



# PROPOSED RULE MAKING

## CR-102 (December 2017) (Implements RCW 34.05.320)

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STATE OF WASHINGTON  
FILED

DATE: January 10, 2022

TIME: 8:21 AM

WSR 22-03-021

Agency: Department of Health

Original Notice

Supplemental Notice to WSR

Continuance of WSR

Preproposal Statement of Inquiry was filed as WSR ; or

Expedited Rule Making--Proposed notice was filed as WSR ; or

Proposal is exempt under RCW 34.05.310(4) or 34.05.330(1).

Proposal is exempt under RCW .

Title of rule and other identifying information: (describe subject) Title 246 WAC - Amending multiple rule chapters to update statutory references per Substitute House Bill (SHB) 2246, Chapter 20, Laws of 2020 Regular Session. Updating the Title 70 RCW references with the new environmental health and safety Title 70A RCW references and to clarify rule language.

### Hearing location(s):

Date:	Time:	Location: (be specific)	Comment:
02/22/2022	1:00 pm	<p>In response to the coronavirus disease 2019 (COVID-19) public health emergency, the Department of health will not provide a physical location for this hearing to promote social distancing and the safety of the citizens of Washington State. A virtual public hearing, without a physical meeting space, will be held instead.</p> <p>Register in advance for this webinar:  <a href="https://us02web.zoom.us/webinar/register/WN_ZamugYSiQ_y0n4zvJmknvA">https://us02web.zoom.us/webinar/register/WN_ZamugYSiQ_y0n4zvJmknvA</a></p> <p>After registering, you will receive a confirmation email containing information about joining the webinar.</p>	

Date of intended adoption: 03/01/2022 (Note: This is NOT the effective date)

### Submit written comments to:

Name: Nina Helpling

Address: Washington State Department of Health

Division of Environmental Health

PO BOX 47820

Olympia, Washington 98504-7820

Email: <https://fortress.wa.gov/doh/policyreview>

Fax: N/A  
Other:  
By (date) 02/22/2022

**Assistance for persons with disabilities:**

Contact Nina Helpling  
Phone: (360)236-3065  
Fax: N/A  
TTY: 711  
Email: [nina.helpling@doh.wa.gov](mailto:nina.helpling@doh.wa.gov)  
Other:  
By (date) 02/15/2022

**Purpose of the proposal and its anticipated effects, including any changes in existing rules:** The purpose of this proposal is to update Department of Health (department) and State Board of Health (board) Washington Administrative Codes (WAC) that contain Title 70 Revised Code of Washington (RCW) references that have been recently reorganized by SHB 2246 that was passed during the 2020 legislative session.

**Reasons supporting proposal:** SHB2246 reorganized the statutory chapters of Title 70 RCW into two titles to better sort the chapters according to public health and safety, and environmental health and safety. Public health and safety will be named Title 70 RCW and environmental health and safety will be named Title 70A RCW.

The current Title 70 RCW contains numerous laws establishing board and department authority to adopt and enforce administrative rules to implement their statutory authority as well as other laws relevant to board and department rules. Five of the board rules and twenty of the department rules contain Title 70 RCW, Environmental Health and Safety citations within the body of the rule. Reorganization of Title 70 RCW into two titles requires agencies to conduct rulemaking to update the citations from Title 70 RCW to Title 70A RCW. The SHB 2246 encourages agencies to complete this administrative work by July 1, 2025.

**Statutory authority for adoption:** RCW 43.70.040

**Statute being implemented:** SHB 2246 Chapter 20 Laws of 2020

**Is rule necessary because of a:**

Federal Law?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Federal Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
State Court Decision?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

If yes, CITATION:

**Agency comments or recommendations, if any, as to statutory language, implementation, enforcement, and fiscal matters:** None.

**Name of proponent:** (person or organization) Washington State Department of Health  Private  Public  Governmental

**Name of agency personnel responsible for:**

	Name	Office Location	Phone
Drafting:	Nina Helpling	111 Israel Rd SE, Tumwater, WA 98501	(360) 236-3065
Implementation:	Lauren Jenks	111 Israel Rd SE, Tumwater, WA 98501	(360) 236-3050
Enforcement:	Lauren Jenks	111 Israel Rd SE, Tumwater, WA 98501	(360) 236-3050

**Is a school district fiscal impact statement required under RCW 28A.305.135?**  Yes  No  
If yes, insert statement here:

The public may obtain a copy of the school district fiscal impact statement by contacting:

Name:

Address:

Phone:

Fax:

TTY:

Email:

Other:

**Is a cost-benefit analysis required under RCW 34.05.328?**

Yes: A preliminary cost-benefit analysis may be obtained by contacting:

Name:

Address:

Phone:

Fax:

TTY:

Email:

Other:

No: Please explain: The agency did not complete a cost benefit analysis under RCW 34.05.328. RCW 34.05.328(5)(b)(iii) exempts rules that adopt or incorporate by reference without material change federal statutes or regulations, Washington state law, the rules of other Washington state agencies, or national consensus codes that generally establish industry standards;

**Regulatory Fairness Act Cost Considerations for a Small Business Economic Impact Statement:**

This rule proposal, or portions of the proposal, **may be exempt** from requirements of the Regulatory Fairness Act (see chapter 19.85 RCW). Please check the box for any applicable exemption(s):

This rule proposal, or portions of the proposal, is exempt under RCW 19.85.061 because this rule making is being adopted solely to conform and/or comply with federal statute or regulations. Please cite the specific federal statute or regulation this rule is being adopted to conform or comply with, and describe the consequences to the state if the rule is not adopted.

Citation and description:

This rule proposal, or portions of the proposal, is exempt because the agency has completed the pilot rule process defined by RCW 34.05.313 before filing the notice of this proposed rule.

