17613 Lead, 296-842-13005 Select and provide appropriate respirators, 296-848-40045 Respirators (arsenic), 296-849-13045 Respirators (benzene), 296-855-40040 Respirators (ethylene oxide), and 296-856-40030 Respirators (formaldehyde).

The following sections were amended to correct typographical errors, make other housekeeping changes, and edit for clarity: WAC 296-842-100 Scope, 296-842-11005 Make sure voluntary use of respirators is safe, 296-842-11010 Keep voluntary use program records, 296-842-13005 Select and provide appropriate respirators, 296-842-15005 Conduct fit testing, 296-842-160 Training, 296-842-170 Maintenance, 296-842-17005 Maintain respirators in a clean and reliable condition, 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, 296-842-22010 Follow these fit-testing procedures for tight-fitting respirators, and 296-842-300 Definitions.

Citation of Existing Rules Affected by this Order: Amending WAC 296-62-14533 Cotton dust, 296-62-20011 Coke ovens, 296-62-07329 Vinyl chloride, 296-62-07336 Acrylonitrile, 296-62-07342 1,2-Dibromo-3-chloropropane, 296-62-07413 Cadmium, 296-62-07470 Methylene chloride, 296-62-07521 Lead, 296-62-07615 MDA, 296-62-07715 Asbestos, 296-155-17317 MDA, 296-155-174 Cadmium, 296-155-17613 Lead, 296-842-100 Scope, 296-842-11005 Make sure voluntary use of respirators is safe, 296-842-11010 Keep voluntary use program records, 296-842-13005 Select and provide appropriate respirators, 296-842-15005 Conduct fit testing, 296-842-160 Training, 296-842-170 Maintenance, 296-842-17005 Maintain respirators in a clean and reliable condition, 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, 296-842-22010 Follow these fit-testing procedures for tight-fitting res-

pirators, 296-842-300 Definitions, 296-848-40045 Respirators (arsenic), 296-849-13045 Respirators (benzene), 296-855-40040 Respirators (ethylene oxide), and 296-856-40030 Respirators (formaldehyde).

Statutory Authority for Adoption: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060.

Adopted under notice filed as WSR 07-01-076 on December 19, 2006.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 18, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 0, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 13, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 31, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: February 20, 2007.

Judy Schurke
Acting Director

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

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, (~~Respiratory hazards~~) 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-facepiece 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 (~~personal protective equipment~~)PPE(+) such as eye, hand, and head protection.

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~(You must~~

*) Designate a program administrator who has overall responsibility for your program and has sufficient training or experience to(

→) oversee program development (~~and~~), coordinate implementation

~~(-), and~~ conduct required evaluations of program effectiveness outlined in WAC 296-842-12005.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-110 Voluntary respirator use requirements.

~~(Your responsibility:~~

To make sure voluntary use of respirators by employees does not create job safety or health hazards.

~~You must:~~

Make sure voluntary use of respirators is safe
~~WAC 296-842-11005~~

Keep voluntary use respirator program records
~~WAC 296-842-11010.))~~

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.

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:))~~

(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.

~~((You must:))~~

(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.

~~((You must:))~~

(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 ((according to WAC 296-842-160 when necessary)) 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 |
|--|
| <p>• Respirators protect against airborne hazards when properly selected and used. <u>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.</u> 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.</p> <p>• 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:</p> <ul style="list-style-type: none"> – 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. <ul style="list-style-type: none"> ■ 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: <ul style="list-style-type: none"> ■ <u>Required use situations when you are only allowed voluntary use.</u> ■ Atmospheres containing hazards that your respirator is not designed to protect against. <ul style="list-style-type: none"> For example, a respirator designed to filter dust particles will not protect you against solvent vapor, smoke or oxygen deficiency. <p>((■ Situations where respirator use is required.))</p> |

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:))~~

~~(*) (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 ~~((296-62 WAC, Part B, Access to))~~ 296-802 WAC, Employee medical and exposure records, for additional requirements that apply to medical records.

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:))~~

(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.

~~((You must:))~~

(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 | |

| Required Elements for Required-Use Respirator Programs |
|--|
| <ul style="list-style-type: none"> ■ Storage ■ Inspection and repair ■ When to discard respirators <p>– 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:</p> <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) |
| • Procedures to ensure a safe air quantity and quality IF atmosphere-supplying respirators (air-line or SCBA) are selected |
| • Procedures for evaluating program effectiveness on a regular basis |

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-12010 Keep respirator program records.

~~((You must:~~

~~• Keep the following 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 ((296-62-WAC, Part B, Access to)) 296-802 WAC, Employee medical and exposure records, for additional requirements that apply to medical records.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-13005 Select and provide appropriate respirators.

IMPORTANT:

See chapter 296-841 WAC, ((Respiratory hazards)) airborne contaminants, for:

• Hazard evaluation requirements. Evaluation results are necessary for respirator selection.

• ((A list of)) References to substance-specific rules that may also apply to you((-Those listed rules)) and have additional respirator selection requirements. These references are found in the permissible exposure limit (PEL) table.

~~((You must:~~

~~•)) 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 ((9)) 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 ((9)) 8**.

• If respirator use will occur during **emergencies**, skip to **Step ((9)) 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 ((40)) 2**.

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, ((Respiratory hazards)) airborne contaminants.

Step 5: Determine if the respiratory hazard is classified as IDLH; if it is NOT IDLH skip to **Step ((8)) 7**. The respirator hazard **IS** classified as IDLH if:

– The atmosphere is oxygen deficient or oxygen enriched

OR

– You CANNOT measure or estimate your expected exposure concentration

OR

– Your measured or estimated expected exposure concentration is greater or equal to the IDLH value in the NIOSH *Pocket Guide to Chemical Hazards*

Note: • 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 ((8)) 7**.

Step 6: Select an appropriate respirator from one of the following respirators for IDLH conditions and skip to **Step ((9)) 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 |
| <u>6,001 - 7,000</u> | <u>18.5 - 19.5</u> |
| ((6,001)) <u>7,001 - 8,000</u> | 19.3 - 19.5 |
| Above 8,000 feet the exception does not apply. <u>Oxygen-enriched breathing air must be supplied above 14,000 feet.</u> | |

Step ((8)) 7: ~~((Identify))~~ 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).

Step ((9)) 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 ((10)) 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 ((12)) 11.**

~~((Examples:~~

~~• High humidity or temperature extremes in the workplace.~~

~~• Necessary voice communication.~~

~~• High traffic areas and moving machinery.))~~

~~• Time or distance for escape.~~

Step ((11)) 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 ((12)) 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. <u>This category includes filtering facepiece and elastomeric facepiece models.</u> | |
| • Full-facepiece ((Note: Half-facepiece includes 1/4 masks, filtering facepieces, and elastomeric facepieces.)) | 10 ((100)) <u>50</u> |
| Powered air-purifying respirator (PAPR) with a: • Loose-fitting facepiece | 25 |
| • Half-facepiece | |
| • Full-facepiece ((equipped with HEPA filters, chemical cartridges or canisters)) | |
| | 50 |
| | 1000 |

| If the respirator is a(n) . . . | Then the APF is . . . |
|---|--------------------------------------|
| <ul style="list-style-type: none"> • Hood or helmet(equipped with HEPA filters, chemical cartridges or canisters) | <p><u>25/1000</u> (see note)</p> |
| <p>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.</p> | |
| Air-line respirator with a: | |
| <ul style="list-style-type: none"> • Half-facepiece and designed to operate in demand mode | 10 |
| <ul style="list-style-type: none"> • Loose-fitting facepiece and designed to operate in continuous flow mode | 25 |
| <ul style="list-style-type: none"> • Half-facepiece and designed to operate in continuous-flow(or pressure-demand) mode | 50 |
| <ul style="list-style-type: none"> • <u>Half-facepiece and designed to operate in pressure-demand or other positive-pressure mode</u> | <u>50</u> |
| <ul style="list-style-type: none"> • Full-facepiece and designed to operate in demand mode | ((400)) <u>50</u> |
| <ul style="list-style-type: none"> • Full-facepiece and designed to operate in continuous-flow (or pressure-demand) mode | 1000 |
| <ul style="list-style-type: none"> • <u>Full-facepiece and designed to operate in pressure-demand or other positive-pressure mode</u> | <u>1000</u> |
| <ul style="list-style-type: none"> • Helmet or hood and designed to operate in continuous-flow mode | <u>25/1000</u> (see note) |
| <p>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.</p> | |
| Self-contained breathing apparatus (SCBA) with a tight fitting: | |
| <ul style="list-style-type: none"> • Half-facepiece and designed to operate in demand mode | 10 |
| <ul style="list-style-type: none"> • Full-facepiece and designed to operate in demand mode | ((400)) <u>50</u> |
| <ul style="list-style-type: none"> • Full-facepiece and designed to operate in pressure-demand or other positive pressure mode (e.g., open/closed circuit) | 10,000 |

| If the respirator is a(n) . . . | Then the APF is . . . |
|---|-----------------------|
| <ul style="list-style-type: none"> • <u>Helmet or hood and designed to operate in demand mode</u> | <u>50</u> |
| <ul style="list-style-type: none"> • <u>Helmet or hood and designed to operate in pressure-demand or other positive-pressure mode (e.g., open/closed circuit)</u> | <u>10,000</u> |
| <p>Combination respirators: ((Find the APF for each type of respirator in the combination. • Use the lower APF to represent the combination.))</p> <p>• <u>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.</u></p> | The lowest value |
| <p><u>Escape respirators:</u></p> <ul style="list-style-type: none"> • <u>APFs in this table do not apply to respirators used solely for escape. To select escape respirators, go to Step 8 of this section.</u> | |

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 ((HEPA)) |

| If the contaminant is a . . . | Then . . . |
|-------------------------------|---|
| | <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> |

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:~~

•) 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 OR ■ 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. |

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-15005 Conduct fit testing.

~~((You must:~~

•)) (1) Provide, at no cost to the employee, fit tests for ALL tight fitting respirators on the following schedule:

((–)) (a) Before employees are assigned duties that may require the use of respirators

((–)) (b) At least every twelve months after initial testing

((–)) (c) Whenever any of the following occurs:

- 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.

~~((You must:~~

•)) (2) Select and use an appropriate fit-testing procedure from WAC 296-842-22010 of this chapter ~~((AND:~~

–)) (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.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-16005 Provide effective training.

~~((You must:))~~

•) (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.

~~((You must:))~~

•) (3) Make sure a qualified instructor provides training
 ((•)) (4) Provide training, at no cost to the employee, at these times:

- ((-)) (a) Initially, before worksite respirator use begins
- ((-)) (b) Periodically, within twelve months of the previous training

((-)) (c) Additionally, when the following occur:

- The employee has not retained knowledge or skills
- OR**
- Changes in the worksite, or type of respirator make previous training incomplete or obsolete.

Note:

- You may accept an employee's previous training, such as training provided by another employer, to satisfy the initial training requirement if:
 - You can demonstrate the employee received training within the past twelve months

AND

- The employee can demonstrate the knowledge and skills to use required respirators effectively.
- If you accept an employee's previous training to satisfy the initial training requirement, you are still responsible for providing periodic, and additional training when needed. Periodic training would need to be provided within twelve months of the employee's previous training.

~~((You must:))~~

•) (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.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-17005 Maintain respirators in a clean and reliable condition.

~~((You must:))~~

•) (1) Make sure respirators are kept, at no cost to the employee, clean, sanitary and in good working order. ~~((Do at least the following:))~~

–) (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.

~~((You must:))~~

–) (3) Make sure respirators are assembled properly after cleaning or disinfecting.

~~((Use Table 8 to determine how often to clean and disinfect respirators:))~~

Table 8
Required Frequencies for Cleaning and Disinfecting Respirators

| If((s)) the respirator will be . . . | Then, clean and disinfect the respirator . . . |
|---|---|
| • Used exclusively by one employee | • 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 |
| • Shared for nonemergency use | • Before it is worn by another employee |

| If(§) the respirator will be . . . | Then, clean and disinfect the respirator . . . |
|------------------------------------|---|
| OR | |
| • Used for fit-testing or training | |
| • Shared for emergency use | • After each use so the respirator is immediately ready for use at all times |

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-17010 Store respirators properly.

~~((You must:~~

•)) (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.

~~((You must:~~

•)) (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.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-17015 Inspect and repair respirators.

~~((You must:~~

•)) (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.

~~((You must:~~

•)) (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 | • Before each use AND • During cleaning OR • Monthly if NOT used |
| Used for nonemergencies, including day-to-day or infrequent use | • Inspect before each use AND • During cleaning |
| Used only for emergencies | • Check for proper function before and after each use AND • Inspect at least monthly as instructed by the manufacturer |
| Used for escape-only purposes | • Before carrying into a work place for use |

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-18005 Prevent sealing problems with tight-fitting respirators.

~~((You must:~~

•)) (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, faceshields, clothing, and hard hats.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-18010 Make sure employees leave the use area before removing respirators.

~~((You must:~~

•)) 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.

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:~~

•)) (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

((-) (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.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-20005 Make sure breathing air and oxygen meet established specifications.

~~((You must:~~

•)) (1) Make sure that all SCBAs and air-line respirators are provided with safe breathing air and oxygen ~~((according to the following:))~~.

((-) (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 ~~((obtained from a supplier))~~ of breathing air purchased or otherwise obtained from a supplier must have a certificate of analysis ~~((that verifies))~~ 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.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-20010 Prevent conditions that could create a hazardous breathing air supply.

~~((You must:))~~

-) (1) Use SCBA and air-line respirators safely:
- ~~((Do))~~ **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.

~~((You must:))~~

-) (2) Use breathing air couplings on air-line respirators that are **NOT** compatible with couplings for nonrespirable air or other gas systems, for example, utility air used for manufacturing purposes.

~~((Do))~~ (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%.

~~((You must:))~~

–) (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 ~~((Parts 173 and 178))~~.

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.

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:))~~

(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.

~~((You must:))~~

(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
- 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 ~~((at the point where the manifold))~~ where the respirator's airline hose ((is attached)) attaches to the manifold or other air outlet.

~~((You must:))~~

(3) Make sure the carbon monoxide (CO) level in breathing air from compressors does **NOT** exceed ten parts per million (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).

~~**You must:**~~

•) Maintain CO levels below 10 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 ~~((see if))~~ prevent CO levels ((exceed)) 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.

- 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. • 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. | |

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-21005 Keep labels readable on respirator filters, cartridges, and canisters during use.

~~((You must:~~

•)) 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.

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-22005 Use this medical questionnaire for medical evaluations.

~~((You must:~~

•)) 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.
 - You may choose to send the questionnaire to the ~~((LCHP))~~ LHCP ahead of time, giving time to review it and add any necessary questions.

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 <i>currently</i> smoke tobacco, or have you smoked tobacco in the last month? | Yes | / | No |
| 2. Have you <i>ever had</i> 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 <i>ever had</i> 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? | | | |
| a. Heart attack: | Yes | / | No |

| | | | |
|--|-----|---|----|
| b. Stroke: | Yes | / | No |
| c. Angina: | Yes | / | No |
| d. Heart failure: | Yes | / | No |
| e. Swelling in your legs or feet (not caused by walking): | Yes | / | No |
| f. Heart arrhythmia (heart beating irregularly): | Yes | / | No |
| g. High blood pressure: | Yes | / | No |
| h. Any other heart problem that you have been told about: | Yes | / | No |
| 6. Have you <i>ever had</i> any of the following cardiovascular or heart symptoms? | | | |
| a. Frequent pain or tightness in your chest: | Yes | / | No |
| b. Pain or tightness in your chest during physical activity: | Yes | / | No |
| c. Pain or tightness in your chest that interferes with your job: | Yes | / | No |
| d. In the past 2 years, have you noticed your heart skipping or missing a beat: | Yes | / | No |
| e. Heartburn or indigestion that is not related to eating: | Yes | / | No |
| f. Any other symptoms that you think may be related to heart or circulation problems: | Yes | / | No |
| 7. Do you <i>currently</i> take medication for any of the following problems? | Yes | / | No |
| a. Breathing or lung problems: | Yes | / | No |
| b. Heart trouble: | Yes | / | No |
| c. Blood pressure: | Yes | / | No |
| d. Seizures (fits): | Yes | / | No |
| 8. If you have used a respirator, have you <i>ever had</i> any of the following problems? (If you have never used a respirator, check the following space and go to question 9:) _____ | | | |
| a. Eye irritation: | Yes | / | No |
| b. Skin allergies or rashes: | Yes | / | No |
| c. Anxiety: | Yes | / | No |
| d. General weakness or fatigue: | Yes | / | No |
| e. Any other problem that interferes with your use of a respirator? | Yes | / | No |
| 9. Would you like to talk to the health care professional who will review this questionnaire about your answers? | Yes | / | No |
| Part 3 - Additional Questions for Users of Full-Facepiece Respirators or SCBAs | | | |
| Please circle "Yes" or "No" | | | |
| 1. Have you <i>ever lost</i> vision in either eye (temporarily or permanently)? | Yes | / | No |
| 2. Do you <i>currently</i> have any of these vision problems? | | | |
| a. Need to wear contact lenses: | Yes | / | No |
| b. Need to wear glasses: | Yes | / | No |
| c. Color blindness: | Yes | / | No |
| d. Any other eye or vision problem: | Yes | / | No |
| 3. Have you <i>ever had</i> an injury to your ears, including a broken ear drum? | Yes | / | No |
| 4. Do you <i>currently</i> have any of these hearing problems? | | | |
| a. Difficulty hearing: | Yes | / | No |
| b. Need to wear a hearing aid: | Yes | / | No |
| c. Any other hearing or ear problem: | Yes | / | No |
| 5. Have you <i>ever had</i> a back injury? | Yes | / | No |
| 6. Do you <i>currently</i> have any of the following musculoskeletal problems? | | | |
| a. Weakness in any of your arms, hands, legs, or feet: | Yes | / | No |
| b. Back pain: | Yes | / | No |
| c. Difficulty fully moving your arms and legs: | Yes | / | No |
| d. Pain or stiffness when you lean forward or backward at the waist: | Yes | / | No |
| e. Difficulty fully moving your head up or down: | Yes | / | No |

| | | | |
|--|-----|---|----|
| f. Difficulty fully moving your head side to side: | Yes | / | No |
| g. Difficulty bending at your knees: | Yes | / | No |
| h. Difficulty squatting to the ground: | Yes | / | No |
| i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: | Yes | / | No |
| j. Any other muscle or skeletal problem that interferes with using a respirator: | Yes | / | No |

Part 4 - Discretionary Questions

Complete questions in this part ONLY if your employer's health care provider says they are necessary

| | | | |
|---|-----|---|----|
| 1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen? | Yes | / | No |
| If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you are working under these conditions: | Yes | / | No |
| 2. Have you ever been exposed (at work or home) to hazardous solvents, hazardous airborne chemicals (such as gases, fumes, or dust), OR have you come into skin contact with hazardous chemicals? | Yes | / | No |
| If "yes," name the chemicals, if you know them: _____ | | | |
| 3. Have you ever worked with any of the materials, or under any of the conditions, listed below: | | | |
| a. Asbestos? | Yes | / | No |
| b. Silica (for example, in sandblasting)? | Yes | / | No |
| c. Tungsten/cobalt (for example, grinding or welding this material)? | Yes | / | No |
| d. Beryllium? | Yes | / | No |
| e. Aluminum? | Yes | / | No |
| f. Coal (for example, mining)? | Yes | / | No |
| g. Iron? | Yes | / | No |
| h. Tin? | Yes | / | No |
| i. Dusty environments? | Yes | / | No |
| j. Any other hazardous exposures? | Yes | / | No |
| If "yes," describe these exposures: _____ | | | |
| 4. List any second jobs or side businesses you have: _____ | | | |
| 5. List your previous occupations: _____ | | | |
| 6. List your current and previous hobbies: _____ | | | |
| 7. Have you been in the military services? | Yes | / | No |
| If "yes," were you exposed to biological or chemical agents (either in training or combat)? | Yes | / | No |
| 8. Have you ever worked on a HAZMAT team? | Yes | / | No |
| 9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)? | Yes | / | No |
| If "yes," name the medications if you know them: _____ | | | |
| 10. Will you be using any of the following items with your respirator(s)? | | | |
| a. HEPA filters: | Yes | / | No |
| b. Canisters (for example, gas masks): | Yes | / | No |
| c. Cartridges: | Yes | / | No |
| 11. How often are you expected to use the respirator(s)? | | | |
| a. Escape-only (no rescue): | Yes | / | No |
| b. Emergency rescue only: | Yes | / | No |
| c. Less than 5 hours <i>per week</i> : | Yes | / | No |
| d. Less than 2 hours <i>per day</i> : | Yes | / | No |
| e. 2 to 4 hours per day: | Yes | / | No |
| f. Over 4 hours per day: | | | |
| 12. During the period you are using the respirator(s), is your work effort: | | | |
| a. <i>Light</i> (less than 200 kcal per hour): | Yes | / | No |

If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.
 Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

b. *Moderate* (200 to 350 kcal per hour): Yes / No

If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.
 Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

c. *Heavy* (above 350 kcal per hour): Yes / No

If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.
 Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you are using your respirator? Yes / No

If "yes," describe this protective clothing and/or equipment: _____

14. Will you be working under hot conditions (temperature exceeding 77°F): Yes / No

15. Will you be working under humid conditions: Yes / No

16. Describe the work you will be doing while using your respirator(s): _____

17. Describe any special or hazardous conditions you might encounter when you are using your respirator(s) (for example, confined spaces, life-threatening gases): _____

18. Provide the following information, if you know it, for each toxic substance that you will be exposed to when you are using your respirator(s):

Name of the first toxic substance: _____
 Estimated maximum exposure level per shift: _____
 Duration of exposure per shift: _____

Name of the second toxic substance: _____
 Estimated maximum exposure level per shift: _____
 Duration of exposure per shift: _____

Name of the third toxic substance: _____
 Estimated maximum exposure level per shift: _____
 Duration of exposure per shift: _____

The name of any other toxic substances that you will be exposed to while using your respirator: _____

19. Describe any special responsibilities you will have while using your respirator(s) that may affect the safety and well being of others (for example, rescue, security). _____

AMENDATORY SECTION (Amending WSR 03-20-114, 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 ((~~296-842-150~~) 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.

~~((You must:~~

~~• Conduct fit testing according to all of the following:~~
~~-)) (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. |

| Procedure for Choosing a Respirator for Fit Testing |
|--|
| <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> <ul style="list-style-type: none"> • Ask the employee to observe and comment about the comfort and fit: <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> – 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 <ul style="list-style-type: none"> – Prior to the seal check they must settle the respirator on their face by taking a few slow deep breaths WHILE SLOWLY: <ul style="list-style-type: none"> ■ Moving their head from side-to-side <p>AND</p> <ul style="list-style-type: none"> ■ Up and down. <p>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.</p> <p>7. Before starting the fit test, you must:</p> <ul style="list-style-type: none"> • Describe the fit test including screening procedures, employee responsibilities, and test exercises <p>AND</p> <ul style="list-style-type: none"> • 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:</p> <p>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: <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. 3. Prepare the odor test solution daily as follows: <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> <ol style="list-style-type: none"> 4. Prepare a "test blank" solution as follows: <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. 5. Type or neatly print the following instructions on a card and place it on the table in front of the two test jars: |

| Isoamyl Acetate (Banana Oil) Vapor Test Procedure |
|---|
| <p><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.</i></p> <p><i>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.</i></p> <p><i>Tell the individual conducting the fit test which jar contains banana oil."</i></p> |
| Test Preparations |
| <ol style="list-style-type: none"> 6. Choose an appropriate location to conduct fit testing. <ul style="list-style-type: none"> • Conduct screening and tests in separate well-ventilated rooms. 7. Assemble the fit test enclosure in the room. <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 ((28) 19) to the inside of the test enclosure where the employee can read it. 8. Have organic vapor cartridges or equivalent on hand for each employee's chosen respirator. 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>Note: As an alternative to using the paper towel, you may use an IAA test swab OR ampoule if it has been demonstrated to generate an equivalent test concentration.</p> |
| Screening |
| <ol style="list-style-type: none"> 10. Have the employee, while NOT wearing a respirator, follow the instructions on the card provided. <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 |
| <ol style="list-style-type: none"> 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. 12. Wet the paper towel with 0.75 ml of pure IAA AND fold it in half. |

| Isoamyl Acetate (Banana Oil) Vapor Test Procedure |
|---|
| <p>13. Pass the paper towel to the employee inside the enclosure AND instruct the employee to hang it on the hook at the top of the enclosure.</p> <p>14. Wait two minutes for the IAA vapor to fill the enclosure.</p> <ul style="list-style-type: none"> • While waiting, explain the fit test, including the purpose of the test exercises, the importance of cooperation, and that you must be informed if a banana-like odor is detected during the test • You may also demonstrate the test exercises. <p>15. Have the employee perform the appropriate fit-test exercises in Table 19.</p> <ul style="list-style-type: none"> • If the employee does NOT detect IAA while performing test exercises, the fit test has been PASSED. Proceed as follows: <ul style="list-style-type: none"> – BEFORE leaving the enclosure, have the employee break the respirator seal and inhale. If they detect IAA, the test is valid – When exiting the employee must remove the paper towel and give it to the individual conducting the fit test. This prevents IAA vapor from building up in the enclosure during subsequent tests – The individual conducting the fit test must keep used paper towels in a self-sealing plastic bag to prevent area contamination • If the employee detects IAA during any test exercise, the fit test has FAILED. STOP and have the employee do the following: <ul style="list-style-type: none"> – Quickly return to the selection room to remove the respirator. This avoids decreasing the employee's odor sensitivity – Select another respirator – Repeat screening and testing <ul style="list-style-type: none"> ■ At this stage, if the employee fails the screening part of this procedure, the employee can repeat it AFTER waiting at least five minutes for odor sensitivity to return. |

Table 13

| Saccharin Aerosol Test Procedure |
|--|
| Screening Preparations |
| <p>Important:</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • Taste threshold screening determines whether the employee being tested can detect the taste of saccharin |

| Saccharin Aerosol Test Procedure |
|--|
| Screening Preparations |
| <ul style="list-style-type: none"> – The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the fit test. Sweet foods or drink consumed before the test may make the employee unable to detect saccharin during screening – Nebulizers must be thoroughly rinsed in water and shaken dry: <ul style="list-style-type: none"> ■ Each morning and afternoon <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> ■ At least every four hours. <ul style="list-style-type: none"> • You may use commercially prepared solutions if they meet the requirements in this procedure. <p>1. Obtain a test enclosure (hood) that meets the following specifications:</p> <ul style="list-style-type: none"> • Twelve inches in diameter by fourteen inches tall • A clear front portion • Enough space inside to allow free movement of the head when a respirator is worn • A 3/4 inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth. <p>Note:</p> <ul style="list-style-type: none"> • An enclosure similar to the 3M hood assembly, parts #FT 14 and #FT 15 combined, meets these specifications • This enclosure can also be used for testing. <p>2. Obtain and assemble two clean DeVilbiss Model 40 Inhalation Medication Nebulizers OR equivalent.</p> <p>3. Prepare the screening solution as follows:</p> <ul style="list-style-type: none"> • Dissolve 830.0 milligrams of sodium saccharin USP in 100 ml of warm distilled water <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • IF you have already prepared the fit-test solution, you can make the screening solution by adding 1 ml of this solution to 100 ml of distilled water. <p>4. Add about 1 ml of the screening solution to one of the nebulizers.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one to be used for fit testing. |
| Test Preparations |
| <p>5. Prepare the fit-test solution as follows:</p> <ul style="list-style-type: none"> • Add 83.0 grams of sodium saccharin to 100 ml of warm water. <p>6. Add about 1 ml of the test solution to the second nebulizer.</p> <ul style="list-style-type: none"> • Mark this nebulizer to distinguish it from the one used for screening <p>7. Have particulate filters ready for the employee's chosen respirator or have filtering-facepiece respirators ready.</p> |

| Saccharin Aerosol Test Procedure |
|---|
| Screening Preparations |
| 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> <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> |

| Saccharin Aerosol Test Procedure |
|---|
| Screening Preparations |
| <ul style="list-style-type: none"> • Replenish the aerosol in the hood EVERY 30 seconds using 1/2 the number of squeezes used in Step 16, either 5, 10, or 15 • The employee must report if a sweet taste is detected: <ul style="list-style-type: none"> – If NO saccharin is tasted, the test has been PASSED <ul style="list-style-type: none"> ■ If saccharin is tasted the test has FAILED, have the employee select another respirator AND ■ Repeat screening and testing. |

Table 14

| Bitrex™ Aerosol Test Procedure |
|--|
| <p>Important!</p> <ul style="list-style-type: none"> • This is a qualitative fit-test (QLFT) procedure • Bitrex™ (denatonium benzoate) is routinely used as a taste aversion agent in household liquids that children should not drink and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers • The employee must NOT eat, smoke, chew gum or drink anything but plain water for at least fifteen minutes BEFORE the fit test. |
| Screening Preparations |
| <p>Important!</p> <ul style="list-style-type: none"> • Taste threshold screening determines whether the employee being tested can detect the taste of Bitrex™ • Nebulizers must be thoroughly rinsed in water and shaken dry: <ul style="list-style-type: none"> – Each morning and afternoon OR – At least every four hours. • You may use commercially prepared solutions if they meet the requirements in this procedure. <p>1. Obtain a test enclosure that meets the following specifications:</p> <ul style="list-style-type: none"> • Twelve inches in diameter by fourteen inches tall • A clear front portion • Enough space inside the front to allow free movement of the head when a respirator is worn • 3/4 inch (or 1.9 centimeter) hole to accommodate the nebulizer nozzle. The hole must line up in front of the wearer's nose and mouth. |

| Bitrex™ Aerosol Test Procedure |
|--|
| <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> |
| Screening |
| <p>Important: 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"> • Breath 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: |

| Bitrex™ Aerosol Test Procedure |
|--|
| <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 |

| |
|---|
| <p>Irritant Smoke (Stannic Chloride) Test Procedure</p> <ul style="list-style-type: none"> • 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. |
| <p>Screening AND Test Preparations</p> <p>Important: Sensitivity screening is necessary to determine whether the employee can detect a weak concentration of irritant smoke AND whether any gross facepiece leakage is detected.</p> <ol style="list-style-type: none"> 1. Obtain only stannic chloride (ventilation) smoke tubes, AND an aspirator squeeze bulb OR use a low-flow air pump set to deliver 200 milliliters of air flow per minute. 2. Equip the employee's chosen respirator with P100 series filters if a negative pressure air-purifying respirator will be tested. If a powered air-purifying respirator (PAPR) will be tested equip the respirator with high-efficiency particulate air (HEPA) filters. |
| <p>Screening</p> <p>Important! When performing sensitivity screening checks use only the MINIMUM amount of smoke necessary to elicit a response from the employee.</p> <ol style="list-style-type: none"> 3. Advise the employee that the smoke can be irritating to eyes, lungs, and nasal passages AND instruct the employee to keep eyes closed while exposed. 4. Break both ends of the ventilation smoke tube AND fit a short piece of plastic tubing, for example, two-to-six inches of tygon tubing, over one end to prevent exposure to the sharp end of the tube. Connect the other end to an aspirator bulb or a low-flow air pump set to deliver a flow of 200 ml per minute. 5. While the employee is NOT wearing a respirator, have the employee smell a weak concentration of irritant smoke to become familiar with its irritating properties. <ul style="list-style-type: none"> • Carefully direct a small amount of irritant smoke toward the employee. |
| <p>Test</p> <p>Test 6. Have the employee attach respirator filters, put on, adjust, and seal check the respirator without assistance. The employee must be proficient at these tasks.</p> |

| |
|--|
| <p>Irritant Smoke (Stannic Chloride) Test Procedure</p> <ol style="list-style-type: none"> 7. Remind the employee to keep eyes closed during testing. 8. Direct a stream of irritant smoke toward the respirator's face seal area as follows: <ul style="list-style-type: none"> • Begin at least 12 inches from the facepiece AND move the smoke around the whole perimeter of the mask • Gradually make two more passes around the perimeter of the facepiece, moving to within 6 inches of the respirator • STOP at any time the employee detects smoke in the facepiece. If this occurs a different respirator will need to be chosen and tested, beginning with sensitivity screening. 9. Have the employee perform appropriate fit-test exercises in Table 19 IF the employee has NOT had an involuntary response such as evidence of coughing, flinching, or other response, OR detected smoke in the facepiece. <ul style="list-style-type: none"> • Continue to direct smoke from a distance of 6 inches around the facepiece perimeter <ul style="list-style-type: none"> – If smoke is detected at any time the test has FAILED. A different respirator must be chosen and tested, starting with sensitivity screening – If NO smoke is detected proceed to Step 10. 10. Have the employee remove the respirator AND perform another sensitivity screening check as follows: <ul style="list-style-type: none"> • Continue to use the smoke tube used for fit testing • Carefully direct a SMALL amount of irritant smoke toward the employee <ul style="list-style-type: none"> – The test has been PASSED IF the employee responds to the smoke – The fit test is VOIDED IF the employee does NOT respond to the smoke. |
|--|

Table 16

| |
|---|
| <p>Ambient Aerosol Condensation Nuclei Counter (Portacount™) Test Procedure</p> <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. |
| <p>Test Preparations</p> <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. <p>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:</p> <ul style="list-style-type: none"> • 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 <p>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.</p> <ul style="list-style-type: none"> • If you will use a sampling adapter instead of probed respirators be sure to have the correct type for the respirators chosen. |
| Test |
| <p>5. Properly attach the sampling line to the facepiece probe or sampling adapter.</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • Determine the cause <p>AND</p> |

| |
|--|
| <ul style="list-style-type: none"> • If leakage is due to a poorly fitting facepiece, have the employee: <ul style="list-style-type: none"> – Choose another respirator size or model <p>AND</p> <ul style="list-style-type: none"> – Start again at Step 6. <p>8. Start the fit test cycle.</p> <ul style="list-style-type: none"> • Follow the manufacturer's instructions for operating the test instrument • Have the employee perform the appropriate fit-test exercises in Table 19 <ul style="list-style-type: none"> – The test instrument will automatically stop and calculate the overall fit factor. Use this result to determine whether or not the test is passed <ul style="list-style-type: none"> ■ 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. <p>Note: If the test has failed, have the employee select another respirator model or size following Table 11 AND repeat this procedure.</p> |
|--|

Table 17

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|--|
| Controlled Negative Pressure (CNP) Test Procedure |
| <p>Important!</p> <ul style="list-style-type: none"> • 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 • <u>Instruments used must have a nonadjustable test pressure of 15.0 mm water pressure</u> • 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. <u>Sampling manifolds that replace the filter cartridges are available from the instrument manufacturer, and allow fit testing of an employee's own respirator.</u> |
| Test Preparations |
| <p>1. Make sure the individual conducting the fit test is thoroughly trained to perform this test.</p> <p>2. Obtain a CNP test instrument such as a FitTester 3000™. Make sure:</p> <ul style="list-style-type: none"> • Defaults are set at: <ul style="list-style-type: none"> – -15mm (-0.58 inches) of water test pressure <p>AND</p> <ul style="list-style-type: none"> – A modeled inspiratory flow rate of 53.8 liters per minute |

| Controlled Negative Pressure (CNP) Test Procedure |
|---|
| <ul style="list-style-type: none"> • It has an effective audio warning device that signals when employees fail to hold their breath. <p>Note:</p> <ul style="list-style-type: none"> • 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." <p>3. Obtain facepiece adapters appropriate for each test respirator.</p> <p>Note:</p> <ul style="list-style-type: none"> • Adapters are either a one-piece (for SCBA facepieces), OR two-piece (for dual cartridge facepieces) device providing a manifold and breathing valve system. For positive pressure respirators, you will need to obtain an additional fitting, available from the respirator manufacturer, to convert the facepiece to negative pressure • To obtain adapters, contact the CNP instrument's distributor, Occupational Health Dynamics, OR the respirator manufacturer. |
| Test |
| <p>Important!</p> <ul style="list-style-type: none"> • <u>The respirator must not be adjusted once the fit-test exercises begin. Any adjustment voids the test and the test must be repeated.</u> • 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. <p>4. Explain the test procedure to the employee.</p> <p>5. Train the employee on how to hold a breath for at least ((20)) <u>10</u> seconds.</p> <p>6. Prepare the respirator for the fit test as follows:</p> <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. <p>7. Have the employee put on, adjust, and seal check the respirator <u>without assistance</u>.</p> <p>8. Turn on the instrument AND have the employee stand and perform the fit-test exercises in Table 19.</p> <p>9. ((Interpret the test results:)) <u>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.</u></p> |

| Controlled Negative Pressure (CNP) Test Procedure |
|---|
| <p><u>10. Determine the overall fit factor for each employee by calculating the harmonic mean of the fit-testing as follows:</u></p> $\text{Overall fit factor} = \frac{n}{1/ffE1 + 1/ffE2 + 1/ffE3 \dots + 1/ffEn}$ <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

Important:

- 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

1. Test aerosol.

- Use a particulate, for example, corn oil, polyethylene glycol 400, di-2-ethyl hexyl sebacate, or sodium chloride.

2. Instrumentation.

- Do **ALL** the following:
 - 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
 - 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.

- Do **ALL** the following:
 - Make sure the enclosure is equipped and constructed to effectively:
 - 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.

- Do **ALL** the following:
 - Inspect test respirators regularly for missing parts **AND** damage
 - Keep test respirators in proper working order
 - Make sure in-mask sampling probes are:
 - 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.

Generated Aerosol Test Procedure

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. | | | |
| | Fit-Test Procedures | | |
| Description of Required Fit-Test Exercises | 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 | X | X | |

| Fit-Test Exercises | | | |
|--|---|---|---|
| <ul style="list-style-type: none"> ■ Count backward from 100 ■ Recite a memorized poem or song. | | | |
| <ul style="list-style-type: none"> • Grimace <ul style="list-style-type: none"> – Smile or frown for fifteen seconds. | | X | |
| <ul style="list-style-type: none"> • Bending over <ul style="list-style-type: none"> – Bend over to touch toes while standing. Repeat at a comfortable pace for one minute OR – Jog in place for one minute if the test enclosure, such as a hood, does not permit bending over | X | X | |
| <ul style="list-style-type: none"> • Normal breathing <ul style="list-style-type: none"> – Breathe normally while standing for one minute | X | X | |
| <ul style="list-style-type: none"> • Face forward <ul style="list-style-type: none"> – Premeasurement activity: Stand and breath normally, without talking, <u>for 30 seconds</u> – Measurement position: Face forward while holding breath for 10 seconds | | | X |
| <ul style="list-style-type: none"> • Bending over <ul style="list-style-type: none"> – Premeasurement activity: While standing, bend ((over)) <u>at the waist, as if to touch toes</u> – Measurement position: Hold the bending position with face parallel to the floor while holding breath for 10 seconds | | | X |
| <ul style="list-style-type: none"> • Head shaking <ul style="list-style-type: none"> – Premeasurement activity: Vigorously shake head from side to side for <u>about 3 seconds</u> while shouting ((or making the sound of "BRRRR" loudly)) – Measurement position: Face forward, while holding breath for 10 seconds | | | X |
| <ul style="list-style-type: none"> • Redon-1 <ul style="list-style-type: none"> – Premeasurement activity: <u>Loosen all facepiece straps and remove the respirator completely</u> ((and)), <u>then put it back on</u> – Measurement position: Face forward while holding breath for 10 seconds | | | X |
| <ul style="list-style-type: none"> • Redon-2 <ul style="list-style-type: none"> – Repeat the premeasurement activity and measurement position described in Redon-1 | | | X |

The Rainbow Passage:

"When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow."

AMENDATORY SECTION (Amending WSR 03-20-114, filed 10/1/03, effective 1/1/04)

WAC 296-842-22015 Follow procedures established for cleaning and disinfecting respirators.

~~((You must: •))~~ 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. <ul style="list-style-type: none"> • Discard or repair any defective parts. |
| 2. | Wash components in warm (43°C ((110°F)) (110°F) maximum) water with a mild detergent or with a cleaner recommended by the manufacturer <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> ■ 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 ■ 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)) (110°F) maximum), preferably, running water. <p>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.</p> |
| 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. |

AMENDATORY SECTION (Amending WSR 03-20-114, 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.

~~((You must:~~

•)) 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 <ul style="list-style-type: none"> ◆ If you cannot pass both parts, your respirator is NOT functioning properly, see your supervisor for further instruction. |
| <p>Positive pressure check:</p> <ol style="list-style-type: none"> 1. Remove exhalation valve cover, if removable. |

| User Seal Check Procedure |
|---|
| <p>2. Cover the exhalation valve completely with the palm of your hand WHILE exhaling gently to inflate the facepiece slightly.</p> <p>3. The respirator facepiece should remain inflated (indicating a build-up of positive pressure and NO outward leakage).</p> <ul style="list-style-type: none"> • If you detect NO leakage, replace the exhalation valve cover (if removed), and proceed to conduct the negative pressure check • If you detect evidence of leakage, reposition the respirator (after removing and inspecting it), and try the positive pressure check again. |
| <p>Negative pressure check:</p> <p>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.</p> <ul style="list-style-type: none"> • If you cannot use the palm(s) of your hands to effectively cover the inhalation openings on cartridges or canisters, you may use: <ul style="list-style-type: none"> – Filter seal(s) (if available) <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> – Thin rubber gloves. <p>5. Once the facepiece is collapsed, hold your breath for 10 seconds WHILE keeping the inhalation openings covered.</p> <p>6. The facepiece should remain slightly collapsed (indicating negative pressure and NO inward leakage).</p> <ul style="list-style-type: none"> • If you detect NO evidence of leakage, the tightness of the facepiece is considered adequate, the procedure is completed, and you may now use the respirator • If you detect leakage, reposition the respirator (after removing and inspecting it) and repeat BOTH the positive and negative fit checks. |

AMENDATORY SECTION (Amending WSR 03-20-114, 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 ((~~expected~~)) workplace level of ((~~workplace~~)) respiratory protection ((~~when the~~)) 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 mouth-piece 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.

REPEALER

The following sections of the Washington Administrative Code are repealed:

| | |
|-----------------|---|
| WAC 296-842-105 | Respirator program administrator. |
| WAC 296-842-120 | Written respirator program and recordkeeping. |
| WAC 296-842-130 | Respirator selection. |
| WAC 296-842-140 | Medical evaluations. |
| WAC 296-842-150 | Fit testing. |
| WAC 296-842-160 | Training. |
| WAC 296-842-170 | Maintenance. |
| WAC 296-842-180 | Safe use and removal of respirators. |
| WAC 296-842-190 | Standby requirements for immediately dangerous to life or health (IDLH) conditions. |
| WAC 296-842-200 | Air quality for self-contained breathing apparatus (SCBA) and air-line respirators. |

WAC 296-842-210

Labeling of air-purifying respirator filters, cartridges, and canisters.