This rule proposal, or portions of the proposal, is exempt under the provisions of RCW 15.65.570(2) because it was adopted by a referendum.

This rule proposal, or portions of the proposal, is exempt under RCW 19.85.025(3). Check all that apply:

RCW 34.05.310 (4)(b)  
(Internal government operations)

RCW 34.05.310 (4)(e)  
(Dictated by statute)

RCW 34.05.310 (4)(c)  
(Incorporation by reference)

RCW 34.05.310 (4)(f)  
(Set or adjust fees)

RCW 34.05.310 (4)(d)  
(Correct or clarify language)

RCW 34.05.310 (4)(g)  
((i) Relating to agency hearings; or (ii) process requirements for applying to an agency for a license or permit)

This rule proposal, or portions of the proposal, is exempt under RCW .

Explanation of exemptions, if necessary:

**COMPLETE THIS SECTION ONLY IF NO EXEMPTION APPLIES**

If the proposed rule is **not exempt**, does it impose more-than-minor costs (as defined by RCW 19.85.020(2)) on businesses?

No Briefly summarize the agency's analysis showing how costs were calculated.

Yes Calculations show the rule proposal likely imposes more-than-minor cost to businesses, and a small business economic impact statement is required. Insert statement here:

The public may obtain a copy of the small business economic impact statement or the detailed cost calculations by contacting:

Name:

Address:

Phone:

Fax:

TTY:

Email:

Other:

**Date:** December 26, 2021

**Signature:**

**Name:** Lauren Jenks

**Title:** Assistant Secretary

**WAC 246-03-030 Timing and procedures for specified major actions.** (1) Regulations and licenses relating to radioactive material.

(a) Scope of major action.

(i) Regulations relating to radioactive material shall include the adoption or amendment by the department of any regulations incorporating general standards for issuance of licenses authorizing the possession, use and transfer of radioactive material pursuant to RCW (~~(70.98.080, and 70.121.030)~~) 70A.388.050 and 70A.310.030.

(ii) The issuance, revocation or suspension of individual licenses under RCW (~~(70.98.080)~~) 70A.388.050 shall be exempt. However, the following licenses shall not be exempt: Licenses to operate low level waste burial facilities or licenses to operate or expand beyond design capacity mineral processing facilities, or their tailings areas, whose products, or byproducts, have concentrations of naturally occurring radioactive materials in excess of exempt concentrations as specified in WAC 246-232-010.

(b) Timing of SEPA requirements for regulations for radioactive material.

(i) A final EIS or determination of nonsignificance, whichever is determined appropriate by the lead agency's responsible official, shall be completed for proposed regulations relating to radioactive material prior to the hearing preceding final adoption of such regulations.

(ii) The responsible official shall mail to the department of ecology headquarters office in Olympia for listing in the "SEPA register" (see WAC 197-11-508) a copy of any determination of nonsignificance, a copy of the draft EIS, and a copy of the final EIS. Copies of the draft EIS shall also be mailed to those agencies identified in WAC 197-11-455, and of the final EIS to those agencies identified in WAC 197-11-460. The responsible official shall also give public notice in the form and manner specified in RCW 43.21C.080 of the determination of nonsignificance or final EIS.

(c) Timing of SEPA requirements for licenses for uranium or thorium mills or radioactive waste burial facilities.

(i) The applicant shall be responsible for completing an environmental checklist, furnishing additional information needed by the department to make the threshold determination, and preparing an environmental report regarding the environmental impact of proposed activities for independent evaluation by the department, prior to issuance of a draft EIS by the responsible official. The environmental report shall be submitted within (~~(ninety)~~) 90 days following determination of significance. The following material presents a more detailed description of the responsibilities of the private applicant as well as of the responsible official.

(ii) The applicant shall be responsible for contacting the responsible official during the early stages of the applicants planning activities to obtain an outline of SEPA requirements.

(iii) Thereafter the private applicant shall be responsible for preparation of an environmental checklist. The responsible official shall review each environmental checklist and, within (~~(fifteen)~~) 15 days of the responsible official's receipt of the checklist, shall prepare and issue either a determination of nonsignificance as per WAC 197-11-340 or a determination of significance as per WAC 197-11-360.

(iv) When the responsible official has issued a determination of nonsignificance, the official shall send the determination and environmental checklist to the applicant and to all agencies with jurisdiction for review and comment as per WAC 197-11-340.

(v) When the responsible official makes a determination of significance, the preparation of an environmental report shall be completed in a manner consistent with the requirements for a draft EIS and shall be the responsibility of the private applicant. If the applicant desires, he may contract with an outside consultant for the preparation of the environmental report. The department may also contract with an outside consultant for the preparation of a draft or final EIS. The department or the department's contracted consultant will independently evaluate the environmental report and be responsible for the reliability of any information used in the draft or final EIS. Unless the scope or complexity of the proposal indicates otherwise, the final EIS shall be issued as described in WAC 197-11-460(6).

(vi) The responsible official shall request review of the draft EIS from the agencies listed in WAC 197-11-455 and from such other agencies as he determines.

(vii) The responsible official shall mail a copy of the draft EIS to the department of ecology headquarters in Olympia for listing in the "SEPA register" (see WAC 197-11-508) and also to those agencies listed in WAC 197-11-455.

(viii) When the responsible official determines that substantial changes are needed or that new information has become available, the preparation of an amended or new environmental report is the responsibility of the private applicant.

(ix) The responsible official shall mail a copy of the final EIS to the department of ecology headquarters office in Olympia for listing in the "SEPA register" (see WAC 197-11-508). The responsible official shall also mail copies of the final EIS to those agencies specified in WAC 197-11-460 and shall give public notice of the completion of the final EIS in the form and manner specified in RCW 43.21C.080.

(2) Water system plans for public water systems as per WAC 246-290-100 and RCW (~~70.116.050~~) 70A.100.050.

(a) Scope of major action. Water system plans are plans developed and submitted to the department for review and approval pursuant to WAC 246-290-100 and RCW (~~70.116.050~~) 70A.100.050.

(b) Timing and procedures for water system plans prepared by private applicants.

(i) In general, when a private applicant has prepared a water system plan for review and approval by the department, the private applicant shall be responsible for completing an environmental checklist, furnishing additional information needed by the department to make the threshold determination, and preparing the draft and final EIS under the direction of the responsible official. The following material presents a more detailed description of the responsibilities of the private applicant as well as the responsible official.

(ii) Follow steps outlined in subsection (1)(c)(ii) through (iv) of this section.

(iii) When the responsible official makes a determination of significance, the preparation of a draft and final EIS shall be in compliance with WAC 197-11-400 through 197-11-620 and shall be the responsibility of the private applicant. If the applicant desires, he may contract with an outside consultant for preparation of the draft or final EIS. Unless the scope or complexity of the proposal indicates

otherwise, the final EIS shall be completed within ((~~sixty~~)) 60 days of the end of the comment period for the draft EIS.

(iv) See subsection (1)(c)(vi) and (vii) of this section.

(v) When the responsible official determines that substantial changes are needed or that new information has become available, the preparation of an amended or a new draft EIS is the responsibility of the private applicant.

(vi) See subsection (1)(c)(ix) of this section.

(vii) Every water system plan submitted by a private applicant to the department for review and approval shall be accompanied by either a determination of nonsignificance or a final EIS.

(c) Timing and procedure for water system plans prepared by agencies. Every water system plan submitted by an agency to the department for review and approval shall be accompanied by either a determination of nonsignificance or a final EIS.

(3) New public water supply systems and major extensions of existing public water supply systems.

(a) Scope of major action. The approval of engineering reports or plans and specifications pursuant to chapter 246-290 WAC for all surface water source development, all water system storage facilities greater than ((~~one-half million~~)) 500,000 gallons, new transmission lines longer than ((~~one thousand~~)) 1,000 feet and larger than eight inches in diameter located in new rights of way and major extensions to existing water distribution systems involving use of pipes greater than eight inches in diameter, which are designed to increase the existing service area by more than one square mile.

(b) Timing and procedures for projects proposed by private applicants.

(i) In general, when a private applicant seeks the approval of the department for a new public water supply or a major extension to an existing public water supply, the private applicant shall be responsible for completing an environmental checklist, furnishing additional information needed by the department to make the threshold determination, and preparing the draft and final EIS under the direction of the responsible official. The following material presents a more detailed description of the responsibilities of the private applicant as well as of the responsible official.

(ii) Follow steps outlined in subsection (1)(c)(ii) through (iv) of this section.

(iii) See subsection (2)(b)(iii) of this section.

(iv) See subsection (1)(c)(vi) and (vii) of this section.

(v) See subsection (2)(b)(v) of this section.

(vi) See subsection (1)(c)(ix) of this section.

(vii) Whenever preliminary engineering reports, or plans and specifications for a new public water supply system or a major extension to an existing public water supply system are submitted by a private applicant to the secretary for review and approval pursuant to chapter 246-290 WAC, these reports, plans and specifications shall be accompanied by a determination of nonsignificance or a final EIS.

(c) Timing and procedures for projects proposed by an agency. Whenever preliminary engineering reports, plans and specifications for a new public water supply system or a major extension to an existing public water supply system are submitted by an agency to the secretary for review and approval pursuant to chapter 246-290 WAC, these reports, plans and specifications shall be accompanied by a determination of nonsignificance or a final EIS.

(4) Certificates of need.

(a) Scope of major action. Certificate of need applications are subject to SEPA requirements whenever the applicant proposes to construct a new hospital or to construct major additions to the existing service capacity of such an institution: Provided, That such applications are not subject to SEPA requirements when the proposed construction consists of additions which provide less than (~~twelve thousand~~) 12,000 square feet of floor area and with associated parking facilities designed for (~~forty~~) 40 automobiles or less: Provided further, That certificate of need applications for "substantial acquisitions" are not subject to SEPA requirements.

(b) Timing and procedures for hospital certificates of need. Where a state or local agency other than the department is lead agency for hospital construction, the department shall not issue a certificate of need approving this hospital construction until the applicant has supplied it with a determination of nonsignificance or a final EIS, and until seven days after the issuance by the lead agency of any final EIS. Nothing in this subsection shall preclude the department from making a commitment to issue a certificate of need to an applicant subject to the timely receipt of an appropriate environmental impact statement or determination of nonsignificance.

(5) Approval of sewerage general plans and/or water general plans described in RCW 36.94.010.

(a) Scope of major action. Sewerage general plans and water general plans shall mean and include those described in RCW 36.94.010.

(b) Timing and procedures for water general plans. Every water general plan submitted by a county to the department for review and approval shall be accompanied by either a determination of nonsignificance or a final EIS.

(6) Plans and specifications for new sewage treatment works or for major extensions to existing sewage treatment works pursuant to chapter 246-271 WAC.

Scope of major action. Plans and specifications for new sewage treatment works or for major extensions to existing sewage treatment works are those which are reviewed and approved by the department pursuant to WAC 246-271-050.

(7) Construction of any building, facility or other installation for the purpose of housing department personnel or for prisons or for fulfilling other statutorily directed or authorized functions.

(a) Scope of major action. The construction of buildings, facilities or other installations for the purpose of housing department personnel or for other authorized functions shall be subject to SEPA requirements, but such construction shall not be subject to SEPA requirements when it consists of additions which provide less than (~~twelve thousand~~) 12,000 square feet of floor area and with associated parking facilities designed for (~~forty~~) 40 automobiles or less.