WAC 296-842-220

Required procedures for respiratory protection program.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-07329 Vinyl chloride. (1) Scope and application.

(a) This section includes requirements for the control of employee exposure to vinyl chloride (chloroethene), Chemical Abstracts Service Registry No. 75014.

(b) This section applies to the manufacture, reaction, packaging, repackaging, storage, handling or use of vinyl chloride or polyvinyl chloride, but does not apply to the handling or use of fabricated products made of polyvinyl chloride.

(c) This section applies to the transportation of vinyl chloride or polyvinyl chloride except to the extent that the department of transportation may regulate the hazards covered by this section.

(2) Definitions.

(a) "Action level" means a concentration of vinyl chloride of 0.5 ppm averaged over an 8-hour work day.

(b) "Authorized person" means any person specifically authorized by the employer whose duties require him/her to enter a regulated area or any person entering such an area as a designated representative of employees for the purpose of exercising an opportunity to observe monitoring and measuring procedures.

(c) "Director" means the director of department of labor and industries or his/her designated representative.

(d) "Emergency" means any occurrence such as, but not limited to, equipment failure, or operation of a relief device which is likely to, or does, result in massive release of vinyl chloride.

(e) "Fabricated product" means a product made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride resulting in the release of vinyl chloride.

(f) "Hazardous operation" means any operation, procedure, or activity where a release of either vinyl chloride liquid or gas might be expected as a consequence of the operation or because of an accident in the operation, which would result in an employee exposure in excess of the permissible exposure limit.

(g) "Polyvinyl chloride" means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product.

(h) "Vinyl chloride" means vinyl chloride monomer.

(3) Permissible exposure limit.

(a) No employee may be exposed to vinyl chloride at concentrations greater than 1 ppm averaged over any 8-hour period, and

(b) No employee may be exposed to vinyl chloride at concentrations greater than 5 ppm averaged over any period not exceeding 15 minutes.

(c) No employee may be exposed to vinyl chloride by direct contact with liquid vinyl chloride.

(4) Monitoring.

(a) A program of initial monitoring and measurement shall be undertaken in each establishment to determine if there is any employee exposed, without regard to the use of respirators, in excess of the action level.

(b) Where a determination conducted under subdivision (a) of this subsection shows any employee exposures without regard to the use of respirators, in excess of the action level, a program for determining exposures for each such employee shall be established. Such a program:

(i) Shall be repeated at least monthly where any employee is exposed, without regard to the use of respirators, in excess of the permissible exposure limit.

(ii) Shall be repeated not less than quarterly where any employee is exposed, without regard to the use of respirators, in excess of the action level.

(iii) May be discontinued for any employee only when at least two consecutive monitoring determinations, made not less than 5 working days apart, show exposures for that employee at or below the action level.

(c) Whenever there has been a production, process or control change which may result in an increase in the release of vinyl chloride, or the employer has any other reason to suspect that any employee may be exposed in excess of the action level, a determination of employee exposure under subdivision (a) of this subsection shall be performed.

(d) The method of monitoring and measurement shall have an accuracy (with a confidence level of 95 percent) of not less than plus or minus 50 percent from 0.25 through 0.5 ppm, plus or minus 35 percent from over 0.5 ppm through 1.0 ppm, plus or minus 25 percent over 1.0 ppm, (methods meeting these accuracy requirements are available from the director).

(e) Employees or their designated representatives shall be afforded reasonable opportunity to observe the monitoring and measuring required by this subsection.

(5) Regulated area.

(a) A regulated area shall be established where:

(i) Vinyl chloride or polyvinyl chloride is manufactured, reacted, repackaged, stored, handled or used; and

(ii) Vinyl chloride concentrations are in excess of the permissible exposure limit.

(b) Access to regulated areas shall be limited to authorized persons.

(6) Methods of compliance. Employee exposures to vinyl chloride shall be controlled to at or below the permissible exposure limit provided in subsection (3) of this section by engineering, work practice, and personal protective controls as follows:

(a) Feasible engineering and work practice controls shall immediately be used to reduce exposures to at or below the permissible exposure limit.

(b) Wherever feasible engineering and work practice controls which can be instituted immediately are not sufficient to reduce exposures to at or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest practicable level, and shall be supplemented by respiratory protection in accordance with subsection (7) of

this section. A program shall be established and implemented to reduce exposures to at or below the permissible exposure limit, or to the greatest extent feasible, solely by means of engineering and work practice controls, as soon as feasible.

(c) Written plans for such a program shall be developed and furnished upon request for examination and copying to the director. Such plans shall be updated at least every six months.

(7) Respiratory protection.

(a) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section.

(b) Respirator program. The employer must ~~((establish))~~ develop, implement, and maintain a respiratory protection program as required in chapter 296-842 WAC, ~~((except WAC 296-842-13005 and 296-842-14005))~~ Respirators, except for the requirements in WAC 296-842-13005 that address change out of vapor or gas respirator cartridges or canisters.

(c) Respirator selection. ~~((Respirators must be selected from the following table-))~~ The employer must:

(i) Select and provide to employees appropriate respirators as specified in this section and WAC 296-842-13005 in the respirator rule.

(ii) Provide organic vapor cartridges that have a service life of at least one hour when employees use air-purifying respirators in vinyl chloride concentrations up to 10 parts per million (ppm).

(iii) Make sure the following respirators, when selected, are equipped with a canister with a service life of at least four hours when used in vinyl chloride concentrations up to 25 ppm:

(A) Helmet, hood, or full-facepiece PAPRs

OR

(B) Gas masks with a front- or back-mounted canister.

~~((~~**Atmospheric concentration of Vinyl Chloride**~~))~~

~~(i)~~ Not over 10 ppm

~~(ii)~~ Not over 25 ppm

Apparatus

~~Any chemical cartridge-respirator with a vinyl chloride cartridge which provides a service life of at least 1 hour for concentrations of vinyl chloride up to 10 ppm.~~

~~(A) A powered air-purifying respirator with hood, helmet, full or half facepiece, and a canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm, or~~

((Atmospheric concentration of Vinyl Chloride

Apparatus

(iii) Not over 100 ppm

~~(B) Gas mask, front or back mounted canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 ppm.~~

Supplied air respirator demand type, with full facepiece.

(iv) Not over 250 ppm

Type C, supplied air respirator, continuous flow type, with full or half facepiece, helmet or hood.

(v) Not over 3,600 ppm

Combination Type C supplied air respirator, pressure demand type, with full or half facepiece and auxiliary self-contained air supply.

(vi) Unknown, or above 3,600 ppm

Open circuit, self-contained breathing apparatus, pressure demand type, with full facepiece.))

(d) Where air-purifying respirators are used:

(i) Air-purifying canisters or cartridges must be replaced prior to the expiration of their service life or the end of the shift in which they are first used, whichever occurs first, and

(ii) A continuous monitoring and alarm system must be provided when concentrations of vinyl chloride could reasonably exceed the allowable concentrations for the devices in use. Such system shall be used to alert employees when vinyl chloride concentrations exceed the allowable concentrations for the devices in use, and

(iii) Respirators specified for higher concentrations may be used for lower concentration.

(8) Hazardous operations.

(a) Employees engaged in hazardous operations, including entry of vessels to clean polyvinyl chloride residue from vessel walls, shall be provided and required to wear and use:

(i) Respiratory protection in accordance with subsections (3) and (7) of this section; and

(ii) Protective garments to prevent skin contact with liquid vinyl chloride or with polyvinyl chloride residue from vessel walls. The protective garments shall be selected for the operation and its possible exposure conditions.

(b) Protective garments shall be provided clean and dry for each use.

(c) Emergency situations. A written operational plan for emergency situations shall be developed for each facility storing, handling, or otherwise using vinyl chloride as a liquid or compressed gas. Appropriate portions of the plan shall be implemented in the event of an emergency. The plan shall specifically provide that:

(i) Employees engaged in hazardous operations or correcting situations of existing hazardous releases shall be equipped as required in subdivisions (a) and (b) of this subsection;

(ii) Other employees not so equipped shall evacuate the area and not return until conditions are controlled by the methods required in subsection (6) of this section and the emergency is abated.

(9) Training. Each employee engaged in vinyl chloride or polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use.

(a) The program shall include:

(i) The nature of the health hazard from chronic exposure to vinyl chloride including specifically the carcinogenic hazard;

(ii) The specific nature of operations which could result in exposure to vinyl chloride in excess of the permissible limit and necessary protective steps;

(iii) The purpose for, proper use, and limitations of respiratory protective devices;

(iv) The fire hazard and acute toxicity of vinyl chloride, and the necessary protective steps;

(v) The purpose for and a description of the monitoring program;

(vi) The purpose for and a description of, the medical surveillance program;

(vii) Emergency procedures:

(A) Specific information to aid the employee in recognition of conditions which may result in the release of vinyl chloride; and

(B) A review of this standard at the employee's first training and indoctrination program, and annually thereafter.

(b) All materials relating to the program shall be provided upon request to the director.

(10) Medical surveillance. A program of medical surveillance shall be instituted for each employee exposed, without regard to the use of respirators, to vinyl chloride in excess of the action level. The program shall provide each such employee with an opportunity for examinations and tests in accordance with this subsection. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee.

(a) At the time of initial assignment, or upon institution of medical surveillance;

(i) A general physical examination shall be performed with specific attention to detecting enlargement of liver, spleen or kidneys, or dysfunction in these organs, and for abnormalities in skin, connective tissues and the pulmonary system (see Appendix A).

(ii) A medical history shall be taken, including the following topics:

(A) Alcohol intake,

(B) Past history of hepatitis,

(C) Work history and past exposure to potential hepatotoxic agents, including drugs and chemicals,

(D) Past history of blood transfusions, and

(E) Past history of hospitalizations.

(iii) A serum specimen shall be obtained and determinations made of:

- (A) Total bilirubin,
- (B) Alkaline phosphatase,
- (C) Serum glutamic oxalacetic transaminase (SGOT),
- (D) Serum glutamic pyruvic transaminase (SGPT), and
- (E) Gamma glutamyl transpeptidase.

(b) Examinations provided in accordance with this subdivision shall be performed at least:

(i) Every 6 months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer; and

(ii) Annually for all other employees.

(c) Each employee exposed to an emergency shall be afforded appropriate medical surveillance.

(d) A statement of each employee's suitability for continued exposure to vinyl chloride including use of protective equipment and respirators, shall be obtained from the examining physician promptly after any examination. A copy of the physician's statement shall be provided each employee.

(e) If any employee's health would be materially impaired by continued exposure, such employee shall be withdrawn from possible contact with vinyl chloride.

(f) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories licensed under 42 CFR Part 74.

(g) If the examining physician determines that alternative medical examinations to those required by subdivision (a) of this subsection will provide at least equal assurance of detecting medical conditions pertinent to the exposure to vinyl chloride, the employer may accept such alternative examinations as meeting the requirements of subdivision (a) of this subsection, if the employer obtains a statement from the examining physician setting forth the alternative examinations and the rationale for substitution. This statement shall be available upon request for examination and copying to authorized representatives of the director.

(11) Signs and labels.

(a) Entrances to regulated areas shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT AREA AUTHORIZED PERSONNEL
ONLY

(b) Areas containing hazardous operations or where an emergency currently exists shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT IN THIS AREA PROTECTIVE EQUIP-
MENT REQUIRED AUTHORIZED PERSONNEL ONLY

(c) Containers of polyvinyl chloride resin waste from reactors or other waste contaminated with vinyl chloride shall be legibly labeled:

CONTAMINATED WITH VINYL CHLORIDE CANCER-SUSPECT
AGENT

(d) Containers of polyvinyl chloride shall be legibly labeled:

POLYVINYL CHLORIDE (OR TRADE NAME) CONTAINS VINYL
CHLORIDE VINYL CHLORIDE IS A CANCER-SUSPECT AGENT

(e) Containers of vinyl chloride shall be legibly labeled either:

VINYL CHLORIDE EXTREMELY FLAMMABLE GAS UNDER PRES-
SURE CANCER-SUSPECT AGENT

(or)

(f) In accordance with 49 CFR Part 173, Subpart H, with the additional legends:

CANCER-SUSPECT AGENT

Applied near the label or placard.

(g) No statement shall appear on or near any required sign, label or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(12) Records.

(a) All records maintained in accordance with this section shall include the name and Social Security number of each employee where relevant.

(b) Records of required monitoring and measuring and medical records shall be provided upon request to employees, designated representatives, and the director in accordance with chapter 296-802 WAC. These records shall be provided upon request to the director. Authorized personnel rosters shall also be provided upon request to the director.

(i) Monitoring and measuring records shall:

(A) State the date of such monitoring and measuring and the concentrations determined and identify the instruments and methods used;

(B) Include any additional information necessary to determine individual employee exposures where such exposures are determined by means other than individual monitoring of employees; and

(C) Be maintained for not less than 30 years.

(ii) Medical records shall be maintained for the duration of the employment of each employee plus 20 years, or 30 years, whichever is longer.

(c) In the event that the employer ceases to do business and there is no successor to receive and retain his/her records for the prescribed period, these records shall be transmitted by registered mail to the director, and each employee individually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in chapter 296-802 WAC.

(d) Employees or their designated representatives shall be provided access to examine and copy records of required monitoring and measuring.

(e) Former employees shall be provided access to examine and copy required monitoring and measuring records reflecting their own exposures.

(f) Upon written request of any employee, a copy of the medical record of that employee shall be furnished to any physician designated by the employee.

(13) Reports.

(a) Not later than 1 month after the establishment of a regulated area, the following information shall be reported to

the director. Any changes to such information shall be reported within 15 days.

(i) The address and location of each establishment which has one or more regulated areas; and

(ii) The number of employees in each regulated area during normal operations, including maintenance.

(b) Emergencies and the facts obtainable at that time, shall be reported within 24 hours to the director. Upon request of the director, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of similar nature.

(c) Within 10 working days following any monitoring and measuring which discloses that any employee has been exposed, without regard to the use of respirators, in excess of the permissible exposure limit, each such employee shall be notified in writing of the results of the exposure measurement and the steps being taken to reduce the exposure to within the permissible exposure limit.

(14) Appendix A supplementary medical information.

When required tests under subsection (10)(a) of this section show abnormalities, the tests should be repeated as soon as practicable, preferably within 3 to 4 weeks. If tests remain abnormal, consideration should be given to withdrawal of the employee from contact with vinyl chloride, while a more comprehensive examination is made.

Additional tests which may be useful:

(A) For kidney dysfunction: Urine examination for albumin, red blood cells, and exfoliative abnormal cells.

(B) Pulmonary system: Forced vital capacity, forced expiratory volume at 1 second, and chest roentgenogram (posterior-anterior, 14 x 17 inches).

(C) Additional serum tests: Lactic acid dehydrogenase, lactic acid dehydrogenase isoenzyme, protein determination, and protein electrophoresis.

(D) For a more comprehensive examination on repeated abnormal serum tests: Hepatitis B antigen, and liver scanning.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-07336 Acrylonitrile. (1) Scope and application.

(a) This section applies to all occupational exposure to acrylonitrile (AN), Chemical Abstracts Service Registry No. 000107131, except as provided in (b) and (c) of this subsection.

(b) This section does not apply to exposures which result solely from the processing, use, and handling of the following materials:

(i) ABS resins, SAN resins, nitrile barrier resins, solid nitrile elastomers, and acrylic and modacrylic fibers, when these listed materials are in the form of finished polymers, and products fabricated from such finished polymers;

(ii) Materials made from and/or containing AN for which objective data is reasonably relied upon to demonstrate that the material is not capable of releasing AN in airborne concentrations in excess of 1 ppm as an eight-hour time-weighted average, under the expected conditions of process-

ing, use, and handling which will cause the greatest possible release; and

(iii) Solid materials made from and/or containing AN which will not be heated above 170°F during handling, use, or processing.

(c) An employer relying upon exemption under (1)(b)(ii) shall maintain records of the objective data supporting that exemption, and of the basis of the employer's reliance on the data as provided in subsection (17) of this section.

(2) Definitions, as applicable to this section:

(a) "Acrylonitrile" or "AN" - acrylonitrile monomer, chemical formula $CH_2=CHCN$.

(b) "Action level" - a concentration of AN of 1 ppm as an eight-hour time-weighted average.

(c) "Authorized person" - any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the opportunity to observe monitoring procedures under subsection (18) of this section.

(d) "Decontamination" means treatment of materials and surfaces by water washdown, ventilation, or other means, to assure that the materials will not expose employees to airborne concentrations of AN above 1 ppm as an eight-hour time-weighted average.

(e) "Director" - the director of labor and industries, or his authorized representative.

(f) "Emergency" - any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment, which is likely to, or does, result in unexpected exposure to AN in excess of the ceiling limit.

(g) "Liquid AN" means AN monomer in liquid form, and liquid or semiliquid polymer intermediates, including slurries, suspensions, emulsions, and solutions, produced during the polymerization of AN.

(h) "Polyacrylonitrile" or "PAN" - polyacrylonitrile homopolymers or copolymers, except for materials as exempted under subsection (1)(b) of this section.

(3) Permissible exposure limits.

(a) Inhalation.

(i) Time-weighted average limit (TWA). The employer shall assure that no employee is exposed to an airborne concentration of acrylonitrile in excess of two parts acrylonitrile per million parts of air (2 ppm), as an eight-hour time-weighted average.

(ii) Ceiling limit. The employer shall assure that no employee is exposed to an airborne concentration of acrylonitrile in excess of 10 ppm as averaged over any fifteen-minute period during the working day.

(b) Dermal and eye exposure. The employer shall assure that no employee is exposed to skin contact or eye contact with liquid AN or PAN.

(4) Notification of use and emergencies.

(a) Use. Within ten days of the effective date of this standard, or within fifteen days following the introduction of AN into the workplace, every employer shall report, unless he has done so pursuant to the emergency temporary standard, the following information to the director for each such workplace:

(i) The address and location of each workplace in which AN is present;

(ii) A brief description of each process of operation which may result in employee exposure to AN;

(iii) The number of employees engaged in each process or operation who may be exposed to AN and an estimate of the frequency and degree of exposure that occurs; and

(iv) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to AN. Whenever there has been a significant change in the information required by this subsection, the employer shall promptly amend such information previously provided to the director.

(b) Emergencies and remedial action. Emergencies, and the facts obtainable at that time, shall be reported within 24 hours of the initial occurrence to the director. Upon request of the director, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of a similar nature.

(5) Exposure monitoring.

(a) General.

(i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to AN over an eight-hour period.

(ii) For the purposes of this section, employee exposure is that which would occur if the employee were not using a respirator.

(b) Initial monitoring. Each employer who has a place of employment in which AN is present shall monitor each such workplace and work operation to accurately determine the airborne concentrations of AN to which employees may be exposed. Such monitoring may be done on a representative basis, provided that the employer can demonstrate that the determinations are representative of employee exposures.

(c) Frequency.

(i) If the monitoring required by this section reveals employee exposure to be below the action level, the employer may discontinue monitoring for that employee. The employer shall continue these quarterly measurements until at least two consecutive measurements taken at least seven days apart, are below the action level, and thereafter the employer may discontinue monitoring for that employee.

(ii) If the monitoring required by this section reveals employee exposure to be at or above the action level but below the permissible exposure limits, the employer shall repeat such monitoring for each such employee at least quarterly.

(iii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer shall repeat these determinations for each such employee at least monthly. The employer shall continue these monthly measurements until at least two consecutive measurements, taken at least seven days apart, are below the permissible exposure limits, and thereafter the employer shall monitor at least quarterly.

(d) Additional monitoring. Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to AN, or whenever the employer has any other reason to suspect a change which

may result in new or additional exposures to AN, additional monitoring which complies with this subsection shall be conducted.

(e) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limits, the employer shall include in the written notice a statement that the permissible exposure limits were exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(f) Accuracy of measurement. The method of measurement of employee exposures shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for concentrations of AN at or above the permissible exposure limits, and plus or minus 35 percent for concentrations of AN between the action level and the permissible exposure limits.

(g) Weekly survey of operations involving liquid AN. In addition to monitoring of employee exposures to AN as otherwise required by this subsection, the employer shall survey areas of operations involving liquid AN at least weekly to detect points where AN liquid or vapor are being released into the workplace. The survey shall employ an infra-red gas analyzer calibrated for AN, a multipoint gas chromatographic monitor, or comparable system for detection of AN. A listing of levels detected and areas of AN release, as determined from the survey, shall be posted prominently in the workplace, and shall remain posted until the next survey is completed.

(6) Regulated areas.

(a) The employer shall establish regulated areas where AN concentrations are in excess of the permissible exposure limits.

(b) Regulated areas shall be demarcated and segregated from the rest of the workplace, in any manner that minimizes the number of persons who will be exposed to AN.

(c) Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the act or regulations issued pursuant thereto.

(d) The employer shall assure that in the regulated area, food or beverages are not present or consumed, smoking products are not present or used, and cosmetics are not applied, (except that these activities may be conducted in the lunchrooms, change rooms and showers required under subsections (13)(a)-(13)(c) of this section.

(7) Methods of compliance.

(a) Engineering and work practice controls.

(i) The employer shall institute engineering or work practice controls to reduce and maintain employee exposures to AN, to or below the permissible exposure limits, except to the extent that the employer establishes that such controls are not feasible.

(ii) Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limits, the employer shall nonetheless use them to reduce exposures to the lowest levels achievable by these controls and shall sup-

plement them by the use of respiratory protection which complies with the requirements of subsection (8) of this section.

(b) Compliance program.

(i) The employer shall establish and implement a written program to reduce employee exposures to or below the permissible exposure limits solely by means of engineering and work practice controls, as required by subsection (7)(a) of this section.

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation or process resulting in employee exposure to AN above the permissible exposure limits;

(B) Engineering plans and other studies used to determine the controls for each process;

(C) A report of the technology considered in meeting the permissible exposure limits;

(D) A detailed schedule for the implementation of engineering or work practice controls; and

(E) Other relevant information.

(iii) The employer shall complete the steps set forth in the compliance program by the dates in the schedule.

(iv) Written plans for such a program shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, or any affected employee or representative.

(v) The plans required by this subsection shall be revised and updated at least every six months to reflect the current status of the program.

(8) Respiratory protection.

(a) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering and work-practice controls;

(ii) Work operations, such as maintenance and repair activities or reactor cleaning, for which the employer establishes that engineering and work-practice controls are not feasible;

(iii) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limits;

(iv) In emergencies.

(b) Respirator program.

~~(The)~~ Employers must develop, implement and maintain a respiratory protection program in accordance with chapter 296-842 WAC, ((except WAC 296-842-13005 and 296-842-14005)) Respirators.

(c) Respirator selection. The employer must:

(i) Select ((the)) and provide to employees appropriate respirators ((from Table I of this subsection)) by following the requirements in this section and WAC 296-842-13005 in the respirator rule.

~~((TABLE I~~

~~RESPIRATORY PROTECTION FOR ACRYLONITRILE (AN)~~

| Concentration of AN or Condition of Use | | Respirator Type | |
|--|---|----------------------------|---|
| (a) | Less than or equal to 25 x permissible exposure limits. | (i) | Any Type C supplied air respirator. |
| (b) | Less than or equal to 100 x permissible exposure limits. | (i) | Any supplied air respirator with full facepiece; or |
| | | (ii) | Any self-contained breathing apparatus with full facepiece. |
| (c) | Less than or equal to 250 x permissible exposure limits | (i) | Supplied air respirator in positive pressure mode with full facepiece, helmet, hood, or suit. |
| (d) | Greater than 250 x permissible exposure limits. | (i) | Supplied air respirator with full facepiece and an auxiliary self-contained air supply, operated in pressure-demand mode; or |
| | | (ii) | Open circuit self-contained breathing apparatus with full facepiece in positive pressure mode. |
| (e) | Emergency entry into unknown concentration or firefighting | (i) | Any self-contained breathing apparatus with full facepiece in positive pressure mode. |
| (f) | Escape. | (i) | Any organic vapor gas mask; or |
| | | (ii) | Any self-contained breathing.) |

((ii) Provide to employees, for escape, any organic vapor air-purifying respirator or any self-contained breathing apparatus (SCBA) that meets the selection requirements of WAC 296-842-13005 in the respirator rule.

~~(9) Emergency situations.~~

~~(a) Written plans.~~

~~(i) A written plan for emergency situations shall be developed for each workplace where AN is present. Appropriate portions of the plan shall be implemented in the event of an emergency.~~

~~(ii) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped as required in subsection (8) of this section until the emergency is abated.~~

~~(b) Alerting employees.~~

(i) Where there is the possibility of employee exposure to AN in excess of the ceiling limit due to the occurrence of an emergency, a general alarm shall be installed and maintained to promptly alert employees of such occurrences.

(ii) Employees not engaged in correcting the emergency shall be evacuated from the area and shall not be permitted to return until the emergency is abated.

(10) Protective clothing and equipment.

(a) Provision and use. Where eye or skin contact with liquid AN or PAN may occur, the employer shall provide at no cost to the employee, and assure that employees wear, appropriate protective clothing or other equipment in accordance with WAC 296-800-160 to protect any area of the body which may come in contact with liquid AN or PAN.

(b) Cleaning and replacement.

(i) The employer shall clean, launder, maintain, or replace protective clothing and equipment required by this subsection, as needed to maintain their effectiveness. In addition, the employer shall provide clean protective clothing and equipment at least weekly to each affected employee.

(ii) The employer shall assure that impermeable protective clothing which contacts or is likely to have contacted liquid AN shall be decontaminated before being removed by the employee.

(iii) The employer shall assure that AN- or PAN-contaminated protective clothing and equipment is placed and stored in closable containers which prevent dispersion of the AN or PAN outside the container.

(iv) The employer shall assure that an employee whose nonimpermeable clothing becomes wetted with liquid AN shall immediately remove that clothing and proceed to shower. The clothing shall be decontaminated before it is removed from the regulated area.

(v) The employer shall assure that no employee removes AN- or PAN-contaminated protective equipment or clothing from the change room, except for those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

(vi) The employer shall inform any person who launders or cleans AN- or PAN-contaminated protective clothing or equipment of the potentially harmful effects of exposure to AN.

(vii) The employer shall assure that containers of contaminated protective clothing and equipment which are to be removed from the workplace for any reason are labeled in accordance with subsection (16)(c)(ii) of this section, and that such labels remain affixed when such containers leave the employer's workplace.

(11) Housekeeping.

(a) All surfaces shall be maintained free of accumulations of liquid AN and of PAN.

(b) For operations involving liquid AN, the employer shall institute a program for detecting leaks and spills of liquid AN, including regular visual inspections.

(c) Where spills of liquid AN are detected, the employer shall assure that surfaces contacted by the liquid AN are decontaminated. Employees not engaged in decontamination activities shall leave the area of the spill, and shall not be permitted in the area until decontamination is completed.

(d) Liquids. Where AN is present in a liquid form, or as a resultant vapor, all containers or vessels containing AN shall be enclosed to the maximum extent feasible and tightly covered when not in use, with adequate provision made to avoid any resulting potential explosion hazard.

(e) Surfaces.

(i) Dry sweeping and the use of compressed air for the cleaning of floors and other surfaces where AN and PAN are found is prohibited.

(ii) Where vacuuming methods are selected, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that AN is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect AN may not be used for other cleaning purposes and shall be labeled as prescribed by subsection (16)(c)(ii) of this section.

(ii) Cleaning of floors and other contaminated surfaces may not be performed by washing down with a hose, unless a fine spray has first been laid down.

(12) Waste disposal. AN and PAN waste, scrap, debris, bags, containers or equipment, shall be disposed of in sealed bags or other closed containers which prevent dispersion of AN outside the container, and labeled as prescribed in subsection (16)(c)(ii) of this section.

(13) Hygiene facilities and practices. Where employees are exposed to airborne concentrations of AN above the permissible exposure limits, or where employees are required to wear protective clothing or equipment pursuant to subsection (11) of this section, or where otherwise found to be appropriate, the facilities required by WAC 296-800-230 shall be provided by the employer for the use of those employees, and the employer shall assure that the employees use the facilities provided. In addition, the following facilities or requirements are mandated.

(a) Change rooms. The employer shall provide clean change rooms in accordance with WAC 296-800-230.

(b) Showers.

(i) The employer shall provide shower facilities in accordance with WAC 296-800-230.

(ii) In addition, the employer shall also assure that employees exposed to liquid AN and PAN shower at the end of the work shift.

(iii) The employer shall assure that, in the event of skin or eye exposure to liquid AN, the affected employee shall shower immediately to minimize the danger of skin absorption.

(c) Lunchrooms.

(i) Whenever food or beverages are consumed in the workplace, the employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees exposed to AN above the permissible exposure limits.

(ii) In addition, the employer shall also assure that employees exposed to AN above the permissible exposure limits wash their hands and face prior to eating.

(14) Medical surveillance.

(a) General.

(i) The employer shall institute a program of medical surveillance for each employee who is or will be exposed to AN above the action level. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this subsection.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(b) Initial examinations. At the time of initial assignment, or upon institution of the medical surveillance program, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and medical history with special attention to skin, respiratory, and gastrointestinal systems, and those nonspecific symptoms, such as headache, nausea, vomiting, dizziness, weakness, or other central nervous system dysfunctions that may be associated with acute or chronic exposure to AN.

(ii) A physical examination giving particular attention to central nervous system, gastrointestinal system, respiratory system, skin and thyroid.

(iii) A 14" x 17" posteroanterior chest X ray.

(iv) Further tests of the intestinal tract, including fecal occult blood screening, and proctosigmoidoscopy, for all workers 40 years of age or older, and for any other affected employees for whom, in the opinion of the physician, such testing is appropriate.

(c) Periodic examinations.

(i) The employer shall provide examinations specified in this subsection at least annually for all employees specified in subsection (14)(a) of this section.

(ii) If an employee has not had the examinations prescribed in subsection (14)(b) of this section within six months of termination of employment, the employer shall make such examination available to the employee upon such termination.

(d) Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to AN, the employer shall provide appropriate examination and emergency medical treatment.

(e) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level;

(iv) The employee's anticipated or estimated exposure level (for preplacement examinations or in cases of exposure due to an emergency);

(v) A description of any personal protective equipment used or to be used; and

(vi) Information from previous medical examinations of the affected employee, which is not otherwise available to the examining physician.

(f) Physician's written opinion.

(i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examination and test performed;

(B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of the employee's health from exposure to AN;

(C) Any recommended limitations upon the employee's exposure to AN or upon the use of protective clothing and equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to AN.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(15) Employee information and training.

(a) Training program.

(i) The employer shall institute a training program for all employees where there is occupational exposure to AN and shall assure their participation in the training program.

(ii) The training program shall be provided at the time of initial assignment, or upon institution of the training program, and at least annually thereafter, and the employer shall assure that each employee is informed of the following:

(A) The information contained in Appendices A, B and C;

(B) The quantity, location, manner of use, release or storage of AN and the specific nature of operations which could result in exposure to AN, as well as any necessary protective steps;

(C) The purpose, proper use, and limitations of respirators and protective clothing;

(D) The purpose and a description of the medical surveillance program required by subsection (14) of this section;

(E) The emergency procedures developed, as required by subsection (9) of this section; and

(F) The engineering and work practice controls, their function and the employee's relationship thereto; and

(G) A review of this standard.

(b) Access to training materials.

(i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(16) Signs and labels.

(a) General.

(i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign or label, required by this subsection, which contradicts or detracts from such effects of the required sign or label.

(b) Signs.

(i) The employer shall post signs to clearly indicate all workplaces where AN concentrations exceed the permissible exposure limits. The signs shall bear the following legend:

DANGER
ACRYLONITRILE (AN)
CANCER HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS REQUIRED

(ii) The employer shall assure that signs required by this subsection are illuminated and cleaned as necessary so that the legend is readily visible.

(c) Labels.

(i) The employer shall assure that precautionary labels are affixed to all containers of AN, and to containers of PAN and products fabricated from PAN, except for those materials for which objective data is provided as to the conditions specified in subsection (1)(b) of this section. The employer shall assure that the labels remain affixed when the AN or PAN are sold, distributed or otherwise leave the employer's workplace.

(ii) The employer shall assure that the precautionary labels required by this subsection are readily visible and legible. The labels shall bear the following legend:

DANGER
CONTAINS ACRYLONITRILE (AN)
CANCER HAZARD

(17) Recordkeeping.

(a) Objective data for exempted operations.

(i) Where the processing, use, and handling of products fabricated from PAN are exempted pursuant to subsection (1)(b) of this section, the employer shall establish and maintain an accurate record of objective data reasonably relied upon in support of the exemption.

(ii) This record shall include the following information:

(A) The relevant condition in subsection (1)(b) upon which exemption is based;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and/or analysis of the material for the release of AN;

(D) A description of the operation exempted and how the data supports the exemption; and

(E) Other data relevant to the operations, materials, and processing covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(b) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required by subsection (5) of this section.

(ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used and the data relied upon to establish that the methods

used meet the accuracy and precision requirements of subsection (5)(f) of this section;

(C) Type of respiratory protective devices worn, if any; and

(D) Name, Social Security number and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(c) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (14) of this section.

(ii) This record shall include:

(A) A copy of the physicians' written opinions;

(B) Any employee medical complaints related to exposure to AN;

(C) A copy of the information provided to the physician as required by subsection (14)(f) of this section; and

(D) A copy of the employee's medical and work history.

(iii) The employer shall assure that this record be maintained for at least forty years or for the duration of employment plus twenty years, whichever is longer.

(d) Availability.

(i) The employer shall assure that all records required to be maintained by this section be made available upon request to the director for examination and copying.

(ii) Records required by subdivisions (a) through (c) of this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with chapter 296-802 WAC. Records required by subdivision (a) of this section shall be provided in the same manner as exposure monitoring records.

(iii) The employer shall assure that employee medical records required to be maintained by this section, be made available, upon request, for examination and copying, to the affected employee or former employee, or to a physician designated by the affected employee, former employee, or designated representative.

(e) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained pursuant to this section, the employer shall transmit these records to the director.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in chapter 296-802 WAC.

(18) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to AN conducted pursuant to subsection (5) of this section.

(b) Observation procedures.

(i) Whenever observation of the monitoring of employee exposure to AN requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled:

(A) To receive an explanation of the measurement procedures;

(B) To observe all steps related to the measurement of airborne concentrations of AN performed at the place of exposure; and

(C) To record the results obtained.

(19) Appendices. The information contained in the appendices is not intended, by itself, to create any additional obligation not otherwise imposed, or to detract from any obligation.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-07342 1,2-Dibromo-3-chloropropane.

(1) Scope and application.

(a) This section applies to occupational exposure to 1,2-dibromo-3-chloropropane (DBCP).

(b) This section does not apply to:

(i) Exposure to DBCP which results solely from the application and use of DBCP as a pesticide; or

(ii) The storage, transportation, distribution or sale of DBCP in intact containers sealed in such a manner as to prevent exposure to DBCP vapors or liquids, except for the requirements of subsections (11), (16) and (17) of this section.

(2) Definitions applicable to this section:

(a) "Authorized person" - any person specifically authorized by the employer and whose duties require the person to be present in areas where DBCP is present; and any person entering this area as a designated representative of employees exercising an opportunity to observe employee exposure monitoring.

(b) "DBCP" - 1,2-dibromo-3-chloropropane, Chemical Abstracts Service Registry Number 96-12-8, and includes all forms of DBCP.

(c) "Director" - the director of labor and industries, or his authorized representative.

(d) "Emergency" - any occurrence such as, but not limited to equipment failure, rupture of containers, or failure of control equipment which may, or does, result in unexpected release of DBCP.

(3) Permissible exposure limits.

(a) Inhalation.

(i) Time-weighted average limit (TWA). The employer shall assure that no employee is exposed to an airborne concentration in excess of 1 part DBCP per billion part of air (ppb) as an eight-hour time-weighted average.

(ii) Ceiling limit. The employer shall assure that no employee is exposed to an airborne concentration in excess

of 5 parts DBCP per billion parts of air (ppb) as averaged over any 15 minutes during the working day.

(b) Dermal and eye exposure. The employer shall assure that no employee is exposed to eye or skin contact with DBCP.

(4) Notification of use. Within ten days of the effective date of this section or within ten days following the introduction of DBCP into the workplace, every employer who has a workplace where DBCP is present shall report the following information to the director for each such workplace:

(a) The address and location of each workplace in which DBCP is present;

(b) A brief description of each process or operation which may result in employee exposure to DBCP;

(c) The number of employees engaged in each process or operation who may be exposed to DBCP and an estimate of the frequency and degree of exposure that occurs;

(d) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to DBCP.

(5) Regulated areas. The employer shall establish, within each place of employment, regulated areas wherever DBCP concentrations are in excess of the permissible exposure limit.

(a) The employer shall limit access to regulated areas to authorized persons.

(b) All employees entering or working in a regulated area shall wear respiratory protection in accordance with Table I.

(6) Exposure monitoring.

(a) General. Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to DBCP over an eight-hour period. (For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.)

(b) Initial. Each employer who has a place of employment in which DBCP is present shall monitor each workplace and work operation to accurately determine the airborne concentrations of DBCP to which employees may be exposed.

(c) Frequency.

(i) If the monitoring required by this section reveals employee exposures to be below the permissible exposure limits, the employer shall repeat these determinations at least quarterly.

(ii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer shall repeat these determinations for each such employee at least monthly. The employer shall continue these monthly determinations until at least two consecutive measurements, taken at least seven days apart, are below the permissible exposure limit, thereafter the employer shall monitor at least quarterly.

(d) Additional. Whenever there has been a production process, control or personnel change which may result in any new or additional exposure to DBCP, or whenever the employer has any other reason to suspect a change which may result in new or additional exposure to DBCP, additional monitoring which complies with subsection (6) shall be conducted.

(e) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of results which represent the employee's exposure.

(ii) Whenever the results indicate that employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(f) Accuracy of measurement. The method of measurement shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for concentrations of DBCP at or above the permissible exposure limits.

(7) Methods of compliance.

(a) Priority of compliance methods. The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to DBCP at or below the permissible exposure limit, except to the extent that the employer establishes that such controls are not feasible. Where feasible engineering and work practice controls are not sufficient to reduce employee exposures to within the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls, and shall supplement them by use of respiratory protection.

(b) Compliance program.

(i) The employer shall establish and implement a written program to reduce employee exposure to DBCP to or below the permissible exposure limit solely by means of engineering and work practice controls as required by this section.

(ii) The written program shall include a detailed schedule for development and implementation of the engineering and work practice controls. These plans shall be revised at least every six months to reflect the current status of the program.

(iii) Written plans for these compliance programs shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, and any affected employee or designated representative of employees.

(iv) The employer shall institute and maintain at least the controls described in his most recent written compliance program.

(8) Respiratory protection.

(a) General. For employees who are required to use respirators under this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) Period necessary to install or implement feasible engineering and work-practice controls;

(ii) Maintenance and repair activities for which engineering and work-practice controls are not feasible;

(iii) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limit;

(iv) Emergencies.

(b) The employer must establish, implement, and maintain a respiratory protection program as required by chapter

296-842 WAC, ~~((except WAC 296-842-13005 and 296-842-14005))~~ Respirators.

(c) Respirator selection. The employer must ~~((select the appropriate respirator from Table I of this subsection));~~

(i) Select and provide to employees appropriate respirators according to this chapter and WAC 296-842-13005 in the respirator rule.

(ii) Provide employees with one of the following respirator options to use for entry into, or escape from, unknown DBCP concentrations:

(A) A combination respirator that includes a full-face-piece air-line respirator operated in a pressure-demand or other positive-pressure mode or continuous-flow mode and an auxiliary self-contained breathing apparatus (SCBA) operated in a pressure-demand or positive-pressure mode;

OR

(B) A full-facepiece SCBA operated in a pressure-demand or other positive-pressure mode.

~~((TABLE I~~

~~RESPIRATORY PROTECTION FOR DBCP~~

| Concentration Not Greater Than | | Respirator Type | |
|---|---|----------------------------|---|
| (a) | 10 ppb: | (i) | Any supplied-air respirator. |
| | | (ii) | Any self-contained breathing apparatus. |
| (b) | 50 ppb: | (i) | Any supplied-air respirator with full facepiece, helmet or hood. |
| | | (ii) | Any self-contained breathing apparatus with full facepiece. |
| (c) | 250 ppb: | (i) | A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode. |
| (d) | 500 ppb: | (i) | A Type C supplied-air respirator with full face-piece operated in pressure-demand mode with full facepiece. |
| (e) | Greater than 500 ppb or entry into unknown concentrations: | (i) | A combination respirator which includes a Type C supplied-air respirator with full facepiece operated in pressure-demand mode and an auxiliary self-contained breathing apparatus. |
| | | (ii) | A self-contained breathing apparatus with full facepiece operated in pressure-demand mode. |

~~((TABLE I~~

~~RESPIRATORY PROTECTION FOR DBCP~~

| Concentration Not Greater Than | Respirator Type |
|---|---|
| (f) Fire fighting: | (i) A self-contained breathing apparatus with full facepiece operated in pressure-demand mode.)) |

- (9) Reserved.
- (10) Emergency situations.
 - (a) Written plans.
 - (i) A written plan for emergency situations shall be developed for each workplace in which DBCP is present.
 - (ii) Appropriate portions of the plan shall be implemented in the event of an emergency.
 - (b) Employees engaged in correcting conditions shall be equipped as required in subsection (11) of this section until the emergency is abated.
 - (c) Evacuation. Employees not engaged in correcting the emergency shall be removed and restricted from the area and normal operations in the affected area shall not be resumed until the emergency is abated.
 - (d) Alerting employees. Where there is a possibility of employee exposure to DBCP due to the occurrence of an emergency, a general alarm shall be installed and maintained to promptly alert employees of such occurrences.
 - (e) Medical surveillance. For any employee exposed to DBCP in an emergency situation, the employer shall provide medical surveillance in accordance with subsection (14) of this section.
 - (f) Exposure monitoring.
 - (i) Following an emergency, the employer shall conduct monitoring which complies with subsection (6) of this section.
 - (ii) In workplaces not normally subject to periodic monitoring, the employer may terminate monitoring when two consecutive measurements indicate exposures below the permissible exposure limit.
- (11) Protective clothing and equipment.
 - (a) Provision and use. Where eye or skin contact with liquid or solid DBCP may occur, employers shall provide at no cost to the employee, and assure that employees wear impermeable protective clothing and equipment in accordance with WAC 296-800-160 to protect the area of the body which may come in contact with DBCP.
 - (b) Cleaning and replacement.
 - (i) The employer shall clean, launder, maintain, or replace protective clothing and equipment required by this subsection to maintain their effectiveness. In addition, the employer shall provide clean protective clothing and equipment at least daily to each affected employee.
 - (ii) Removal and storage.
 - (A) The employer shall assure that employees remove DBCP contaminated work clothing only in change rooms provided in accordance with subsection (13) of this section.
 - (B) The employer shall assure that employees promptly remove any protective clothing and equipment which becomes contaminated with DBCP-containing liquids and

solids. This clothing shall not be reworn until the DBCP has been removed from the clothing or equipment.