(b) Timing and procedures.

(i) The responsible official shall, prior to the request for construction bids, prepare an environmental checklist for each construction project of the type described in (a) of this subsection.

(ii) Within (~~fifteen~~) 15 days of the request for construction bids, the responsible official shall make (A) a written declaration of nonsignificance where the responsible official determines that the proposed construction will not have a significant adverse environmental impact or (B) a written declaration of significance where the responsible official determines that the proposed construction will have a significant adverse environmental impact.



(iii) Where the responsible official has made a determination of significance, the preparation of the draft and final EIS shall be in compliance with WAC 197-11-400 through 197-11-620, and shall be the responsibility of the responsible official. Unless the scope or complexity of the proposal indicates otherwise, the final EIS shall be completed within (~~sixty~~) 60 days of the end of the comment period for the draft EIS.

(iv) See subsection (1)(c)(vi) of this section.

(v) The responsible official shall mail to the department of ecology headquarters office in Olympia for listing in the "SEPA register" a copy of any determination of nonsignificance, a copy of the draft EIS, and a copy of the final EIS. Copies of the draft EIS shall also be mailed to those agencies identified in WAC 197-11-455, and of the final EIS to those agencies identified in WAC 197-11-460. The responsible official shall also give public notice in the form and manner specified in RCW 43.21C.080 of the determination of nonsignificance or final EIS.

(8) Approval of final plans for construction of a private psychiatric hospital pursuant to WAC 246-322-020, or construction of an alcoholism treatment facility pursuant to WAC 246-326-020.

(a) Scope of major action. The approval of final plans for construction of a private psychiatric hospital pursuant to WAC 246-322-020, or construction of an alcoholism treatment center pursuant to WAC 246-326-020 shall be subject to SEPA requirements: Provided, That such construction shall not be subject to SEPA requirements when it consists of additions which provide less than (~~twelve thousand~~) 12,000 square feet of floor area and with associated parking facilities designed for (~~forty~~) 40 automobiles or less.

(b) Timing and procedures for construction of the type described. Where a state or local agency other than the department is lead agency for construction of the type described in (a) of this subsection, the department shall not approve final plans for construction of a private psychiatric hospital or alcoholism treatment center until the applicant for such approval has supplied the department with a final declaration of nonsignificance or a final EIS for the construction in question, and until seven days after the issuance by the lead agency of any final EIS.

**WAC 246-10-107 Persons who may request adjudicative proceedings.**

The following persons or entities may request an adjudicative proceeding under this chapter.

(1)(a) With respect to the denial of applications made under chapters 246-290, 246-291, and 246-295 WAC, the denied applicant may request an adjudicative proceeding.

(b) A person whose application for the approval of a new public water system is denied under WAC 246-293-190, a purveyor whose license is adversely affected by a departmental decision under WAC 246-293-190 or the county legislative authority having jurisdiction in the area affected by the decision may request an adjudicative proceeding under this chapter.

(c) A purveyor affected by the decision of the department under WAC 246-293-430 or the county legislative authority having jurisdiction in the area may request an adjudicative proceeding with respect to a decision made under WAC 246-293-430.

(d) A person upon whom a civil penalty is imposed under RCW ((70.119A.040)) 70A.125.040 may request an adjudicative proceeding.

(2) Persons named in an initiating document under chapter 18.130 RCW involving the issuance, denial, or other action against a license, or alleging unlicensed practice, may request an adjudicative proceeding.

(3) With respect to matters involving receipt of benefits or application therefor, the recipient of or applicant for the benefits may request an adjudicative proceeding.

(4) With respect to an application for approval of a school or curriculum, or the withdrawal of such approval, the person or entity that applied for such approval may request an adjudicative proceeding.

(5) With respect to the department's final threshold determination that an environmental impact statement (EIS) is or is not necessary and with respect to the adequacy of a final EIS, any person may request an adjudicative proceeding who:

(a) Is seeking to protect an interest within the zone of interests to be protected or regulated by the statute or constitutional guarantee in question; and

(b) Will be specifically and perceptibly harmed by the proposed action.

(6) Any other person or entity who has the right to request an adjudicative proceeding under RCW 43.70.115 or other applicable statute or rule.

(7) Any application for an adjudicative proceeding that on its face demonstrates that the person making the application does not have standing under this rule may be summarily dismissed by entry of a decision pursuant to RCW 34.05.416. A motion to dismiss a matter for lack of standing may be made at any time prior to entry of the final order.

**WAC 246-10-502 Preliminary record in brief adjudicative proceedings.** (1) The preliminary record with respect to an application for a professional, business, or facility license, or for approval of a school or curriculum must consist of:

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

(b) All documents relied on by the program in proposing to deny the application;

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

(2) Preliminary record.

(a) The preliminary record with respect to decisions made under WAC 246-290-100, 246-290-110, 246-290-120, 246-290-130, 246-290-140, 246-291-120, 246-291-125, 246-291-280, and 246-291-140 must consist of the decision document, all documents constituting the applicant's submittal and such other documents as the applicant or the department may wish to include in the preliminary record.

(b) The preliminary record with respect to decisions made under WAC 246-293-190.

(i) If proceedings are required and have been conducted by local agencies under the applicable coordinated water system plan, the preliminary record shall consist of the record submitted to the department under WAC 246-10-124(3).

(ii) If hearings are not required or have not been conducted by local agencies under the applicable coordinated water system plan or if the external boundaries of the coordination act area have been approved but a coordinated water system plan has not been adopted, then the preliminary record shall consist of such documents as the presiding officer may solicit from the affected parties.

(c) The preliminary record with respect to a decision made under WAC 246-293-401, 246-293-420, and 246-293-430 shall consist of the record submitted to the presiding officer under WAC 246-10-124(4).

(d) The preliminary record with respect to a decision under WAC 246-294-050 shall consist of:

(i) The permit, if any;

(ii) All documents relied upon by the program in proposing to deny, modify, or impose conditions upon the permit; and

(iii) The decision document.

(e) The preliminary record with respect to decisions made under WAC 246-295-040 shall consist of the decision document, all documents constituting the applicant's submittal, comments submitted by the county, and such other documents as the applicant or the department may wish to include in the preliminary record.

(f) The preliminary record with respect to civil penalties imposed under RCW ((~~70.119A.040~~) 70A.125.040) shall consist of the notice of imposition of penalties, the departmental order, if any, all documentation of communication between the program and the person or persons incurring the civil penalties regarding the violation or violations for which the civil penalties were imposed, and such other documents as the person or persons incurring the civil penalties or the department may wish to include in the preliminary record.

(g) The preliminary record with respect to an action to deny or revoke a credential under RCW 18.108.085(3) shall consist of a certi-

fied copy of the court documents reflecting a conviction, any documentation regarding a certification of restoration of opportunity under RCW 9.97.020, and such other documents as the person making the request and the department may wish to include in the preliminary record which are relevant to the issue of the applicant's or licensee's identity.

(h) The preliminary record with respect to an action to suspend a credential under RCW 18.130.127 shall consist of the report from the lending agency to the department of the licensee's nonpayment or default on a federally or state-guaranteed educational loan or service-conditional scholarship, and such other documents as the person making the request and the department may wish to include in the preliminary record.

(i) The preliminary record with respect to the issuance of a written citation and assessment of a fine under RCW 18.130.230 shall consist of the citation, as described in RCW 18.130.230(2), the request by the disciplining authority to produce documents, records, or other items within the licensee's control, the licensee's request for extension of time and the disciplining authority's response if a request for extension of time was made, and such other documents as the licensee or disciplining authority may wish to include in the preliminary record with respect to whether or not the licensee timely provided the items requested.

(j) The preliminary record with respect to a decision to withdraw a credential issued in error shall consist of the application for credential and any associated documents, all documents relied on by the program in proposing to withdraw the credential, and all correspondence between the person to whom the credential was issued in error and the program regarding the application or credential.

(k) The preliminary record with respect to a decision to deny a request for a list of applicants for professional licenses or of professional licensees for commercial purposes shall consist of the written request for the list, any other documents relied on by the program in proposing to deny the request, all correspondence regarding the request between the person making the request and the department, and such other documents as the person making the request and the department may wish to include in the preliminary record.

(l) The preliminary record with respect to a decision to deny or revoke registration of a report or application for an amendment, or withhold or deny issuance of a certification under RCW 70.58A.040 (1)(f) shall consist of the application to amend any correspondence between the person who made the request and such other documents as the applicant or the department may wish to include in the preliminary record.

(m) The preliminary record with respect to a decision to withhold or deny certification of a vital record under RCW 70.58A.530 shall consist of request for certification, any correspondence between the person who made the request and the program, all documents relied on by the program in proposing to deny the request, and such other documents as the applicant or the department may wish to include in the preliminary record.

(n) The preliminary record with respect to a decision to deny an application or revoke an approved plan under RCW 43.70.510 and chapter 246-50 WAC shall consist of:

(i) For initial approval all documents required in WAC 246-50-030;

(ii) For modification of an approved plan all documents required in WAC 246-50-035(1);

(iii) For alternative programs all documents required in WAC 246-50-040; and

(iv) Any correspondence between the applicant and the program, all documents relied on by the program in proposing to deny the request, and such other documents as the applicant or the department may wish to include in the preliminary record.

(3) The preliminary record with respect to compliance with prior department orders shall consist of:

(a) The official department file of the proceeding in which the order was issued;

(b) All matters submitted by the person to whom the order is directed purporting to demonstrate compliance with the order;

(c) All documents relied on by the department in asserting non-compliance; and

(d) All correspondence between the department and the person to whom the order is directed respecting compliance.

(4) The preliminary record with respect to matters submitted to a brief adjudicative proceeding under WAC 246-10-501(2) shall be as agreed by the parties.

(5) For the purposes of this section, "decision document" shall mean one or more documents that provide notice to the affected party of the department's action, and that contain(s) the information provided by an initiating document.

**WAC 246-203-121 Disposal of dead animals. (1) Definitions.** For the purpose of this regulation the following definitions apply:

(a) "Burial" means completely covering with soil in a manner and location not requiring a permit for a landfill under chapter ((70.95)) 70A.205 RCW((, ~~Solid waste management Reduction and recycling~~)).

(b) "Composting" means a process of controlled aerobic decomposition in compliance with chapter ((70.95)) 70A.205 RCW((, ~~Solid waste management Reduction and recycling~~)).

(c) "Dead animal" means the carcass or tissue from an animal, large or small, except part of an animal used for food or other beneficial purpose in accordance with federal, state, and local laws and regulations. "Dead animal" does not mean a fish or other primarily aquatic animal.

(d) "Incineration" means controlled and monitored combustion for the purposes of volume reduction and pathogen destruction in an enclosed device approved by the department of ecology or the local air pollution control authority under chapters ((70.94 RCW, Washington Clean Air Act, and chapter 70.95 RCW, Solid waste management Reduction and recycling)) 70A.15 and 70A.205 RCW.

(e) "Landfilling" means a process of disposal at a permitted facility where solid waste is permanently placed in or on land in compliance with rules adopted by the department of ecology under chapter ((70.95)) 70A.205 RCW((, ~~Solid waste management Reduction and recycling~~)).

(f) "Livestock" means horses, mules, donkeys, cattle, bison, sheep, goats, swine, rabbits, llamas, alpacas, ratites, poultry, waterfowl, game birds, or other species according to RCW 16.36.005.