(C) The employer shall assure that no employee takes DBCP contaminated protective devices and work clothing out of the change room, except those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

(ii) The employer shall assure that DBCP-contaminated protective work clothing and equipment is placed and stored in closed containers which prevent dispersion of DBCP outside the container.

(iv) The employer shall inform any person who launders or cleans DBCP-contaminated protective clothing or equipment of the potentially harmful effects of exposure to DBCP.

(v) The employer shall assure that the containers of contaminated protective clothing and equipment which are to be removed from the workplace for any reason are labeled in accordance with subsection (16)(c) of this section.

(vi) The employer shall prohibit the removal of DBCP from protective clothing and equipment by blowing or shaking.

(12) Housekeeping.

(a) Surfaces.

(i) All surfaces shall be maintained free of accumulations of DBCP.

(ii) Dry sweeping and the use of air for the cleaning of floors and other surfaces where DBCP dust or liquids are found is prohibited.

(iii) Where vacuuming methods are selected, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that DBCP is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect DBCP may not be used for other cleaning purposes and shall be labeled as prescribed by subsection (16)(c) of this section.

(iv) Cleaning of floors and other contaminated surfaces may not be performed by washing down with a hose, unless a fine spray has first been laid down.

(b) Liquids. Where DBCP is present in a liquid form, or as a resultant vapor, all containers or vessels containing DBCP shall be enclosed to the maximum extent feasible and tightly covered when not in use.

(c) Waste disposal. DBCP waste, scrap, debris, bags, containers or equipment, shall be disposed in sealed bags or other closed containers which prevent dispersion of DBCP outside the container.

(13) Hygiene facilities and practices.

(a) Change rooms. The employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with subsections (8), (9) and (11) of this section.

(b) Showers.

(i) The employer shall assure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer shall assure that employees whose skin becomes contaminated with DBCP-containing liquids or solids immediately wash or shower to remove any DBCP from the skin.

(iii) The employer shall provide shower facilities in accordance with WAC 296-800-230.

(c) Lunchrooms. The employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(d) Lavatories.

(i) The employer shall assure that employees working in the regulated area remove protective clothing and wash their hands and face prior to eating.

(ii) The employer shall provide a sufficient number of lavatory facilities which comply with WAC 296-800-230.

(e) Prohibition of activities in regulated areas. The employer shall assure that, in regulated areas, food or beverages are not present or consumed, smoking products and implements are not present or used, and cosmetics are not present or applied.

(14) Medical surveillance.

(a) General. The employer shall institute a program of medical surveillance for each employee who is or will be exposed, without regard to the use of respirators, to DBCP. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this subsection. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(b) Frequency and content. At the time of initial assignment, annually thereafter, and whenever exposure to DBCP occurs, the employer shall provide a medical examination for employees who work in regulated areas, which includes at least the following:

(i) A complete medical and occupational history with emphasis on reproductive history.

(ii) A complete physical examination with emphasis on the genito-urinary tract, testicle size, and body habitus including the following tests:

(A) Sperm count;

(B) Complete urinalysis (U/A);

(C) Complete blood count; and

(D) Thyroid profile.

(iii) A serum specimen shall be obtained and the following determinations made by radioimmunoassay techniques utilizing National Institutes of Health (NIH) specific antigen or one of equivalent sensitivity:

(A) Serum multiphasic analysis (SMA 12);

(B) Serum follicle stimulating hormone (FSH);

(C) Serum luteinizing hormone (LH); and

(D) Serum estrogen (females).

(iv) Any other tests deemed appropriate by the examining physician.

(c) Additional examinations. If the employee for any reason develops signs or symptoms commonly associated with exposure to DBCP, the employer shall provide the employee with a medical examination which shall include those elements considered appropriate by the examining physician.

(d) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The level of DBCP to which the employee is exposed; and

(iv) A description of any personal protective equipment used or to be used.

(e) Physician's written opinion.

(i) For each examination under this section, the employer shall obtain and provide the employee with a written opinion from the examining physician which shall include:

(A) The results of the medical tests performed;

(B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of health from exposure to DBCP;

(C) Any recommended limitations upon the employee's exposure to DBCP or upon the use of protective clothing and equipment such as respirators; and

(D) A statement that the employee was informed by the physician of the results of the medical examination, and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to DBCP.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(f) Emergency situations. If the employee is exposed to DBCP in an emergency situation, the employer shall provide the employee with a sperm count test as soon as practicable, or, if the employee is unable to produce a semen specimen, the hormone tests contained in subsection (14)(b) of this section. The employer shall provide these same tests three months later.

(15) Employee information and training.

(a) Training program.

(i) Within thirty days of the effective date of this standard, the employer shall institute a training program for all employees who may be exposed to DBCP and shall assure their participation in such training program.

(ii) The employer shall assure that each employee is informed of the following:

(A) The information contained in Appendices A, B and C;

(B) The quantity, location, manner of use, release or storage of DBCP and the specific nature of operations which could result in exposure to DBCP as well as any necessary protective steps;

(C) The purpose, proper use, limitations, and other training requirements covering respiratory protection as required in chapter 296-62 WAC, Part E;

(D) The purpose and description of the medical surveillance program required by subsection (14) of this section; and

(E) A review of this standard.

(b) Access to training materials.

(i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(16) Signs and labels.

(a) General.

(i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to or in combination with, signs and labels required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this subsection which contradicts or detracts from the required sign or label.

(b) Signs.

(i) The employer shall post signs to clearly indicate all work areas where DBCP may be present. These signs shall bear the legend:

DANGER

1,2-Dibromo-3-chloropropane

(Insert appropriate trade or common names)

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

(ii) Where airborne concentrations of DBCP exceed the permissible exposure limits, the signs shall bear the additional legend:

RESPIRATOR REQUIRED

(c) Labels.

(i) The employer shall assure that precautionary labels are affixed to all containers of DBCP and of products containing DBCP, and that the labels remain affixed when the DBCP or products containing DBCP are sold, distributed, or otherwise leave the employer's workplace. Where DBCP or products containing DBCP are sold, distributed or otherwise leave the employer's workplace bearing appropriate labels required by EPA under the regulations in 40 CFR Part 162, the labels required by this subsection need not be affixed.

(ii) The employer shall assure that the precautionary labels required by this subsection are readily visible and legible. The labels shall bear the following legend:

DANGER

1,2-Dibromo-3-chloropropane

CANCER HAZARD

(17) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required by subsection (6) of this section.

(ii) This record shall include:

(A) The dates, number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used;

(C) Type of respiratory worn, if any; and

(D) Name, Social Security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(ii) The employer shall maintain this record for at least forty years or the duration of employment plus twenty years, whichever is longer.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by subsection (14) of this section.

(ii) This record shall include:

(A) The name and Social Security number of the employee;

(B) A copy of the physician's written opinion;

(C) Any employee medical complaints related to exposure to DBCP;

(D) A copy of the information provided the physician as required by subsection (14)(c) of this section; and

(E) A copy of the employee's medical and work history.

(ii) The employer shall maintain this record for at least forty years or the duration of employment plus twenty years, whichever is longer.

(c) Availability.

(i) The employer shall assure that all records required to be maintained by this section be made available upon request to the director for examination and copying.

(ii) Employee exposure monitoring records and employee medical records required by this subsection shall be provided upon request to employees' designated representatives and the assistant director in accordance with chapter 296-802 WAC.

(d) Transfer of records.

(i) If the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section for the prescribed period.

(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall transmit these records by mail to the director.

(iii) At the expiration of the retention period for the records required to be maintained under this section, the employer shall transmit these records by mail to the director.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in chapter 296-802 WAC.

(18) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to DBCP conducted under subsection (6) of this section.

(b) Observation procedures.

(i) Whenever observation of the measuring or monitoring of employee exposure to DBCP requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such

clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring or measurement, observers shall be entitled to:

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the measurement of airborne concentrations of DBCP performed at the place of exposure; and

(C) Record the results obtained.

(19) Appendices. The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-07413 Respirator protection. (1) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls when employee exposure levels exceed the PEL;

(b) Maintenance and repair activities, and brief or intermittent operations, where employee exposures exceed the PEL and engineering and work-practice controls are not feasible or are not required;

(c) Activities in regulated areas as specified in WAC 296-62-07409;

(d) Work operations for which the employer has implemented all feasible engineering and work-practice controls and such controls are not sufficient to reduce employee exposures to or below the PEL;

(e) Work operations for which an employee who is exposed to cadmium at or above the action level, and the employee requests a respirator;

(f) Work operations for which an employee is exposed above the PEL and engineering controls are not required by WAC 296-62-07411 (1)(b); and

(g) Emergencies.

(2) Respirator program.

(a) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, (~~except WAC 296-842-13005 and 296-842-14005~~) Respirators.

(b) No employees must use a respirator if, based on their recent medical examination, the examining physician determines that they will be unable to continue to function normally while using a respirator. If the physician determines that the employee must be limited in, or removed from, their current job because of their inability to use a respirator, the limitation or removal must be in accordance with WAC 296-62-07423 (11) and (12).

(c) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination as required by WAC

296-62-07423 (6)(b) to determine if the employee can use a respirator while performing the required duties.

(3) Respirator selection. The employer must:

(a) (~~The employer must~~) Select and provide the appropriate respirator ((from Table 2 of this section)) as specified in this section and WAC 296-842-13005, found in the respirator rule.

(i) Provide employees with full-facepiece respirators when they experience eye irritation.

(ii) Make sure high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 series filters are provided for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

~~((Table 2. —Respiratory Protection for Cadmium~~

| Airborne concentration or condition of use^a | Required respirator type ^b |
|---|---|
| 10 x or less | A half mask, air-purifying respirator equipped with a HEPA^c filter^d. |
| 25 x or less | A powered air-purifying respirator ("PAPR") with a loose-fitting hood or helmet equipped with a HEPA filter, or a supplied-air respirator with a loose-fitting hood or helmet facepiece operated in the continuous flow mode. |
| 50 x or less | A full facepiece air-purifying respirator equipped with a HEPA filter, or a powered air-purifying respirator with a tight-fitting half mask equipped with a HEPA filter, or a supplied-air respirator with a tight-fitting half mask operated in the continuous flow mode. |
| 250 x or less | A powered air-purifying respirator with a tight-fitting full facepiece equipped with a HEPA filter, or a supplied-air respirator with a tight-fitting full facepiece operated in the continuous flow mode. |
| 1000 x or less | A supplied-air respirator with half mask or full facepiece operated in the pressure-demand or other positive pressure mode. |
| >1000 x or unknown concentrations | A self-contained breathing apparatus with a full facepiece operated in the pressure-demand or other positive pressure mode, or a supplied-air respirator with a full facepiece operated in the pressure-demand or other positive pressure mode and equipped with an auxiliary escape-type self-contained breathing apparatus operated in the pressure-demand mode. |

~~((Table 2. Respiratory Protection for Cadmium~~

~~Airborne concentra-
tion or condition of
use^a-~~

~~Required respirator type^b~~

~~Fire fighting~~

~~A self-contained breathing appara-
tus with full facepiece operated in
the pressure demand or other posi-
tive pressure mode.~~

^a ~~Concentrations expressed as multiple of the PEL.~~

^b ~~Respirators assigned for higher environmental concen-
trations may be used at lower exposure levels. Quantita-
tive fit testing is required for all tight-fitting air purify-
ing respirators where airborne concentration of cad-
mium exceeds 10 times the TWA PEL ($10 \times 5 \mu\text{g}/\text{m}^3 = 50$
 $\mu\text{g}/\text{m}^3$). A full facepiece respirator is required when eye irritation is
experienced.~~

^c ~~HEPA means High Efficiency Particulate Air.~~

^d ~~Fit testing, qualitative or quantitative, is required.~~

~~SOURCE: Respiratory Decision Logic, NIOSH, 1987))~~

(b) ~~((The employer must))~~ Provide an employee with a powered, air-purifying respirator (PAPR) instead of a negative-pressure respirator when an employee who is entitled to a respirator chooses to use this type of respirator and such a respirator provides adequate protection to the employee.

AMENDATORY SECTION (Amending WSR 04-10-026, filed 4/27/04, effective 8/1/04)

WAC 296-62-07470 Methylene chloride. This occupational health standard establishes requirements for employers to control occupational exposure to methylene chloride (MC). Employees exposed to MC are at increased risk of developing cancer, adverse effects on the heart, central nervous system and liver, and skin or eye irritation. Exposure may occur through inhalation, by absorption through the skin, or through contact with the skin. MC is a solvent which is used in many different types of work activities, such as paint stripping, polyurethane foam manufacturing, and cleaning and degreasing. Under the requirements of subsection (4) of this section, each covered employer must make an initial determination of each employee's exposure to MC. If the employer determines that employees are exposed below the action level, the only other provisions of this section that apply are that a record must be made of the determination, the employees must receive information and training under subsection (12) of this section and, where appropriate, employees must be protected from contact with liquid MC under subsection (8) of this section.

The provisions of the MC standard are as follows:

(1) Scope and application. This section applies to all occupational exposures to methylene chloride (MC), Chemical Abstracts Service Registry Number 75-09-2, in general industry, construction and shipyard employment.

(2) Definitions. For the purposes of this section, the following definitions shall apply:

"Action level" means a concentration of airborne MC of 12.5 parts per million (ppm) calculated as an eight (8)-hour time-weighted average (TWA).

"Authorized person" means any person specifically authorized by the employer and required by work duties to be present in regulated areas, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under subsection (4) of this section, or any other person authorized by the WISH Act or regulations issued under the act.

"Director" means the director of the department of labor and industries, or designee.

"Emergency" means any occurrence, such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment, which results, or is likely to result in an uncontrolled release of MC. If an incidental release of MC can be controlled by employees such as maintenance personnel at the time of release and in accordance with the leak/spill provisions required by subsection (6) of this section, it is not considered an emergency as defined by this standard.

"Employee exposure" means exposure to airborne MC which occurs or would occur if the employee were not using respiratory protection.

"Methylene chloride (MC)" means an organic compound with chemical formula, CH₂Cl₂. Its Chemical Abstracts Service Registry Number is 75-09-2. Its molecular weight is 84.9 g/mole.

"Physician or other licensed health care professional" is an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the health care services required by subsection (10) of this section.

"Regulated area" means an area, demarcated by the employer, where an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed either the 8-hour TWA PEL or the STEL.

"Symptom" means central nervous system effects such as headaches, disorientation, dizziness, fatigue, and decreased attention span; skin effects such as chapping, erythema, cracked skin, or skin burns; and cardiac effects such as chest pain or shortness of breath.

"This section" means this methylene chloride standard.

(3) Permissible exposure limits (PELs).

(a) Eight-hour time-weighted average (TWA) PEL. The employer shall ensure that no employee is exposed to an airborne concentration of MC in excess of twenty-five parts of MC per million parts of air (25 ppm) as an 8-hour TWA.

(b) Short-term exposure limit (STEL). The employer shall ensure that no employee is exposed to an airborne concentration of MC in excess of one hundred and twenty-five parts of MC per million parts of air (125 ppm) as determined over a sampling period of fifteen minutes.

(4) Exposure monitoring.

(a) Characterization of employee exposure.

(i) Where MC is present in the workplace, the employer shall determine each employee's exposure by either:

(A) Taking a personal breathing zone air sample of each employee's exposure; or

(B) Taking personal breathing zone air samples that are representative of each employee's exposure.

(ii) Representative samples. The employer may consider personal breathing zone air samples to be representative of employee exposures when they are taken as follows:

(A) 8-hour TWA PEL. The employer has taken one or more personal breathing zone air samples for at least one employee in each job classification in a work area during every work shift, and the employee sampled is expected to have the highest MC exposure.

(B) Short-term exposure limits. The employer has taken one or more personal breathing zone air samples which indicate the highest likely 15-minute exposures during such operations for at least one employee in each job classification in the work area during every work shift, and the employee sampled is expected to have the highest MC exposure.

(C) Exception. Personal breathing zone air samples taken during one work shift may be used to represent employee exposures on other work shifts where the employer can document that the tasks performed and conditions in the workplace are similar across shifts.

(iii) Accuracy of monitoring. The employer shall ensure that the methods used to perform exposure monitoring produce results that are accurate to a confidence level of 95 percent, and are:

(A) Within plus or minus 25 percent for airborne concentrations of MC above the 8-hour TWA PEL or the STEL; or

(B) Within plus or minus 35 percent for airborne concentrations of MC at or above the action level but at or below the 8-hour TWA PEL.

(b) Initial determination. Each employer whose employees are exposed to MC shall perform initial exposure monitoring to determine each affected employee's exposure, except under the following conditions:

(i) Where objective data demonstrate that MC cannot be released in the workplace in airborne concentrations at or above the action level or above the STEL. The objective data shall represent the highest MC exposures likely to occur under reasonably foreseeable conditions of processing, use, or handling. The employer shall document the objective data exemption as specified in subsection (13) of this section;

(ii) Where the employer has performed exposure monitoring within 12 months prior to December 1, and that exposure monitoring meets all other requirements of this section, and was conducted under conditions substantially equivalent to existing conditions; or

(iii) Where employees are exposed to MC on fewer than 30 days per year (e.g., on a construction site), and the employer has measurements by direct reading instruments which give immediate results (such as a detector tube) and which provide sufficient information regarding employee exposures to determine what control measures are necessary to reduce exposures to acceptable levels.

(c) Periodic monitoring. Where the initial determination shows employee exposures at or above the action level or above the STEL, the employer shall establish an exposure monitoring program for periodic monitoring of employee exposure to MC in accordance with Table 1:

Table 1

Six Initial Determination Exposure Scenarios and Their Associated Monitoring Frequencies

| Exposure scenario | Required monitoring activity |
|--|--|
| Below the action level and at or below the STEL. | No 8-hour TWA or STEL monitoring required. |
| Below the action level and above the STEL. | No 8-hour TWA monitoring required; monitor STEL exposures every three months. |
| At or above the action level, at or below the TWA, and at or below the STEL. | Monitor 8-hour TWA exposures every six months. |
| At or above the action level, at or below the TWA, and above the STEL. | Monitor 8-hour TWA exposures every six months and monitor STEL exposures every three months. |
| Above the TWA and at or below the STEL. | Monitor 8-hour TWA exposures every three months. In addition, without regard to the last sentence of the note to subsection (3) of this section, the following employers must monitor STEL exposures every three months until either the date by which they must achieve the 8-hour TWAs PEL under subsection (3) of this section or the date by which they in fact achieve the 8-hour TWA PEL, whichever comes first: <ul style="list-style-type: none"> • Employers engaged in polyurethane foam manufacturing; • Foam fabrication; • Furniture refinishing; • General aviation aircraft stripping; • Product formulation; • Use of MC-based adhesives for boat building and repair; • Recreational vehicle manufacture, van conversion, or upholstery; and use of MC in construction work for restoration and preservation of buildings, painting and paint removal, cabinet making, or floor refinishing and resurfacing. |
| Above the TWA and above the STEL. | Monitor both 8-hour TWA exposures and STEL exposures every three months. |

(Note to subsection (3)(c) of this section: The employer may decrease the frequency of exposure monitoring to every six months when at least 2 consecutive measurements taken at least 7 days apart show exposures to be at or below the 8-hour TWA PEL. The employer may discontinue the periodic 8-hour TWA monitoring for employees where at least two consecutive measurements taken at least 7 days apart are below the action level. The employer may discontinue the periodic STEL monitoring for employees where at least two consecutive measurements taken at least 7 days apart are at or below the STEL.)

(d) Additional monitoring.

(i) The employer shall perform exposure monitoring when a change in workplace conditions indicates that employee exposure may have increased. Examples of situations that may require additional monitoring include changes in production, process, control equipment, or work practices, or a leak, rupture, or other breakdown.

(ii) Where exposure monitoring is performed due to a spill, leak, rupture or equipment breakdown, the employer shall clean up the MC and perform the appropriate repairs before monitoring.

(e) Employee notification of monitoring results.

(i) The employer shall, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results in writing, either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) Whenever monitoring results indicate that employee exposure is above the 8-hour TWA PEL or the STEL, the employer shall describe in the written notification the corrective action being taken to reduce employee exposure to or below the 8-hour TWA PEL or STEL and the schedule for completion of this action.

(f) Observation of monitoring.

(i) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to MC conducted in accordance with this section.

(ii) Observation procedures. When observation of the monitoring of employee exposure to MC requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide, at no cost to the observer(s), and the observer(s) shall be required to use such clothing and equipment and shall comply with all other applicable safety and health procedures.

(5) Regulated areas.

(a) The employer shall establish a regulated area whenever an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed either the 8-hour TWA PEL or the STEL.

(b) The employer shall limit access to regulated areas to authorized persons.

(c) The employer shall supply a respirator, selected in accordance with subsection (7)(c) of this section, to each person who enters a regulated area and shall require each affected employee to use that respirator whenever MC exposures are likely to exceed the 8-hour TWA PEL or STEL.

(Note to subsection (5)(c) of this section: An employer who has implemented all feasible engineering, work practice

and administrative controls (as required in subsection (6) of this section), and who has established a regulated area (as required by subsection (5)(a) of this section) where MC exposure can be reliably predicted to exceed the 8-hour TWA PEL or the STEL only on certain days (for example, because of work or process schedule) would need to have affected employees use respirators in that regulated area only on those days.)

(d) The employer shall ensure that, within a regulated area, employees do not engage in nonwork activities which may increase dermal or oral MC exposure.

(e) The employer shall ensure that while employees are wearing respirators, they do not engage in activities (such as taking medication or chewing gum or tobacco) which interfere with respirator seal or performance.

(f) The employer shall demarcate regulated areas from the rest of the workplace in any manner that adequately establishes and alerts employees to the boundaries of the area and minimizes the number of authorized employees exposed to MC within the regulated area.

(g) An employer at a multiemployer worksite who establishes a regulated area shall communicate the access restrictions and locations of these areas to all other employers with work operations at that worksite.

(6) Methods of compliance.

(a) Engineering and work practice controls. The employer shall institute and maintain the effectiveness of engineering controls and work practices to reduce employee exposure to or below the PELs except to the extent that the employer can demonstrate that such controls are not feasible.

(b) Wherever the feasible engineering controls and work practices which can be instituted are not sufficient to reduce employee exposure to or below the 8-TWA PEL or STEL, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of subsection (7) of this section.

(c) Prohibition of rotation. The employer shall not implement a schedule of employee rotation as a means of compliance with the PELs.

(d) Leak and spill detection.

(i) The employer shall implement procedures to detect leaks of MC in the workplace. In work areas where spills may occur, the employer shall make provisions to contain any spills and to safely dispose of any MC-contaminated waste materials.

(ii) The employer shall ensure that all incidental leaks are repaired and that incidental spills are cleaned promptly by employees who use the appropriate personal protective equipment and are trained in proper methods of cleanup.

(Note to subsection (6)(d)(ii) of this section: See Appendix A of this section for examples of procedures that satisfy this requirement. Employers covered by this standard may also be subject to the hazardous waste and emergency response provisions contained in WAC 296-62-3112.)

(7) Respiratory protection.

(a) General requirements. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) Periods when an employee's exposure to MC exceeds or can reasonably be expected to exceed the 8-hour TWA PEL or the STEL (for example, when an employee is using MC in a regulated area);

(ii) Periods necessary to install or implement feasible engineering and work-practice controls;

(iii) In a few work operations, such as some maintenance operations and repair activities, for which the employer demonstrates that engineering and work practice controls are infeasible;

(iv) Work operations for which feasible engineering and work practice controls are not sufficient to reduce exposures to or below the PELs;

(v) Emergencies.

(b) Respirator program.

(i) The employer must develop, implement and maintain a respiratory protection program as required by chapter ((296-62-WAC, Part E (except WAC 296-62-07130(1) and 296-62-07131(4)(b)(i) and (ii))) 296-842 WAC, Respirators, except for the requirements in Table 5 of WAC 296-842-13005 that address gas or vapor cartridge change schedules and end-of-service-life indicators (ESLIs).

(ii) Employers who provide employees with gas masks with organic-vapor canisters for the purpose of emergency escape must replace the canisters after any emergency use and before the gas masks are returned to service.

(c) Respirator selection. The employer must:

(i) Select and provide to employees appropriate ((atmosphere-supplying)) respirators ((from Table 2 of this section)) according to this section and WAC 296-842-13005, found in the respirator rule.

(ii) Make sure half-facepiece respirators are not selected or used for protection against MC. This is necessary to prevent eye irritation or damage from MC exposure.

(iii) Provide to employees, for emergency escape, one of the following respirator options:

(A) A self-contained breathing apparatus operated in the continuous-flow or pressure demand mode

OR

(B) A gas mask equipped with an organic vapor canister.

((Table 2. Minimum Requirements for Respiratory Protection for Airborne Methylene Chloride

| Methylene chloride air-borne concentration (ppm) or condition of use | Minimum respirator required [†] |
|--|--|
| Up to 625 ppm (25 X PEL) | (1) Continuous flow supplied-air respirator, hood or helmet. |
| Up to 1250 ppm (50 X 8 hr TWA PEL) | (1) Full facepiece supplied air respirator operated in negative pressure (demand) mode. (2) Full facepiece self-contained breathing apparatus (SCBA) operated in negative pressure (demand) mode. |

| Methylene chloride air-borne concentration (ppm) or condition of use | Minimum respirator required [†] |
|---|--|
| Up to 5000 ppm (200 X 8-TWA PEL) | (1) Continuous flow supplied-air respirator, full facepiece. (2) Pressure demand supplied-air respirator, full facepiece. (3) Positive pressure full facepiece SCBA. |
| Unknown concentration, or above 5000 ppm (Greater than 200 X 8-TWA PEL) | (1) Positive pressure full facepiece SCBA. (2) Full facepiece pressure demand supplied-air respirator with an auxiliary self-contained air supply. |
| Fire fighting | Positive pressure full facepiece SCBA. |
| Emergency escape | (1) Any continuous flow or pressure demand SCBA. (2) Gas mask with organic vapor canister. |

[†] Respirators assigned for higher airborne concentrations may be used at lower concentrations.)

(d) Medical evaluation. Before having an employee use a supplied-air respirator in the negative-pressure mode, or a gas mask with an organic-vapor canister for emergency escape, the employer must:

(i) Have a physician or other licensed health care professional (PLHCP) evaluate the employee's ability to use such respiratory protection;

(ii) Ensure that the PLHCP provides their findings in a written opinion to the employee and the employer.

Note: See WAC 296-62-07150 through 296-62-07156 for medical evaluation requirements for employees using respirators.

(8) Protective work clothing and equipment.

(a) Where needed to prevent MC-induced skin or eye irritation, the employer shall provide clean protective clothing and equipment which is resistant to MC, at no cost to the employee, and shall ensure that each affected employee uses it. Eye and face protection shall meet the requirements of WAC 296-800-160, as applicable.

(b) The employer shall clean, launder, repair and replace all protective clothing and equipment required by this subsection as needed to maintain their effectiveness.

(c) The employer shall be responsible for the safe disposal of such clothing and equipment.

(Note to subsection (8)(c) of this section: See Appendix A for examples of disposal procedures that will satisfy this requirement.)

(9) Hygiene facilities.

(a) If it is reasonably foreseeable that employees' skin may contact solutions containing 0.1 percent or greater MC (for example, through splashes, spills or improper work practices), the employer shall provide conveniently located wash-

ing facilities capable of removing the MC, and shall ensure that affected employees use these facilities as needed.

(b) If it is reasonably foreseeable that an employee's eyes may contact solutions containing 0.1 percent or greater MC (for example through splashes, spills or improper work practices), the employer shall provide appropriate eyewash facilities within the immediate work area for emergency use, and shall ensure that affected employees use those facilities when necessary.

(10) Medical surveillance.

(a) Affected employees. The employer shall make medical surveillance available for employees who are or may be exposed to MC as follows:

(i) At or above the action level on 30 or more days per year, or above the 8-hour TWA PEL or the STEL on 10 or more days per year;

(ii) Above the 8-TWA PEL or STEL for any time period where an employee has been identified by a physician or other licensed health care professional as being at risk from cardiac disease or from some other serious MC-related health condition and such employee requests inclusion in the medical surveillance program;

(iii) During an emergency.

(b) Costs. The employer shall provide all required medical surveillance at no cost to affected employees, without loss of pay and at a reasonable time and place.

(c) Medical personnel. The employer shall ensure that all medical surveillance procedures are performed by a physician or other licensed health care professional, as defined in subsection (2) of this section.

(d) Frequency of medical surveillance. The employer shall make medical surveillance available to each affected employee as follows:

(i) Initial surveillance. The employer shall provide initial medical surveillance under the schedule provided by subsection (14)(b)(iii) of this section, or before the time of initial assignment of the employee, whichever is later. The employer need not provide the initial surveillance if medical records show that an affected employee has been provided with medical surveillance that complies with this section within 12 months before December 1.

(ii) Periodic medical surveillance. The employer shall update the medical and work history for each affected employee annually. The employer shall provide periodic physical examinations, including appropriate laboratory surveillance, as follows:

(A) For employees 45 years of age or older, within 12 months of the initial surveillance or any subsequent medical surveillance; and

(B) For employees younger than 45 years of age, within 36 months of the initial surveillance or any subsequent medical surveillance.

(iii) Termination of employment or reassignment. When an employee leaves the employer's workplace, or is reassigned to an area where exposure to MC is consistently at or below the action level and STEL, medical surveillance shall be made available if six months or more have elapsed since the last medical surveillance.

(iv) Additional surveillance. The employer shall provide additional medical surveillance at frequencies other than

those listed above when recommended in the written medical opinion. (For example, the physician or other licensed health care professional may determine an examination is warranted in less than 36 months for employees younger than 45 years of age based upon evaluation of the results of the annual medical and work history.)

(e) Content of medical surveillance.

(i) Medical and work history. The comprehensive medical and work history shall emphasize neurological symptoms, skin conditions, history of hematologic or liver disease, signs or symptoms suggestive of heart disease (angina, coronary artery disease), risk factors for cardiac disease, MC exposures, and work practices and personal protective equipment used during such exposures.

(Note to subsection (10)(e)(i) of this section: See Appendix B of this section for an example of a medical and work history format that would satisfy this requirement.)

(ii) Physical examination. Where physical examinations are provided as required above, the physician or other licensed health care professional shall accord particular attention to the lungs, cardiovascular system (including blood pressure and pulse), liver, nervous system, and skin. The physician or other licensed health care professional shall determine the extent and nature of the physical examination based on the health status of the employee and analysis of the medical and work history.

(iii) Laboratory surveillance. The physician or other licensed health care professional shall determine the extent of any required laboratory surveillance based on the employee's observed health status and the medical and work history.

(Note to subsection (10)(e)(iii) of this section: See Appendix B of this section for information regarding medical tests. Laboratory surveillance may include before-and after-shift carboxyhemoglobin determinations, resting ECG, hematocrit, liver function tests and cholesterol levels.)

(iv) Other information or reports. The medical surveillance shall also include any other information or reports the physician or other licensed health care professional determines are necessary to assess the employee's health in relation to MC exposure.

(f) Content of emergency medical surveillance. The employer shall ensure that medical surveillance made available when an employee has been exposed to MC in emergency situations includes, at a minimum:

(i) Appropriate emergency treatment and decontamination of the exposed employee;

(ii) Comprehensive physical examination with special emphasis on the nervous system, cardiovascular system, lungs, liver and skin, including blood pressure and pulse;

(iii) Updated medical and work history, as appropriate for the medical condition of the employee; and

(iv) Laboratory surveillance, as indicated by the employee's health status.

(Note to subsection (10)(f)(iv) of this section: See Appendix B for examples of tests which may be appropriate.)

(g) Additional examinations and referrals. Where the physician or other licensed health care professional determines it is necessary, the scope of the medical examination shall be expanded and the appropriate additional medical sur-

veillance, such as referrals for consultation or examination, shall be provided.

(h) Information provided to the physician or other licensed health care professional. The employer shall provide the following information to a physician or other licensed health care professional who is involved in the diagnosis of MC-induced health effects:

(i) A copy of this section including its applicable appendices;

(ii) A description of the affected employee's past, current and anticipated future duties as they relate to the employee's MC exposure;

(iii) The employee's former or current exposure levels or, for employees not yet occupationally exposed to MC, the employee's anticipated exposure levels and the frequency and exposure levels anticipated to be associated with emergencies;

(iv) A description of any personal protective equipment, such as respirators, used or to be used; and

(v) Information from previous employment-related medical surveillance of the affected employee which is not otherwise available to the physician or other licensed health care professional.

(i) Written medical opinions.

(i) For each physical examination required by this section, the employer shall ensure that the physician or other licensed health care professional provides to the employer and to the affected employee a written opinion regarding the results of that examination within 15 days of completion of the evaluation of medical and laboratory findings, but not more than 30 days after the examination. The written medical opinion shall be limited to the following information:

(A) The physician's or other licensed health care professional's opinion concerning whether exposure to MC may contribute to or aggravate the employee's existing cardiac, hepatic, neurological (including stroke) or dermal disease or whether the employee has any other medical condition(s) that would place the employee's health at increased risk of material impairment from exposure to MC;

(B) Any recommended limitations upon the employee's exposure to MC, removal from MC exposure, or upon the employee's use of protective clothing or equipment and respirators;

(C) A statement that the employee has been informed by the physician or other licensed health care professional that MC is a potential occupational carcinogen, of risk factors for heart disease, and the potential for exacerbation of underlying heart disease by exposure to MC through its metabolism to carbon monoxide; and

(D) A statement that the employee has been informed by the physician or other licensed health care professional of the results of the medical examination and any medical conditions resulting from MC exposure which require further explanation or treatment.

(ii) The employer shall instruct the physician or other licensed health care professional not to reveal to the employer, orally or in the written opinion, any specific records, findings, and diagnoses that have no bearing on occupational exposure to MC.

(Note to subsection (10)(h)(ii) of this section: The written medical opinion may also include information and opinions generated to comply with other OSHA health standards.)

(j) Medical presumption. For purposes of this subsection (10), the physician or other licensed health care professional shall presume, unless medical evidence indicates to the contrary, that a medical condition is unlikely to require medical removal from MC exposure if the employee is not exposed to MC above the 8-hour TWA PEL. If the physician or other licensed health care professional recommends removal for an employee exposed below the 8-hour TWA PEL, the physician or other licensed health care professional shall cite specific medical evidence, sufficient to rebut the presumption that exposure below the 8-hour TWA PEL is unlikely to require removal, to support the recommendation. If such evidence is cited by the physician or other licensed health care professional, the employer must remove the employee. If such evidence is not cited by the physician or other licensed health care professional, the employer is not required to remove the employee.

(k) Medical removal protection (MRP).

(i) Temporary medical removal and return of an employee.

(A) Except as provided in (j) of this subsection, when a medical determination recommends removal because the employee's exposure to MC may contribute to or aggravate the employee's existing cardiac, hepatic, neurological (including stroke), or skin disease, the employer must provide medical removal protection benefits to the employee and either:

(I) Transfer the employee to comparable work where methylene chloride exposure is below the action level; or

(II) Remove the employee from MC exposure.

(B) If comparable work is not available and the employer is able to demonstrate that removal and the costs of extending MRP benefits to an additional employee, considering feasibility in relation to the size of the employer's business and the other requirements of this standard, make further reliance on MRP an inappropriate remedy, the employer may retain the additional employee in the existing job until transfer or removal becomes appropriate, provided:

(I) The employer ensures that the employee receives additional medical surveillance, including a physical examination at least every 60 days until transfer or removal occurs; and

(II) The employer or PLHCP informs the employee of the risk to the employee's health from continued MC exposure.

(C) The employer shall maintain in effect any job-related protective measures or limitations, other than removal, for as long as a medical determination recommends them to be necessary.

(ii) End of MRP benefits and return of the employee to former job status.

(A) The employer may cease providing MRP benefits at the earliest of the following:

(I) Six months;

(II) Return of the employee to the employee's former job status following receipt of a medical determination concluding that the employee's exposure to MC no longer will aggra-

vate any cardiac, hepatic, neurological (including stroke), or dermal disease;

(III) Receipt of a medical determination concluding that the employee can never return to MC exposure.

(B) For the purposes of this subsection (10), the requirement that an employer return an employee to the employee's former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

(l) Medical removal protection benefits.

(i) For purposes of this subsection (10), the term medical removal protection benefits means that, for each removal, an employer must maintain for up to six months the earnings, seniority, and other employment rights and benefits of the employee as though the employee had not been removed from MC exposure or transferred to a comparable job.

(ii) During the period of time that an employee is removed from exposure to MC, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this section.

(iii) If a removed employee files a workers' compensation claim for a MC-related disability, the employer shall continue the MRP benefits required by this section until either the claim is resolved or the 6-month period for payment of MRP benefits has passed, whichever occurs first. To the extent the employee is entitled to indemnity payments for earnings lost during the period of removal, the employer's obligation to provide medical removal protection benefits to the employee shall be reduced by the amount of such indemnity payments.

(iv) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal from either a publicly or an employer-funded compensation program, or receives income from employment with another employer made possible by virtue of the employee's removal.

(m) Voluntary removal or restriction of an employee. Where an employer, although not required by this section to do so, removes an employee from exposure to MC or otherwise places any limitation on an employee due to the effects of MC exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to those required by (l) of this subsection.

(n) Multiple health care professional review mechanism.

(i) If the employer selects the initial physician or licensed health care professional (PLHCP) to conduct any medical examination or consultation provided to an employee under (k) of this subsection, the employer shall notify the employee of the right to seek a second medical opinion each time the employer provides the employee with a copy of the written opinion of that PLHCP.

(ii) If the employee does not agree with the opinion of the employer-selected PLHCP, notifies the employer of that fact, and takes steps to make an appointment with a second PLHCP within 15 days of receiving a copy of the written opinion of the initial PLHCP, the employer shall pay for the

PLHCP chosen by the employee to perform at least the following:

(A) Review any findings, determinations or recommendations of the initial PLHCP; and

(B) Conduct such examinations, consultations, and laboratory tests as the PLHCP deems necessary to facilitate this review.

(iii) If the findings, determinations or recommendations of the second PLHCP differ from those of the initial PLHCP, then the employer and the employee shall instruct the two health care professionals to resolve the disagreement.

(iv) If the two health care professionals are unable to resolve their disagreement within 15 days, then those two health care professionals shall jointly designate a PLHCP who is a specialist in the field at issue. The employer shall pay for the specialist to perform at least the following:

(A) Review the findings, determinations, and recommendations of the first two PLHCPs; and

(B) Conduct such examinations, consultations, laboratory tests and discussions with the prior PLHCPs as the specialist deems necessary to resolve the disagreements of the prior health care professionals.

(v) The written opinion of the specialist shall be the definitive medical determination. The employer shall act consistent with the definitive medical determination, unless the employer and employee agree that the written opinion of one of the other two PLHCPs shall be the definitive medical determination.

(vi) The employer and the employee or authorized employee representative may agree upon the use of any expeditious alternate health care professional determination mechanism in lieu of the multiple health care professional review mechanism provided by this section so long as the alternate mechanism otherwise satisfies the requirements contained in this section.

(11) Hazard communication. The employer shall communicate the following hazards associated with MC on labels and in material safety data sheets in accordance with the requirements of the chemical hazard communication standard, WAC 296-800-170: Cancer, cardiac effects (including elevation of carboxyhemoglobin), central nervous system effects, liver effects, and skin and eye irritation.

(12) Employee information and training.

(a) The employer shall provide information and training for each affected employee prior to or at the time of initial assignment to a job involving potential exposure to MC.

(b) The employer shall ensure that information and training is presented in a manner that is understandable to the employees.

(c) In addition to the information required under the chemical hazard communication standard at WAC 296-800-170:

(i) The employer shall inform each affected employee of the requirements of this section and information available in its appendices, as well as how to access or obtain a copy of it in the workplace;

(ii) Wherever an employee's exposure to airborne concentrations of MC exceeds or can reasonably be expected to exceed the action level, the employer shall inform each affected employee of the quantity, location, manner of use,

release, and storage of MC and the specific operations in the workplace that could result in exposure to MC, particularly noting where exposures may be above the 8-hour TWA PEL or STEL;

(d) The employer shall train each affected employee as required under the chemical hazard communication standard at WAC 296-800-170, as appropriate.

(e) The employer shall re-train each affected employee as necessary to ensure that each employee exposed above the action level or the STEL maintains the requisite understanding of the principles of safe use and handling of MC in the workplace.

(f) Whenever there are workplace changes, such as modifications of tasks or procedures or the institution of new tasks or procedures, which increase employee exposure, and where those exposures exceed or can reasonably be expected to exceed the action level, the employer shall update the training as necessary to ensure that each affected employee has the requisite proficiency.

(g) An employer whose employees are exposed to MC at a multiemployer worksite shall notify the other employers with work operations at that site in accordance with the requirements of the chemical hazard communication standard, WAC 296-800-170, as appropriate.

(h) The employer shall provide to the director, upon request, all available materials relating to employee information and training.

(13) Recordkeeping.

(a) Objective data.

(i) Where an employer seeks to demonstrate that initial monitoring is unnecessary through reasonable reliance on objective data showing that any materials in the workplace containing MC will not release MC at levels which exceed the action level or the STEL under foreseeable conditions of exposure, the employer shall establish and maintain an accurate record of the objective data relied upon in support of the exemption.

(ii) This record shall include at least the following information:

(A) The MC-containing material in question;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and/or analysis of the material for the release of MC;

(D) A description of the operation exempted under subsection (4)(b)(i) of this section and how the data support the exemption; and

(E) Other data relevant to the operations, materials, processing, or employee exposures covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(b) Exposure measurements.

(i) The employer shall establish and keep an accurate record of all measurements taken to monitor employee exposure to MC as prescribed in subsection (4) of this section.

(ii) Where the employer has 20 or more employees, this record shall include at least the following information:

(A) The date of measurement for each sample taken;

(B) The operation involving exposure to MC which is being monitored;

(C) Sampling and analytical methods used and evidence of their accuracy;

(D) Number, duration, and results of samples taken;

(E) Type of personal protective equipment, such as respiratory protective devices, worn, if any; and

(F) Name, Social Security number, job classification and exposure of all of the employees represented by monitoring, indicating which employees were actually monitored.