(g) "Natural decomposition" means natural decay on the surface of the ground without cover material.

(h) "Rendering" means heat processing according to requirements under chapter 16.68 RCW, Disposal of dead animals.

**(2) Disposal methods.**

(a) Within ((seventy-two)) 72 hours after death or discovery, the owner of a dead animal or, if the owner of the animal cannot be identified, the owner of the property on which the animal is found must properly dispose of the dead animal. A dead animal must be covered or otherwise removed from public view immediately upon discovery by the person responsible for disposing of the dead animal.

(b) The person responsible for disposal of a dead animal must dispose of it in a manner so as not to become a public or common nuisance or cause pollution of surface or groundwater.

(c) The person responsible for disposal of a dead animal must dispose of it by burial, landfilling, incineration, composting, rendering, or another method approved by the local health officer (such as natural decomposition) that is not otherwise prohibited by federal, state, or local law or regulation.

(d) A person disposing of a dead animal by burial must place it so that every part is covered by at least three feet of soil; at a location not less than ((one hundred)) 100 feet from any well, spring, stream or other surface waters; not in a low-lying area subject to seasonal flooding or within a ((one hundred-year)) 100-year flood plain; and not in a manner likely to contaminate groundwater.

(e) A person disposing of a dead animal must not bury or compost it within the sanitary control area of a public drinking water supply source as designated under chapter 246-290 WAC, Public water supplies, or chapter 246-291 WAC, Group B public water systems.

(f) The local health officer may specify the method of disposal for a dead animal if:

(i) The animal died with a communicable disease transmissible to humans; or

(ii) The local health officer considers a public health emergency to exist.

(g) The provisions of RCW 16.36.092 and chapter 16-25 WAC supersede the provisions of this regulation for the disposal of a livestock animal that has died because of disease or unknown cause.

**WAC 246-205-010 Definitions.** For the purposes of this chapter, the following words and phrases shall have the following meanings unless the content clearly indicates otherwise.

(1) "Authorized contractor" means any person or persons:

- Registered under chapter 18.27 RCW; and
- Certified by the department to decontaminate, demolish, or dispose of contaminated property as required by chapter 64.44 RCW and this chapter.

(2) "Basic course" means a training course which has been sponsored or approved by the department for workers and supervisors who perform or supervise decontamination on illegal drug manufacturing or storage sites.

(3) "Certificate" means a department issued written approval under this chapter.

(4) "Certified" means a person who has department issued written approval under this chapter.

(5) "Contaminated" or "contamination" means polluted by hazardous chemicals so that the property is unfit for human habitation or use due to immediate or long-term hazards. Property that at one time was contaminated, but has been satisfactorily decontaminated according to procedures established by the state board of health is not "contaminated."

(6) "Decontamination" means the process of reducing levels of known contaminants to the lowest practical level using currently available methods and processes.

(7) "Department" means the Washington state department of health.

(8) "Disposal of contaminated property" means the disposition of contaminated property under the provisions of chapter ((70.105)) 70A.300 RCW.

(9) "Hazardous chemicals" means the following substances used in the manufacture of illegal drugs:

- Hazardous substances as defined in RCW ((70.105D.020)) 70A.305.020; and

- Precursor substances as defined in RCW 69.43.010 which the state board of health, in consultation with the pharmacy quality assurance commission, has determined present an immediate or long-term health hazard to humans.

(10) "Illegal drug manufacturing or storage site" means any property where a person illegally manufactures or stores a controlled substance or a law enforcement agency or the property owner believes a person illegally manufactured or stored a controlled substance.

(11) "Initial site assessment" means the first evaluation of a property to determine the nature and extent of observable damage and contamination.

(12) "List of contaminated properties" means a list of properties contaminated by illegal drug manufacturing or the storage of hazardous chemicals.

(13) "Local department" means the jurisdictional local health department or district.

(14) "Local health officer" means a health officer or authorized representative as defined under chapters 70.05, 70.08, and 70.46 RCW.



(15) "Person" means an individual, firm, association, copartnership, political subdivision, government agency, municipality, industry, public or private corporation, or other entity.

(16) "Posting" means attaching a written or printed announcement conspicuously on property which may be, or is determined to be, contaminated by illegal drug manufacturing or the storage of a hazardous chemical.

(17) "Property" means any site, lot, parcel of land, structure, or part of a structure involved in the illegal manufacture of a drug or storage of a hazardous chemical including, but not limited to:

- Single-family residences;
- Units or multiplexes;
- Condominiums;
- Apartment buildings;
- Motels and hotels;
- Boats;
- Motor vehicles;
- Trailers;
- Manufactured housing;
- Any ship, booth, or garden; or
- Any site, lot, parcel of land, structure, or part of a structure that may be contaminated by previous use.

(18) "Property owner" means a person with a lawful right of possession of the property by reason of obtaining it by purchase, exchange, gift, lease, inheritance, or legal action.

(19) "Refresher course" means a department sponsored or approved biennial training course for decontamination workers and supervisors. An approved refresher course:

- Reviews the subjects taught in the initial training course; and
- Includes updated information on emerging decontamination technology.

(20) "Storage site" means any property used for the storage of hazardous chemicals or illegally manufactured controlled substances.

(21) "Supervisor" means a person certified by the department and employed by an authorized contractor who is on site during the decontamination of an illegal drug manufacturing or storage site and who is responsible for the activities performed.

(22) "Warning" means a sign posted by the local health officer conspicuously on the site of an illegal drug manufacturing or storage site informing potential occupants that hazardous chemicals may exist on, or have been removed from, the premises and that entry is unsafe.

(23) "Worker" means a person certified by the department and employed by an authorized contractor who performs decontamination of an illegal drug manufacturing or storage site.