(iii) Where the employer has fewer than 20 employees, the record shall include at least the following information:

(A) The date of measurement for each sample taken;

(B) Number, duration, and results of samples taken; and

(C) Name, Social Security number, job classification and exposure of all of the employees represented by monitoring, indicating which employees were actually monitored.

(iv) The employer shall maintain this record for at least thirty (30) years, in accordance with chapter 296-802 WAC.

(c) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance under subsection (10) of this section.

(ii) The record shall include at least the following information:

(A) The name, Social Security number and description of the duties of the employee;

(B) Written medical opinions; and

(C) Any employee medical conditions related to exposure to MC.

(iii) The employer shall ensure that this record is maintained for the duration of employment plus thirty (30) years, in accordance with chapter 296-802 WAC.

(d) Availability.

(i) The employer, upon written request, shall make all records required to be maintained by this section available to the director for examination and copying in accordance with chapter 296-802 WAC.

(Note to subsection (13)(d)(i) of this section: All records required to be maintained by this section may be kept in the most administratively convenient form (for example, electronic or computer records would satisfy this requirement).)

(ii) The employer, upon request, shall make any employee exposure and objective data records required by this section available for examination and copying by affected employees, former employees, and designated representatives in accordance with chapter 296-802 WAC.

(iii) The employer, upon request, shall make employee medical records required to be kept by this section available for examination and copying by the subject employee and by anyone having the specific written consent of the subject employee in accordance with chapter 296-802 WAC.

(e) Transfer of records. The employer shall comply with the requirements concerning transfer of records set forth in WAC 296-62-05215.

(14) Dates.

(a) Engineering controls required under subsection (6)(a) of this section shall be implemented according to the following schedule:

(i) For employers with fewer than 20 employees, no later than April 10, 2000.

(ii) For employers with fewer than 150 employees engaged in foam fabrication; for employers with fewer than 50 employees engaged in furniture refinishing, general aviation aircraft stripping, and product formulation; for employers with fewer than 50 employees using MC-based adhesives for boat building and repair, recreational vehicle manufacture, van conversion, and upholstery; for employers with fewer than 50 employees using MC in construction work for restoration and preservation of buildings, painting and paint removal, cabinet making and/or floor refinishing and resurfacing, no later than April 10, 2000.

(iii) For employers engaged in polyurethane foam manufacturing with 20 or more employees, no later than October 10, 1999.

(b) Use of respiratory protection whenever an employee's exposure to MC exceeds or can reasonably be expected to exceed the 8-hour TWA PEL, in accordance with subsection (3)(a), (5)(c), (6)(a) and (7)(a) of this section, shall be implemented according to the following schedule:

(i) For employers with fewer than 150 employees engaged in foam fabrication; for employers with fewer than 50 employees engaged in furniture refinishing, general aviation aircraft stripping, and product formulation; for employers with fewer than 50 employees using MC-based adhesives for boat building and repair, recreational vehicle manufacture, van conversion, and upholstery; for employers with fewer than 50 employees using MC in construction work for restoration and preservation of buildings, painting and paint removal, cabinet making and/or floor refinishing and resurfacing, no later than April 10, 2000.

(ii) For employers engaged in polyurethane foam manufacturing with 20 or more employees, no later than October 10, 1999.

(c) Notification of corrective action under subsection (4)(e)(ii) of this section, no later than 90 days before the compliance date applicable to such corrective action.

(d) Transitional dates. The exposure limits for MC specified in WAC 296-62-07515 Table 1, shall remain in effect until the start up dates for the exposure limits specified in subsection (14) of this section, or if the exposure limits in this section are stayed or vacated.

(e) Unless otherwise specified in this subsection (14), all other requirements of this section shall be complied with immediately.

(15) Appendices. The information contained in the appendices does not, by itself, create any additional obligations not otherwise imposed or detract from any existing obligation.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-07521 Lead. (1) Scope and application.

(a) This section applies to all occupational exposure to lead, except as provided in subdivision (1)(b).

(b) This section does not apply to the construction industry or to agricultural operations covered by chapter 296-307 WAC.

(2) Definitions as applicable to this part.

(a) "Action level" - employee exposure, without regard to the use of respirators, to an airborne concentration of lead of thirty micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) averaged over an eight-hour period.

(b) "Director" - the director of the department of labor and industries.

(c) "Lead" - metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds.

(3) General requirements.

(a) Employers will assess the hazards of lead in the work place and provide information to the employees about the hazards of the lead exposures to which they may be exposed.

(b) Information provided shall include:

(i) Exposure monitoring (including employee notification);

(ii) Written compliance programs;

(iii) Respiratory protection programs;

(iv) Personnel protective equipment and housekeeping;

(v) Medical surveillance and examinations;

(vi) Training requirements;

(vii) Recordkeeping requirements.

(4) Permissible exposure limit (PEL).

(a) The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air ($50 \mu\text{g}/\text{m}^3$) averaged over an eight-hour period.

(b) If an employee is exposed to lead for more than eight hours in any work day, the permissible exposure limit, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:

$$\text{Maximum permissible limit (in } \mu\text{g}/\text{m}^3) = 400 \div \text{hours worked in the day.}$$

(c) When respirators are used to supplement engineering and work practice controls to comply with the PEL and all the requirements of subsection (7) have been met, employee exposure, for the purpose of determining whether the employer has complied with the PEL, may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

(5) Exposure monitoring.

(a) General.

(i) For the purposes of subsection (5), employee exposure is that exposure which would occur if the employee were not using a respirator.

(ii) With the exception of monitoring under subdivision (5)(c), the employer shall collect full shift (for at least seven continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

(iii) Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.

(b) Initial determination. Each employer who has a workplace or work operation covered by this standard shall determine if any employee may be exposed to lead at or above the action level.

(c) Basis of initial determination.

(i) The employer shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:

(A) Any information, observations, or calculations which would indicate employee exposure to lead;

(B) Any previous measurements of airborne lead; and

(C) Any employee complaints of symptoms which may be attributable to exposure to lead.

(ii) Monitoring for the initial determination may be limited to a representative sample of the exposed employees who the employer reasonably believes are exposed to the greatest airborne concentrations of lead in the workplace.

(iii) Measurements of airborne lead made in the preceding twelve months may be used to satisfy the requirement to monitor under item (5)(c)(i) if the sampling and analytical methods used meet the accuracy and confidence levels of subdivision (5)(i) of this section.

(d) Positive initial determination and initial monitoring.

(i) Where a determination conducted under subdivision (5)(b) and (5)(c) of this section shows the possibility of any employee exposure at or above the action level, the employer shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead.

(ii) Measurements of airborne lead made in the preceding twelve months may be used to satisfy this requirement if the sampling and analytical methods used meet the accuracy and confidence levels of subdivision (5)(i) of this section.

(e) Negative initial determination. Where a determination, conducted under subdivisions (5)(b) and (5)(c) of this section is made that no employee is exposed to airborne concentrations of lead at or above the action level, the employer shall make a written record of such determination. The record shall include at least the information specified in subdivision (5)(c) of this section and shall also include the date of determination, location within the worksite, and the name and Social Security number of each employee monitored.

(f) Frequency.

(i) If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in subdivision (5)(g) of this section.

(ii) If the initial determination or subsequent monitoring reveals employee exposure to be at or above the action level but below the permissible exposure limit the employer shall repeat monitoring in accordance with this subsection at least every six months. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven days apart, are below the action level at which time the employer may discontinue monitoring for that employee except as otherwise provided in subdivision (5)(g) of this section.

(iii) If the initial monitoring reveals that employee exposure is above the permissible exposure limit the employer shall repeat monitoring quarterly. The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven days apart, are below the PEL but at or above the action level at which

time the employer shall repeat monitoring for that employee at the frequency specified in item (5)(f)(ii), except as otherwise provided in subdivision (5)(g) of this section.

(g) Additional monitoring. Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to lead, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to lead, additional monitoring in accordance with this subsection shall be conducted.

(h) Employee notification.

(i) Within five working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(ii) Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken or to be taken to reduce exposure to or below the permissible exposure limit.

(i) Accuracy of measurement. The employer shall use a method of monitoring and analysis which has an accuracy (to a confidence level of ninety-five percent) of not less than plus or minus twenty percent for airborne concentrations of lead equal to or greater than 30 µg/m³.

(6) Methods of compliance.

(a) Engineering and work practice controls.

(i) Where any employee is exposed to lead above the permissible exposure limit for more than thirty days per year, the employer shall implement engineering and work practice controls (including administrative controls) to reduce and maintain employee exposure to lead in accordance with the implementation schedule in Table I below, except to the extent that the employer can demonstrate that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest feasible level and shall supplement them by the use of respiratory protection which complies with the requirements of subsection (7) of this section.

(ii) Where any employee is exposed to lead above the permissible exposure limit, but for thirty days or less per year, the employer shall implement engineering controls to reduce exposures to 200 µg/m³, but thereafter may implement any combination of engineering, work practice (including administrative controls), and respiratory controls to reduce and maintain employee exposure to lead to or below 50 µg/m³.

TABLE I

| Industry | Compliance dates: ¹ (50 µg/m ³) |
|--|---|
| Lead chemicals, secondary copper smelting. | July 19, 1996 |
| Nonferrous foundries | July 19, 1996. ² |
| Brass and bronze ingot manufacture. | 6 years. ³ |

- ¹ Calculated by counting from the date the stay on implementation of subsection (6)(a) was lifted by the U.S. Court of Appeals for the District of Columbia, the number of years specified in the 1978 lead standard and subsequent amendments for compliance with the PEL of 50 µg/m³ for exposure to airborne concentrations of lead levels for the particular industry.
- ² Large nonferrous foundries (20 or more employees) are required to achieve the PEL of 50 µg/m³ by means of engineering and work practice controls. Small nonferrous foundries (fewer than 20 employees) are required to achieve an 8-hour TWA of 75 µg/m³ by such controls.
- ³ Expressed as the number of years from the date on which the Court lifts the stay on the implementation of subsection (6)(a) for this industry for employers to achieve a lead in air concentration of 75 µg/m³. Compliance with subsection (6) in this industry is determined by a compliance directive that incorporates elements from the settlement agreement between OSHA and representatives of the industry.

(b) Respiratory protection. Where engineering and work practice controls do not reduce employee exposure to or below the 50 µg/m³ permissible exposure limit, the employer shall supplement these controls with respirators in accordance with subsection (7).

(c) Compliance program.

(i) Each employer shall establish and implement a written compliance program to reduce exposures to or below the permissible exposure limit, and interim levels if applicable, solely by means of engineering and work practice controls in accordance with the implementation schedule in subdivision (6)(a).

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation in which lead is emitted; e.g., machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;

(B) A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Air monitoring data which documents the source of lead emissions;

(E) A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;

(F) A work practice program which includes items required under subsections (8), (9) and (10) of this regulation;

(G) An administrative control schedule required by subdivision (6)(f), if applicable; and

(H) Other relevant information.

(iii) Written programs shall be submitted upon request to the director, and shall be available at the worksite for examination and copying by the director, any affected employee or authorized employee representatives.

(iv) Written programs shall be revised and updated at least every six months to reflect the current status of the program.

(d) Mechanical ventilation.

(i) When ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system

in controlling exposure, such as capture velocity, duct velocity, or static pressure shall be made at least every three months. Measurements of the system's effectiveness in controlling exposure shall be made within five days of any change in production, process, or control which might result in a change in employee exposure to lead.

(ii) Recirculation of air. If air from exhaust ventilation is recirculated into the workplace, the employer shall assure that (A) the system has a high efficiency filter with reliable back-up filter; and (B) controls to monitor the concentration of lead in the return air and to bypass the recirculation system automatically if it fails are installed, operating, and maintained.

(e) Administrative controls. If administrative controls are used as a means of reducing employees TWA exposure to lead, the employer shall establish and implement a job rotation schedule which includes:

(i) Name or identification number of each affected employee;

(ii) Duration and exposure levels at each job or work station where each affected employee is located; and

(iii) Any other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead.

(7) Respiratory protection.

(a) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

(i) Period necessary to install or implement engineering or work-practice controls;

(ii) Work operations for which engineering and work-practice controls are not sufficient to reduce exposures to or below the permissible exposure limit;

(iii) Periods when an employee requests a respirator.

(b) Respirator program.

(i) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, (~~except WAC 296-842-13005 and 296-842-14005~~) Respirators.

(ii) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination as required by subsection (11)(c)(ii)(C) of this section to determine whether or not the employee can use a respirator while performing the required duty.

(c) Respirator selection. The employer must:

(i) (~~The employer must~~) Select ((the)) and provide to employees appropriate respirators ((or combination of respirators from Table II of this section)) according to this section and WAC 296-842-13005, found in the respirator rule.

(ii) (~~The employer must~~) Provide employees with a powered air-purifying respirator (PAPR) instead of ((the)) a negative-pressure respirator ((specified in Table II of this section)) selected when an employee chooses to use ((this type of respirator and that such a respirator)) a PAPR and it provides adequate protection to the employee.

(iii) Provide employees with full-facepiece respirators instead of half-facepiece respirators for protection against

lead aerosols that cause eye or skin irritation at the use concentration.

(iv) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

((TABLE II

RESPIRATORY PROTECTION FOR LEAD AEROSOLS

| Airborne Concentration of Lead or Condition of Use | Required Respirator ¹ |
|--|---|
| Not in excess of 0.5 mg/m ³ (10X PEL). | Half-mask, air-purifying respirator equipped with high efficiency filters. ^{2,3} |
| Not in excess of 2.5 mg/m ³ (50X PEL). | Full facepiece, air-purifying respirator with high efficiency filters. ³ |
| Not in excess of 50 mg/m ³ (1000X PEL). | (1) Any powered, air-purifying respirator with high efficiency filters ^{2,3} ; or (2) Half-mask supplied-air respirator operated in positive pressure mode. ² |
| Not in excess of 100 mg/m ³ (2000X PEL). | Supplied-air respirators with full facepiece, hood, helmet, or suit, operated in positive pressure mode. |
| Greater than 100 mg/m ³ ; unknown concentration or fire fighting. | Full facepiece, self-contained breathing apparatus operated in positive pressure mode. |

Note: ¹ Respirators specified for high concentrations can be used at lower concentrations of lead.

² Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.

³ A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.)

(8) Protective work clothing and equipment.

(a) Provision and use. If an employee is exposed to lead above the PEL, without regard to the use of respirators or where the possibility of skin or eye irritation exists, the employer shall provide at no cost to the employee and assure that the employee uses appropriate protective work clothing and equipment such as, but not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, hats, and shoes or disposable shoe coverlets; and

(iii) Face shields, vented goggles, or other appropriate protective equipment which complies with WAC 296-800-160.

(b) Cleaning and replacement.

(i) The employer shall provide the protective clothing required in subdivision (8)(a) of this section in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over 200 µg/m³ of lead as an eight-hour TWA.

(ii) The employer shall provide for the cleaning, laundering, or disposal of protective clothing and equipment required by subdivision (8)(a) of this section.

(iii) The employer shall repair or replace required protective clothing and equipment as needed to maintain their effectiveness.

(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms provided for that purpose as prescribed in subdivision (10)(b) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of lead outside the container.

(vi) The employer shall inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.

(vii) The employer shall assure that the containers of contaminated protective clothing and equipment required by subdivision (8)(b)(v) are labeled as follows:

CAUTION: CLOTHING CONTAMINATED WITH LEAD.
DO NOT REMOVE DUST BY BLOWING OR SHAKING.
DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

(viii) The employer shall prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

(9) Housekeeping.

(a) Surfaces. All surfaces shall be maintained as free as practicable of accumulations of lead.

(b) Cleaning floors.

(i) Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air.

(ii) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.

(c) Vacuuming. Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner which minimizes the reentry of lead into the workplace.

(10) Hygiene facilities and practices.

(a) The employer shall assure that in areas where employees are exposed to lead above the PEL, without regard to the use of respirators, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied, except in change rooms, lunchrooms, and showers required under subdivision (10)(b) through (10)(d) of this section.

(b) Change rooms.

(i) The employer shall provide clean change rooms for employees who work in areas where their airborne exposure to lead is above the PEL, without regard to the use of respirators.

(ii) The employer shall assure that change rooms are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination.

(c) Showers.

(i) The employer shall assure that employees who work in areas where their airborne exposure to lead is above the PEL, without regard to the use of respirators, shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with WAC 296-800-230.

(iii) The employer shall assure that employees who are required to shower pursuant to item (10)(c)(i) do not leave the workplace wearing any clothing or equipment worn during the work shift.

(d) Lunchrooms.

(i) The employer shall provide lunchroom facilities for employees who work in areas where their airborne exposure to lead is above the PEL, without regard to the use of respirators.

(ii) The employer shall assure that lunchroom facilities have a temperature controlled, positive pressure, filtered air supply, and are readily accessible to employees.

(iii) The employer shall assure that employees who work in areas where their airborne exposure to lead is above the PEL without regard to the use of a respirator wash their hands and face prior to eating, drinking, smoking or applying cosmetics.

(iv) The employer shall assure that employees do not enter lunchroom facilities with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, downdraft booth, or other cleaning method.

(e) Lavatories. The employer shall provide an adequate number of lavatory facilities which comply with WAC 296-800-230.

(11) Medical surveillance.

(a) General.

(i) The employer shall institute a medical surveillance program for all employees who are or may be exposed above the action level for more than thirty days per year.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician.

(iii) The employer shall provide the required medical surveillance including multiple physician review under item (11)(c)(iii) without cost to employees and at a reasonable time and place.

(b) Biological monitoring.

(i) Blood lead and ZPP level sampling and analysis. The employer shall make available biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels to each employee covered under item (11)(a)(i) of this section on the following schedule:

(A) At least every six months to each employee covered under item (11)(a)(i) of this section;

(B) At least every two months for each employee whose last blood sampling and analysis indicated a blood lead level at or above 40 $\mu\text{g}/100\text{ g}$ of whole blood. This frequency shall continue until two consecutive blood samples and analyses indicate a blood lead level below 40 $\mu\text{g}/100\text{ g}$ of whole blood; and

(C) At least monthly during the removal period of each employee removed from exposure to lead due to an elevated blood lead level.

(ii) Follow-up blood sampling tests. Whenever the results of a blood lead level test indicate that an employee's blood lead level exceeds the numerical criterion for medical removal under item (12)(a)(i)(A), the employer shall provide a second (follow-up) blood sampling test within two weeks after the employer receives the results of the first blood sampling test.

(iii) Accuracy of blood lead level sampling and analysis. Blood lead level sampling and analysis provided pursuant to this section shall have an accuracy (to a confidence level of ninety-five percent) within plus or minus fifteen percent or 6 $\mu\text{g}/100\text{ ml}$, whichever is greater, and shall be conducted by a laboratory licensed by the Center for Disease Control (CDC), United States Department of Health, Education and Welfare or which has received a satisfactory grade in blood lead proficiency testing from CDC in the prior twelve months.

(iv) Employee notification. Within five working days after the receipt of biological monitoring results, the employer shall notify in writing each employee whose blood lead level exceeds 40 $\mu\text{g}/100\text{ g}$: (A) of that employee's blood lead level and (B) that the standard requires temporary medical removal with medical removal protection benefits when an employee's blood lead level exceeds the numerical criterion for medical removal under item (12)(a)(i) of this section.

(c) Medical examinations and consultations.

(i) Frequency. The employer shall make available medical examinations and consultations to each employee covered under item (11)(a)(i) of this section on the following schedule:

(A) At least annually for each employee for whom a blood sampling test conducted at any time during the preceding twelve months indicated a blood lead level at or above 40 $\mu\text{g}/100\text{ g}$;

(B) Prior to assignment for each employee being assigned for the first time to an area in which airborne concentrations of lead are at or above the action level;

(C) As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use; and

(D) As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination.

(ii) Content. Medical examinations made available pursuant to subitems (11)(c)(i)(A) through (B) of this section shall include the following elements:

(A) A detailed work history and a medical history, with particular attention to past lead exposure (occupational and nonoccupational), personal habits (smoking, hygiene), and past gastrointestinal, hematologic, renal, cardiovascular, reproductive and neurological problems;

(B) A thorough physical examination, with particular attention to teeth, gums, hematologic, gastrointestinal, renal, cardiovascular, and neurological systems. Pulmonary status should be evaluated if respiratory protection will be used;

- (C) A blood pressure measurement;
- (D) A blood sample and analysis which determines:
 - (I) Blood lead level;
 - (II) Hemoglobin and hematocrit determinations, red cell indices, and examination of peripheral smear morphology;
 - (III) Zinc protoporphyrin;
 - (IV) Blood urea nitrogen; and
 - (V) Serum creatinine;
- (E) A routine urinalysis with microscopic examination; and
- (F) Any laboratory or other test which the examining physician deems necessary by sound medical practice.

The content of medical examinations made available pursuant to subitems (11)(c)(i)(C) through (D) of this section shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility.

(iii) Multiple physician review mechanism.

(A) If the employer selects the initial physician who conducts any medical examination or consultation provided to an employee under this section, the employee may designate a second physician:

- (I) To review any findings, determinations or recommendations of the initial physician; and
- (II) To conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.

(B) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within fifteen days after receipt of the foregoing notification, or receipt of the initial physician's written opinion, whichever is later:

- (I) The employee informing the employer that he or she intends to seek a second medical opinion, and
- (II) The employee initiating steps to make an appointment with a second physician.

(C) If the findings, determinations or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve any disagreement.

(D) If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee through their respective physicians shall designate a third physician:

- (I) To review any findings, determinations or recommendations of the prior physicians; and
- (II) To conduct such examinations, consultations, laboratory tests and discussions with the prior physicians as the third physician deems necessary to resolve the disagreement of the prior physicians.

(E) The employer shall act consistent with the findings, determinations and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.

(iv) Information provided to examining and consulting physicians.

(A) The employer shall provide an initial physician conducting a medical examination or consultation under this section with the following information:

- (I) A copy of this regulation for lead including all appendices;
- (II) A description of the affected employee's duties as they relate to the employee's exposure;
- (III) The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);
- (IV) A description of any personal protective equipment used or to be used;
- (V) Prior blood lead determinations; and
- (VI) All prior written medical opinions concerning the employee in the employer's possession or control.

(B) The employer shall provide the foregoing information to a second or third physician conducting a medical examination or consultation under this section upon request either by the second or third physician, or by the employee.

(v) Written medical opinions.

(A) The employer shall obtain and furnish the employee with a copy of a written medical opinion from each examining or consulting physician which contains the following information:

(I) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of material impairment of the employee's health from exposure to lead;

(II) Any recommended special protective measures to be provided to the employee, or limitations to be placed upon the employee's exposure to lead;

(III) Any recommended limitation upon the employee's use of respirators, including a determination of whether the employee can wear a powered air purifying respirator if a physician determines that the employee cannot wear a negative pressure respirator; and

(IV) The results of the blood lead determinations.

(B) The employer shall instruct each examining and consulting physician to:

(I) Not reveal either in the written opinion, or in any other means of communication with the employer, findings, including laboratory results, or diagnoses unrelated to an employee's occupational exposure to lead; and

(II) Advise the employee of any medical condition, occupational or nonoccupational, which dictates further medical examination or treatment.

(vi) Alternate physician determination mechanisms. The employer and an employee or authorized employee representative may agree upon the use of any expeditious alternate physician determination mechanism in lieu of the multiple physician review mechanism provided by this subsection so long as the alternate mechanism otherwise satisfies the requirements contained in this subsection.

(d) Chelation.

(i) The employer shall assure that any person whom he retains, employs, supervises or controls does not engage in prophylactic chelation of any employee at any time.

(ii) If therapeutic or diagnostic chelation is to be performed by any person in item (11)(d)(i), the employer shall assure that it be done under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring and that the employee is notified in writing prior to its occurrence.

(12) Medical removal protection.

(a) Temporary medical removal and return of an employee.

(i) Temporary removal due to elevated blood lead levels.

(A) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a periodic and a follow-up blood sampling test conducted pursuant to this section indicate that the employee's blood lead level is at or above 60 $\mu\text{g}/100\text{g}$ of whole blood; and

(B) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that the average of the last three blood sampling tests conducted pursuant to this section (or the average of all blood sampling tests conducted over the previous six months, whichever is longer) indicates that the employee's blood lead level is at or above 50 $\mu\text{g}/100\text{g}$ of whole blood; provided, however, that an employee need not be removed if the last blood sampling test indicates a blood lead level at or below 40 $\mu\text{g}/100\text{g}$ of whole blood.

(ii) Temporary removal due to a final medical determination.

(A) The employer shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

(B) For the purposes of this section, the phrase "final medical determination" shall mean the outcome of the multiple physician review mechanism or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section.

(C) Where a final medical determination results in any recommended special protective measures for an employee, or limitations on an employee's exposure to lead, the employer shall implement and act consistent with the recommendation.

(iii) Return of the employee to former job status.

(A) The employer shall return an employee to his or her former job status:

(I) For an employee removed due to a blood lead level at or above 60 $\mu\text{g}/100\text{g}$, or due to an average blood lead level at or above 50 $\mu\text{g}/100\text{g}$, when two consecutive blood sampling tests indicate that the employee's blood lead level is at or below 40 $\mu\text{g}/100\text{g}$ of whole blood;

(II) For an employee removed due to a final medical determination, when a subsequent final medical determination results in a medical finding, determination, or opinion that the employee no longer has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

(B) For the purposes of this section, the requirement that an employer return an employee to his or her former job status is not intended to expand upon or restrict any rights an employee has or would have had, absent temporary medical removal, to a specific job classification or position under the terms of a collective bargaining agreement.

(iv) Removal of other employee special protective measure or limitations. The employer shall remove any limitations placed on an employee or end any special protective measures provided to an employee pursuant to a final medical determination when a subsequent final medical determination indicates that the limitations or special protective measures are no longer necessary.

(v) Employer options pending a final medical determination. Where the multiple physician review mechanism, or alternate medical determination mechanism used pursuant to the medical surveillance provisions of this section, has not yet resulted in a final medical determination with respect to an employee, the employer shall act as follows:

(A) Removal. The employer may remove the employee from exposure to lead, provide special protective measures to the employee, or place limitations upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status.

(B) Return. The employer may return the employee to his or her former job status, end any special protective measures provided to the employee, and remove any limitations placed upon the employee, consistent with the medical findings, determinations, or recommendations of any of the physicians who have reviewed the employee's health status, with two exceptions. If:

(I) The initial removal, special protection, or limitation of the employee resulted from a final medical determination which differed from the findings, determinations, or recommendations of the initial physician; or

(II) The employee has been on removal status for the preceding eighteen months due to an elevated blood lead level, then the employer shall await a final medical determination.

(b) Medical removal protection benefits.

(i) Provision of medical removal protection benefits. The employer shall provide to an employee up to eighteen months of medical removal protection benefits on each occasion that an employee is removed from exposure to lead or otherwise limited pursuant to this section.

(ii) Definition of medical removal protection benefits. For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the earnings, seniority and other employment rights and benefits of an employee as though the employee had not been removed from normal exposure to lead or otherwise limited.

(iii) Follow-up medical surveillance during the period of employee removal or limitation. During the period of time that an employee is removed from normal exposure to lead or otherwise limited, the employer may condition the provision of medical removal protection benefits upon the employee's participation in follow-up medical surveillance made available pursuant to this section.

(iv) Workers' compensation claims. If a removed employee files a claim for workers' compensation payments for a lead-related disability, then the employer shall continue to provide medical removal protection benefits pending disposition of the claim. To the extent that an award is made to the employee for earnings lost during the period of removal, the employer's medical removal protection obligation shall be reduced by such amount. The employer shall receive no credit for workers' compensation payments received by the employee for treatment related expenses.

(v) Other credits. The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program, or receives income from employment with another employer made possible by virtue of the employee's removal.

(vi) Employees whose blood lead levels do not adequately decline within eighteen months of removal. The employer shall take the following measures with respect to any employee removed from exposure to lead due to an elevated blood lead level whose blood lead level has not declined within the past eighteen months of removal so that the employee has been returned to his or her former job status:

(A) The employer shall make available to the employee a medical examination pursuant to this section to obtain a final medical determination with respect to the employee;

(B) The employer shall assure that the final medical determination obtained indicates whether or not the employee may be returned to his or her former job status, and if not, what steps should be taken to protect the employee's health;

(C) Where the final medical determination has not yet been obtained, or once obtained indicates that the employee may not yet be returned to his or her former job status, the employer shall continue to provide medical removal protection benefits to the employee until either the employee is returned to former job status, or a final medical determination is made that the employee is incapable of ever safely returning to his or her former job status.

(D) Where the employer acts pursuant to a final medical determination which permits the return of the employee to his or her former job status despite what would otherwise be an unacceptable blood lead level, later questions concerning removing the employee again shall be decided by a final medical determination. The employer need not automatically remove such an employee pursuant to the blood lead level removal criteria provided by this section.

(vii) Voluntary removal or restriction of an employee. Where an employer, although not required by this section to do so, removes an employee from exposure to lead or otherwise places limitations on an employee due to the effects of lead exposure on the employee's medical condition, the employer shall provide medical removal protection benefits to the employee equal to that required by item (12)(b)(i) of this section.

(13) Employee information and training.

(a) Training program.

(i) Each employer who has a workplace in which there is a potential exposure to airborne lead at any level shall inform employees of the content of Appendices A and B of this regulation.

(ii) The employer shall institute a training program for and assure the participation of all employees who are subject to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists.

(iii) The employer shall provide initial training by one hundred eighty days from the effective date for those employees covered by item (13)(a)(ii) on the standard's effective date and prior to the time of initial job assignment for those employees subsequently covered by this subsection.

(iv) The training program shall be repeated at least annually for each employee.

(v) The employer shall assure that each employee is informed of the following:

(A) The content of this standard and its appendices;

(B) The specific nature of the operations which could result in exposure to lead above the action level;

(C) The purpose, proper use, limitations, and other training requirements for respiratory protection as required by chapter 296-62 WAC, Part E;

(D) The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females);

(E) The engineering controls and work practices associated with the employee's job assignment;

(F) The contents of any compliance plan in effect; and

(G) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician.

(b) Access to information and training materials.

(i) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the director.

(iii) In addition to the information required by item (13)(a)(v), the employer shall include as part of the training program, and shall distribute to employees, any materials pertaining to the Occupational Safety and Health Act, the regulations issued pursuant to the act, and this lead standard, which are made available to the employer by the director.

(14) Signs.

(a) General.

(i) The employer may use signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs required by this subsection.

(ii) The employer shall assure that no statement appears on or near any sign required by this subsection which contradicts or detracts from the meaning of the required sign.

(b) Signs.

(i) The employer shall post the following warning signs in each work area where the PEL is exceeded:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

(ii) The employer shall assure that signs required by this subsection are illuminated and cleaned as necessary so that the legend is readily visible.

(15) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and maintain an accurate record of all monitoring required in subsection (5) of this section.

(ii) This record shall include:

(A) The date(s), number, duration, location and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(B) A description of the sampling and analytical methods used and evidence of their accuracy;

(C) The type of respiratory protective devices worn, if any;

(D) Name, Social Security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and

(E) The environmental variables that could affect the measurement of employee exposure.

(iii) The employer shall maintain these monitoring records for at least forty years or for the duration of employment plus twenty years, whichever is longer.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by subsection (11) of this section.

(ii) This record shall include:

(A) The name, Social Security number, and description of the duties of the employee;

(B) A copy of the physician's written opinions;

(C) Results of any airborne exposure monitoring done for that employee and the representative exposure levels supplied to the physician; and

(D) Any employee medical complaints related to exposure to lead.

(iii) The employer shall keep, or assure that the examining physician keeps, the following medical records:

(A) A copy of the medical examination results including medical and work history required under subsection (11) of this section;

(B) A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information; and

(C) A copy of the results of biological monitoring.

(iv) The employer shall maintain or assure that the physician maintains those medical records for at least forty years, or for the duration of employment plus twenty years, whichever is longer.

(c) Medical removals.

(i) The employer shall establish and maintain an accurate record for each employee removed from current exposure to lead pursuant to subsection (12) of this section.

(ii) Each record shall include:

(A) The name and Social Security number of the employee;

(B) The date on each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to his or her former job status;

(C) A brief explanation of how each removal was or is being accomplished; and

(D) A statement with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.

(ii) The employer shall maintain each medical removal record for at least the duration of an employee's employment.

(d) Availability.

(i) The employer shall make available upon request all records required to be maintained by subsection (15) of this section to the director for examination and copying.

(ii) Environmental monitoring, medical removal, and medical records required by this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with chapter 296-802 WAC. Medical removal records shall be provided in the same manner as environmental monitoring records.

(iii) Upon request, the employer shall make an employee's medical records required to be maintained by this section available to the affected employee or former employee or to a physician or other individual designated by such affected employee or former employees for examination and copying.

(e) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by subsection (15) of this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the director at least three months prior to the disposal of such records and shall transmit those records to the director if requested within the period.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in chapter 296-802 WAC.

(16) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead conducted pursuant to subsection (5) of this section.

(b) Observation procedures.

(i) Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, the employer shall provide the observer with and assure the use

of such respirators, clothing and such equipment, and shall require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled to:

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the monitoring of lead performed at the place of exposure; and

(C) Record the results obtained or receive copies of the results when returned by the laboratory.

(17) Appendices. The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

(a) Appendix A. Substance Data Sheet for Occupational Exposure to Lead.

(i) Substance identification.

(A) Substance. Pure lead (Pb) is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds.

(B) Compounds covered by the standard. The word "lead" when used in this standard means elemental lead, all inorganic lead compounds (except those which are not biologically available due to either solubility or specific chemical interaction), and a class of organic lead compounds called lead soaps. This standard does not apply to other organic lead compounds.

(C) Uses. Exposure to lead occurs in at least 120 different occupations, including primary and secondary lead smelting, lead storage battery manufacturing, lead pigment manufacturing and use, solder manufacturing and use, shipbuilding and ship repairing, auto manufacturing, and printing.

(D) Permissible exposure. The Permissible Exposure Limit (PEL) set by the standard is 50 micrograms of lead per cubic meter of air (50 $\mu\text{g}/\text{m}^3$), averaged over an eight-hour work day.

(E) Action level. The standard establishes an action level of 30 micrograms per cubic meter of air (30 $\mu\text{g}/\text{m}^3$) time weighted average, based on an eight-hour work day. The action level initiates several requirements of the standard, such as exposure monitoring, medical surveillance, and training and education.

(ii) Health hazard data.

(A) Ways in which lead enters your body.

(I) When absorbed into your body in certain doses lead is a toxic substance. The object of the lead standard is to prevent absorption of harmful quantities of lead. The standard is intended to protect you not only from the immediate toxic effects of lead, but also from the serious toxic effects that may not become apparent until years of exposure have passed.

(II) Lead can be absorbed into your body by inhalation (breathing) and ingestion (eating). Lead (except for certain organic lead compounds not covered by the standard, such as tetraethyl lead) is not absorbed through your skin. When lead is scattered in the air as a dust, fume or mist, it can be inhaled and absorbed through your lungs and upper respiratory tract. Inhalation of airborne lead is generally the most important

source of occupational lead absorption. You can also absorb lead through your digestive system if lead gets into your mouth and is swallowed. If you handle food, cigarettes, chewing tobacco, or make-up which have lead on them or handle them with hands contaminated with lead, this will contribute to ingestion.

(III) A significant portion of the lead that you inhale or ingest gets into your blood stream. Once in your blood stream lead is circulated throughout your body and stored in various organs and body tissues. Some of this lead is quickly filtered out of your body and excreted, but some remains in your blood and other tissue. As exposure to lead continues, the amount stored in your body will increase if you are absorbing more lead than your body is excreting. Even though you may not be aware of any immediate symptoms of disease, this lead stored in your tissues can be slowly causing irreversible damage, first to individual cells, then to your organs and whole body systems.

(B) Effects of overexposure to lead.

(I) Short-term (acute) overexposure. Lead is a potent, systemic poison that serves no known useful function once absorbed by your body. Taken in large enough doses, lead can kill you in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardiorespiratory arrest. A short-term dose of lead can lead to acute encephalopathy. Short-term occupational exposures of this magnitude are highly unusual, but not impossible. Similar forms of encephalopathy may, however arise from extended, chronic exposure to lower doses of lead. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems, and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.

(II) Long-term (chronic) overexposure.

a) Chronic overexposure to lead may result in severe damage to your blood-forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain.

b) Damage to the central nervous system in general and the brain (encephalopathy) in particular is one of the most severe forms of lead poisoning. The most severe, often fatal, form of encephalopathy may be preceded by vomiting, a feeling of dullness progressing to drowsiness and stupor, poor memory, restlessness, irritability, tremor, and convulsions. It may arise suddenly with the onset of seizures, followed by coma, and death. There is a tendency for muscular weakness to develop at the same time. This weakness may progress to paralysis often observed as a characteristic "wrist drop" or "foot drop" and is a manifestation of a disease to the nervous system called peripheral neuropathy.

c) Chronic overexposure to lead also results in kidney disease with few, if any, symptoms appearing until extensive and most likely permanent kidney damage has occurred.

Routine laboratory tests reveal the presence of this kidney disease only after about two-thirds of kidney function is lost. When overt symptoms of urinary dysfunction arise, it is often too late to correct or prevent worsening conditions, and progression of kidney dialysis or death is possible.

d) Chronic overexposure to lead impairs the reproductive systems of both men and women. Overexposure to lead may result in decreased sex drive, impotence and sterility in men. Lead can alter the structure of sperm cells raising the risk of birth defects. There is evidence of miscarriage and stillbirth in women whose husbands were exposed to lead or who were exposed to lead themselves. Lead exposure also may result in decreased fertility, and abnormal menstrual cycles in women. The course of pregnancy may be adversely affected by exposure to lead since lead crosses the placental barrier and poses risks to developing fetuses. Children born of parents either one of whom were exposed to excess lead levels are more likely to have birth defects, mental retardation, behavioral disorders or die during the first year of childhood.

e) Overexposure to lead also disrupts the blood-forming system resulting in decreased hemoglobin (the substance in the blood that carries oxygen to the cells) and ultimately anemia. Anemia is characterized by weakness, pallor and fatigability as a result of decreased oxygen carrying capacity in the blood.

(III) Health protection goals of the standard.

a) Prevention of adverse health effects for most workers from exposure to lead throughout a working lifetime requires that worker blood lead (PbB) levels be maintained at or below forty micrograms per one hundred grams of whole blood (40 $\mu\text{g}/100\text{g}$). The blood lead levels of workers (both male and female workers) who intend to have children should be maintained below 30 $\mu\text{g}/100\text{g}$ to minimize adverse reproductive health effects to the parents and to the developing fetus.

b) The measurement of your blood lead level is the most useful indicator of the amount of lead absorbed by your body. Blood lead levels (PbB) are most often reported in units of milligrams (mg) or micrograms (μg) of lead (1 mg = 1000 μg) per 100 grams (100g), 100 milliliters (100 ml) or deciliter (dl) of blood. These three units are essentially the same. Sometimes PbB's are expressed in the form of mg% or $\mu\text{g}\%$. This is a shorthand notation for 100g, 100ml, or dl.

c) PbB measurements show the amount of lead circulating in your blood stream, but do not give any information about the amount of lead stored in your various tissues. PbB measurements merely show current absorption of lead, not the effect that lead is having on your body or the effects that past lead exposure may have already caused. Past research into lead-related diseases, however, has focused heavily on associations between PbBs and various diseases. As a result, your PbB is an important indicator of the likelihood that you will gradually acquire a lead-related health impairment or disease.

d) Once your blood lead level climbs above 40 $\mu\text{g}/100\text{g}$, your risk of disease increases. There is a wide variability of individual response to lead, thus it is difficult to say that a particular PbB in a given person will cause a particular effect. Studies have associated fatal encephalopathy with PbBs as

low as 150 $\mu\text{g}/100\text{g}$. Other studies have shown other forms of disease in some workers with PbBs well below 80 $\mu\text{g}/100\text{g}$. Your PbB is a crucial indicator of the risks to your health, but one other factor is extremely important. This factor is the length of time you have had elevated PbBs. The longer you have an elevated PbB, the greater the risk that large quantities of lead are being gradually stored in your organs and tissues (body burden). The greater your overall body burden, the greater the chances of substantial permanent damage.

e) The best way to prevent all forms of lead-related impairments and diseases—both short-term and long-term—is to maintain your PbB below 40 $\mu\text{g}/100\text{g}$. The provisions of the standard are designed with this end in mind. Your employer has prime responsibility to assure that the provisions of the standard are complied with both by the company and by individual workers. You as a worker, however, also have a responsibility to assist your employer in complying with the standard. You can play a key role in protecting your own health by learning about the lead hazards and their control, learning what the standard requires, following the standard where it governs your own action, and seeing that your employer complies with the provisions governing his actions.

(IV) Reporting signs and symptoms of health problems. You should immediately notify your employer if you develop signs or symptoms associated with lead poisoning or if you desire medical advice concerning the effects of current or past exposure to lead on your ability to have a healthy child. You should also notify your employer if you have difficulty breathing during a respirator fit test or while wearing a respirator. In each of these cases your employer must make available to you appropriate medical examinations or consultations. These must be provided at no cost to you and at a reasonable time and place.

(b) Appendix B. Employee Standard Summary. This appendix summarizes key provisions of the standard that you as a worker should become familiar with. The appendix discusses the entire standard.

(i) Permissible exposure limit (PEL). The standard sets a permissible exposure limit (PEL) of fifty micrograms of lead per cubic meter of air (50 $\mu\text{g}/\text{m}^3$), averaged over an eight-hour workday. This is the highest level of lead in air to which you may be permissibly exposed over an eight-hour workday. Since it is an eight-hour average it permits short exposures above the PEL so long as for each eight-hour workday your average exposure does not exceed the PEL.

(ii) Exposure monitoring.

(A) If lead is present in the work place where you work in any quantity, your employer is required to make an initial determination of whether the action level is exceeded for any employee. The initial determination must include instrument monitoring of the air for the presence of lead and must cover the exposure of a representative number of employees who are reasonably believed to have the highest exposure levels. If your employer has conducted appropriate air sampling for lead in the past year he may use these results. If there have been any employee complaints of symptoms which may be attributable to exposure to lead or if there is any other information or observations which would indicate employee exposure to lead, this must also be considered as part of the initial determination. If this initial determination shows that a rea-

sonable possibility exists that any employee may be exposed, without regard to respirators, over the action level ($30 \mu\text{g}/\text{m}^3$) your employer must set up an air monitoring program to determine the exposure level of every employee exposed to lead at your work place.

(B) In carrying out this air monitoring program, your employer is not required to monitor the exposure of every employee, but he or she must monitor a representative number of employees and job types. Enough sampling must be done to enable each employee's exposure level to be reasonably represented by at least one full shift (at least seven hours) air sample. In addition, these air samples must be taken under conditions which represent each employee's regular, daily exposure to lead.

(C) If you are exposed to lead and air sampling is performed, your employer is required to quickly notify you in writing of air monitoring results which represent your exposure. If the results indicate your exposure exceeds the PEL (without regard to your use of respirators), then your employer must also notify you of this in writing, and provide you with a description of the corrective action that will be taken to reduce your exposure.

(D) Your exposure must be rechecked by monitoring every six months if your exposure is over the action level but below the PEL. Air monitoring must be repeated every three months if you are exposed over the PEL. Your employer may discontinue monitoring for you if two consecutive measurements, taken at least two weeks apart, are below the action level. However, whenever there is a production, process, control, or personnel change at your work place which may result in new or additional exposure to lead, or whenever there is any other reason to suspect a change which may result in new or additional exposure to lead, your employer must perform additional monitoring.

(iii) Methods of compliance. Your employer is required to assure that no employee is exposed to lead in excess of the PEL. The standard establishes a priority of methods to be used to meet the PEL.

(iv) Respiratory protection.

(A) Your employer is required to provide and assure your use of respirators when your exposure to lead is not controlled below the PEL by other means. The employer must pay the cost of the respirator. Whenever you request one, your employer is also required to provide you a respirator even if your air exposure level does not exceed the PEL. You might desire a respirator when, for example, you have received medical advice that your lead absorption should be decreased. Or, you may intend to have children in the near future, and want to reduce the level of lead in your body to minimize adverse reproductive effects. While respirators are the least satisfactory means of controlling your exposure, they are capable of providing significant protection if properly chosen, fitted, worn, cleaned, maintained, and replaced when they stop providing adequate protection.

(B) Your employer is required to select respirators from the seven types listed in Table II of the respiratory protection section of this standard (see subsection (7)(c) of this section). Any respirator chosen must be certified by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 42 CFR part 84. This respirator selection table

will enable your employer to choose a type of respirator which will give you a proper amount of protection based on your airborne lead exposure. Your employer may select a type of respirator that provides greater protection than that required by the standard; that is, one recommended for a higher concentration of lead than is present in your work place. For example, a powered air purifying respirator (PAPR) is much more protective than a typical negative-pressure respirator, and may also be more comfortable to wear. A PAPR has a filter, cartridge or canister to clean the air, and a power source which continuously blows filtered air into your breathing zone. Your employer might make a PAPR available to you to ease the burden of having to wear a respirator for long periods of time. The standard provides that you can obtain a PAPR upon request.

(C) Your employer must also start a respiratory protection program. This program must include written procedures for the proper selection, use, cleaning, storage, and maintenance of respirators.

(D) Your employer must assure that your respirator facepiece fits properly. Proper fit of a respirator facepiece is critical to your protection against air borne lead. Obtaining a proper fit on each employee may require your employer to make available several different types of respirator masks. To ensure that your respirator fits properly and that facepiece leakage is minimal, your employer must give you either a qualitative or quantitative fit test as required in chapter 296-842 WAC.

(E) You must also receive from your employer proper training in the use of respirators. Your employer is required to teach you how to wear a respirator, to know why it is needed, and to understand its limitations.

(F) The standard provides that if your respirator uses filter elements, you must be given an opportunity to change the filter elements whenever an increase in breathing resistance is detected. You also must be permitted to periodically leave your work area to wash your face and respirator facepiece whenever necessary to prevent skin irritation. If you ever have difficulty breathing during a fit test or while using a respirator, your employer must make a medical examination available to you to determine whether you can safely wear a respirator. The result of this examination may be to give you a positive pressure respirator (which reduces breathing resistance) or to provide alternative means of protection.

(v) Protective work clothing and equipment. If you are exposed to lead above the PEL, or if you are exposed to lead compounds such as lead arsenate or lead azide which can cause skin and eye irritation, your employer must provide you with protective work clothing and equipment appropriate for the hazard. If work clothing is provided, it must be provided in a clean and dry condition at least weekly, and daily if your airborne exposure to lead is greater than $200 \mu\text{g}/\text{m}^3$. Appropriate protective work clothing and equipment can include coveralls or similar full-body work clothing, gloves, hats, shoes or disposable shoe coverlets, and face shields or vented goggles. Your employer is required to provide all such equipment at no cost to you. He or she is responsible for providing repairs and replacement as necessary and also is responsible for the cleaning, laundering or disposal of protective clothing and equipment. Contaminated work clothing or

equipment must be removed in change rooms and not worn home or you will extend your exposure and expose your family since lead from your clothing can accumulate in your house, car, etc. Contaminated clothing which is to be cleaned, laundered or disposed of must be placed in closed containers in the change room. At no time may lead be removed from protective clothing or equipment by any means which disperses lead into the work room air.

(vi) Housekeeping. Your employer must establish a housekeeping program sufficient to maintain all surfaces as free as practicable of accumulations of lead dust. Vacuuming is the preferred method of meeting this requirement, and the use of compressed air to clean floors and other surfaces is absolutely prohibited. Dry or wet sweeping, shoveling, or brushing may not be used except where vacuuming or other equally effective methods have been tried and do not work. Vacuums must be used and emptied in a manner which minimizes the reentry of lead into the work place.

(vii) Hygiene facilities and practices.

(A) The standard requires that change rooms, showers and filtered air lunchrooms be constructed and made available to workers exposed to lead above the PEL. When the PEL is exceeded, the employer must assure that food and beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied, except in these facilities. Change rooms, showers and lunchrooms, must be used by workers exposed in excess of the PEL. After showering, no clothing or equipment worn during the shift may be worn home and this includes shoes and underwear. Your own clothing worn during the shift should be carried home and cleaned carefully so that it does not contaminate your home. Lunchrooms may not be entered with protective clothing or equipment unless surface dust has been removed by vacuuming, downdraft booth or other cleaning methods. Finally, workers exposed above the PEL must wash both their hands and faces prior to eating, drinking, smoking or applying cosmetics.

(B) All of the facilities and hygiene practices just discussed are essential to minimize additional sources of lead absorption from inhalation or ingestion of lead that may accumulate on you, your clothes or your possessions. Strict compliance with these provisions can virtually eliminate several sources of lead exposure which significantly contribute to excessive lead absorption.

(viii) Medical surveillance.

(A) The medical surveillance program is part of the standard's comprehensive approach to the prevention of lead-related disease. Its purpose is to supplement the main thrust of the standard which is aimed at minimizing airborne concentrations of lead and sources of ingestion. Only medical surveillance can determine if the other provisions of the standard have effectively protected you as an individual. Compliance with the standard's provision will protect most workers from the adverse effects of lead exposure, but may not be satisfactory to protect individual workers (I) who have high body burdens of lead acquired over past years, (II) who have additional uncontrolled sources of nonoccupational lead exposure, (III) who exhibit unusual variations in lead absorption rates, or (IV) who have specific nonwork related medical conditions which could be aggravated by lead exposure (e.g.,

renal disease, anemia). In addition, control systems may fail, or hygiene and respirator programs may be inadequate. Periodic medical surveillance of individual workers will help detect those failures. Medical surveillance will also be important to protect your reproductive ability - regardless of whether you are a man or a woman.

(B) All medical surveillance required by the standard must be performed by or under the supervision of a licensed physician. The employer must provide required medical surveillance without cost to employees and at a reasonable time and place. The standard's medical surveillance program has two parts - periodic biological monitoring, and medical examinations.

(C) Your employer's obligation to offer medical surveillance is triggered by the results of the air monitoring program. Medical surveillance must be made available to all employees who are exposed in excess of the action level for more than 30 days a year. The initial phase of the medical surveillance program, which included blood lead level tests and medical examinations, must be completed for all covered employees no later than 180 days from the effective date of this standard. Priority within this first round of medical surveillance must be given to employees whom the employer believes to be at greatest risk from continued exposure (for example, those with the longest prior exposure to lead, or those with the highest current exposure). Thereafter, the employer must periodically make medical surveillance - both biological monitoring and medical examinations - available to all covered employees.

(D) Biological monitoring under the standard consists of blood lead level (PbB) and zinc protoporphyrin tests at least every six months after the initial PbB test. A zinc protoporphyrin (ZPP) test is a very useful blood test which measures an effect of lead on your body. If a worker's PbB exceeds 40 µg/100g, the monitoring frequency must be increased from every six months to at least every two months and not reduced until two consecutive PbBs indicate a blood lead level below 40 µg/100g. Each time your PbB is determined to be over 40 µg/100g, your employer must notify you of this in writing within five working days of the receipt of the test results. The employer must also inform you that the standard requires temporary medical removal with economic protection when your PbB exceeds certain criteria (see Discussion of Medical Removal Protection - subsection (12)). During the first year of the standard, this removal criterion is 80 µg/100g. Anytime your PbB exceeds 80 µg/100g your employer must make available to you a prompt follow-up PbB test to ascertain your PbB. If the two tests both exceed 80 µg/100g and you are temporarily removed, then your employer must make successive PbB tests available to you on a monthly basis during the period of your removal.

(E) Medical examinations beyond the initial one must be made available on an annual basis if your blood lead levels exceeds 40µg/100g at any time during the preceding year. The initial examination will provide information to establish a baseline to which subsequent data can be compared. An initial medical examination must also be made available (prior to assignment) for each employee being assigned for the first time to an area where the airborne concentration of lead equals or exceeds the action level. In addition, a medical

examination or consultation must be made available as soon as possible if you notify your employer that you are experiencing signs or symptoms commonly associated with lead poisoning or that you have difficulty breathing while wearing a respirator or during a respirator fit test. You must also be provided a medical examination or consultation if you notify your employer that you desire medical advice concerning the effects of current or past exposure to lead on your ability to procreate a healthy child.

(F) Finally, appropriate follow-up medical examinations or consultations may also be provided for employees who have been temporarily removed from exposure under the medical removal protection provisions of the standard (see item (ix) below).

(G) The standard specifies the minimum content of pre-assignment and annual medical examinations. The content of other types of medical examinations and consultations is left up to the sound discretion of the examining physician. Pre-assignment and annual medical examinations must include (I) a detailed work history and medical history, (II) a thorough physical examination, and (III) a series of laboratory tests designed to check your blood chemistry and your kidney function. In addition, at any time upon your request, a laboratory evaluation of male fertility will be made (microscopic examination of a sperm sample), or a pregnancy test will be given.

(H) The standard does not require that you participate in any of the medical procedures, tests, etc., which your employer is required to make available to you. Medical surveillance can, however, play a very important role in protecting your health. You are strongly encouraged, therefore, to participate in a meaningful fashion. Generally, your employer will choose the physician who conducts medical surveillance under the lead standard - unless you and your employer can agree on the choice of a physician or physicians. Some companies and unions have agreed in advance, for example, to use certain independent medical laboratories or panels of physicians. Any of these arrangements are acceptable so long as required medical surveillance is made available to workers.

(I) The standard requires your employer to provide certain information to a physician to aid in his or her examination of you. This information includes (I) the standard and its appendices, (II) a description of your duties as they relate to lead exposure, (III) your exposure level, (IV) a description of personal protective equipment you wear, (V) prior blood level results, and (VI) prior written medical opinions concerning you that the employer has. After a medical examination or consultation the physician must prepare a written report which must contain (I) the physician's opinion as to whether you have any medical conditions which places you at increased risk of material impairment to health from exposure to lead, (II) any recommended special protective measures to be provided to you, (III) any blood lead level determinations, and (IV) any recommended limitation on your use of respirators. This last element must include a determination of whether you can wear a powered air purifying respirator (PAPR) if you are found unable to wear a negative pressure respirator.

(J) The medical surveillance program of the lead standard may at some point in time serve to notify certain workers that they have acquired a disease or other adverse medical condition as a result of occupational lead exposure. If this is true these workers might have legal rights to compensation from public agencies, their employers, firms that supply hazardous products to their employers, or other persons. Some states have laws, including worker compensation laws, that disallow a worker to learn of a job-related health impairment to sue, unless the worker sues within a short period of time after learning of the impairment. (This period of time may be a matter of months or years.) An attorney can be consulted about these possibilities. It should be stressed that WISHA is in no way trying to either encourage or discourage claims or lawsuits. However, since results of the standard's medical surveillance program can significantly affect the legal remedies of a worker who has acquired a job-related disease or impairment, it is proper for WISHA to make you aware of this.

(K) The medical surveillance section of the standard also contains provisions dealing with chelation. Chelation is the use of certain drugs (administered in pill form or injected into the body) to reduce the amount of lead absorbed in body tissues. Experience accumulated by the medical and scientific communities has largely confirmed the effectiveness of this type of therapy for the treatment of very severe lead poisoning. On the other hand it has also been established that there can be a long list of extremely harmful side effects associated with the use of chelating agents. The medical community has balanced the advantages and disadvantages resulting from the use of chelating agents in various circumstances and has established when the use of these agents is acceptable. The standard includes these accepted limitations due to a history of abuse of chelation therapy by some lead companies. The most widely used chelating agents are calcium disodium EDTA, (Ca Na₂EDTA), Calcium Disodium Versenate (Versenate), and d-penicillamine (penicillamine or Cupramine).

(L) The standard prohibits "prophylactic chelation" of any employee by any person the employer retains, supervises or controls. "Prophylactic chelation" is the routine use of chelating or similarly acting drugs to prevent elevated blood levels in workers who are occupationally exposed to lead, or the use of these drugs to routinely lower blood lead levels to predesignated concentrations believed to be safe. It should be emphasized that where an employer takes a worker who has no symptoms of lead poisoning and has chelation carried out by a physician (either inside or outside of a hospital) solely to reduce the worker's blood lead level, that will generally be considered prophylactic chelation. The use of a hospital and a physician does not mean that prophylactic chelation is not being performed. Routine chelation to prevent increased or reduce current blood lead levels is unacceptable whatever the setting.

(M) The standard allows the use of "therapeutic" or "diagnostic" chelation if administered under the supervision of a licensed physician in a clinical setting with thorough and appropriate medical monitoring. Therapeutic chelation responds to severe lead poisoning where there are marked symptoms. Diagnostic chelation, involves giving a patient a

dose of the drug then collecting all urine excreted for some period of time as an aid to the diagnosis of lead poisoning.

(N) In cases where the examining physician determines that chelation is appropriate, you must be notified in writing of this fact before such treatment. This will inform you of a potentially harmful treatment, and allow you to obtain a second opinion.

(ix) Medical removal protection.

(A) Excessive lead absorption subjects you to increased risk of disease. Medical removal protection (MRP) is a means of protecting you when for whatever reasons, other methods, such as engineering controls, work practices, and respirators, have failed to provide the protection you need. MRP involves the temporary removal of a worker from his or her regular job to a place of significantly lower exposure without any loss of earnings, seniority, or other employment rights of benefits. The purpose of this program is to cease further lead absorption and allow your body to naturally excrete lead which has previously been absorbed. Temporary medical removal can result from an elevated blood lead level, or a medical opinion. Up to eighteen months of protection is provided as a result of either form of removal. The vast majority of removed workers, however, will return to their former jobs long before this eighteen month period expires. The standard contains special provisions to deal with the extraordinary but possible case where a long-term worker's blood lead level does not adequately decline during eighteen months of removal.

(B) During the first year of the standard, if your blood lead level is 80 µg/100g or above you must be removed from any exposure where your air lead level without a respirator would be 100 µg/m³ or above. If you are removed from your normal job you may not be returned until your blood lead level declines to at least 60 µg/100g. These criteria for removal and return will change according to the following schedule:

TABLE 1

| Effective Date | Removal Blood Level (µg/100g) | Air Lead (µg/m ³) | Return Blood Lead (µg/100g) |
|----------------|---|-------------------------------|-----------------------------|
| 9/6/81 | At or above 70 | 50 or above | At or below 50 |
| 9/6/82 | At or above 60 | 30 or above | At or below 40 |
| 9/6/84 | At or above 50 averaged over six months | 30 or above | At or below 40 |

(C) You may also be removed from exposure even if your blood lead levels are below these criteria if a final medical determination indicates that you temporarily need reduced lead exposure for medical reasons. If the physician who is implementing your employer's medical program makes a final written opinion recommending your removal or other special protective measures, your employer must implement the physician's recommendation. If you are removed in this manner, you may only be returned when the physician indicates it is safe for you to do so.

(D) The standard does not give specific instructions dealing with what an employer must do with a removed worker. Your job assignment upon removal is a matter for you, your employer and your union (if any) to work out consistent with existing procedures for job assignments. Each removal must be accomplished in a manner consistent with existing collective bargaining relationships. Your employer is given broad discretion to implement temporary removals so long as no attempt is made to override existing agreements. Similarly, a removed worker is provided no right to veto an employer's choice which satisfies the standard.

(E) In most cases, employers will likely transfer removed employees to other jobs with sufficiently low lead exposure. Alternatively, a worker's hours may be reduced so that the time weighted average exposure is reduced, or he or she may be temporarily laid off if no other alternative is feasible.

(F) In all of these situations, MRP benefits must be provided during the period of removal - i.e., you continue to receive the same earnings, seniority, and other rights and benefits you would have had if you had not been removed. Earnings include more than just your base wage; it includes overtime, shift differentials, incentives, and other compensation you would have earned if you had not been removed. During the period of removal you must also be provided with appropriate follow-up medical surveillance. If you were removed because your blood lead level was too high, you must be provided with a monthly blood test. If a medical opinion caused your removal, you must be provided medical tests or examinations that the physician believes to be appropriate. If you do not participate in this follow-up medical surveillance, you may lose your eligibility for MRP benefits.

(G) When you are medically eligible to return to your former job, your employer must return you to your "former job status." This means that you are entitled to the position, wages, benefits, etc., you would have had if you had not been removed. If you would still be in your old job if no removal had occurred, that is where you go back. If not, you are returned consistent with whatever job assignment discretion your employer would have had if no removal had occurred. MRP only seeks to maintain your rights, not expand them or diminish them.

(H) If you are removed under MRP and you are also eligible for worker compensation or other compensation for lost wages, your employer's MRP benefits obligation is reduced by the amount that you actually receive from these other sources. This is also true if you obtain other employment during the time you are laid off with MRP benefits.

(I) The standard also covers situations where an employer voluntarily removes a worker from exposure to lead due to the effects of lead on the employee's medical condition, even though the standard does not require removal. In these situations MRP benefits must still be provided as though the standard required removal. Finally, it is important to note that in all cases where removal is required, respirators cannot be used as a substitute. Respirators may be used before removal becomes necessary, but not as an alternative to a transfer to a low exposure job, or to a lay-off with MRP benefits.

(x) Employee information and training.

(A) Your employer is required to provide an information and training program for all employees exposed to lead above the action level or who may suffer skin or eye irritation from lead. This program must inform these employees of the specific hazards associated with their work environment, protective measures which can be taken, the danger of lead to their bodies (including their reproductive systems), and their rights under the standard. In addition, your employer must make readily available to all employees, including those exposed below the action level, a copy of the standard and its appendices and must distribute to all employees any materials provided to the employer under the Washington Industrial Safety and Health Act (WISHA).

(B) Your employer is required to complete this training for all employees by March 4, 1981. After this date, all new employees must be trained prior to initial assignment to areas where there is possibility of exposure over the action level. This training program must also be provided at least annually thereafter.

(xi) Signs. The standard requires that the following warning sign be posted in work areas where the exposure to lead exceeds the PEL:

WARNING
LEAD WORK AREA
NO SMOKING OR EATING

(xii) Recordkeeping.

(A) Your employer is required to keep all records of exposure monitoring for airborne lead. These records must include the name and job classification of employees measured, details of the sampling and analytic techniques, the results of this sampling and the type of respiratory protection being worn by the person sampled. Your employer is also required to keep all records of biological monitoring and medical examination results. These must include the names of the employees, the physician's written opinion and a copy of the results of the examination. All of the above kinds of records must be kept for 40 years, or for at least 20 years after your termination of employment, whichever is longer.

(B) Recordkeeping is also required if you are temporarily removed from your job under the MRP program. This record must include your name and Social Security number, the date of your removal and return, how the removal was or is being accomplished, and whether or not the reason for the removal was an elevated blood lead level. Your employer is required to keep each medical removal record only for as long as the duration of an employee's employment.

(C) The standard requires that if you request to see or copy environmental monitoring, blood lead level monitoring, or medical removal records, they must be made available to you or to a representative that you authorize. Your union also has access to these records. Medical records other than PbBs must also be provided to you upon request, to your physician or to any other person whom you may specifically designate. Your union does not have access to your personal medical records unless you authorize their access.

(xiii) Observations of monitoring. When air monitoring for lead is performed at your work place as required by this standard, your employer must allow you or someone you designate to act as an observer of the monitoring. Observers are

entitled to an explanation of the measurement procedure, and to record the results obtained. Since results will not normally be available at the time of the monitoring, observers are entitled to record or receive the results of the monitoring when returned by the laboratory. Your employer is required to provide the observer with any personal protective devices required to be worn by employees working in the areas that is being monitored. The employer must require the observer to wear all such equipment and to comply with all other applicable safety and health procedures.

(xiv) Effective date. The standard's effective date is September 6, 1980, and the employer's obligation under the standard begin to come into effect as of that date. The standard was originally adopted as WAC 296-62-07349 and later recodified to WAC 296-62-07521.

(c) Appendix C. Medical Surveillance Guidelines.

(i) Introduction.

(A) The primary purpose of the Washington Industrial Safety and Health Act of 1973 is to assure, so far as possible, safe and healthful working conditions for every working man and woman. The occupational health standard for inorganic lead* was promulgated to protect workers exposed to inorganic lead including metallic lead, all inorganic lead compounds and organic lead soaps.

*The term inorganic lead used throughout the medical surveillance appendices is meant to be synonymous with the definition of lead set forth in the standard.

(B) Under this final standard in effect as of September 6, 1980, occupational exposure to inorganic lead is to be limited to 50 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter) based on an eight-hour time-weighted average (TWA). This level of exposure eventually must be achieved through a combination of engineering, work practice and other administrative controls. Periods of time ranging from one to ten years are provided for different industries to implement these controls which are based on individual industry considerations. Until these controls are in place, respirators must be used to meet the 50 $\mu\text{g}/\text{m}^3$ exposure limit.

(C) The standard also provides for a program of biological monitoring and medical surveillance for all employees exposed to levels of inorganic lead above the action level of 30 $\mu\text{g}/\text{m}^3$ for more than thirty days per year.

(D) The purpose of this document is to outline the medical surveillance provisions of the standard for inorganic lead, and to provide further information to the physician regarding the examination and evaluation of workers exposed to inorganic lead.

(E) Item (ii) provides a detailed description of the monitoring procedure including the required frequency of blood testing for exposed workers, provisions for medical removal protection (MRP), the recommended right of the employee to a second medical opinion, and notification and recordkeeping requirements of the employer. A discussion of the requirements for respirator use and respirator monitoring and WISHA's position on prophylactic chelation therapy are also included in this section.

(F) Item (iii) discusses the toxic effects and clinical manifestations of lead poisoning and effects of lead intoxication on enzymatic pathways in heme synthesis. The adverse

effects on both male and female reproductive capacity and on the fetus are also discussed.

(G) Item (iv) outlines the recommended medical evaluation of the worker exposed to inorganic lead including details of the medical history, physical examination, and recommended laboratory tests, which are based on the toxic effects of lead as discussed in item (ii).

(H) Item (v) provides detailed information concerning the laboratory tests available for the monitoring of exposed workers. Included also is a discussion of the relative value of each test and the limitations and precautions which are necessary in the interpretation of the laboratory results.

(I) Airborne levels to be achieved without reliance on respirator protection through a combination of engineering and work practice or other administrative controls are illustrated in the following table:

| Industry | Permissible Lead Level/Compliance Date | | |
|---|--|----------------------|---------------------|
| | 200µg/m ³ | 100µg/m ³ | 50µg/m ³ |
| Primary Lead Production | 1973 | 06/29/84 | 06/29/91 |
| Secondary Lead Production | 1973 | 06/29/84 | 06/29/91 |
| Lead Acid Battery Manufacturing | 1973 | 06/29/83 | 06/29/91 |
| Automobile Mfg./Solder, Grinding | 1973 | N/A | 03/08/97 |
| Electronics, Gray Iron Foundries, Ink Mfg., Paints and Coatings Mfg., Can Mfg., Wallpaper Mfg., and Printing. | 1973 | N/A | 06/29/91 |
| Lead Chemical Mfg., Nonferrous Foundries, Leaded Steel Mfg., Battery Breaking in the Collection and Processing of Scrap (when not a part of secondary lead smelter) | | | |
| Secondary Copper Smelter, Brass and Bronze Ingot Production. | 1973 | N/A | N/A ¹ * |
| All Other Industries | 1973 | N/A | 09/08/92 |

* Feasibility of achieving the PEL by engineering and work practice controls for these industries has yet to be resolved in court, therefore no date has been scheduled.

(ii) Medical surveillance and monitoring requirements for workers exposed to inorganic lead.

(A) Under the occupational health standard for inorganic lead, a program of biological monitoring and medical surveillance is to be made available to all employees exposed to lead above the action level of 30 µg/m³ TWA for more than thirty days each year. This program consists of periodic blood sampling and medical evaluation to be performed on a schedule which is defined by previous laboratory results, worker complaints or concerns, and the clinical assessment of the examining physician.

(B) Under this program, the blood lead level of all employees who are exposed to lead above the action level of 30 µg/m³ is to be determined at least every six months. The frequency is increased to every two months for employees whose last blood lead level was between 40µg/100g whole

blood and the level requiring employee medical removal to be discussed below. For employees who are removed from exposure to lead due to an elevated blood lead, a new blood lead level must be measured monthly. Zinc protoporphyrin (ZPP) measurement is required on each occasion that a blood lead level measurement is made.

(C) An annual medical examination and consultation performed under the guidelines discussed in item (iv) is to be made available to each employee for whom a blood test conducted at any time during the preceding twelve months indicated a blood lead level at or above 40 µg/100g. Also, an examination is to be given to all employees prior to their assignment to an area in which airborne lead concentrations reach or exceed the action level. In addition, a medical examination must be provided as soon as possible after notification by an employee that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice regarding lead exposure and the ability to procreate a healthy child, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during respirator use. An examination is also to be made available to each employee removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited or specially protected pursuant to medical recommendations.

(D) Results of biological monitoring or the recommendations of an examining physician may necessitate removal of an employee from further lead exposure pursuant to the standard's medical removal program (MRP). The object of the MRP program is to provide temporary medical removals to workers either with substantially elevated blood lead levels or otherwise at risk of sustaining material health impairment from continued substantial exposure to lead. The following guidelines which are summarized in Table 10 were created under the standard for the temporary removal of an exposed employee and his or her subsequent return to work in an exposure area.

TABLE 10
EFFECTIVE DATE

| | Sept. 6, 1980 | Sept. 6, 1981 | Sept. 6, 1982 | Sept. 6, 1983 | Sept. 6, 1984 |
|--|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|---|
| A. Blood lead level requiring employee medical removal (level must be confirmed with second follow-up blood lead level within two weeks of first report). | >80 µg/100g. | >70 µg/100g. | >60 µg/100g. | >60 µg/100g. | >60 µg/100g or average of last three blood samples or all blood samples over previous 6 months (whichever is over a longer time period) is 50 µg/100g. or greater unless last sample is 40 µg/100g or less. |
| B. Frequency which employees exposed is action level of lead (30 µg/m ⁸ TWA) must have blood lead level checked. (ZPP is also required in each occasion that a blood test is obtained): | | | | | |
| 1. Last blood lead level less than 40 µg/100g | Every 6 months. | Every 6 months. | Every 6 months. | Every 6 months. | Every 6 months. |
| 2. Last blood lead level between 40 µg/100g and level requiring medical removal (see A above) | Every 2 months. | Every 2 months. | Every 2 months. | Every 2 months. | Every 2 months. |
| 3. Employees removed from exposure to lead because of an elevated blood lead level | Every 1 month. | Every 1 month. | Every 1 month. | Every 1 month. | Every 1 month. |
| C. Permissible airborne exposure limit for workers removed from work due to an elevated blood lead level (without regard to respirator protection). | 100 µg/m ³ 8 hr TWA | 50 µg/m ³ 8 hr TWA | 30 µg/m ³ 8 hr TWA | 30 µg/m ³ 8 hr TWA | 30 µg/m ³ 8 hr TWA |

TABLE 10

EFFECTIVE DATE

| | Sept. 6, 1980 | Sept. 6, 1981 | Sept. 6, 1982 | Sept. 6, 1983 | Sept. 6, 1984 |
|--|---------------|---------------|---------------|---------------|---------------|
| D. Blood lead level confirmed with a second blood analysis, at which employee may return to work. Permissible exposure without regard to respirator protection is listed by industry in Table 1. | 60 µg/100g | 50 µg/100g | 40 µg/100g | 40 µg/100g | 40 µg/100g |

Note: Where medical opinion indicates that an employee is at risk of material impairment from exposure to lead, the physician can remove an employee from exposure exceeding the action level (or less) or recommend special protective measures as deemed appropriate and necessary. Medical monitoring during the medical removal period can be more stringent than noted in the table above if the physician so specifies. Return to work or removal of limitations and special protections is permitted when the physician indicates that the worker is no longer at risk of material impairment.

(E) Under the standard's ultimate worker removal criteria, a worker is to be removed from any work having any eight-hour TWA exposure to lead of 30 µg/m³ or more whenever either of the following circumstances apply. (I) a blood lead level of 60 µg/100g or greater is obtained and confirmed by a second follow-up blood lead level performed within two weeks after the employer receives the results of the first blood sample test, or (II) the average of the previous three blood lead determinations or the average of all blood lead determinations conducted during the previous six months, whichever encompasses the longest time period, equals or exceeds 50 µg/100g, unless the last blood sample indicates a blood lead level at or below 40 µg/100g, in which case the employee need not be removed. Medical removal is to continue until two consecutive blood lead levels are 40 µg/100g or less.

(F) During the first two years that the ultimate removal criteria are being phased in, the return criteria have been set to assure that a worker's blood lead level has substantially declined during the period of removal. From March 1, 1979, to March 1, 1980, the blood lead level requiring employee medical removal is 80 µg/100g. Workers found to have a confirmed blood lead at this level or greater need only be removed from work having a daily eight hour TWA exposure to lead at or above 100 µg/m³. Workers so removed are to be returned to work when their blood lead levels are at or below 60 µg/100g of whole blood. From March 1, 1980, to March 1, 1981, the blood lead level requiring medical removal is 70 µg/100g. During this period workers need only be removed from jobs having a daily eight hour TWA exposure to lead at or above 50 µg/m³ and are to be returned to work when a level of 50 µg/100g is achieved. Beginning March 1, 1981, return depends on the worker's blood lead level declining to 40 µg/100g of whole blood.

(G) As part of the standard, the employer is required to notify in writing each employee whose whole blood lead level exceeds 40 µg/100g. In addition, each such employee is to be informed that the standard requires medical removal with MRP benefits, discussed below, when an employee's blood lead level exceeds the above defined limits.

(H) In addition to the above blood lead level criteria, temporary worker removal may also take place as a result of medical determinations and recommendations. Written medical opinions must be prepared after each examination pursuant to the standard. If the examining physician includes medical finding, determination or opinion that the employee has a medical condition which places the employee at increased risk of material health impairment from exposure to lead, then the employee must be removed from exposure to lead at or above the action level. Alternatively, if the examining physician recommends special protective measures for an employee (e.g., use of a powered air purifying respirator) or recommends limitations on an employee's exposure to lead, then the employer must implement these recommendations. Recommendations may be more stringent than the specific provisions of the standard. The examining physician, therefore, is given broad flexibility to tailor special protective procedures to the needs of individual employees. This flexibility extends to the evaluation and management of pregnant workers and male and female workers who are planning to conceive children. Based on the history, physical examination, and laboratory studies, the physician might recommend special protective measures or medical removal for an employee who is pregnant or who is planning to conceive a child when, in the physician's judgment, continued exposure to lead at the current job would pose a significant risk. The return of the employee to his or her former job status, or the removal of special protections or limitations, depends upon the examining physician determining that the employee is no longer at increased risk of material impairment or that the special measures are no longer needed.

(I) During the period of any form of special protection or removal, the employer must maintain the worker's earnings, seniority, and other employment rights and benefits (as though the worker has not been removed) for a period of up to eighteen months. This economic protection will maximize meaningful worker participation in the medical surveillance program, and is appropriate as part of the employer's overall obligation to provide a safe and healthful work place. The provisions of MRP benefits during the employee's removal period may, however, be conditioned upon participation in medical surveillance.

(J) On rare occasions, an employee's blood lead level may not acceptably decline within eighteen months of removal. This situation will arise only in unusual circumstances, thus the standard relies on an individual medical examination to determine how to protect such an employee. This medical determination is to be based on both laboratory values, including lead levels, zinc protoporphyrin levels, blood counts, and other tests felt to be warranted, as well as the physician's judgment that any symptoms or findings on physical examination are a result of lead toxicity. The medical determination may be that the employee is incapable of ever safely returning to his or her former job status. The medical determination may provide additional removal time past eighteen months for some employees or specify special protective measures to be implemented.

(K) The lead standard provides for a multiple physician review in cases where the employee wishes a second opinion concerning potential lead poisoning or toxicity. If an employee wishes a second opinion, he or she can make an appointment with a physician of his or her choice. This second physician will review the findings, recommendations or determinations of the first physician and conduct any examinations, consultations or tests deemed necessary in an attempt to make a final medical determination. If the first and second physicians do not agree in their assessment they must try to resolve their differences. If they cannot reach an agreement then they must designate a third physician to resolve the dispute.

(L) The employer must provide examining and consulting physicians with the following specific information: A copy of the lead regulations and all appendices, a description of the employee's duties as related to exposure, the exposure level to lead and any other toxic substances (if applicable), a description of personal protective equipment used, blood lead levels, and all prior written medical opinions regarding the employee in the employer's possession or control. The employer must also obtain from the physician and provide the employee with a written medical opinion containing blood lead levels, the physician's opinion as to whether the employee is at risk of material impairment to health, any recommended protective measures for the employee if further exposure is permitted, as well as any recommended limitations upon an employee's use of respirators.

(M) Employers must instruct each physician not to reveal to the employer in writing or in any other way his or her findings, laboratory results, or diagnoses which are felt to be unrelated to occupational lead exposure. They must also instruct each physician to advise the employee of any occupationally or nonoccupationally related medical condition requiring further treatment or evaluation.

(N) The standard provides for the use of respirators when engineering and other primary controls have not been fully implemented. However, the use of respirator protection shall not be used in lieu of temporary medical removal due to elevated blood lead levels or findings that an employee is at risk of material health impairment. This is based on the numerous inadequacies of respirators including skin rash where the facepiece makes contact with the skin, unacceptable stress to breathing in some workers with underlying cardiopulmonary impairment, difficulty in providing adequate fit, the tendency

for respirators to create additional hazards by interfering with vision, hearing, and mobility, and the difficulties of assuring the maximum effectiveness of a complicated work practice program involving respirators. Respirators do, however, serve a useful function where engineering and work practice are inadequate by providing interim or short-term protection, provided they are properly selected for the environment in which the employee will be working, properly fitted to the employee, maintained and cleaned periodically, and worn by the employee when required.

(O) In its final standard on occupational exposure to inorganic lead, WISHA has prohibited prophylactic chelation. Diagnostic and therapeutic chelation are permitted only under the supervision of a licensed physician with appropriate medical monitoring in an acceptable clinical setting. The decision to initiate chelation therapy must be made on an individual basis and take into account the severity of symptoms felt to be a result of lead toxicity along with blood lead levels, ZPP levels and other laboratory tests as appropriate. EDTA and penicillamine, which are the primary chelating agents used in the therapy of occupational lead poisoning, have significant potential side effects and their use must be justified on the basis of expected benefits to the worker.

(P) Unless frank and severe symptoms are present, therapeutic chelation is not recommended given the opportunity to remove a worker from exposure and allow the body to naturally excrete accumulated lead. As a diagnostic aid, the chelation mobilization test using CA-EDTA has limited applicability. According to some investigators, the tests can differentiate between lead-induced and other nephropathies. The test may also provide an estimation of the mobile fraction of the total body lead burden.

(Q) Employers are required to assure that accurate records are maintained on exposure monitoring, medical surveillance, and medical removal for each employee. Exposure monitoring and medical surveillance records must be kept for forty years or the duration of employment plus twenty years, whichever is longer, while medical removal records must be maintained for the duration of employment. All records required under the standard must be made available upon request to representatives of the director of the department of labor and industries. Employers must also make environmental and biological monitoring and medical removal records available to affected employees and to former employees or their authorized employee representatives. Employees or their specifically designated representatives have access to their entire medical surveillance records.

(R) In addition, the standard requires that the employer inform all workers exposed to lead at or above the action level of the provisions of the standard and all its appendices, the purpose and description of medical surveillance and provisions for medical removal protection if temporary removal is required. An understanding of the potential health effects of lead exposure by all exposed employees along with full understanding of their rights under the lead standard is essential for an effective monitoring program.

(iii) Adverse health effects of inorganic lead.

(A) Although the toxicity of lead has been known for 2,000 years, the knowledge of the complex relationship between lead exposure and human response is still being

refined. Significant research into the toxic properties of lead continues throughout the world, and it should be anticipated that our understanding of thresholds of effects and margins of safety will be improved in future years. The provisions of the lead standard are founded on two prime medical judgments; first, the prevention of adverse health effects from exposure to lead throughout a working lifetime requires that worker blood lead levels be maintained at or below 40 $\mu\text{g}/100\text{g}$, and second, the blood lead levels of workers, male or female, who intend to parent in the near future should be maintained below 30 $\mu\text{g}/100\text{g}$ to minimize adverse reproduction health effects to the parent and developing fetus. The adverse effects of lead on reproduction are being actively researched and WISHA encourages the physician to remain abreast of recent developments in the area to best advise pregnant workers or workers planning to conceive children.

(B) The spectrum of health effects caused by lead exposure can be subdivided into five developmental states; normal, physiological changes of uncertain significance, pathophysiological changes, overt symptoms (morbidity), and mortality. Within this process there are no sharp distinctions, but rather a continuum of effects. Boundaries between categories overlap due to the wide variation of individual responses and exposures in the working population. WISHA's development of the lead standard focused on pathophysiological changes as well as later stages of disease.

(I) Heme synthesis inhibition.

a) The earliest demonstrated effect of lead involves its ability to inhibit at least two enzymes of the heme synthesis pathway at very low blood levels. Inhibition of delta aminolevulinic acid dehydrase (ALA-D) which catalyzes the conversion of delta-aminolevulinic acid (ALA) to protoporphyrin is observed at a blood lead level below 20 $\mu\text{g}/100\text{g}$ whole blood. At a blood lead level of 40 $\mu\text{g}/100\text{g}$, more than twenty percent of the population would have seventy percent inhibition of ALA-D. There is an exponential increase in ALA excretion at blood lead levels greater than 40 $\mu\text{g}/100\text{g}$.

b) Another enzyme, ferrochelatase, is also inhibited at low blood lead levels. Inhibition of ferrochelatase leads to increased free erythrocyte protoporphyrin (FEP) in the blood which can then bind to zinc to yield zinc protoporphyrin. At a blood lead level of 50 $\mu\text{g}/100\text{g}$ or greater, nearly 100 percent of the population will have an increase FEP. There is also an exponential relationship between blood lead levels greater than 40 $\mu\text{g}/100\text{g}$ and the associated ZPP level, which has led to the development of the ZPP screening test for lead exposure.

c) While the significance of these effects is subject to debate, it is WISHA's position that these enzyme disturbances are early stages of a disease process which may eventually result in the clinical symptoms of lead poisoning. Whether or not the effects do progress to the later stages of clinical disease, disruption of these enzyme processes over a working lifetime is considered to be a material impairment of health.

d) One of the eventual results of lead-induced inhibition of enzymes in the heme synthesis pathway is anemia which can be asymptomatic if mild but associated with a wide array of symptoms including dizziness, fatigue, and tachycardia

when more severe. Studies have indicated that lead levels as low as 50 $\mu\text{g}/100\text{g}$ can be associated with a definite decreased hemoglobin, although most cases of lead-induced anemia, as well as shortened red-cell survival times, occur at lead levels exceeding 80 $\mu\text{g}/100\text{g}$. Inhibited hemoglobin synthesis is more common in chronic cases whereas shortened erythrocyte life span is more common in acute cases.

e) In lead-induced anemias, there is usually a reticulocytosis along with the presence of basophilic stippling, and ringed sideroblasts, although none of the above are pathognomonic for lead-induced anemia.

(II) Neurological effects.

a) Inorganic lead had been found to have toxic effects on both the central and peripheral nervous systems. The earliest stage of lead-induced central nervous system effects first manifest themselves in the form of behavioral disturbances and central nervous system symptoms including irritability, restlessness, insomnia and other sleep disturbances, fatigue, vertigo, headache, poor memory, tremor, depression, and apathy. With more severe exposure, symptoms can progress to drowsiness, stupor, hallucinations, delirium, convulsions and coma.

b) The most severe and acute form of lead poisoning which usually follows ingestion or inhalation of large amounts of lead is acute encephalopathy which may arise precipitously with the onset of intractable seizures, coma, cardiorespiratory arrest, and death within 48 hours.

c) While there is disagreement about what exposure levels are needed to produce the earliest symptoms, most experts agree that symptoms definitely can occur at blood lead levels of 60 $\mu\text{g}/100\text{g}$ whole blood and therefore recommend a 40 $\mu\text{g}/100\text{g}$ maximum. The central nervous system effects frequently are not reversible following discontinued exposure or chelation therapy and when improvement does occur, it is almost always only partial.

d) The peripheral neuropathy resulting from lead exposure characteristically involves only motor function with minimal sensory damage and has a marked predilection for the extensor muscles of the most active extremity. The peripheral neuropathy can occur with varying degrees of severity. The earliest and mildest form which can be detected in workers with blood lead levels as low as 50 $\mu\text{g}/100\text{g}$ is manifested by slowing or motor nerve conduction velocity often without clinical symptoms. With progression of the neuropathy there is development of painless extensor muscle weakness usually involving the extensor muscles of the fingers and hand in the most active upper extremity, followed in severe cases by wrist drop, much less commonly, foot drop.

e) In addition to slowing of nerve conduction, electromyographical studies in patients with blood lead levels greater than 50 $\mu\text{g}/100\text{g}$ have demonstrated a decrease in the number of acting motor unit potentials, an increase in the duration of motor unit potentials, and spontaneous pathological activity including fibrillations and fasciculation. Whether these effects occur at levels of 40 $\mu\text{g}/100\text{g}$ is undetermined.

f) While the peripheral neuropathies can occasionally be reversed with therapy, again such recovery is not assured particularly in the more severe neuropathies and often improve-

ment is only partial. The lack of reversibility is felt to be due in part to segmental demyelination.