AMENDATORY SECTION (Amending WSR 03-02-022, filed 12/23/02, effective 1/23/03)

**WAC 246-205-111 Performance standards.** Authorized contractors, including workers and supervisors, working at a decontamination site shall, at a minimum:

- (1) Perform all decontamination work only with department certified workers and supervisors;

- (2) File a work plan with and obtain approval from the local health department;
- (3) Perform work in accordance with the approved work plan;
- (4) Station on site a contractor-employed certified supervisor to oversee the activities performed;
- (5) Perform work meeting applicable requirements of state and local building codes;
- (6) Comply with applicable Federal Occupational Safety and Health Act, Public Law 91-596, 84 stat. 1590; and Washington Industrial Safety and Health Act regulations and requirements, chapter 49.17 RCW;
- (7) Comply with applicable requirements of chapter ((70.105)) 70A.300 RCW, Hazardous waste management; and chapter 173-303 WAC, Dangerous waste regulations;
- (8) Comply with applicable requirements of department of ecology and Environmental Protection Agency regulations;
- (9) Comply with applicable contractor regulations;
- (10) Notify the state and local jurisdictional health department of all work performed within ((ten)) 10 days after completion of the project;
- (11) Comply with all other applicable laws and regulations; and
- (12) Comply with this chapter.

AMENDATORY SECTION (Amending WSR 14-01-077, filed 12/16/13, effective 1/16/14)

**WAC 246-220-001 Authority.** Rules set forth herein are adopted pursuant to the provisions of chapter ((70-98)) 70A.388 RCW.

AMENDATORY SECTION (Amending WSR 16-13-054, filed 6/10/16, effective 7/11/16)

**WAC 246-220-010 Definitions, abbreviations, and acronyms.** The definitions, abbreviations, and acronyms in this section apply throughout chapters 246-220 through 246-254 WAC unless the context clearly indicates otherwise. Additional definitions used only in a certain chapter are included in that chapter.

(1) "**Absorbed dose**" means the energy imparted by ionizing radiation per unit mass of irradiated material. The units of absorbed dose are the gray (Gy) and the rad.

(2) "**Accelerator produced material**" means any material made radioactive by exposing it in a particle accelerator.

(3) "**Act**" means the Atomic Energy Act of 1954, including any amendments thereto.

(4) "**Activity**" means the rate of disintegration or transformation or decay of radioactive material. The units of activity are the becquerel (Bq) and the curie (Ci).

(5) "**Adult**" means an individual ((eighteen)) 18 or more years of age.

(6) "**Agreement state**" means any state with which the Atomic Energy Commission or the NRC has entered into an effective agreement under subsection 274b of the act. Nonagreement state means any other state.

(7) "**Airborne radioactive material**" means any radioactive material dispersed in the air in the form of particulates, dusts, fumes, mists, vapors, or gases.

(8) "**Airborne radioactivity area**" means a room, enclosure, or operating area in which airborne radioactive material exists in concentrations (a) in excess of the derived air concentration (DAC) specified in WAC 246-221-290, Appendix A, or (b) to the degree that an individual present in the area without respiratory protective equipment could exceed, during the hours an individual is present in a week, an intake of 0.6 percent of the annual limit on intake (ALI) or twelve DAC-hours.

(9) "**Air purifying respirator**" means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

(10) "**ALARA**" (as low as reasonably achievable or as low as is reasonably achievable) means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this chapter as is practical, consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to the benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to the utilization of nuclear energy and licensed materials in the public interest.

(11) **"Alert"** means events may occur, are in progress, or have occurred that could lead to a release of radioactive material but that the release is not expected to require a response by off-site response organizations to protect persons off-site.

(12) **"ALI (annual limit on intake)"** means the derived limit for the amount of radioactive material taken into the body of an adult worker by inhalation or ingestion in a year. ALI is the smaller value of intake of a given radionuclide in a year by the reference man that would result in a committed effective dose equivalent of 0.05 Sv (5 rem) or a committed dose equivalent of 0.5 Sv (50 rem) to any individual organ or tissue. ALI values for intake by ingestion and by inhalation of selected radionuclides are given in WAC 246-221-290.

(13) **"APF (assigned protection factor)"** means the expected workplace level of respiratory protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users. Operationally, the inhaled concentration can be estimated by dividing the ambient airborne concentration by the APF.

(14) **"Atmosphere-supplying respirator"** means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes SARs and SCBA units.

(15) **"Background radiation"** means radiation from cosmic sources; naturally occurring radioactive materials, including radon, except as a decay product of source or special nuclear material, and including global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee. "Background radiation" does not include sources of radiation from radioactive materials regulated by the department.

(16) **"Bq (becquerel)"** means the SI unit of activity. One becquerel is equal to 1 disintegration or transformation per second ( $s^{-1}$ ).

(17) **"Bioassay"** means the determination of kinds, quantities or concentrations, and, in some cases, the locations of radioactive material in the human body, whether by direct measurement, in vivo counting, or by analysis and evaluation of materials excreted or removed from the human body. For purposes of these rules, "radiobioassay" is an equivalent term.

(18) **"By-product material"** means:

(a) Any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident to the process of producing or using special nuclear material;

(b) The tailings or wastes produced by the extraction or concentration of uranium or thorium from ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by these solution extraction operations do not constitute "by-product material" within this definition;

(c) (i) Any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or

(ii) Any material that:

(A) Has been made radioactive by use of a particle accelerator;  
and

(B) Is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; and

(d) Any discrete source of naturally occurring radioactive material, other than source material, that:

(i) The NRC, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate federal agency, determines what would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and

(ii) Before, on, or after August 8, 2005, is extracted or converted after extraction for use for in a commercial, medical, or research activity.