(III) Gastrointestinal. Lead may also effect the gastrointestinal system producing abdominal colic or diffuse abdominal pain, constipation, obstipation, diarrhea, anorexia, nausea and vomiting. Lead colic rarely develops at blood lead levels below 80 $\mu\text{g}/100\text{g}$.

(IV) Renal.

a) Renal toxicity represents one of the most serious health effects of lead poisoning. In the early stages of disease nuclear inclusion bodies can frequently be identified in proximal renal tubular cells. Renal functions remain normal and the changes in this stage are probably reversible. With more advanced disease there is progressive interstitial fibrosis and impaired renal function. Eventually extensive interstitial fibrosis ensues with sclerotic glomeruli and dilated and atrophied proximal tubules; all represent end stage kidney disease. Azotemia can be progressive, eventually resulting in frank uremia necessitating dialysis. There is occasionally associated hypertension and hyperuricemia with or without gout.

b) Early kidney disease is difficult to detect. The urinalysis is normal in early lead nephropathy and the blood urea nitrogen and serum creatinine increase only when two-thirds of kidney function is lost. Measurement of creatinine clearance can often detect earlier disease as can other methods of measurement of glomerular filtration rate. An abnormal CA-EDTA mobilization test has been used to differentiate between lead-induced and other nephropathies, but this procedure is not widely accepted. A form of Fanconi syndrome with aminoaciduria, glycosuria, and hyperphosphaturia indicating severe injury to the proximal renal tubules is occasionally seen in children.

(V) Reproductive effects.

a) Exposure to lead can have serious effects on reproductive function in both males and females. In male workers exposed to lead there can be a decrease in sexual drive, impotence, decreased ability to produce healthy sperm, and sterility. Malformed sperm (teratospermia), decreased number of sperm (hypospermia), and sperm with decreased motility (asthenospermia) can occur. Teratospermia has been noted at mean blood lead levels of 53 $\mu\text{g}/100\text{g}$ and hypospermia and asthenospermia at 41 $\mu\text{g}/100\text{g}$. Furthermore, there appears to be a dose-response relationship for teratospermia in lead exposed workers.

b) Women exposed to lead may experience menstrual disturbances including dysmenorrhea, menorrhagia and amenorrhea. Following exposure to lead, women have a higher frequency of sterility, premature births, spontaneous miscarriages, and stillbirths.

c) Germ cells can be affected by lead and cause genetic damage in the egg or sperm cells before conception and result in failure to implant, miscarriage, stillbirth, or birth defects.

d) Infants of mothers with lead poisoning have a higher mortality during the first year and suffer from lowered birth weights, slower growth, and nervous system disorders.

e) Lead can pass through the placental barrier and lead levels in the mother's blood are comparable to concentrations of lead in the umbilical cord at birth. Transplacental passage

becomes detectable at 12-14 weeks of gestation and increases until birth.

f) There is little direct data on damage to the fetus from exposure to lead but it is generally assumed that the fetus and newborn would be at least as susceptible to neurological damage as young children. Blood lead levels of 50-60 $\mu\text{g}/100\text{g}$ in children can cause significant neurobehavioral impairments, and there is evidence of hyperactivity at blood levels as low as 25 $\mu\text{g}/100\text{g}$. Given the overall body of literature concerning the adverse health effects of lead in children, WISHA feels that the blood lead level in children should be maintained below 30 $\mu\text{g}/100\text{g}$ with a population mean of 15 $\mu\text{g}/100\text{g}$. Blood lead levels in the fetus and newborn likewise should not exceed 30 $\mu\text{g}/100\text{g}$.

g) Because of lead's ability to pass through the placental barrier and also because of the demonstrated adverse effects of lead on reproductive function in both males and females as well as the risk of genetic damage of lead on both the ovum and sperm, WISHA recommends a 30 $\mu\text{g}/100\text{g}$ maximum permissible blood lead level in both males and females who wish to bear children.

~~((IV))~~ (VI) Other toxic effects.

a) Debate and research continue on the effects of lead on the human body. Hypertension has frequently been noted in occupationally exposed individuals although it is difficult to assess whether this is due to lead's adverse effects on the kidneys or if some other mechanism is involved.

b) Vascular and electrocardiographic changes have been detected but have not been well characterized. Lead is thought to impair thyroid function and interfere with the pituitary-adrenal axis, but again these effects have not been well defined.

(iv) Medical evaluation.

(A) The most important principle in evaluating a worker for any occupational disease including lead poisoning is a high index of suspicion on the part of the examining physician. As discussed in Section (ii), lead can affect numerous organ systems and produce a wide array of signs and symptoms, most of which are nonspecific and subtle in nature at least in the early stages of disease. Unless serious concern for lead toxicity is present, many of the early clues to diagnosis may easily be overlooked.

(B) The crucial initial step in the medical evaluation is recognizing that a worker's employment can result in exposure to lead. The worker will frequently be able to define exposures to lead and lead-containing materials but often will not volunteer this information unless specifically asked. In other situations the worker may not know of any exposures to lead but the suspicion might be raised on the part of the physician because of the industry or occupation of the worker. Potential occupational exposure to lead and its compounds occur in at least 120 occupations, including lead smelting, the manufacture of lead storage batteries, the manufacture of lead pigments and products containing pigments, solder manufacture, shipbuilding and ship repair, auto manufacturing, construction, and painting.

(C) Once the possibility for lead exposure is raised, the focus can then be directed toward eliciting information from the medical history, physical exam, and finally from laboratory data to evaluate the worker for potential lead toxicity.

(D) A complete and detailed work history is important in the initial evaluation. A listing of all previous employment with information on work processes, exposure to fumes or dust, known exposures to lead or other toxic substances, respiratory protection used, and previous medical surveillance should all be included in the worker's record. Where exposure to lead is suspected, information concerning on-the-job personal hygiene, smoking or eating habits in work areas, laundry procedures, and use of any protective clothing or respiratory protection equipment should be noted. A complete work history is essential in the medical evaluation of a worker with suspected lead toxicity, especially when long-term effects such as neurotoxicity and nephrotoxicity are considered.

(E) The medical history is also of fundamental importance and should include a listing of all past and current medical conditions, current medications including proprietary drug intake, previous surgeries and hospitalizations, allergies, smoking history, alcohol consumption, and also nonoccupational lead exposures such as hobbies (hunting, riflery). Also known childhood exposures should be elicited. Any previous history of hematological, neurological, gastrointestinal, renal, psychological, gynecological, genetic, or reproductive problems should be specifically noted.

(F) A careful and complete review of systems must be performed to assess both recognized complaints and subtle or slowly acquired symptoms which the worker might not appreciate as being significant. The review of symptoms should include the following:

- General - weight loss, fatigue, decreased appetite.
- Head, Eyes, Ears, Nose, Throat (HEENT) - headaches, visual disturbance or decreased visual acuity, hearing deficits or tinnitus, pigmentation of the oral mucosa, or metallic taste in mouth.
- Cardiopulmonary - shortness of breath, cough, chest pains, palpitations, or orthopnea.
- Gastrointestinal - nausea, vomiting, heartburn, abdominal pain, constipation or diarrhea.
- Neurologic - irritability, insomnia, weakness (fatigue), dizziness, loss of memory, confusion, hallucinations, incoordination, ataxia, decreased strength in hands or feet, disturbance in gait, difficulty in climbing stairs, or seizures.
- Hematologic - pallor, easy fatigability, abnormal blood loss, melena.

Reproductive (male or female and spouse where relevant)

- history of infertility, impotence, loss of libido, abnormal menstrual periods, history of miscarriages, stillbirths, or children with birth defects.

Musculoskeletal

- muscle and joint pains.

(G) The physical examination should emphasize the neurological, gastrointestinal, and cardiovascular systems. The worker's weight and blood pressure should be recorded and the oral mucosa checked for pigmentation characteristic of a possible Burtonian or lead line on the gingiva. It should be noted, however, that the lead line may not be present even in severe lead poisoning if good oral hygiene is practiced.

(H) The presence of pallor on skin examination may indicate an anemia, which if severe might also be associated with a tachycardia. If an anemia is suspected, an active search for blood loss should be undertaken including potential blood loss through the gastrointestinal tract.

(I) A complete neurological examination should include an adequate mental status evaluation including a search for behavioral and psychological disturbances, memory testing, evaluation for irritability, insomnia, hallucinations, and mental clouding. Gait and coordination should be examined along with close observation for tremor. A detailed evaluation of peripheral nerve function including careful sensory and motor function testing is warranted. Strength testing particularly of extensor muscle groups of all extremities is of fundamental importance.

(J) Cranial nerve evaluation should also be included in the routine examination.

(K) The abdominal examination should include auscultation for bowel sounds and abnormal bruits and palpation for organomegaly, masses, and diffuse abdominal tenderness.

(L) Cardiovascular examination should evaluate possible early signs of congestive heart failure. Pulmonary status should be addressed particularly if respirator protection is contemplated.

(M) As part of the medical evaluation, the lead standard requires the following laboratory studies.

(I) Blood lead level.

(II) Hemoglobin and hematocrit determinations, red cell indices, and examination of the peripheral blood smear to evaluate red blood cell morphology.

(III) Blood urea nitrogen.

(IV) Serum creatinine.

(V) Routine urinalysis with microscopic examination.

(VI) A zinc protoporphyrin level.

(N) In addition to the above, the physician is authorized to order any further laboratory or other tests which he or she deems necessary in accordance with sound medical practice. The evaluation must also include pregnancy testing or laboratory evaluation of male fertility if requested by the employee.

(O) Additional tests which are probably not warranted on a routine basis but may be appropriate when blood lead and ZPP levels are equivocal include delta aminolevulinic acid and coproporphyrin concentrations in the urine, and dark-

field illumination for detection of basophilic stippling in red blood cells.

(P) If an anemia is detected further studies including a careful examination of the peripheral smear, reticulocyte count, stool for occult blood, serum iron, total iron binding capacity, bilirubin, and, if appropriate vitamin B12 and folate may be of value in attempting to identify the cause of the anemia.

(Q) If a peripheral neuropathy is suspected, nerve conduction studies are warranted both for diagnosis and as a basis to monitor any therapy.

(R) If renal disease is questioned, a 24-hour urine collection for creatinine clearance, protein, and electrolytes may be indicated. Elevated uric acid levels may result from lead-induced renal disease and a serum uric acid level might be performed.

(S) An electrocardiogram and chest X ray may be obtained as deemed appropriate.

(T) Sophisticated and highly specialized testing should not be done routinely and where indicated should be under the direction of a specialist.

(v) Laboratory evaluation.

(A) The blood level at present remains the single most important test to monitor lead exposure and is the test used in the medical surveillance program under the lead standard to guide employee medical removal. The ZPP has several advantages over the blood lead level. Because of its relatively recent development and the lack of extensive data concerning its interpretation, the ZPP currently remains an ancillary test.

(B) This section will discuss the blood lead level and ZPP in detail and will outline their relative advantages and disadvantages. Other blood tests currently available to evaluate lead exposure will also be reviewed.

(C) The blood lead level is a good index of current or recent lead absorption when there is no anemia present and when the worker has not taken any chelating agents. However, blood lead levels along with urinary lead levels do not necessarily indicate the total body burden of lead and are not adequate measures of past exposure. One reason for this is that lead has a high affinity for bone and up to 90 percent of the body's total lead is deposited there. A very important component of the total lead body burden is lead in soft tissue (liver, kidneys, and brain). This fraction of the lead body burden, the biologically active lead, is not entirely reflected by blood lead levels since it is a function of the dynamics of lead absorption, distribution, deposition in bone and excretion. Following discontinuation of exposure to lead, the excess body burden is only slowly mobilized from bone and other relatively stable stores and excreted. Consequently, a high blood lead level may only represent recent heavy exposure to lead without a significant total body excess and likewise a low blood lead level does not exclude an elevated total body burden of lead.

(D) Also due to its correlation with recent exposures, the blood lead level may vary considerably over short time intervals.

(E) To minimize laboratory error and erroneous results due to contamination, blood specimens must be carefully collected after thorough cleaning of the skin with appropriate methods using lead-free containers and analyzed by a reliable

laboratory. Under the standard, samples must be analyzed in laboratories which are approved by the Center for Disease Control (CDC) or which have received satisfactory grades in proficiency testing by the CDC in the previous year. Analysis is to be made using atomic absorption spectrophotometry anodic stripping; voltammetry or any method which meets the accuracy requirements set forth by the standard.

(F) The determination of lead in urine is generally considered a less reliable monitoring technique than analysis of whole blood primarily due to individual variability in urinary excretion capacity as well as the technical difficulty of obtaining accurate 24 hour urine collections. In addition, workers with renal insufficiency, whether due to lead or some other cause, may have decreased lead clearance and consequently urine lead levels may underestimate the true lead burden. Therefore, urine lead levels should not be used as a routine test.

(G) The zinc protoporphyrin test, unlike the blood lead determination, measures an adverse metabolic effect of lead and as such is a better indicator of lead toxicity than the level of blood lead itself. The level of ZPP reflects lead absorption over the preceding three to four months, and therefore is a better indicator of lead body burden. The ZPP requires more time than the blood lead to reach significantly elevated levels; the return to normal after discontinuing lead exposure is also slower. Furthermore, the ZPP test is simpler, faster, and less expensive to perform and no contamination is possible. Many investigators believe it is the most reliable means of monitoring chronic lead absorption.

(H) Zinc protoporphyrin results from the inhibition of the enzyme ferrochelatase which catalyzes the insertion of an iron molecule into the protoporphyrin molecule, which then becomes heme. If iron is not inserted into the molecule then zinc, having a greater affinity for protoporphyrin, takes place in the iron, forming ZPP.

(I) An elevation in the level of circulating ZPP may occur at blood lead levels as low as 20-30 $\mu\text{g}/100\text{g}$ in some workers. Once the blood lead level has reached 40 $\mu\text{g}/100\text{g}$ there is more marked rise in the ZPP value from its normal range of less than 100 $\mu\text{g}/100\text{ml}$. Increases in blood lead levels beyond 40 $\mu\text{g}/100\text{g}$ are associated with exponential increases in ZPP.

(J) Whereas blood lead levels fluctuate over short time spans, ZPP levels remain relatively stable. ZPP is measured directly in red blood cells and is present for the cell's entire 120 day lifespan. Therefore, the ZPP level in blood reflects the average ZPP production over the previous three to four months and consequently the average lead exposure during that time interval.

(K) It is recommended that a hematocrit be determined whenever a confirmed ZPP of 50 $\mu\text{g}/100\text{ml}$ whole blood is obtained to rule out a significant underlying anemia. If the ZPP is in excess of 100 $\mu\text{g}/100\text{ml}$ and not associated with abnormal elevations in blood lead levels, the laboratory should be checked to be sure the blood leads were determined using atomic absorption spectrophotometry, anodic stripping voltammetry or any method which meets the accuracy requirements set forth by the standard, by a CDC approved laboratory which is experienced in lead level determinations. Repeat periodic blood lead studies should be obtained in all

individuals with elevated ZPP levels to be certain that an associated elevated blood lead level has not been missed due to transient fluctuations in blood leads.

(L) ZPP has characteristic fluorescence spectrum with a peak at 594nm which is detectable with a hematofluorimeter. The hematofluorimeter is accurate and portable and can provide on-site, instantaneous results for workers who can be frequently tested via a finger prick.

(M) However, careful attention must be given to calibration and quality control procedures. Limited data on blood lead -ZPP correlations and the ZPP levels which are associated with the adverse health effects discussed in item (ii) are the major limitations of the test. Also it is difficult to correlate ZPP levels with environmental exposure and there is some variation of response with age and sex. Nevertheless, the ZPP promises to be an important diagnostic test for the early detection of lead toxicity and its value will increase as more data is collected regarding its relationship to other manifestations of lead poisoning.

(N) Levels of delta-aminolevulinic acid (ALA) in the urine are also used as a measure of lead exposure. Increasing concentrations of ALA are believed to result from the inhibition of the enzyme delta-aminolevulinic acid dehydrase (ALA-D). Although the test is relatively easy to perform, inexpensive, and rapid, the disadvantages include variability in results, the necessity to collect a complete 24 hour urine sample which has a specific gravity greater than 1.010, and also the fact that ALA decomposes in the presence of light.

(O) The pattern of porphyrin excretion in the urine can also be helpful in identifying lead intoxication. With lead poisoning, the urine concentrations of coproporphyrins I and II, porphobilinogen and uroporphyrin I rise. The most important increase, however, is that of coproporphyrin III; levels may exceed 5,000 µg/l in the urine in lead poisoned individuals, but its correlation with blood lead levels and ZPP are not as good as those of ALA. Increases in urinary porphyrins are not diagnostic of lead toxicity and may be seen in porphyria, some liver diseases, and in patients with high reticulocyte counts.

(vi) Summary.

(A) The WISHA standard for inorganic lead places significant emphasis on the medical surveillance of all workers exposed to levels of inorganic lead above the action level of 30 µg/m³ TWA. The physician has a fundamental role in this surveillance program, and in the operation of the medical removal protection program.

(B) Even with adequate worker education on the adverse health effects of lead and appropriate training in work practices, personal hygiene and other control measures, the physician has a primary responsibility for evaluating potential lead toxicity in the worker. It is only through a careful and detailed medical and work history, a complete physical examination and appropriate laboratory testing that an accurate assessment can be made. Many of the adverse health effects of lead toxicity are either irreversible or only partially reversible and therefore early detection of disease is very important.

(C) This document outlines the medical monitoring program as defined by the occupational safety and health standard for inorganic lead. It reviews the adverse health effects of lead poisoning and describes the important elements of the

history and physical examinations as they relate to these adverse effects.

(D) It is hoped that this review and discussion will give the physician a better understanding of the WISHA standard with the ultimate goal of protecting the health and well-being of the worker exposed to lead under his or her care.

(d) Appendix D. Recommendations to employers concerning high-risk tasks (nonmandatory).

The department advises employers that the following tasks have a high risk for lead overexposure (this list is not complete; other tasks also can result in lead over-exposure):

- Any open flame operation involving lead-containing solder in a manner producing molten solder, including the manufacture or repair of motor vehicle radiators;
- Sanding, cutting or grinding of lead-containing solder;
- Breaking, recycling or manufacture of lead-containing batteries;
- Casting objects using lead, brass, or lead-containing alloys;
- Where lead-containing coatings or paints are present:
 - abrasive blasting
 - welding
 - cutting
 - torch burning
 - manual demolition of structures
 - manual scraping
 - manual sanding
 - heat gun applications
 - power tool cleaning
 - rivet busting
 - clean-up activities where dry expendable abrasives are used
 - abrasive blasting enclosure movement and removal;
- Spray-painting with lead-containing paint;
- Using lead-containing mortar;
- Lead burning;
- Operation or cleaning of shooting facilities where lead bullets are used;
- Formulation or processing of lead-containing pigments or paints;
- Cutting, burning, or melting of lead-containing materials.

The department recommends that annual blood lead testing be offered to all employees potentially overexposed to lead, including those performing the tasks listed above, regardless of air lead levels. Research has shown that air lead levels often do not accurately predict workers' lead overexposure. The blood lead testing will provide the most information if performed during a period of peak lead exposure.

Employers should be aware that the United States Public Health Service has set a goal of eliminating occupational exposures which result in whole blood lead levels of 25 µg/dl or greater. This goal should guide whether employees' blood lead levels indicate lead overexposure.

If blood lead levels are elevated in an employee performing a task associated with lead overexposure, employers should assess the maintenance and effectiveness of exposure controls, hygiene facilities, respiratory protection program, the employee's work practices and personal hygiene, and the

employee's respirator use, if any. If a deficiency exists in any of these areas, the employer should correct the problem.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-07615 Respiratory protection. (1) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this subsection. Respirators must be used during:

- (a) Periods necessary to install or implement feasible engineering and work-practice controls;
- (b) Work operations for which the employer establishes that engineering and work-practice controls are not feasible;
- (c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce exposure to or below the PEL;
- (d) Emergencies.

(2) Respirator program. The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, (~~except WAC 296-842-13005 and 296-842-14005~~) Respirators.

(3) Respirator selection.

(a) The employer must select~~(;)~~ and (~~ensure that employees use, the~~) provide to employees appropriate respirators (~~from Table 1 of this section~~) as specified in this section and WAC 296-842-13005 in the respirator rule.

~~((Table 1. Respiratory Protection for MDA~~

| Airborne concentration of MDA or condition of use | Respirator type |
|--|---|
| a. Less than or equal to 10xPEL | (1) Half-mask respirator with HEPA⁺ cartridge². |
| b. Less than or equal to 50xPEL | (1) Full facepiece respirator with HEPA⁺ cartridge or canister². |
| c. Less than or equal to 1000xPEL | (1) Full facepiece powered air-purifying respirator with HEPA⁺ cartridges². |
| d. Greater than 1000xPEL or | (1) Self-contained breathing-unknown concentrations apparatus with full facepiece in positive pressure mode; (2) Full facepiece positive pressure-demand supplied-air respirator with auxiliary self-contained air supply. |
| e. Escape | (1) Any full facepiece air-purifying respirator with HEPA⁺ cartridges²; (2) Any positive pressure or continuous-flow self-contained breathing apparatus with full facepiece or hood. |
| f. Fire-fighting | (1) Full facepiece self-contained breathing apparatus in positive pressure-demand mode. |

Note: ~~Respirators assigned for higher environmental concentrations may be used at lower concentrations.~~

⁺ High efficiency particulate in air filter (HEPA) means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers or larger.

² Combination HEPA/organic vapor cartridges shall be used whenever MDA in liquid form or a process requiring heat is used.))

(b) Any employee who cannot use a negative-pressure respirator must be given the option of using a positive-pressure respirator, or a supplied-air respirator operated in the continuous-flow or pressure-demand mode.

(c) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(d) Provide to employees, for escape, one of the following respirator options:

(i) Any self-contained breathing apparatus with a full-facepiece or hood, operated in the positive-pressure or continuous-flow mode

OR

(ii) A full-facepiece air-purifying respirator.

(e) Provide a combination HEPA filter (or N-, R-, or P-100 filter) and organic vapor canister or cartridge with air-purifying respirators when MDA is in liquid form or used as part of a process requiring heat.

AMENDATORY SECTION (Amending WSR 99-10-071, filed 5/4/99, effective 9/1/99)

WAC 296-62-07715 Respiratory protection. (1) General. For employees who use respirators required by WAC 296-62-077 through 296-62-07747, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

- (a) Periods necessary to install or implement feasible engineering and work-practice controls;
- (b) Work operations, such as maintenance and repair activities, for which engineering and work-practice controls are not feasible;
- (c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limits;

(d) Emergencies;

(e) Work operations in all regulated areas, except for construction activities which follow requirements set forth in WAC 296-62-07715 (1)(g);

(f) Work operations whenever employee exposure exceeds the permissible exposure limits;

(g) The following construction activities:

(i) Class I asbestos work;

(ii) Class II work where the ACM is not removed in a substantially intact state;

(iii) Class II and Class III work which is not performed using wet methods, except for removal of ACM from sloped roofs when a negative-exposure assessment has been made and the ACM is removed in an intact state;

(iv) Class II and Class III asbestos work for which a negative-exposure assessment has not been conducted;

(v) Class III work when TSI or surfacing ACM or PACM is being disturbed;

(vi) Class IV work performed within regulated areas where employees who are performing other work are required to wear respirators.

(2) Respirator program.

(a) The employer must develop, implement and maintain a respiratory protection program as required by chapter ~~((296-62-WAC, Part E (except WAC 296-62-07130(1) and 296-62-07150 through 296-62-07156)))~~ 296-842 WAC, Respirators.

(b) ~~((The))~~ Employers must provide an employee with a tight-fitting, powered, air-purifying respirator (PAPR) instead of ((any)) a negative-pressure respirator ~~((s specified in Table 1 of this section))~~ selected when an employee chooses to use ~~((this type of respirator))~~ a PAPR and the respirator provides ~~((adequate))~~ the required protection to the employee.

(c) The employer must inform any employee required to wear a respirator under this section that the employee may require the employer to provide a tight-fitting, powered, air-purifying respirator (PAPR) instead of ~~((any))~~ a negative-pressure respirator ~~((specified in Table 1 of this section)).~~

(d) No employee must be assigned to tasks requiring the use of respirators if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally using a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Such employees must be assigned to another job or given the opportunity to transfer to a different position, the duties of which they can perform. If such a transfer position is available, the position must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay the employee had just prior to such transfer.

(3) Respirator selection. The employer must:

(a) ~~((The employer must))~~ Select and provide ((the)) to employees appropriate respirators ~~((from Table 1 of))~~ as specified in this section, and ~~((ensure that the employee uses the respirator provided))~~ in WAC 296-842-13005, in the respirator rule.

Make sure filtering facepiece respirators are not selected or used for protection against asbestos fibers.

(b) ~~((The employer must))~~ Provide ((a half-mask)) employees with an air-purifying, half-facepiece respirator, other than a ((disposable)) filtering-facepiece respirator, that is equipped with a ((high efficiency)) HEPA filter ((when)) or an N-, R-, or P-100 series filter whenever the employee performs:

(i) Class II and III asbestos work ~~((and the employer has not conducted a))~~ for which no negative-exposure assessment is available;

(ii) Class III asbestos work ~~((when))~~ involving disturbances of TSI or surfacing ACM or PACM ((is being disturbed)).

(c) Equip any powered air-purifying respirator (PAPR) or negative pressure air-purifying respirator with HEPA filters or N-, R-, or P-100 series filters.

~~((TABLE 1—RESPIRATORY PROTECTION FOR ASBESTOS FIBERS~~

| Airborne concentration of asbestos or conditions of use | Required respirator. (See Note a.) |
|---|---|
| Not in excess of 1 f/cc (10 X-PEL), or otherwise as required independent of exposure | Half-mask air-purifying respirator other than a disposable respirator, equipped with high efficiency filters. (See Note b.) |
| Not in excess of 5 f/cc (50 X-PEL) | Full facepiece air-purifying respirator equipped with high efficiency filters. |
| Not in excess of 10 f/cc (100 X-PEL) | Any powered air-purifying respirator equipped with high efficiency filters or any supplied-air respirator operated in continuous flow mode. |
| Not in excess of 100 f/cc (1,000 X-PEL) | Full facepiece supplied-air respirator operated in pressure demand mode. |
| Greater than 100 f/cc (1,000 X-PEL) or unknown concentration | Full facepiece supplied-air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus or HEPA filter-egress cartridges. |

- Note:
- a: ~~Respirators assigned for higher environmental concentrations may be used at lower concentrations.~~
 - b: ~~A high efficiency filter means a filter that is capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers mean aerodynamic diameter or larger.)~~

(4) Special respiratory protection requirements.

(a) Unless specifically identified in this subsection, respirator selection for asbestos removal, demolition, and renovation operations shall be in accordance with ~~((Table 1 of subsection (3)))~~ the selection specifications of this section and the general selection requirements in WAC 296-842-13005, found in the respirator rule. The employer ~~((shall))~~ must provide and require to be worn, at no cost to the employee, a full facepiece supplied-air respirator operated in the pressure demand mode equipped with either an auxiliary positive pressure self-contained breathing apparatus or a HEPA filter egress cartridge, to employees engaged in the following asbestos operations:

(i) Inside negative pressure enclosures used for removal, demolition, and renovation of friable asbestos from walls, ceilings, vessels, ventilation ducts, elevator shafts, and other

structural members, but does not include pipes or piping systems; or

(ii) Any dry removal of asbestos.

(b) For all Class I work excluded or not specified in (a)(i) and (ii) of this subsection, when a negative-exposure assessment (~~(of the area has not been produced)~~) is not available, and the exposure assessment (~~(of the area)~~) indicates the exposure level (~~(will not exceed)~~) will be at or below 1 f/cc as an 8-hour time weighted average, employers must provide (~~(the)~~) employees with one of the following respirators:

(i) A tight-fitting, powered, air-purifying respirator equipped with high-efficiency filters;

(ii) A full-facepiece supplied-air respirator operated in the pressure-demand mode equipped with either HEPA egress cartridges; or

(iii) (~~(A full facepiece supplied-air respirator operated in the pressure-demand mode equipped with)~~) An auxiliary positive-pressure, self-contained breathing apparatus.

(c) Whenever the employees are in a regulated area performing Class I asbestos work for which a negative exposure assessment is not available, and an exposure assessment indicates that the exposure level will be above 1 f/cc as an 8-hour TWA, employers must provide a full facepiece supplied-air respirator operated in the pressure-demand mode equipped with an auxiliary positive-pressure self-contained breathing apparatus ((must be provided under such conditions when the exposure assessment indicates exposure levels above 1 f/cc as an 8 hour time weighted average)).

EXCEPTION: In lieu of the supplied-air respirator required by subsection (4) of this section, an employer may provide and require to be worn, at no cost to the employee, a full facepiece supplied-air respirator operated in the continuous flow mode equipped with either an auxiliary positive pressure self-contained breathing apparatus or a back-up HEPA filter egress cartridge where daily and historical personal monitoring data indicates the concentration of asbestos fibers is not reasonably expected to exceed 10 f/cc. The continuous flow respirator shall be operated at a minimum air flow rate of six cubic feet per minute at the facepiece using respirable air supplied as required by chapter ~~((296-62 WAC, Part E))~~ 296-842 WAC, Respirators.

(5) Respirator fit testing.

(a) For each employee wearing negative pressure respirators, employers shall perform either quantitative or qualitative face fit tests at the time of initial fitting and at least annually thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn.

(b) Any supplied-air respirator facepiece equipped with a back-up HEPA filter egress cartridge shall be quantitatively fit tested (see WAC 296-62-07160 through 296-62-07162 and 296-62-07201 through 296-62-07248).

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-14533 Cotton dust. (1) Scope and application.

(a) This section, in its entirety, applies to the control of employee exposure to cotton dust in all workplaces where employees engage in yarn manufacturing, engage in slashing

and weaving operations, or work in waste houses for textile operations.

(b) This section does not apply to the handling or processing of woven or knitted materials; to maritime operations covered by chapters 296-56 and 296-304 WAC; to harvesting or ginning of cotton; or to the construction industry.

(c) Only subsection (8) Medical surveillance, subsection (11)(b) Medical surveillance, subsection (11)(c) Availability, subsection (11)(d) Transfer of records, and Appendices B, C, and D of this section apply in all work places where employees exposed to cotton dust engage in cottonseed processing or waste processing operations.

(d) This section applies to yarn manufacturing and slashing and weaving operations exclusively using washed cotton (as defined by subsection (14) of this section) only to the extent specified by subsection (14) of this section.

(e) This section, in its entirety, applies to the control of all employees exposure to the cotton dust generated in the preparation of washed cotton from opening until the cotton is thoroughly wetted.

(f) This section does not apply to knitting, classing or warehousing operations except that employers with these operations, if requested by WISHA, shall grant WISHA access to their employees and workplaces for exposure monitoring and medical examinations for purposes of a health study to be performed by WISHA on a sampling basis.

(2) Definitions applicable to this section:

(a) "Blow down" - the cleaning of equipment and surfaces with compressed air.

(b) "Blow off" - the use of compressed air for cleaning of short duration and usually for a specific machine or any portion of a machine.

(c) "Cotton dust" - dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances including ground-up plant matter, fiber, bacteria, fungi, soil, pesticides, noncotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods. Any dust present during the handling and processing of cotton through the weaving or knitting of fabrics, and dust present in other operations or manufacturing processes using raw or waste cotton fibers or cotton fiber byproducts from textile mills are considered cotton dust within this definition. Lubricating oil mist associated with weaving operations is not considered cotton dust.

(d) "Director" - the director of labor and industries or his authorized representative.

(e) "Equivalent instrument" - a cotton dust sampling device that meets the vertical elutriator equivalency requirements as described in subsection (4)(a)(iii) of this section.

(f) "Lint-free respirable cotton dust" - particles of cotton dust of approximately 15 microns or less aerodynamic equivalent diameter.

(g) "Vertical elutriator cotton dust sampler" or "vertical elutriator" - a dust sampler which has a particle size cut-off at approximately 15 microns aerodynamic equivalent diameter when operating at the flow rate of 7.4 ± 0.2 liters per minute.

(h) "Waste processing" - waste recycling (sorting, blending, cleaning and willowing) and garnetting.

(i) "Yarn manufacturing" - all textile mill operations from opening to, but not including, slashing and weaving.

(3) Permissible exposure limits and action levels.

(a) Permissible exposure limits (PEL).

(i) The employer shall assure that no employee who is exposed to cotton dust in yarn manufacturing and cotton washing operations is exposed to airborne concentrations of lint-free respirable cotton dust greater than 200 $\mu\text{g}/\text{m}^3$ mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(ii) The employer shall assure that no employee who is exposed to cotton dust in textile mill waste house operations or is exposed in yarn manufacturing to dust from "lower grade washed cotton" as defined in subsection (14)(e) of this section is exposed to airborne concentrations of lint-free respirable cotton dust greater than 500 $\mu\text{g}/\text{m}^3$ mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(iii) The employer shall assure that no employee who is exposed to cotton dust in the textile processes known as slashing and weaving is exposed to airborne concentrations of lint-free respirable cotton dust greater than 750 $\mu\text{g}/\text{m}^3$ mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(b) Action levels.

(i) The action level for yarn manufacturing and cotton washing operations is an airborne concentration of lint-free respirable cotton dust of 100 $\mu\text{g}/\text{m}^3$ mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(ii) The action level for waste houses for textile operations is an airborne concentration of lint-free respirable cotton dust of 250 $\mu\text{g}/\text{m}^3$ mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(iii) The action level for the textile processes known as slashing and weaving is an airborne concentration of lint-free respirable cotton dust of 375 $\mu\text{g}/\text{m}^3$ mean concentration, averaged over an eight-hour period, as measured by a vertical elutriator or an equivalent instrument.

(4) Exposure monitoring and measurement.

(a) General.

(i) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(ii) The sampling device to be used shall be either the vertical elutriator cotton dust sampler or an equivalent instrument.

(iii) If an alternative to the vertical elutriator cotton dust sampler is used, the employer shall establish equivalency by demonstrating that the alternative sampling devices:

(A) It collects respirable particulates in the same range as the vertical elutriator (approximately 15 microns);

(B) Replicate exposure data used to establish equivalency are collected in side-by-side field and laboratory comparisons; and

(C) A minimum of 100 samples over the range of 0.5 to 2 times the permissible exposure limit are collected, and ninety percent of these samples have an accuracy range of plus or minus twenty-five percent of the vertical elutriator

reading with a ninety-five percent confidence level as demonstrated by a statistically valid protocol. (An acceptable protocol for demonstrating equivalency is described in Appendix E of this section.)

(iv) WISHA will issue a written opinion stating that an instrument is equivalent to a vertical elutriator cotton dust sampler if:

(A) A manufacturer or employer requests an opinion in writing and supplies the following information:

(I) Sufficient test data to demonstrate that the instrument meets the requirements specified in this paragraph and the protocol specified in Appendix E of this section;

(II) Any other relevant information about the instrument and its testing requested by WISHA; and

(III) A certification by the manufacturer or employer that the information supplied is accurate, and

(B) If WISHA finds, based on information submitted about the instrument, that the instrument meets the requirements for equivalency specified by this subsection.

(b) Initial monitoring. Each employer who has a place of employment within the scope of subsections (1)(a), (d) or (e) of this section shall conduct monitoring by obtaining measurements which are representative of the exposure of all employees to airborne concentrations of lint-free respirable cotton dust over an eight-hour period. The sampling program shall include at least one determination during each shift for each work area.

(c) Periodic monitoring.

(i) If the initial monitoring required by (4)(b) of this section or any subsequent monitoring reveals employee exposure to be at or below the permissible exposure limit, the employer shall repeat the monitoring for those employees at least annually.

(ii) If the initial monitoring required by (4)(b) of this section or any subsequent monitoring reveals employee exposure to be above the PEL, the employer shall repeat the monitoring for those employees at least every six months.

(iii) Whenever there has been a production, process, or control change which may result in new or additional exposure to cotton dust, or whenever the employer has any other reason to suspect an increase in employee exposure, the employer shall repeat the monitoring and measurements for those employees affected by the change or increase.

(d) Employee notification.

(i) Within (~~twenty~~) fifteen working days after the receipt of monitoring results, the employer shall notify each employee in writing of the exposure measurements which represent that employee's exposure.

(ii) Whenever the results indicate that the employee's exposure exceeds the applicable permissible exposure limit specified in subsection (3) of this section, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure below the permissible exposure limit.

(5) Methods of compliance.

(a) Engineering and work practice controls. The employer shall institute engineering and work practice controls to reduce and maintain employee exposure to cotton dust at or below the permissible exposure limit specified in

subsection (3) of this section, except to the extent that the employer can establish that such controls are not feasible.

(b) Whenever feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the permissible exposure limit, the employer shall nonetheless institute these controls to immediately reduce exposure to the lowest feasible level, and shall supplement these controls with the use of respirators which shall comply with the provisions of subsection (6) of this section.

(c) Compliance program.

(i) Where the most recent exposure monitoring data indicates that any employee is exposed to cotton dust levels greater than the permissible exposure limit, the employer shall establish and implement a written program sufficient to reduce exposures to or below the permissible exposure limit solely by means of engineering controls and work practices as required by (a) of this subsection.

(ii) The written program shall include at least the following:

(A) A description of each operation or process resulting in employee exposure to cotton dust;

(B) Engineering plans and other studies used to determine the controls for each process;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Monitoring data obtained in accordance with subsection (4) of this section;

(E) A detailed schedule for development and implementation of engineering and work practice controls, including exposure levels projected to be achieved by such controls;

(F) Work practice program; and

(G) Other relevant information.

(iii) The employer's schedule as set forth in the compliance program, shall project completion of the implementation of the compliance program no later than March 27, 1984 or as soon as possible if monitoring after March 27, 1984 reveals exposures over the PEL, except as provided in (13)(b)(ii)(B) of this section.

(iv) The employer shall complete the steps set forth in his program by the dates in the schedule.

(v) Written programs shall be submitted, upon request, to the director, and shall be available at the worksite for examination and copying by the director, and any affected employee or their designated representatives.

(vi) The written programs required under subsection (5)(c) of this section shall be revised and updated at least every six months to reflect the current status of the program and current exposure levels.

(d) Mechanical ventilation. When mechanical ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system to control exposure, such as capture velocity, duct velocity, or static pressure shall be made at reasonable intervals.

(6) Use of respirators.

(a) General. For employees who are required to use respirators by this section, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering controls and work-practice controls;

(ii) Maintenance and repair activities for which engineering and work-practice controls are not feasible;

(iii) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limits;

(iv) Work operations specified under subsection (7)(a) of this section;

(v) Periods for which an employee requests a respirator.

(b) Respirator program.

(i) The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, ~~((except WAC 296-842-13005 and 296-842-14005))~~ Respirators.

(ii) Whenever a physician determines that an employee who works in an area in which the cotton-dust concentration exceeds the PEL is unable to use a respirator, including a powered air-purifying respirator, the employee must be given the opportunity to transfer to an available position, or to a position that becomes available later, that has a cotton-dust concentration at or below the PEL. The employer must ensure that such employees retain their current wage rate or other benefits as a result of the transfer.

(c) Respirator selection. The employer must:

(i) ~~((The employer must))~~ Select and provide to employees the appropriate respirators ((from Table 1 of this section)) by following requirements in this section and WAC 296-842-13005, found in the respirator rule.

~~((TABLE 1~~

| Cotton dust concentration | Required respirator |
|---|--|
| Not greater than — | |
| (a) 5 x the applicable permissible exposure limit (PEL). | A disposable respirator with a particulate filter. |
| (b) 10 x the applicable PEL. | A quarter or half mask respirator, other than a disposable respirator, equipped with particulate filters. |
| (c) 100 x the applicable PEL. | A full facepiece respirator equipped with high efficiency particulate filters. |
| (d) Greater than 100 x the applicable PEL. | A powered air purifying respirator equipped with high efficiency particulate filters. |

~~Notes~~

- ~~1. A disposable respirator means the filter element is an inseparable part of the respirator.~~
- ~~2. Any respirators permitted at higher environmental concentrations can be used at lower concentrations.~~
- ~~3. Self-contained breathing apparatus are not required respirators but are permitted respirators.~~
- ~~4. Supplied air respirators are not required but are permitted under the following conditions: Cotton dust concentration not greater than 10X the PEL — Any supplied air respirator; not greater than 100X~~

~~the PEL—Any supplied air respirator with full face piece, helmet or hood, greater than 100X the PEL—A supplied air respirator operated in positive pressure mode.)~~

~~(ii) ((Whenever respirators are required by this section for cotton dust concentrations that do not exceed the applicable permissible exposure limit by a multiple of 100 (100 x); the employer must, when requested by an employee,)) Provide employees with a powered air-purifying respirator ((with a high efficiency particulate filter instead of the respirator specified in (a), (b), or (c) of Table 1 of this section)) (PAPR) when the employee chooses to use a PAPR instead of a negative-pressure air-purifying respirator, and the PAPR will provide adequate protection.~~

~~(iii) Limit the use of filtering facepiece respirators for protection against cotton dust to concentrations less than or equal to five times (5x) the PEL.~~

~~(iv) Provide high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 series filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators when used in cotton dust concentrations greater than ten times (10x) the PEL.~~

(7) Work practices. Each employer shall, regardless of the level of employee exposure, immediately establish and implement a written program of work practices which shall minimize cotton dust exposure. The following shall be included where applicable:

(a) Compressed air "blow down" cleaning shall be prohibited, where alternative means are feasible. Where compressed air is used for cleaning, the employees performing the "blow down" or "blow off" shall wear suitable respirators. Employees whose presence is not required to perform "blow down" or "blow off" shall be required to leave the area affected by the "blow down" or "blow off" during this cleaning operation.

(b) Cleaning of clothing or floors with compressed air shall be prohibited.

(c) Floor sweeping shall be performed with a vacuum or with methods designed to minimize dispersal of dust.

(d) In areas where employees are exposed to concentrations of cotton dust greater than the permissible exposure limit, cotton and cotton waste shall be stacked, sorted, baled, dumped, removed or otherwise handled by mechanical means, except where the employer can show that it is infeasible to do so. Where infeasible, the method used for handling cotton and cotton waste shall be the method which reduces exposure to the lowest level feasible.

(8) Medical surveillance.

(a) General.

(i) Each employer covered by the standard shall institute a program of medical surveillance for all employees exposed to cotton dust.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided without cost to the employee.

(iii) Persons other than licensed physicians, who administer the pulmonary function testing required by this section shall have completed a NIOSH approved training course in spirometry.

(b) Initial examinations. The employer shall provide medical surveillance to each employee who is or may be exposed to cotton dust. For new employees' this examination shall be provided prior to initial assignment. The medical surveillance shall include at least the following:

(i) A medical history;

(ii) The standardized questionnaire contained in WAC 296-62-14537; and

(iii) A pulmonary function measurement, including a determination of forced vital capacity (FVC) and forced expiratory volume in one second (FEV_1), the FEV_1/FVC ratio, and the percentage that the measured values of FEV_1 and FVC differ from the predicted values, using the standard tables in WAC 296-62-14539. These determinations shall be made for each employee before the employee enters the workplace on the first day of the work week, preceded by at least thirty-five hours of no exposure to cotton dust. The tests shall be repeated during the shift, no less than four hours and no more than ten hours after the beginning of the work shift; and, in any event, no more than one hour after cessation of exposure. Such exposure shall be typical of the employee's usual workplace exposure. The predicted FEV_1 and FVC for blacks shall be multiplied by 0.85 to adjust for ethnic differences.

(iv) Based upon the questionnaire results, each employee shall be graded according to Schilling's byssinosis classification system.

(c) Periodic examinations.

(i) The employer shall provide at least annual medical surveillance for all employees exposed to cotton dust above the action level in yarn manufacturing, slashing and weaving, cotton washing and waste house operations. The employer shall provide medical surveillance at least every two years for all employees exposed to cotton dust at or below the action level, for all employees exposed to cotton dust from washed cotton (except from washed cotton defined in subsection (9)(c) of this section), and for all employees exposed to cotton dust in cottonseed processing and waste processing operations. Periodic medical surveillance shall include at least an update of the medical history, standardized questionnaire (Appendix B-111), Schilling byssinosis grade, and the pulmonary function measurements in (b)(iii) of this subsection.

(ii) Medical surveillance as required in (c)(i) of this subsection shall be provided every six months for all employees in the following categories:

(A) An FEV_1 of greater than eighty percent of the predicted value, but with an FEV_1 decrement of five percent or 200 ml. on a first working day;

(B) An FEV_1 of less than eighty percent of the predicted value; or

(C) Where, in the opinion of the physician, any significant change in questionnaire findings, pulmonary function results, or other diagnostic tests have occurred.

(iii) An employee whose FEV_1 is less than sixty percent of the predicted value shall be referred to a physician for a detailed pulmonary examination.

(iv) A comparison shall be made between the current examination results and those of previous examinations and a determination made by the physician as to whether there has been a significant change.

(d) Information provided to the physician. The employer shall provide the following information to the examining physician:

- (i) A copy of this regulation and its appendices;
- (ii) A description of the affected employee's duties as they relate to the employee's exposure;
- (iii) The employee's exposure level or anticipated exposure level;
- (iv) A description of any personal protective equipment used or to be used; and
- (v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(e) Physician's written opinion.

(i) The employer shall obtain and furnish the employee with a copy of a written opinion from the examining physician containing the following:

(A) The results of the medical examination and tests including the FEV₁, FVC, and FEV₁/FVC ratio;

(B) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to cotton dust;

(C) The physician's recommended limitations upon the employee's exposure to cotton dust or upon the employee's use of respirators including a determination of whether an employee can wear a negative pressure respirator, and where the employee cannot, a determination of the employee's ability to wear a powered air purifying respirator; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposure.

(9) Employee education and training.

(a) Training program.

(i) The employer shall provide a training program for all employees exposed to cotton dust and shall assure that each employee is informed of the following:

(A) The acute and long term health hazards associated with exposure to cotton dust;

(B) The names and descriptions of jobs and processes which could result in exposure to cotton dust at or above the PEL.

(C) The measures, including work practices required by subsection (7) of this section, necessary to protect the employee from exposures in excess of the permissible exposure limit;

(D) The purpose, proper use, limitations, and other training requirements for respiratory protection as required by subsection (6) of this section and chapter 296-842 WAC (see WAC 296-842-11005, 296-842-16005 and 296-842-19005);

(E) The purpose for and a description of the medical surveillance program required by subsection (8) of this section and other information which will aid exposed employees in understanding the hazards of cotton dust exposure; and

(F) The contents of this standard and its appendices.

(ii) The training program shall be provided prior to initial assignment and shall be repeated annually for each employee exposed to cotton dust, when job assignments or work processes change and when employee performance indicates a need for retraining.

(b) Access to training materials.

(i) Each employer shall post a copy of this section with its appendices in a public location at the workplace, and shall, upon request, make copies available to employees.

(ii) The employer shall provide all materials relating to the employee training and information program to the director upon request.

(10) Signs. The employer shall post the following warning sign in each work area where the permissible exposure limit for cotton dust is exceeded:

WARNING
COTTON DUST WORK AREA
MAY CAUSE ACUTE OR DELAYED LUNG INJURY
(BYSSINOSIS)
RESPIRATORS REQUIRED IN THIS AREA

(11) Recordkeeping.

(a) Exposure measurements.

(i) The employer shall establish and maintain an accurate record of all measurements required by subsection (4) of this section.

(ii) The record shall include:

(A) A log containing the items listed in WAC 296-62-14535 (4)(a), and the dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

(B) The type of protective devices worn, if any, and length of time worn; and

(C) The names, Social Security number, job classifications, and exposure levels of employees whose exposure the measurement is intended to represent.

(ii) The employer shall maintain this record for at least twenty years.

(b) Medical surveillance.

(i) The employer shall establish and maintain an accurate medical record for each employee subject to medical surveillance required by subsection (8) of this section.

(ii) The record shall include:

(A) The name and Social Security number and description of the duties of the employee;

(B) A copy of the medical examination results including the medical history, questionnaire response, results of all tests, and the physician's recommendation;

(C) A copy of the physician's written opinion;

(D) Any employee medical complaints related to exposure to cotton dust;

(E) A copy of this standard and its appendices, except that the employer may keep one copy of the standard and the appendices for all employees, provided that he references the standard and appendices in the medical surveillance record of each employee; and

(F) A copy of the information provided to the physician as required by subsection (8)(d) of this section.

(iii) The employer shall maintain this record for at least twenty years.

(c) Availability.

(i) The employer shall make all records required to be maintained by subsection (11) of this section available to the director for examination and copying.

(ii) Employee exposure measurement records and employee medical records required by this subsection shall be provided upon request to employees, designated representatives, and the assistant director in accordance with chapter 296-802 WAC.

(d) Transfer of records.

(i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by subsection (11) of this section.

(ii) Whenever the employer ceases to do business, and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the director at least three months prior to the disposal of such records and shall transmit those records to the director if he requests them within that period.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in chapter 296-802 WAC.

(12) Observation of monitoring.

(a) The employer shall provide affected employees or their designated representatives an opportunity to observe any measuring or monitoring of employee exposure to cotton dust conducted pursuant to subsection (4) of this section.

(b) Whenever observation of the measuring or monitoring of employee exposure to cotton dust requires entry into an area where the use of personal protective equipment is required, the employer shall provide the observer with and assure the use of such equipment and shall require the observer to comply with all other applicable safety and health procedures.

(c) Without interfering with the measurement, observers shall be entitled to:

(i) An explanation of the measurement procedures;

(ii) An opportunity to observe all steps related to the measurement of airborne concentrations of cotton dust performed at the place of exposure; and

(iii) An opportunity to record the results obtained.

(13) Washed cotton.

(a) Exemptions. Cotton, after it has been washed by the processes described in this section is exempt from all or parts of this section as specified if the requirements of this section are met.

(b) Initial requirements.

(i) In order for an employer to qualify as exempt or partially exempt from this standard for operations using washed cotton, the employer must demonstrate that the cotton was washed in a facility which is open to inspection by the director and the employer must provide sufficient accurate documentary evidence to demonstrate that the washing methods utilized meet the requirements of this section.

(ii) An employer who handles or processes cotton which has been washed in a facility not under the employer's control and claims an exemption or partial exemption under this paragraph, must obtain from the cotton washer and make available at the worksite, to the director, or his designated representative, to any affected employee, or to their designated representative the following:

(A) A certification by the washer of the cotton of the grade of cotton, the type of washing process, and that the batch meets the requirements of this section:

(B) Sufficient accurate documentation by the washer of the cotton grades and washing process; and

(C) An authorization by the washer that the director may inspect the washer's washing facilities and documentation of the process.

(c) Medical and dyed cotton. Medical grade (USP) cotton, cotton that has been scoured, bleached and dyed, and mercerized yarn shall be exempt from all provisions of this standard.

(d) Higher grade washed cotton. The handling or processing of cotton classed as "low middling light spotted or better" (color grade 52 or better and leaf grade code 5 or better according to the 1993 USDA classification system) shall be exempt from all provisions of the standard except requirements of subsection (8) of this section, medical surveillance; subsection (11)(b) through (d) of this section, recordkeeping-medical records, and Appendices B, C, and D of this section, if they have been washed on one of the following systems:

(i) On a continuous batt system or a rayon rinse system including the following conditions:

(A) With water;

(B) At a temperature of no less than 60°C;

(C) With a water-to-fiber ratio of no less than 40:1; and

(D) With the bacterial levels in the wash water controlled to limit bacterial contamination of the cotton.

(ii) On a batch kier washing system including the following conditions:

(A) With water;

(B) With cotton fiber mechanically opened and thoroughly pretwetted before forming the cake;

(C) For low-temperature processing, at a temperature of no less than 60°C with a water-to-fiber ratio of no less than 40:1; or, for high-temperature processing, at a temperature of no less than 93°C with a water-to-fiber ratio of no less than 15:1;

(D) With a minimum of one wash cycle followed by two rinse cycles for each batch, using fresh water in each cycle; and

(E) With bacterial levels in the wash water controlled to limit bacterial contamination of the cotton.

(e) Lower grade washed cotton. The handling and processing of cotton of grades lower than "low middling light spotted," that has been washed as specified in (d) of this subsection and has also been bleached, shall be exempt from all provisions of the standard except the requirements of subsection (3)(a) Permissible exposure limits, subsection (4) Exposure monitoring and measurement, subsection (8) Medical surveillance, subsection (11) Recordkeeping, and Appendices B, C and D of this section.

(f) Mixed grades of washed cotton. If more than one grade of washed cotton is being handled or processed together, the requirements of the grade with the most stringent exposure limit, medical and monitoring requirements shall be followed.

(14) Appendices.

(a) Appendix B (B-I, B-II and B-III), WAC 296-62-14537, Appendix C, WAC 296-62-14539 and Appendix D, WAC 296-62-14541 are incorporated as part of this chapter and the contents of these appendices are mandatory.

(b) Appendix A of this chapter, WAC 296-62-14535 contains information which is not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

(c) Appendix E of this chapter is a protocol which may be followed in the validation of alternative measuring devices as equivalent to the vertical elutriator cotton dust sampler. Other protocols may be used if it is demonstrated that they are statistically valid, meet the requirements in subsection (4)(a)(iii) of this section, and are appropriate for demonstrating equivalency.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-62-20011 Respiratory protection. (1) General.

For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section. Compliance with the permissible exposure limit may not be achieved by the use of respirators except during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls;

(b) Work operations, such as maintenance and repair activity, for which engineering and work-practice controls are technologically not feasible;

(c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the permissible exposure limit;

(d) Emergencies.

(2) Respirator program. The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, (~~except WAC 296-842-13005 and 296-842-14005~~) Respirators.

(3) Respirator selection. The employer must select and provide to employees appropriate respirators (~~or combination of respirators from Table I of this section~~) as specified in this section and WAC 296-842-13005, found in the respirator rule.

Although filtering facepiece respirators may be used for protection from coke oven particulate emissions, these respirators are not appropriate for use against gas or vapor contaminants that present an exposure hazard.

~~((TABLE I
RESPIRATORY PROTECTION FOR COKE
OVEN EMISSIONS-~~

| <u>Airborne concentration of coke oven emissions</u> | <u>Required respirator</u> |
|---|---|
| (i) Any concentration: | (A) A Type C supplied air respirator operated in pressure-demand or other positive pressure or continuous flow mode; or (B) A powered air-purifying particulate filter respirator for dust, mist, and fume; or (C) A powered air-purifying particulate filter respirator combination chemical cartridge and particulate filter respirator for coke oven emissions. |
| (ii) Concentrations not greater than 1500 µg/m³: | (A) Any particulate filter respirator for dust, mist and fume, except single-use respirator; or (B) Any particulate filter respirator or combination chemical cartridge and particulate filter respirator for coke oven emissions; or (C) Any respirator listed in subsection (2)(a)(i) of this section.) |

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-155-17317 Respiratory protection. (1) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(a) Periods necessary to install or implement feasible engineering and work-practice controls.

(b) Work operations, such as maintenance and repair activities and spray application processes, for which engineering and work-practice controls are not feasible.

(c) Work operations for which feasible engineering and work-practice controls are not yet sufficient to reduce employee exposure to or below the PELs.

(d) Emergencies.

(2) Respirator program. The employer must develop, implement and maintain a respiratory protection program as required by chapter 296-842 WAC, (~~except WAC 296-842-13005 and 296-842-14005~~) Respirators.

(3) Respirator selection.

(a) The employer must select ((the)) and provide to employees appropriate respirators (~~from Table I of this section~~) as specified in this section and WAC 296-842-13005 in the respirator rule.

~~(Table 1. Respiratory Protection for MDA)~~

| Airborne concentration of MDA or condition of use | Respirator type |
|---|--|
| a. Less than or equal to 10xPEL | (1) Half-mask respirator with HEPA ¹ -cartridge. ² |
| b. Less than or equal to 50xPEL | (1) Full facepiece respirator with HEPA ¹ -cartridge or canister. ² |
| c. Less than or equal to 1000xPEL | (1) Full facepiece powered air-purifying respirator with HEPA ¹ -cartridges. ² |
| d. Greater than 1000xPEL or unknown | (1) Self-contained breathing concentration apparatus with full facepiece in positive pressure mode; (2) Full facepiece positive pressure demand-supplied-air respirator with auxiliary self-contained air supply. |
| e. Escape | (1) Any full facepiece air-purifying respirator with HEPA ¹ -cartridges; ² (2) Any positive pressure or continuous flow self-contained breathing apparatus with full facepiece or hood. |
| f. Fire fighting | (1) Full facepiece self-contained breathing apparatus in positive pressure mode. |

Note: Respirators assigned for higher environmental concentration may be used at lower concentrations.
¹High efficiency particulate in air filter (HEPA) means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers or larger.
²Combination HEPA/organic vapor cartridges shall be used whenever MDA in liquid form or a process requiring heat is used.)

(b) An employee who cannot use a negative-pressure respirator must be given the option of using a positive-pressure respirator, or a supplied-air respirator operated in the continuous-flow or pressure-demand mode.

(c) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(d) Provide to employees, for escape, one of the following respirator options:

(i) Any self-contained breathing apparatus with a full facepiece or hood, operated in the positive-pressure or continuous-flow mode

OR

(ii) A full facepiece air-purifying respirator.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-155-174 Cadmium. (1) Scope. This standard applies to all occupational exposures to cadmium and cadmium compounds, in all forms, in all construction work where an employee may potentially be exposed to cadmium. Construction work is defined as work involving construction, alteration, and/or repair, including but not limited to the following:

- (a) Wrecking, demolition, or salvage of structures where cadmium or materials containing cadmium are present;
- (b) Use of cadmium containing-paints and cutting, brazing, burning, grinding, or welding on surfaces that were painted with cadmium-containing paints;
- (c) Construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain cadmium, or materials containing cadmium;
- (d) Cadmium welding; cutting and welding cadmium-plated steel; brazing or welding with cadmium alloys;
- (e) Installation of products containing cadmium;
- (f) Electrical grounding with cadmium-welding, or electrical work using cadmium-coated conduit;
- (g) Maintaining or retrofitting cadmium-coated equipment;
- (h) Cadmium contamination/emergency cleanup; and
- (i) Transportation, disposal, storage, or containment of cadmium or materials containing cadmium on the site or location at which construction activities are performed.

(2) Definitions.

(a) Action level (AL) is defined as an airborne concentration of cadmium of 2.5 micrograms per cubic meter of air (2.5 µg/m³), calculated as an 8-hour time-weighted average (TWA).

(b) Authorized person means any person authorized by the employer and required by work duties to be present in regulated areas or any person authorized by WISHA or regulations issued under it to be in regulated areas.

(c) Competent person, in accordance with WAC 296-155-012(4), means a person designated by the employer to act on the employer's behalf who is capable of identifying existing and potential cadmium hazards in the workplace and the proper methods to control them in order to protect workers, and has the authority necessary to take prompt corrective measures to eliminate or control such hazards. The duties of a competent person include at least the following: Determining prior to the performance of work whether cadmium is present in the workplace; establishing, where necessary, regulated areas and assuring that access to and from those areas is limited to authorized employees; assuring the adequacy of any employee exposure monitoring required by this standard; assuring that all employees exposed to air cadmium levels above the PEL wear appropriate personal protective equipment and are trained in the use of appropriate methods of exposure control; assuring that proper hygiene facilities are provided and that workers are trained to use those facilities; and assuring that the engineering controls required by this standard are implemented, maintained in proper operating condition, and functioning properly.

(d) Director means the director of the department of labor and industries or authorized representative.

(e) Employee exposure and similar language referring to the air cadmium level to which an employee is exposed means the exposure to airborne cadmium that would occur if the employee were not using respiratory protective equipment.

(f) Final medical determination is the written medical opinion of the employee's health status by the examining physician under subsection (12)(c) through (l) of this section or, if multiple physician review under subsection (12)(m) of

this section or the alternative physician determination under subsection (12)(n) of this section is invoked, it is the final, written medical finding, recommendation or determination that emerges from that process.

(g) High-efficiency particulate air (HEPA) filter means a filter capable of trapping and retaining at least 99.97 percent of mono-dispersed particles of 0.3 micrometers in diameter.

(h) Regulated area means an area demarcated by the employer where an employee's exposure to airborne concentrations of cadmium exceeds, or can reasonably be expected to exceed the permissible exposure limit (PEL).

(i) This section means this cadmium standard.

(3) Permissible exposure limit (PEL). The employer shall assure that no employee is exposed to an airborne concentration of cadmium in excess of five micrograms per cubic meter of air ($5 \mu\text{g}/\text{m}^3$), calculated as an 8-hour time-weighted average exposure (TWA).

(4) Exposure monitoring

(a) General.

(i) Prior to the performance of any construction work where employees may be potentially exposed to cadmium, the employer shall establish the applicability of this standard by determining whether cadmium is present in the workplace and whether there is the possibility that employee exposures will be at or above the action level. The employer shall designate a competent person who shall make this determination. Investigation and material testing techniques shall be used, as appropriate, in the determination. Investigation shall include a review of relevant plans, past reports, material safety data sheets, and other available records, and consultations with the property owner and discussions with appropriate individuals and agencies.

(ii) Where cadmium has been determined to be present in the workplace, and it has been determined that there is a possibility the employee's exposure will be at or above the action level, the competent person shall identify employees potentially exposed to cadmium at or above the action level.

(iii) Determinations of employee exposure shall be made from breathing-zone air samples that reflect the monitored employee's regular, daily 8-hour TWA exposure to cadmium.

(iv) Eight-hour TWA exposures shall be determined for each employee on the basis of one or more personal breathing-zone air samples reflecting full shift exposure on each shift, for each job classification, in each work area. Where several employees perform the same job tasks, in the same job classification, on the same shift, in the same work area, and the length, duration, and level of cadmium exposures are similar, an employer may sample a representative fraction of the employees instead of all employees in order to meet this requirement. In representative sampling, the employer shall sample the employee(s) expected to have the highest cadmium exposures.

(b) Specific.

(i) Initial monitoring. Except as provided for in (b)(iii) of this subsection, where a determination conducted under (a)(i) of this subsection shows the possibility of employee exposure to cadmium at or above the action level, the employer shall conduct exposure monitoring as soon as practicable that is representative of the exposure for each employee in the work-

place who is or may be exposed to cadmium at or above the action level.

(ii) In addition, if the employee periodically performs tasks that may expose the employee to a higher concentration of airborne cadmium, the employee shall be monitored while performing those tasks.

(iii) Where the employer has objective data, as defined in subsection (14)(b) of this section, demonstrating that employee exposure to cadmium will not exceed airborne concentrations at or above the action level under the expected conditions of processing, use, or handling, the employer may rely upon such data instead of implementing initial monitoring.

(iv) Where a determination conducted under (a) or (b) of this subsection is made that a potentially exposed employee is not exposed to airborne concentrations of cadmium at or above the action level, the employer shall make a written record of such determination. The record shall include at least the monitoring data developed under (b)(i) through (iii) of this subsection, where applicable, and shall also include the date of determination, and the name and Social Security number of each employee.

(c) Monitoring frequency (periodic monitoring).

(i) If the initial monitoring or periodic monitoring reveals employee exposures to be at or above the action level, the employer shall monitor at a frequency and pattern needed to assure that the monitoring results reflect with reasonable accuracy the employee's typical exposure levels, given the variability in the tasks performed, work practices, and environmental conditions on the job site, and to assure the adequacy of respiratory selection and the effectiveness of engineering and work practice controls.

(ii) If the initial monitoring or the periodic monitoring indicates that employee exposures are below the action level and that result is confirmed by the results of another monitoring taken at least seven days later, the employer may discontinue the monitoring for those employees whose exposures are represented by such monitoring.

(d) Additional monitoring. The employer also shall institute the exposure monitoring required under (b)(i) and (c) of this subsection whenever there has been a change in the raw materials, equipment, personnel, work practices, or finished products that may result in additional employees being exposed to cadmium at or above the action level or in employees already exposed to cadmium at or above the action level being exposed above the PEL, or whenever the employer or competent person has any reason to suspect that any other change might result in such further exposure.

(e) Employee notification of monitoring results.

(i) No later than five working days after the receipt of the results of any monitoring performed under this section, the employer shall notify each affected employee individually in writing of the results. In addition, within the same time period, the employer shall post the results of the exposure monitoring in an appropriate location that is accessible to all affected employees.

(ii) Wherever monitoring results indicate that employee exposure exceeds the PEL, the employer shall include in the written notice a statement that the PEL has been exceeded

and a description of the corrective action being taken by the employer to reduce employee exposure to or below the PEL.

(f) Accuracy of measurement. The employer shall use a method of monitoring and analysis that has an accuracy of not less than plus or minus 25 percent ($\pm 25\%$), with a confidence level of 95 percent, for airborne concentrations of cadmium at or above the action level and the permissible exposure limit.

(5) Regulated areas.

(a) Establishment. The employer shall establish a regulated area wherever an employee's exposure to airborne concentrations of cadmium is, or can reasonably be expected to be in excess of the permissible exposure limit (PEL).

(b) Demarcation. Regulated areas shall be demarcated from the rest of the workplace in any manner that adequately establishes and alerts employees of the boundaries of the regulated area, including employees who are or may be incidentally in the regulated areas, and that protects persons outside the area from exposure to airborne concentrations of cadmium in excess of the PEL.

(c) Access. Access to regulated areas shall be limited to authorized persons.

(d) Provision of respirators. Each person entering a regulated area shall be supplied with and required to use a respirator, selected in accordance with subsection (7)(b) of this section.

(e) Prohibited activities. The employer shall assure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas, or carry the products associated with any of these activities into regulated areas or store such products in those areas.

(6) Methods of compliance.

(a) Compliance hierarchy.

(i) Except as specified in (a)(ii) of this subsection, the employer shall implement engineering and work practice controls to reduce and maintain employee exposure to cadmium at or below the PEL, except to the extent that the employer can demonstrate that such controls are not feasible.

(ii) The requirement to implement engineering controls to achieve the PEL does not apply where the employer demonstrates the following:

(A) The employee is only intermittently exposed; and

(B) The employee is not exposed above the PEL on 30 or more days per year (12 consecutive months).

(iii) Wherever engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the employer nonetheless shall implement such controls to reduce exposures to the lowest levels achievable. The employer shall supplement such controls with respiratory protection that complies with the requirements of subsection (7) of this section and the PEL.

(iv) The employer shall not use employee rotation as a method of compliance.

(b) Specific operations.

(i) Abrasive blasting. Abrasive blasting on cadmium or cadmium-containing materials shall be conducted in a manner that will provide adequate protection.

(ii) Heating cadmium and cadmium-containing materials. Welding, cutting, and other forms of heating of cadmium or cadmium-containing materials shall be conducted in

accordance with the requirements of WAC 296-155-415 and 296-155-420, where applicable.

(c) Prohibitions.

(i) High speed abrasive disc saws and similar abrasive power equipment shall not be used for work on cadmium or cadmium-containing materials unless they are equipped with appropriate engineering controls to minimize emissions, if the exposure levels are above the PEL.

(ii) Materials containing cadmium shall not be applied by spray methods, if exposures are above the PEL, unless employees are protected with supplied-air respirators with full facepiece, hood, helmet, suit, operated in positive pressure mode and measures are instituted to limit overspray and prevent contamination of adjacent areas.

(d) Mechanical ventilation.

(i) When ventilation is used to control exposure, measurements that demonstrate the effectiveness of the system in controlling exposure, such as capture velocity, duct velocity, or static pressure shall be made as necessary to maintain its effectiveness.

(ii) Measurements of the system's effectiveness in controlling exposure shall be made as necessary within five working days of any change in production, process, or control that might result in a significant increase in employee exposure to cadmium.

(iii) Recirculation of air. If air from exhaust ventilation is recirculated into the workplace, the system shall have a high efficiency filter and be monitored to assure effectiveness.

(iv) Procedures shall be developed and implemented to minimize employee exposure to cadmium when maintenance of ventilation systems and changing of filters is being conducted.

(e) Compliance program.

(i) Where employee exposure to cadmium exceeds the PEL and the employer is required under (a) of this subsection to implement controls to comply with the PEL, prior to the commencement of the job the employer shall establish and implement a written compliance program to reduce employee exposure to or below the PEL. To the extent that engineering and work practice controls cannot reduce exposures to or below the PEL, the employer shall include in the written compliance program the use of appropriate respiratory protection to achieve compliance with the PEL.

(ii) Written compliance programs shall be reviewed and updated as often and as promptly as necessary to reflect significant changes in the employer's compliance status or significant changes in the lowest air cadmium level that is technologically feasible.

(iii) A competent person shall review the comprehensive compliance program initially and after each change.

(iv) Written compliance programs shall be provided upon request for examination and copying to the director, or authorized representatives, affected employees, and designated employee representatives.

(7) Respirator protection.

(a) General. For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(i) Periods necessary to install or implement feasible engineering and work-practice controls when employee exposures exceed the PEL.

(ii) Maintenance and repair activities, and brief or intermittent operations, for which employee exposures exceed the PEL and engineering and work-practice controls are not feasible or are not required.

(iii) Work operations in regulated areas specified in subsection (5) of this section.

(iv) Work operations for which the employer has implemented all feasible engineering and work-practice controls, and such controls are not sufficient to reduce exposures to or below the PEL.

(v) Emergencies.

(vi) Work operations for which an employee, who is exposed to cadmium at or above the action level, requests a respirator.

(vii) Work operations for which engineering controls are not required under (a)(ii) of this subsection to reduce employee exposures that exceed the PEL.

(b) Respirator program.

(i) The employer must develop, implement, and maintain a respiratory protection program as required by chapter 296-842 WAC, except WAC ((296-842-13005 and)) 296-842-14005.

(ii) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination as required by subsection (12)(f)(ii) of this section to determine if the employee can use a respirator while performing the required duties.

(iii) No employees must use a respirator when, based on their recent medical examination, the examining physician determines that the employee will be unable to continue to function normally while using a respirator. If the physician determines the employee must be limited in, or removed from, their current job because of the employee's inability to use a respirator, the job limitation or removal must be conducted as required by (k) and (l) of this subsection.

(c) Respirator selection. The employer must:

(i) ((The employer must)) Select and provide the appropriate respirator ((from Table 1 of this section)) as specified in this section and WAC 296-842-13005 in the respirator rule.

• Provide employees with full facepiece respirators when they experience eye irritation.

• Make sure high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 series filters are provided for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

((Table 1

Respiratory Protection for Cadmium

| Airborne concentration or condition of use ^a | Required respirator type ^b |
|---|--|
| 10 x or less | A half-mask, air-purifying respirator equipped with a HEPA ^c filter. ^d |

((Table 1

Respiratory Protection for Cadmium

| Airborne concentration or condition of use ^a | Required respirator type ^b |
|---|--|
| 25 x or less | A powered air-purifying respirator ("PAPR") with a loose-fitting hood or helmet equipped with a HEPA filter, or a supplied air respirator with a loose-fitting hood or helmet facepiece operated in the continuous flow mode. |
| 50 x or less | A full facepiece air-purifying respirator equipped with a HEPA filter, or a powered air-purifying respirator with a tight-fitting half-mask equipped with a HEPA filter, or a supplied air respirator with a tight-fitting half-mask operated in the continuous flow mode. |
| 250 x or less | A powered air-purifying respirator with a tight-fitting full-facepiece equipped with a HEPA filter, or a supplied air respirator with a tight-fitting full-facepiece operated in the continuous flow mode. |
| 1000 x or less | A supplied air respirator with half-mask or full facepiece operated in the pressure-demand or other positive pressure mode. |
| >1000 x or unknown concentrations | A self-contained breathing apparatus with a full facepiece operated in the pressure-demand or other positive pressure mode, or a supplied air respirator with a full facepiece operated in the pressure-demand or other positive pressure mode and equipped with an auxiliary escape type self-contained breathing apparatus operated in the pressure-demand mode. |
| Fire fighting | A self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode. |

Note: ^a Concentrations expressed as multiple of the PEL.

^b Respirators assigned for higher environmental concentrations may be used at lower exposure levels. Quantitative fit testing is

required for all tight-fitting air-purifying respirators where airborne concentration of cadmium exceeds 10 times the TWA PEL ($10 \times 5 \mu\text{g}/\text{m}^3 = 50 \mu\text{g}/\text{m}^3$). A full facepiece respirator is required when eye irritation is experienced.

^e HEPA means High Efficiency Particulate Air.

^d Fit testing, qualitative or quantitative, is required.

Source: Respiratory Decision Logic, NIOSH, 1987.)

(ii) The employer shall provide a powered, air-purifying respirator (PAPR) instead of a negative-pressure respirator when an employee entitled to a respirator chooses to use this type of respirator and such a respirator will provide adequate protection to the employee.

(8) Emergency situations. The employer shall develop and implement a written plan for dealing with emergency situations involving substantial releases of airborne cadmium. The plan shall include provisions for the use of appropriate respirators and personal protective equipment. In addition, employees not essential to correcting the emergency situation shall be restricted from the area and normal operations halted in that area until the emergency is abated.

(9) Protective work clothing and equipment

(a) Provision and use. If an employee is exposed to airborne cadmium above the PEL or where skin or eye irritation is associated with cadmium exposure at any level, the employer shall provide at no cost to the employee, and assure that the employee uses, appropriate protective work clothing and equipment that prevents contamination of the employee and the employee's garments. Protective work clothing and equipment includes, but is not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, head coverings, and boots or foot coverings; and

(iii) Face shields, vented goggles, or other appropriate protective equipment that complies with WAC 296-155-215.

(b) Removal and storage.

(i) The employer shall assure that employees remove all protective clothing and equipment contaminated with cadmium at the completion of the work shift and do so only in change rooms provided in accordance with subsection (10)(a) of this section.

(ii) The employer shall assure that no employee takes cadmium-contaminated protective clothing or equipment from the workplace, except for employees authorized to do so for purposes of laundering, cleaning, maintaining, or disposing of cadmium-contaminated protective clothing and equipment at an appropriate location or facility away from the workplace.

(iii) The employer shall assure that contaminated protective clothing and equipment, when removed for laundering, cleaning, maintenance, or disposal, is placed and stored in sealed, impermeable bags or other closed, impermeable containers that are designed to prevent dispersion of cadmium dust.

(iv) The employer shall assure that containers of contaminated protective clothing and equipment that are to be taken out of the change rooms or the workplace for laundering, cleaning, maintenance or disposal shall bear labels in accordance with subsection (13)(c) of this section.

(c) Cleaning, replacement, and disposal.

(i) The employer shall provide the protective clothing and equipment required by (a) of this subsection in a clean

and dry condition as often as necessary to maintain its effectiveness, but in any event at least weekly. The employer is responsible for cleaning and laundering the protective clothing and equipment required by this subsection to maintain its effectiveness and is also responsible for disposing of such clothing and equipment.

(ii) The employer also is responsible for repairing or replacing required protective clothing and equipment as needed to maintain its effectiveness. When rips or tears are detected while an employee is working they shall be immediately mended, or the worksuit shall be immediately replaced.

(iii) The employer shall prohibit the removal of cadmium from protective clothing and equipment by blowing, shaking, or any other means that disperses cadmium into the air.

(iv) The employer shall assure that any laundering of contaminated clothing or cleaning of contaminated equipment in the workplace is done in a manner that prevents the release of airborne cadmium in excess of the permissible exposure limit prescribed in subsection (3) of this section.

(v) The employer shall inform any person who launders or cleans protective clothing or equipment contaminated with cadmium of the potentially harmful effects of exposure to cadmium, and that the clothing and equipment should be laundered or cleaned in a manner to effectively prevent the release of airborne cadmium in excess of the PEL.

(10) Hygiene areas and practices.

(a) General. For employees whose airborne exposure to cadmium is above the PEL, the employer shall provide clean change rooms, handwashing facilities, showers, and lunchroom facilities that comply with WAC 296-155-140.

(b) Change rooms. The employer shall assure that change rooms are equipped with separate storage facilities for street clothes and for protective clothing and equipment, which are designed to prevent dispersion of cadmium and contamination of the employee's street clothes.

(c) Showers and handwashing facilities.

(i) The employer shall assure that employees whose airborne exposure to cadmium is above the PEL shower during the end of the work shift.

(ii) The employer shall assure that employees who are exposed to cadmium above the PEL wash their hands and faces prior to eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics.

(d) Lunchroom facilities.

(i) The employer shall assure that the lunchroom facilities are readily accessible to employees, that tables for eating are maintained free of cadmium, and that no employee in a lunchroom facility is exposed at any time to cadmium at or above a concentration of $2.5 \mu\text{g}/\text{m}^3$.

(ii) The employer shall assure that employees do not enter lunchroom facilities with protective work clothing or equipment unless surface cadmium has been removed from the clothing and equipment by HEPA vacuuming or some other method that removes cadmium dust without dispersing it.

(11) Housekeeping.

(a) All surfaces shall be maintained as free as practicable of accumulations of cadmium.

(b) All spills and sudden releases of material containing cadmium shall be cleaned up as soon as possible.

(c) Surfaces contaminated with cadmium shall, wherever possible, be cleaned by vacuuming or other methods that minimize the likelihood of cadmium becoming airborne.

(d) HEPA-filtered vacuuming equipment or equally effective filtration methods shall be used for vacuuming. The equipment shall be used and emptied in a manner that minimizes the reentry of cadmium into the workplace.

(e) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other methods that minimize the likelihood of cadmium becoming airborne have been tried and found not to be effective.

(f) Compressed air shall not be used to remove cadmium from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the dust cloud created by the compressed air.

(g) Waste, scrap, debris, bags, containers, personal protective equipment, and clothing contaminated with cadmium and consigned for disposal shall be collected and disposed of in sealed impermeable bags or other closed, impermeable containers. These bags and containers shall be labeled in accordance with subsection (13)(b) of this section.

(12) Medical surveillance.

(a) General.

(i) Scope.

(A) Currently exposed—The employer shall institute a medical surveillance program for all employees who are or may be exposed at or above the action level and all employees who perform the following tasks, operations, or jobs: Electrical grounding with cadmium-welding; cutting, brazing, burning, grinding, or welding on surfaces that were painted with cadmium-containing paints; electrical work using cadmium-coated conduit; use of cadmium containing paints; cutting and welding cadmium-plated steel; brazing or welding with cadmium alloys; fusing of reinforced steel by cadmium welding; maintaining or retrofitting cadmium-coated equipment; and, wrecking and demolition where cadmium is present. A medical surveillance program will not be required if the employer demonstrates that the employee:

(I) Is not currently exposed by the employer to airborne concentrations of cadmium at or above the action level on 30 or more days per year (twelve consecutive months); and

(II) Is not currently exposed by the employer in those tasks on 30 or more days per year (twelve consecutive months).

(B) Previously exposed—The employer shall also institute a medical surveillance program for all employees who might previously have been exposed to cadmium by the employer prior to the effective date of this section in tasks specified under (a)(i)(A) of this subsection, unless the employer demonstrates that the employee did not in the years prior to the effective date of this section work in those tasks for the employer with exposure to cadmium for an aggregated total of more than 12 months.

(ii) To determine an employee's fitness for using a respirator, the employer shall provide the limited medical examination specified in (f) of this subsection.

(iii) The employer shall assure that all medical examinations and procedures required by this section are performed by or under the supervision of a licensed physician, who has read and is familiar with the health effects WAC 296-62-07441, Appendix A, the regulatory text of this section, the protocol for sample handling and lab selection in WAC 296-62-07451, Appendix F, and the questionnaire of WAC 296-62-07447, Appendix D.

(iv) The employer shall provide the medical surveillance required by this section, including multiple physician review under (m) of this subsection without cost to employees, and at a time and place that is reasonable and convenient to employees.

(v) The employer shall assure that the collecting and handling of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine (B₂-M) taken from employees under this section is done in a manner that assures their reliability and that analysis of biological samples of cadmium in urine (CdU), cadmium in blood (CdB), and beta-2 microglobulin in urine (B₂-M) taken from employees under this section is performed in laboratories with demonstrated proficiency to perform the particular analysis. (See WAC 296-62-07451, Appendix F.)

(b) Initial examination.

(i) For employees covered by medical surveillance under (a)(i) of this subsection, the employer shall provide an initial medical examination. The examination shall be provided to those employees within 30 days after initial assignment to a job with exposure to cadmium or no later than 90 days after the effective date of this section, whichever date is later.

(ii) The initial medical examination shall include:

(A) A detailed medical and work history, with emphasis on: Past, present, and anticipated future exposure to cadmium; any history of renal, cardiovascular, respiratory, hematopoietic, reproductive, and/or musculo-skeletal system dysfunction; current usage of medication with potential nephrotoxic side-effects; and smoking history and current status; and

(B) Biological monitoring that includes the following tests:

(I) Cadmium in urine (CdU), standardized to grams of creatinine (g/Cr);

(II) Beta-2 microglobulin in urine (B₂-M), standardized to grams of creatinine (g/Cr), with pH specified, as described in WAC 296-62-07451, Appendix F; and

(III) Cadmium in blood (CdB), standardized to liters of whole blood (lwb).

(iii) Recent examination: An initial examination is not required to be provided if adequate records show that the employee has been examined in accordance with the requirements of (b)(ii) of this subsection within the past 12 months. In that case, such records shall be maintained as part of the employee's medical record and the prior exam shall be treated as if it were an initial examination for the purposes of (c) and (d) of this subsection.

(c) Actions triggered by initial biological monitoring.

(i) If the results of the biological monitoring tests in the initial examination show the employee's CdU level to be at or below 3 µg/g Cr, B₂-M level to be at or below 300 µg/g Cr and CdB level to be at or below 5 µg/lwb, then:

(A) For employees who are subject to medical surveillance under (a)(i)(A) of this subsection because of current or anticipated exposure to cadmium, the employer shall provide the minimum level of periodic medical surveillance in accordance with the requirements in (d)(i) of this subsection; and

(B) For employees who are subject to medical surveillance under (a)(i)(B) of this subsection because of prior but not current exposure, the employer shall provide biological monitoring for CdU, B₂-M, and CdB one year after the initial biological monitoring and then the employer shall comply with the requirements of (d)(vi) of this subsection.

(ii) For all employees who are subject to medical surveillance under (a)(i) of this subsection, if the results of the initial biological monitoring tests show the level of CdU to exceed 3 µg/g Cr, the level of B₂-M to be in excess of 300 µg/g Cr, or the level of CdB to be in excess of 5 µg/lwb, the employer shall:

(A) Within two weeks after receipt of biological monitoring results, reassess the employee's occupational exposure to cadmium as follows:

(I) Reassess the employee's work practices and personal hygiene;

(II) Reevaluate the employee's respirator use, if any, and the respirator program;

(III) Review the hygiene facilities;

(IV) Reevaluate the maintenance and effectiveness of the relevant engineering controls;

(V) Assess the employee's smoking history and status;

(B) Within 30 days after the exposure reassessment, specified in (c)(ii)(A) of this subsection, take reasonable steps to correct any deficiencies found in the reassessment that may be responsible for the employee's excess exposure to cadmium; and

(C) Within 90 days after receipt of biological monitoring results, provide a full medical examination to the employee in accordance with the requirements of (d)(ii) of this subsection. After completing the medical examination, the examining physician shall determine in a written medical opinion whether to medically remove the employee. If the physician determines that medical removal is not necessary, then until the employee's CdU level falls to or below 3 µg/g Cr, B₂-M level falls to or below 300 µg/g Cr and CdB level falls to or below 5 µg/lwb, the employer shall:

(I) Provide biological monitoring in accordance with (b)(ii)(B) of this subsection on a semiannual basis; and

(II) Provide annual medical examinations in accordance with (d)(ii) of this subsection.

(iii) For all employees who are subject to medical surveillance under (a)(i) of this subsection, if the results of the initial biological monitoring tests show the level of CdU to be in excess of 15 µg/g Cr, or the level of CdB to be in excess of 15 µg/lwb, or the level of B₂-M to be in excess of 1,500 µg/g Cr, the employer shall comply with the requirements of (c)(ii)(A) and (B) of this subsection. Within 90 days after receipt of biological monitoring results, the employer shall

provide a full medical examination to the employee in accordance with the requirements of (d)(ii) of this subsection. After completing the medical examination, the examining physician shall determine in a written medical opinion whether to medically remove the employee. However, if the initial biological monitoring results and the biological monitoring results obtained during the medical examination both show that: CdU exceeds 15 µg/g Cr; or CdB exceeds 15 µg/lwb; or B₂-M exceeds 1500 µg/g Cr, and in addition CdU exceeds 3 µg/g Cr or CdB exceeds 5 µg/liter of whole blood, then the physician shall medically remove the employee from exposure to cadmium at or above the action level. If the second set of biological monitoring results obtained during the medical examination does not show that a mandatory removal trigger level has been exceeded, then the employee is not required to be removed by the mandatory provisions of this section. If the employee is not required to be removed by the mandatory provisions of this section or by the physician's determination, then until the employee's CdU level falls to or below 3 µg/g Cr, B₂-M level falls to or below 300 µg/g Cr and CdB level falls to or below 5 µg/lwb, the employer shall:

(A) Periodically reassess the employee's occupational exposure to cadmium;

(B) Provide biological monitoring in accordance with (b)(ii)(B) of this subsection on a quarterly basis; and

(C) Provide semiannual medical examinations in accordance with (d)(ii) of this subsection.

(iv) For all employees to whom medical surveillance is provided, beginning on January 1, 1999, and in lieu of (c)(iii) of this subsection, whenever the results of initial biological monitoring tests show the employee's CdU level to be in excess of 7 µg/g Cr, or B₂-M level to be in excess of 750 µg/g Cr, or CdB level to be in excess of 10 µg/lwb, the employer shall comply with the requirements of (c)(ii)(A) and (B) of this subsection. Within 90 days after receipt of biological monitoring results, the employer shall provide a full medical examination to the employee in accordance with the requirements of (d)(ii) of this subsection. After completing the medical examination, the examining physician shall determine in a written medical opinion whether to medically remove the employee. However, if the initial biological monitoring results and the biological monitoring results obtained during the medical examination both show that: CdU exceeds 7 µg/g Cr; or CdB exceeds 10 µg/lwb; or B₂-M exceeds 750 µg/g Cr, and in addition CdU exceeds 3 µg/g Cr or CdB exceeds 5 µg/liter of whole blood, then the physician shall medically remove the employee from exposure to cadmium at or above the action level. If the second set of biological monitoring results obtained during the medical examination does not show that a mandatory removal trigger level has been exceeded, then the employee is not required to be removed by the mandatory provisions of this section. If the employee is not required to be removed by the mandatory provisions of this section or by the physician's determination, then until the employee's CdU level falls to or below 3 µg/g Cr, B₂-M level falls to or below 300 µg/g Cr and CdB level falls to or below 5 µg/lwb, the employer shall:

(A) Periodically reassess the employee's occupational exposure to cadmium;

(B) Provide biological monitoring in accordance with (b)(ii)(B) of this subsection on a quarterly basis; and

(C) Provide semiannual medical examinations in accordance with (d)(ii) of this subsection.

(d) Periodic medical surveillance.

(i) For each employee who is covered by medical surveillance under (a)(i)(A) of this subsection because of current or anticipated exposure to cadmium, the employer shall provide at least the minimum level of periodic medical surveillance, which consists of periodic medical examinations and periodic biological monitoring. A periodic medical examination shall be provided within one year after the initial examination required by (b) of this subsection and thereafter at least biennially. Biological sampling shall be provided at least annually either as part of a periodic medical examination or separately as periodic biological monitoring.

(ii) The periodic medical examination shall include:

(A) A detailed medical and work history, or update thereof, with emphasis on: Past, present, and anticipated future exposure to cadmium; smoking history and current status; reproductive history; current use of medications with potential nephrotoxic side-effects; any history of renal, cardiovascular, respiratory, hematopoietic, and/or musculoskeletal system dysfunction; and as part of the medical and work history, for employees who wear respirators, questions 3 through 11 and 25 through 32 in WAC 296-62-07447, Appendix D;

(B) A complete physical examination with emphasis on: Blood pressure, the respiratory system, and the urinary system;

(C) A 14 inch by 17 inch, or a reasonably standard sized posterior-anterior chest X ray (after the initial X ray, the frequency of chest X rays is to be determined by the examining physician);

(D) Pulmonary function tests, including forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV1);

(E) Biological monitoring, as required in (b)(ii)(B) of this subsection;

(F) Blood analysis, in addition to the analysis required under (b)(ii)(B) of this subsection, including blood urea nitrogen, complete blood count, and serum creatinine;

(G) Urinalysis, in addition to the analysis required under (b)(ii)(B) of this subsection, including the determination of albumin, glucose, and total and low molecular weight proteins;

(H) For males over 40 years old, prostate palpation, or other at least as effective diagnostic test(s); and

(I) Any additional tests or procedures deemed appropriate by the examining physician.

(iii) Periodic biological monitoring shall be provided in accordance with (b)(ii)(B) of this subsection.

(iv) If the results of periodic biological monitoring or the results of biological monitoring performed as part of the periodic medical examination show the level of the employee's CdU, B₂-M, or CdB to be in excess of the levels specified in (c)(ii) and (iii) of this subsection; or, beginning on January 1, 1999, in excess of the levels specified in (c)(ii) or (iv) of this

subsection, the employer shall take the appropriate actions specified in (c)(ii) through (iv) of this subsection, respectively.

(v) For previously exposed employees under (a)(i)(B) of this subsection:

(A) If the employee's levels of CdU did not exceed 3 µg/g Cr, CdB did not exceed 5 µg/lwb, and B₂-M did not exceed 300 µg/g Cr in the initial biological monitoring tests, and if the results of the follow-up biological monitoring required by (c)(i)(B) of this subsection one year after the initial examination confirm the previous results, the employer may discontinue all periodic medical surveillance for that employee.

(B) If the initial biological monitoring results for CdU, CdB, or B₂-M were in excess of the levels specified in (c)(i) of this subsection, but subsequent biological monitoring results required by (c)(ii) through (iv) of this subsection show that the employee's CdU levels no longer exceed 3 µg/g Cr, CdB levels no longer exceed 5 µg/lwb, and B₂-M levels no longer exceed 300 µg/g Cr, the employer shall provide biological monitoring for CdU, CdB, and B₂-M one year after these most recent biological monitoring results. If the results of the follow-up biological monitoring specified in this section, confirm the previous results, the employer may discontinue all periodic medical surveillance for that employee.

(C) However, if the results of the follow-up tests specified in (d)(v)(A) or (B) of this subsection indicate that the level of the employee's CdU, B₂-M, or CdB exceeds these same levels, the employer is required to provide annual medical examinations in accordance with the provisions of (d)(ii) of this subsection until the results of biological monitoring are consistently below these levels or the examining physician determines in a written medical opinion that further medical surveillance is not required to protect the employee's health.

(vi) A routine, biennial medical examination is not required to be provided in accordance with (c)(i) and (d) of this subsection if adequate medical records show that the employee has been examined in accordance with the requirements of (d)(ii) of this subsection within the past 12 months. In that case, such records shall be maintained by the employer as part of the employee's medical record, and the next routine, periodic medical examination shall be made available to the employee within two years of the previous examination.

(e) Actions triggered by medical examinations. If the results of a medical examination carried out in accordance with this section indicate any laboratory or clinical finding consistent with cadmium toxicity that does not require employer action under (b), (c), or (d) of this subsection, the employer shall take the following steps and continue to take them until the physician determines that they are no longer necessary.

(i) Periodically reassess: The employee's work practices and personal hygiene; the employee's respirator use, if any; the employee's smoking history and status; the respiratory protection program; the hygiene facilities; the maintenance and effectiveness of the relevant engineering controls; and take all reasonable steps to correct the deficiencies found in

the reassessment that may be responsible for the employee's excess exposure to cadmium.

(ii) Provide semiannual medical reexaminations to evaluate the abnormal clinical sign(s) of cadmium toxicity until the results are normal or the employee is medically removed; and

(iii) Where the results of tests for total proteins in urine are abnormal, provide a more detailed medical evaluation of the toxic effects of cadmium on the employee's renal system.

(f) Examination for respirator use.

(i) To determine an employee's fitness for respirator use, the employer shall provide a medical examination that includes the elements specified in (f)(i)(A) through (D) of this subsection. This examination shall be provided prior to the employee's being assigned to a job that requires the use of a respirator or no later than 90 days after this section goes into effect, whichever date is later, to any employee without a medical examination within the preceding 12 months that satisfies the requirements of this section.

(A) A detailed medical and work history, or update thereof, with emphasis on: Past exposure to cadmium; smoking history and current status; any history of renal, cardiovascular, respiratory, hematopoietic, and/or musculo-skeletal system dysfunction; a description of the job for which the respirator is required; and questions 3 through 11 and 25 through 32 in WAC 296-62-07447, Appendix D;

(B) A blood pressure test;

(C) Biological monitoring of the employee's levels of CdU, CdB and B₂-M in accordance with the requirements of (b)(ii)(B) of this subsection, unless such results already have been obtained within the twelve months; and

(D) Any other test or procedure that the examining physician deems appropriate.

(ii) After reviewing all the information obtained from the medical examination required in (f)(i) of this subsection, the physician shall determine whether the employee is fit to wear a respirator.

(iii) Whenever an employee has exhibited difficulty in breathing during a respirator fit test or during use of a respirator, the employer, as soon as possible, shall provide the employee with a periodic medical examination in accordance with (d)(ii) of this subsection to determine the employee's fitness to wear a respirator.

(iv) Where the results of the examination required under (f)(i), (ii), or (iii) of this subsection are abnormal, medical limitation or prohibition of respirator use shall be considered. If the employee is allowed to wear a respirator, the employee's ability to continue to do so shall be periodically evaluated by a physician.

(g) Emergency examinations.

(i) In addition to the medical surveillance required in (b) through (f) of this subsection, the employer shall provide a medical examination as soon as possible to any employee who may have been acutely exposed to cadmium because of an emergency.

(ii) The examination shall include the requirements of (d)(ii), of this subsection, with emphasis on the respiratory system, other organ systems considered appropriate by the examining physician, and symptoms of acute overexposure,

as identified in Appendix A, WAC 296-62-07441 (2)(b)(i) and (ii) and (4).

(h) Termination of employment examination.

(i) At termination of employment, the employer shall provide a medical examination in accordance with (d)(ii) of this subsection, including a chest X ray where necessary, to any employee to whom at any prior time the employer was required to provide medical surveillance under (a)(i) or (g) of this subsection. However, if the last examination satisfied the requirements of (d)(ii) of this subsection and was less than six months prior to the date of termination, no further examination is required unless otherwise specified in (c) or (e) of this subsection;

(ii) In addition, if the employer has discontinued all periodic medical surveillance under (d)(v) of this subsection, no termination of employment medical examination is required.

(i) Information provided to the physician. The employer shall provide the following information to the examining physician:

(i) A copy of this standard and appendices;

(ii) A description of the affected employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to cadmium;

(iii) The employee's former, current, and anticipated future levels of occupational exposure to cadmium;

(iv) A description of any personal protective equipment, including respirators, used or to be used by the employee, including when and for how long the employee has used that equipment; and

(v) Relevant results of previous biological monitoring and medical examinations.

(j) Physician's written medical opinion.

(i) The employer shall promptly obtain a written, signed, medical opinion from the examining physician for each medical examination performed on each employee. This written opinion shall contain:

(A) The physician's diagnosis for the employee;

(B) The physician's opinion as to whether the employee has any detected medical condition(s) that would place the employee at increased risk of material impairment to health from further exposure to cadmium, including any indications of potential cadmium toxicity;

(C) The results of any biological or other testing or related evaluations that directly assess the employee's absorption of cadmium;

(D) Any recommended removal from, or limitation on the activities or duties of the employee or on the employee's use of personal protective equipment, such as respirators;

(E) A statement that the physician has clearly and carefully explained to the employee the results of the medical examination, including all biological monitoring results and any medical conditions related to cadmium exposure that require further evaluation or treatment, and any limitation on the employee's diet or use of medications.

(ii) The employer shall promptly obtain a copy of the results of any biological monitoring provided by an employer to an employee independently of a medical examination under (b) and (d) of this subsection, and, in lieu of a written medical opinion, an explanation sheet explaining those results.

(iii) The employer shall instruct the physician not to reveal orally or in the written medical opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to cadmium.

(k) Medical removal protection (MRP).

(i) General.

(A) The employer shall temporarily remove an employee from work where there is excess exposure to cadmium on each occasion that medical removal is required under (c), (d), or (f) of this subsection and on each occasion that a physician determines in a written medical opinion that the employee should be removed from such exposure. The physician's determination may be based on biological monitoring results, inability to wear a respirator, evidence of illness, other signs or symptoms of cadmium-related dysfunction or disease, or any other reason deemed medically sufficient by the physician.

(B) The employer shall medically remove an employee in accordance with (k) of this subsection regardless of whether at the time of removal a job is available into which the removed employee may be transferred.

(C) Whenever an employee is medically removed under (k) of this subsection, the employer shall transfer the removed employee to a job where the exposure to cadmium is within the permissible levels specified in subsection (12) of this section as soon as one becomes available.

(D) For any employee who is medically removed under the provisions of (k)(i) of this subsection, the employer shall provide follow-up medical examinations semiannually until, in a written medical opinion, the examining physician determines that either the employee may be returned to his/her former job status or the employee must be permanently removed from excess cadmium exposure.

(E) The employer may not return an employee who has been medically removed for any reason to his/her former job status until a physician determines in a written medical opinion that continued medical removal is no longer necessary to protect the employee's health.

(ii) Where an employee is found unfit to wear a respirator under (f)(ii) of this subsection, the employer shall remove the employee from work where exposure to cadmium is above the PEL.

(iii) Where removal is based upon any reason other than the employee's inability to wear a respirator, the employer shall remove the employee from work where exposure to cadmium is at or above the action level.

(iv) Except as specified in (k)(v) of this subsection, no employee who was removed because his/her level of CdU, CdB and/or B₂-M exceeded the trigger levels in (c) or (d) of this subsection may be returned to work with exposure to cadmium at or above the action level until the employee's levels of CdU fall to or below 3 µg/g Cr, CdB fall to or below 5 µg/lwb, and B₂-M fall to or below 300 µg/g Cr.

(v) However, when in the examining physician's opinion continued exposure to cadmium will not pose an increased risk to the employee's health and there are special circumstances that make continued medical removal an inappropriate remedy, the physician shall fully discuss these matters with the employee, and then in a written determination may return a worker to his/her former job status despite what

would otherwise be unacceptably high biological monitoring results. Thereafter and until such time as the employee's biological monitoring results have decreased to levels where he/she could have been returned to his/her former job status, the returned employee shall continue medical surveillance as if he/she were still on medical removal. Until such time, the employee is no longer subject to mandatory medical removal. Subsequent questions regarding the employee's medical removal shall be decided solely by a final medical determination.

(vi) Where an employer, although not required by this section to do so, removes an employee from exposure to cadmium or otherwise places limitations on an employee due to the effects of cadmium exposure on the employee's medical condition, the employer shall provide the same medical removal protection benefits to that employee under (l) of this subsection as would have been provided had the removal been required under (k) of this subsection.

(l) Medical removal protection benefits.

(i) The employer shall provide medical removal protection benefits to an employee for up to a maximum of 18 months each time, and while the employee is temporarily medically removed under (k) of this subsection.

(ii) For purposes of this section, the requirement that the employer provide medical removal protection benefits means that the employer shall maintain the total normal earnings, seniority, and all other employee rights and benefits of the removed employee, including the employee's right to his/her former job status, as if the employee had not been removed from the employee's job or otherwise medically limited.

(iii) Where, after 18 months on medical removal because of elevated biological monitoring results, the employee's monitoring results have not declined to a low enough level to permit the employee to be returned to his/her former job status:

(A) The employer shall make available to the employee a medical examination pursuant to this section in order to obtain a final medical determination as to whether the employee may be returned to his/her former job status or must be permanently removed from excess cadmium exposure; and

(B) The employer shall assure that the final medical determination indicates whether the employee may be returned to his/her former job status and what steps, if any, should be taken to protect the employee's health.

(iv) The employer may condition the provision of medical removal protection benefits upon the employee's participation in medical surveillance provided in accordance with this section.

(m) Multiple physician review.

(i) If the employer selects the initial physician to conduct any medical examination or consultation provided to an employee under this section, the employee may designate a second physician to:

(A) Review any findings, determinations, or recommendations of the initial physician; and

(B) Conduct such examinations, consultations, and laboratory tests as the second physician deems necessary to facilitate this review.

(ii) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician provided by the employer conducts a medical examination or consultation pursuant to this section. The employer may condition its participation in, and payment for, multiple physician review upon the employee doing the following within fifteen (15) days after receipt of this notice, or receipt of the initial physician's written opinion, whichever is later:

(A) Informing the employer that he or she intends to seek a medical opinion; and

(B) Initiating steps to make an appointment with a second physician.

(iii) If the findings, determinations, or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve any disagreement.

(iv) If the two physicians have been unable to quickly resolve their disagreement, then the employer and the employee, through their respective physicians, shall designate a third physician to:

(A) Review any findings, determinations, or recommendations of the other two physicians; and

(B) Conduct such examinations, consultations, laboratory tests, and discussions with the other two physicians as the third physician deems necessary to resolve the disagreement among them.

(v) The employer shall act consistently with the findings, determinations, and recommendations of the third physician, unless the employer and the employee reach an agreement that is consistent with the recommendations of at least one of the other two physicians.

(n) Alternate physician determination. The employer and an employee or designated employee representative may agree upon the use of any alternate form of physician determination in lieu of the multiple physician review provided by (m) of this subsection, so long as the alternative is expeditious and at least as protective of the employee.

(o) Information the employer must provide the employee.

(i) The employer shall provide a copy of the physician's written medical opinion to the examined employee within five working days after receipt thereof.

(ii) The employer shall provide the employee with a copy of the employee's biological monitoring results and an explanation sheet explaining the results within five working days after receipt thereof.

(iii) Within 30 days after a request by an employee, the employer shall provide the employee with the information the employer is required to provide the examining physician under (i) of this subsection.

(p) Reporting. In addition to other medical events that are required to be reported on the OSHA Form No. 200, the employer shall report any abnormal condition or disorder caused by occupational exposure to cadmium associated with employment as specified in Chapter (V)(E) of the Bureau of Labor Statistics Recordkeeping Guidelines for Occupational Injuries and Illnesses.

(13) Communication of cadmium hazards to employees

(a) General. In communications concerning cadmium hazards, employers shall comply with the requirements of WISHA's Hazard Communication Standard, chapter 296-62 WAC, Part C, including but not limited to the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training. In addition, employers shall comply with the following requirements:

(b) Warning signs.

(i) Warning signs shall be provided and displayed in regulated areas. In addition, warning signs shall be posted at all approaches to regulated areas so that an employee may read the signs and take necessary protective steps before entering the area.

(ii) Warning signs required by (b)(i) of this subsection shall bear the following information:

Danger, Cadmium, Cancer Hazard,
Can Cause Lung and Kidney Disease,
Authorized Personnel Only,
Respirators Required in This Area

(iii) The employer shall assure that signs required by this section are illuminated, cleaned, and maintained as necessary so that the legend is readily visible.

(c) Warning labels.

(i) Shipping and storage containers containing cadmium, cadmium compounds, or cadmium contaminated clothing, equipment, waste, scrap, or debris shall bear appropriate warning labels, as specified in (c)(ii) of this subsection.

(ii) The warning labels shall include at least the following information:

Danger, Contains Cadmium, Cancer Hazard,
Avoid Creating Dust,
Can Cause Lung and Kidney Disease

(iii) Where feasible, installed cadmium products shall have a visible label or other indication that cadmium is present.

(d) Employee information and training.

(i) The employer shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of such program.

(ii) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

(iii) The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:

(A) The health hazards associated with cadmium exposure, with special attention to the information incorporated in WAC 296-62-07441, Appendix A;

(B) The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;

(C) The engineering controls and work practices associated with the employee's job assignment;

(D) The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;

(E) The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;

(F) The purpose and a description of the medical surveillance program required by subsection (12) of this section;

(G) The contents of this section and its appendices; and

(H) The employee's rights of access to records under chapter 296-62 WAC, Part B.

(iv) Additional access to information and training program and materials.

(A) The employer shall make a copy of this section and its appendices readily available to all affected employees and shall provide a copy without cost if requested.

(B) Upon request, the employer shall provide to the director or authorized representative, all materials relating to the employee information and the training program.

(e) Multiemployer workplace. In a multiemployer workplace, an employer who produces, uses, or stores cadmium in a manner that may expose employees of other employers to cadmium shall notify those employers of the potential hazard in accordance with WAC 296-800-170 of the chemical hazard communication program standard.

(14) Recordkeeping.

(a) Exposure monitoring.

(i) The employer shall establish and keep an accurate record of all air monitoring for cadmium in the workplace.

(ii) This record shall include at least the following information:

(A) The monitoring date, shift, duration, air volume, and results in terms of an 8-hour TWA of each sample taken, and if cadmium is not detected, the detection level;

(B) The name, Social Security number, and job classification of all employees monitored and of all other employees whose exposures the monitoring result is intended to represent, including, where applicable, a description of how it was determined that the employee's monitoring result could be taken to represent other employee's exposures;

(C) A description of the sampling and analytical methods used and evidence of their accuracy;

(D) The type of respiratory protective device, if any, worn by the monitored employee and by any other employee whose exposure the monitoring result is intended to represent;

(E) A notation of any other conditions that might have affected the monitoring results;

(F) Any exposure monitoring or objective data that were used and the levels.

(iii) The employer shall maintain this record for at least thirty (30) years, in accordance with chapter 296-802 WAC.

(iv) The employer shall also provide a copy of the results of an employee's air monitoring prescribed in subsection (4) of this section to an industry trade association and to the employee's union, if any, or, if either of such associations or unions do not exist, to another comparable organization that

is competent to maintain such records and is reasonably accessible to employers and employees in the industry.

(b) Objective data for exemption from requirement for initial monitoring.

(i) For purposes of this section, objective data are information demonstrating that a particular product or material containing cadmium or a specific process, operation, or activity involving cadmium cannot release dust or fumes in concentrations at or above the action level even under the worst-case release conditions. Objective data can be obtained from an industry-wide study or from laboratory product test results from manufacturers of cadmium-containing products or materials. The data the employer uses from an industry-wide survey must be obtained under workplace conditions closely resembling the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

(ii) The employer shall maintain the record for at least 30 years of the objective data relied upon.

(c) Medical surveillance.

(i) The employer shall establish and maintain an accurate record for each employee covered by medical surveillance under (a)(i) of this subsection.

(ii) The record shall include at least the following information about the employee:

(A) Name, Social Security number, and description of duties;

(B) A copy of the physician's written opinions and of the explanation sheets for biological monitoring results;

(C) A copy of the medical history, and the results of any physical examination and all test results that are required to be provided by this section, including biological tests, X rays, pulmonary function tests, etc., or that have been obtained to further evaluate any condition that might be related to cadmium exposure;

(D) The employee's medical symptoms that might be related to exposure to cadmium; and

(E) A copy of the information provided to the physician as required by subsection (12)(i) of this section.

(iii) The employer shall assure that this record is maintained for the duration of employment plus thirty (30) years, in accordance with chapter 296-802 WAC.

(iv) At the employee's request, the employer shall promptly provide a copy of the employee's medical record, or update as appropriate, to a medical doctor or a union specified by the employee.

(d) Training. The employer shall certify that employees have been trained by preparing a certification record which includes the identity of the person trained, the signature of the employer or the person who conducted the training, and the date the training was completed. The certification records shall be prepared at the completion of training and shall be maintained on file for one (1) year beyond the date of training of that employee.

(e) Availability.

(i) Except as otherwise provided for in this section, access to all records required to be maintained by (a) through (d) of this subsection shall be in accordance with the provisions of chapter 296-802 WAC.

(ii) Within 15 days after a request, the employer shall make an employee's medical records required to be kept by (c) of this subsection available for examination and copying to the subject employee, to designated representatives, to anyone having the specific written consent of the subject employee, and after the employee's death or incapacitation, to the employee's family members.

(f) Transfer of records. Whenever an employer ceases to do business and there is no successor employer or designated organization to receive and retain records for the prescribed period, the employer shall comply with the requirements concerning transfer of records set forth in chapter 296-802 WAC.

(15) Observation of monitoring.

(a) Employee observation. The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to cadmium.

(b) Observation procedures. When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with that clothing and equipment and shall assure that the observer uses such clothing and equipment and complies with all other applicable safety and health procedures.

(16) Appendices.

(a) Compliance with the fit testing requirements in WAC 296-842-15005 are mandatory.

(b) Except where portions of WAC 296-62-07441, 296-62-07443, 296-62-07447, 296-62-07449, and 296-62-07451, Appendices A, B, D, E, and F, respectively, to this section are expressly incorporated in requirements of this section, these appendices are purely informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

AMENDATORY SECTION (Amending WSR 05-03-093, filed 1/18/05, effective 3/1/05)

WAC 296-155-17613 Respiratory protection. (1) General. For employees who use respirators required by WAC 296-155-176, the employer must provide respirators that comply with the requirements of this section. Respirators must be used during:

(a) Periods when an employee's exposure to lead exceeds the PEL.

(b) Work operations for which engineering controls and work-practices are not sufficient to reduce employee exposures to or below the PEL.

(c) Periods when an employee requests a respirator.

(d) Periods when respirators are required to provide interim protection of employees while they perform the operations as specified in WAC 296-155-17609(2).

(2) Respirator program.

(a) The employer must develop, implement, and maintain a respiratory protection program as required by chapter 296-842 WAC, ~~((except WAC 296-842-13005 and 296-842-14005))~~ Respirators.

(b) If an employee has breathing difficulty during fit testing or respirator use, the employer must provide the employee with a medical examination as required by WAC

296-155-17621 (3)(a)(ii) to determine whether or not the employee can use a respirator while performing the required duty.

(3) Respirator selection. The employer must:

(a) ~~((The employer must))~~ Select ((the)) and provide for employees appropriate respirators ((or combination of respirators from Table I of this section)) according to this section and WAC 296-842-13005 in the respirator rule.

(b) ~~((The employer must))~~ Provide employees with a powered air-purifying respirator (PAPR) when an employee chooses to use ((such a respirator)) a PAPR and it ((will)) provides adequate protection to the employee.

~~((Table I. — Respiratory Protection for Lead Aerosols~~

| Airborne concentration of lead or condition of use | Required respirator^a |
|---|--|
| Not in excess of 500 µg/m³ | 1/2 mask air purifying respirator with high efficiency filters.^{b, c} 1/2 mask supplied air respirator operated in demand (negative pressure) mode. |
| Not in excess of 1,250 µg/m³ | Loose fitting hood or helmet powered air purifying respirator with high efficiency filters.^c Hood or helmet supplied air respirator operated in a continuous flow mode — e.g., type CE abrasive blasting respirators operated in a continuous flow mode. |
| Not in excess of 2,500 µg/m³ | Full facepiece air purifying respirator with high efficiency filters.^c Tight fitting powered air purifying respirator with high efficiency filters.^c Full facepiece supplied air respirator operated in demand mode. 1/2 mask or full facepiece supplied air respirator operated in a continuous flow mode. Full facepiece self-contained breathing apparatus (SCBA) operated in demand mode. |
| Not in excess of 50,000 µg/m³ | 1/2 mask supplied air respirator operated in pressure demand or other positive pressure mode. |
| Not in excess of 100,000 µg/m³ | Full facepiece supplied air respirator operated in pressure demand or other positive pressure mode — e.g., type CE abrasive blasting respirators operated in a positive pressure mode. |
| Greater than 100,000 µg/m³, unknown concentration, or fire fighting | Full facepiece SCBA operated in pressure demand or other positive pressure mode. |

^a ~~Respirators specified for higher concentrations can be used at lower concentrations of lead.~~

^b ~~Full facepiece is required if the lead aerosols cause eye or skin irritation at the use concentrations.~~

^c ~~A high efficiency particulate filter (HEPA) means a filter that is 99.97 percent efficient against particles of 0.3 micron size or larger.)~~

(c) Provide employees with full facepiece respirators instead of half facepiece respirators for protection against lead aerosols that may cause eye or skin irritation at the use concentration.

(d) Provide HEPA filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

AMENDATORY SECTION (Amending WSR 05-01-173, 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:

- ~~((Respiratory hazards))~~ 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.
- Feasible exposure controls do not reduce exposures to, or below, the PEL.
- Emergencies.

~~((Make sure air-purifying respirators selected have))~~ 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 ~~((an employee))~~ a powered air-purifying respirator (PAPR) to employees required to use respirators when ~~((this type of respirator will provide proper protection and))~~:

- The employee chooses to use this type of respirator or a licensed health care professional (LHCP) ~~((allows))~~ recommends this type of respirator in their written opinion.

~~((OR~~

~~The employee chooses to use this type of respirator.))~~

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: ~~((Arsenic trichloride is corrosive and can be rapidly absorbed through skin.))~~ 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.

AMENDATORY SECTION (Amending WSR 05-13-152, filed 6/21/05, effective 8/1/05)

WAC 296-849-13045 Respirators.

IMPORTANT:

These requirements are in addition to the requirements found in other chapters:

- ~~((Respiratory hazards))~~ 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 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.

~~((Meet these requirements to protect employees from benzene exposure above a PEL))~~ Provide employees, for escape, either:

~~((Limit selection of escape respirators to either:~~

~~■ (A)) – Any full-facepiece organic vapor gas mask;~~

OR

~~((■ (A)) – 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 ~~((gas masks and powered))~~ air-purifying respirators ~~((PAPRs))~~ 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;

~~((AND))~~ **OR**

– A licensed health care professional's (LHCP's) written opinion allows this type of respirator.

AMENDATORY SECTION (Amending WSR 05-17-168, 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.

■ ~~(You determine that)~~ 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.

• ~~(Establish)~~ Develop, implement, and maintain a respirator program that meets the requirements of another chapter, Respirators, chapter 296-842 WAC ~~(, and include the following additional requirement:)~~.

– 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 (for EtO). 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.

AMENDATORY SECTION (Amending WSR 06-08-087, 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 ~~(written)~~ respirator program as required by ~~(a separate chapter, Respirators,)~~

chapter 296-842 WAC, ~~((and include the following additional requirements:))~~ 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 ~~((respirators, hoods,))~~ models or effective, gas-proof chemical goggles.

• Provide employees with powered air-purifying respirators (PAPRs) when ~~((this type of respirator will provide appropriate protection and any of the following applies:~~

– ~~A licensed healthcare professional (LHCP) allows this type of respirator in their written opinion:)~~

– 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.

• ~~((Make sure you))~~ Replace the ((air-purifying)) chemical cartridges or canisters ~~((as follows:~~

– ~~At the beginning of each work shift;~~

AND

– ~~As required by Respirators, chapter 296-842 WAC))~~ 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.

WSR 07-05-083
PERMANENT RULES
DEPARTMENT OF AGRICULTURE

[Filed February 21, 2007, 9:16 a.m., effective March 24, 2007]

Effective Date of Rule: Thirty-one days after filing.

Purpose: This rule-making order adopts motor fuel (including biofuel) quality and labeling standards. Specifically, this includes:

(1) Adopting the uniform engine fuels, petroleum products, and automotive lubricants regulation published in NIST Handbook 130 (with modifications in accordance with chapters 19.94 and 19.112 RCW); and

(2) Modifying the existing modifications listed in WAC 16-662-115 to the uniform regulation for the method of sale of commodities requirements, as published in NIST Handbook 130.

This amendment does not address automotive lubricants.

Citation of Existing Rules Affected by this Order: Amending WAC 16-662-100, 16-662-105, and 16-662-115.

Statutory Authority for Adoption: Chapters 19.112 and 34.05 RCW.

Adopted under notice filed as WSR 07-02-105 on January 3, 2007.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 0, Amended 3, Repealed 0.

Number of Sections Adopted at Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's Own Initiative: New 0, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted Using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 3, Repealed 0.

Date Adopted: February 21, 2007.

Valoria H. Loveland
 Director

AMENDATORY SECTION (Amending WSR 05-10-088, filed 5/4/05, effective 6/4/05)

WAC 16-662-100 What is the purpose of this chapter? (1) This chapter establishes requirements for the state of Washington that are reasonably consistent with the uniform rules adopted by the National Conference on Weights and Measures and that are in effect in other states.

(2) This chapter applies specifically to the:

(a) Uniform specifications, tolerances and other technical requirements for weighing and measuring devices addressed in the *National Institute of Standards and Technology (NIST) NIST Handbook 44*;

(b) Uniform procedures for checking the net contents of packaged goods addressed in *NIST Handbook 133*;

(c) Uniform packaging and labeling regulation addressed in *NIST Handbook 130*;

(d) Uniform regulation for the method of sale of commodities addressed in *NIST Handbook 130*; ~~((and))~~

(e) Uniform examination procedure for price verification addressed in *NIST Handbook 130*; and

(f) Engine fuels, petroleum products, and automotive lubricants regulation addressed in NIST Handbook 130.

(3)(a) *NIST Handbook 44*, *NIST Handbook 130* and *NIST Handbook 133*, may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. They are also available on the National Institute of Standards and Technology web site at <http://ts.nist.gov/ts/htdocs/230/235/owmhome.htm>.

(b) For information regarding the contents and application of these publications, contact the weights and measures program at the Washington State Department of Agriculture, P.O. Box 42560, Olympia, Washington 98504-2560, telephone number 360-902-1857, or e-mail wts&measures@agr.wa.gov.

AMENDATORY SECTION (Amending WSR 07-01-115A, filed 12/20/06, effective 1/20/07)

WAC 16-662-105 What national weights and measures standards are adopted by the Washington state department of agriculture (WSDA)? The WSDA adopts the following national standards:

| National standard for: | Contained in the: |
|---|---|
| (1) The specifications, tolerances, and other technical requirements for the design, manufacture, installation, performance test, and use of weighing and measuring equipment | 2007 Edition of <i>NIST Handbook 44 - Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices</i> |
| (2) The procedures for checking the accuracy of the net contents of packaged goods | Fourth Edition (January 2005) of <i>NIST Handbook 133 - Checking the Net Contents of Packaged Goods</i> |
| (3) The requirements for packaging and labeling, method of sale of commodities, ((and the)) examination procedures for price verification, <u>and engine fuels, petroleum products and automotive lubricants</u> | 2006 Edition of <i>NIST Handbook 130 - Uniform Laws and Regulations in the areas of legal metrology and engine fuel quality</i> , specifically: |
| (a) Weights and measures requirements for all food and nonfood commodities in package form | <i>Uniform Packaging and Labeling Regulations</i> adopted by the National Conference on Weights and Measures and published in <i>NIST Handbook 130</i> , 2006 Edition |

| National standard for: | Contained in the: |
|---|--|
| (b) Weights and measures requirements for the method of sale of food and nonfood commodities | <i>Uniform Regulation for the Method of Sale of Commodities</i> as adopted by the National Conference on Weights and Measures and published in <i>NIST Handbook 130</i> , 2006 Edition |
| (c) Weights and measures requirements for price verification | <i>Examination Procedure for Price Verification</i> as adopted by the National Conference on Weights and Measures and published in <i>NIST Handbook 130</i> , 2006 Edition |
| (d) Definitions and requirements for standard fuel specifications; classification and method of sale of petroleum products; retail storage tanks; condemned products; product registration; and test methods and reproducibility limits | <i>Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation</i> as adopted by the National Conference on Weights and Measures and published in <i>NIST Handbook 130</i> , 2006 Edition |

tions to the *Uniform Regulation for the Method of Sale of Commodities* requirements published in *NIST Handbook 130*, identified in WAC 16-662-105 (3)(b):

| <u>((Modified Section:</u> | <u>Modification:</u> |
|---|--|
| (1) Section 2.20 Gasoline-Oxygenate Blends | Delete Section 2.20 because the requirements for this subject are addressed in RCW 19.94.505 and chapter 16-657 WAC |
| (2) Section 2.23 Animal Bedding | Add a new subsection, which reads as follows: 2.23.1 Sawdust, Barkdust, Decorative Wood Particles, and Similar Products. As used in this subsection, "unit" means a standard volume equal to 200 cubic feet. When advertised, offered for sale, or sold within Washington state, quantity representations for sawdust, barkdust, decorative wood particles, and similar loose bulk materials must be in cubic measures or units and fractions thereof.) |

AMENDATORY SECTION (Amending WSR 05-10-088, filed 5/4/05, effective 6/4/05)

WAC 16-662-115 Does the WSDA modify NIST Handbook 130? The WSDA adopts the following modifica-

| <u>Modified Section:</u> | <u>Modification:</u> |
|--|---|
| <u>(1) Section 2.20. Gasoline-Oxygenate Blends</u> | <u>Modify section 2.20.1. Method of Retail Sale - Type of Oxygenate must be Disclosed, to read: All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper fifty percent of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in.) in height, 1.5 mm (1/16 in.) stroke (width of type). Methanol at one percent or greater, by volume, in gasoline for use as motor vehicle fuel must be labeled with the maximum percentage of methanol contained in the motor vehicle fuel. Ethanol at no less than one percent and no more than ten percent, by volume, must be labeled "Contains up to 10% Ethanol." Ethanol at greater than ten percent by volume must be labeled with the capital letter E followed by the numerical value volume percent denatured ethanol and ending with the word "ethanol." (Example: E85 Ethanol.)</u> |

| <u>Modified Section:</u> | <u>Modification:</u> |
|--|---|
| | <p><u>Modify section 2.20.2. Documentation for Dispenser Labeling Purposes, to read: At the time of delivery of the fuel, the retailer shall be provided, on an invoice, bill of lading, shipping paper, or other documentation a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen). In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending. When ethanol and/or methanol is blended at one percent or greater, by volume, in gasoline for use as motor vehicle fuel, documentation must include the volumetric percentage of ethanol and/or methanol.</u></p> |
| <p><u>(2) Section 2.23. Animal Bedding</u></p> | <p><u>Add a new subsection, which reads: 2.23.1 Sawdust, Barkdust, Decorative Wood Particles, and Similar Products. As used in this subsection, "unit" means a standard volume equal to 200 cubic feet. When advertised, offered for sale, or sold within Washington state, quantity representations for sawdust, barkdust, decorative wood particles, and similar loose bulk materials must be in cubic measures or units and fractions thereof.</u></p> |

The WSDA adopts the following modifications to the *Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation* requirements published in *NIST Handbook 130*, identified in WAC 16-662-105 (3)(d):

| <u>Modified Section:</u> | <u>Modification:</u> |
|---|--|
| <p><u>(1) Section 2.12. Motor Oil</u></p> | <p><u>Delete section 2.12.</u></p> |
| <p><u>(2) Section 2.13. Products for Use in Lubricating Manual Transmissions, Gears, or Axles</u></p> | <p><u>Delete section 2.13.</u></p> |
| <p><u>(3) Section 2.14. Products for Use in Lubricating Automatic Transmissions</u></p> | <p><u>Delete section 2.14.</u></p> |
| <p><u>(4) Section 3.2.6. Method of Retail Sale. Type of Oxygenate must be Disclosed</u></p> | <p><u>Modify section 3.2.6 to read: All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper fifty percent of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in.) in height, 1.5 mm (1/16 in.) stroke (width of type). Methanol at one percent or greater, by volume, in gasoline for use as motor vehicle fuel must be labeled with the maximum percentage of methanol contained in the motor vehicle fuel. Ethanol at no less than one percent and no more than ten percent, by volume, must be labeled "Contains up to 10% Ethanol." Ethanol at greater than ten percent by volume must be labeled with the capital letter E followed by the numerical value volume percent denatured ethanol and ending with the word "ethanol" (example: E85 Ethanol).</u></p> |

| <u>Modified Section:</u> | <u>Modification:</u> |
|---|--|
| (5) <u>Section 3.2.7. Documentation for Dispenser Labeling Purposes</u> | <u>Modify section 3.2.7 to read: The retailer shall be provided, at the time of delivery of the fuel, on an invoice, bill of lading, shipping paper, or other documentation, a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen). In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending. When ethanol and/or methanol is blended at one percent or greater, by volume, in gasoline for use as motor vehicle fuel, documentation must include the volumetric percentage of ethanol and/or methanol.</u> |
| (6) <u>Section 3.8.2. Retail Dispenser Labeling</u> | <u>Modify section 3.8.2 to read: Each retail dispenser of not less than one percent and not more than ten percent, by volume, fuel ethanol must be labeled "Contains up to 10% Ethanol." Each retail dispenser of greater than ten percent fuel ethanol by volume must be labeled with the capital letter E followed by the numerical value volume percent denatured ethanol and ending with the word "ethanol" (example: E85 Ethanol).</u> |
| (7) <u>Section 3.9.2. Retail Dispenser Labeling</u> | <u>Modify section 3.9.2 to read: Each retail dispenser of fuel methanol shall be labeled by the capital letter M followed by the numerical value maximum volume percent and ending with the word "methanol." (Example: M85 Methanol.)</u> |
| (8) <u>Section 3.13. Oil</u> | <u>Delete section 3.13.</u> |
| (9) <u>Section 3.14. Automatic Transmission Fluid</u> | <u>Delete section 3.14.</u> |
| (10) <u>Section 3.15.2. Labeling of Retail Dispensers Containing between 5% and 20% Biodiesel</u> | <u>Modify section 3.15.2 to read: 3.15.2. Labeling of Retail Dispensers Containing not More Than 5% Biodiesel. Each retail dispenser of biodiesel blend containing not less than two percent and not more than five percent biodiesel must be labeled "Contains up to 5% Biodiesel." 3.15.2.1. Retail dispensers containing less than two percent biodiesel may not be labeled as dispensing biodiesel or biodiesel blends. Delete section 3.15.2.2.</u> |
| (11) <u>Section 3.15.3. Labeling of Retail Dispensers Containing more than 20% Biodiesel</u> | <u>Modify section 3.15.3 to read: 3.15.3. Labeling of Retail Dispensers Containing More Than 5% Biodiesel. Each retail dispenser of biodiesel or biodiesel blend containing more than five percent biodiesel must be labeled with the capital letter B followed by the numerical value representing the volume percentage of biodiesel fuel and ending with either "biodiesel" or "biodiesel blend" (examples: B100 Biodiesel; B60 Biodiesel blend).</u> |
| (12) <u>Section 3.15.5. Exemption</u> | <u>Delete section 3.15.5.</u> |
| (13) <u>Section 7. Test Methods and Reproducibility Limits</u> | <u>Add a new subsection that reads: 7.3 Biodiesel Blends - The test method for determining the percent biodiesel in a blend of biodiesel and diesel fuel shall be EN 14078 "Liquid petroleum products - Determination of fatty methyl esters (FAME) in middle distillates - Infrared spectroscopy method." When ASTM develops a comparable standard test method, the ASTM method will become the standard method for purposes of this rule.</u> |