(19) "**Calendar quarter**" means at least (~~twelve~~) 12 but no more than (~~fourteen~~) 14 consecutive weeks. The first calendar quarter of each year begins in January and subsequent calendar quarters shall be arranged so that no day is included in more than one calendar quarter and no day in any one year is omitted from inclusion within a calendar quarter. A licensee or registrant may not change the method of determining calendar quarters for purposes of these rules.

(20) "**Calibration**" means the determination of (a) the response or reading of an instrument relative to a series of known radiation values over the range of the instrument, or (b) the strength of a source of radiation relative to a standard.

(21) "**C.F.R.**" means Code of Federal Regulations.

(22) "**Class**" means a classification scheme for inhaled material according to its rate of clearance from the pulmonary region of the lung. Materials are classified as D, W, or Y, which applies to a range of clearance half-times: For Class D, Days, of less than (~~ten~~) 10 days, for Class W, Weeks, from (~~ten to one hundred~~) 10 to 100 days, and for Class Y, Years, of greater than (~~one hundred~~) 100 days. For purposes of these rules, "lung class" and "inhalation class" are equivalent terms. For "class of waste" see WAC 246-249-040.

(23) "**Collective dose**" means the sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation.

(24) "**Commencement of construction**" means taking any action defined as construction or any other activity at the site of a facility subject to the regulations in this chapter that has a reasonable nexus to radiological health and safety.

(25) "**Committed dose equivalent**" ( $H_{T,50}$ ) means the dose equivalent to organs or tissues of reference (T) that will be received from an intake of radioactive material by an individual during the (~~fifty-year~~) 50-year period following the intake.

(26) "**Committed effective dose equivalent**" ( $H_{E,50}$ ) is the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to each of these organs or tissues ( $H_{E,50} = \sum w_T H_{T,50}$ ).

(27) "**Consortium**" means an association of medical use licensees and a PET radionuclide production facility in the same geographical area that jointly own or share in the operation and maintenance cost of the PET radionuclide production facility that produces PET radionuclides for use in producing radioactive drugs within the consortium for noncommercial distributions among its associated members for medical use. The PET radionuclide production facility within the consorti-

um must be located at an educational institution or a federal facility or a medical facility.

(28) "**Constraint**" or dose constraint means a value above which specified licensee actions are required.

(29) "**Construction**" means the installation of foundations, or in-place assembly, erection, fabrication, or testing for any structure, system, or component of a facility or activity subject to the requirements in chapters 246-220 through 246-254 WAC that are related to radiological safety or security. The term construction does not include:

(a) Changes for temporary use of the land for public recreational purposes;

(b) Site exploration, including necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site, the environmental impacts of construction or operation, or the protection of environmental values;

(c) Preparation of the site for construction of the facility, including clearing of the site, grading, installation of drainage, erosion and other environmental mitigation measures, and construction of temporary roads and borrow areas;

(d) Erection of fences and other access control measures that are not related to the safe use of, or security of, radiological materials;

(e) Excavation;

(f) Erection of support buildings (e.g., construction equipment storage sheds, warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and office buildings) for use in connection with the construction of the facility;

(g) Building of service facilities (e.g., paved roads, parking lots, railroad spurs, exterior utility and lighting systems, potable water systems, sanitary sewerage treatment facilities, and transmission lines);

(h) Procurement or fabrication of components or portions of the proposed facility occurring at other than the final in-place location at the facility; or

(i) Taking any other action that has no reasonable nexus to radiological health and safety.

(30) "**Controlled area.**" See "Restricted area."

(31) "**Curie**" means a unit of quantity of radioactivity. One curie (Ci) is that quantity of radioactive material which decays at the rate of  $3.7 \times 10^{10}$  transformations per second (tps).

(32) "**Declared pregnant woman**" means a woman who has voluntarily informed the licensee or registrant, in writing, of her pregnancy, and the estimated date of conception. The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.

(33) "**Deep dose equivalent**" ( $H_d$ ), which applies to external whole body exposure, means the dose equivalent at a tissue depth of 1 centimeter ( $1000 \text{ mg/cm}^2$ ).

(34) "**Demand respirator**" means an atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

(35) "**Department**" means the Washington state department of health, which has been designated as the state radiation control agency under chapter (~~70-98~~) 70A.388 RCW.

(36) **"Depleted uranium"** means the source material uranium in which the isotope Uranium-235 is less than 0.711 percent by weight of the total uranium present. Depleted uranium does not include special nuclear material.

(37) **"Derived air concentration"** (DAC) means the concentration of a given radionuclide in air which, if breathed by the reference man for a working year of (~~two thousand~~) 2,000 hours under conditions of light work, results in an intake of one ALI. For purposes of these rules, the condition of light work is an inhalation rate of 1.2 cubic meters of air per hour for (~~two thousand~~) 2,000 hours in a year. DAC values are given in WAC 246-221-290.

(38) **"DAC-hour (derived air concentration-hour)"** means the product of the concentration of radioactive material in air, expressed as a fraction or multiple of the derived air concentration for each radionuclide, and the time of exposure to that radionuclide, in hours. A licensee or registrant may take (~~two thousand~~) 2,000 DAC-hours to represent one ALI, equivalent to a committed effective dose equivalent of 0.05 Sv (5 rem).

(39) **"Discrete source"** means a radionuclide that has been processed so that its concentration within a material has been purposely increased for use for commercial, medical or research activities.

(40) **"Disposable respirator"** means a respirator for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent exhaustion, physical damage, or end-of-service-life renders it unsuitable for use. Examples of this type of respirator are a disposable half-mask respirator or a disposable escape-only self-contained breathing apparatus (SCBA).

(41) **"Dose"** is a generic term that means absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, total organ dose equivalent, or total effective dose equivalent. For purposes of these rules, "radiation dose" is an equivalent term.

(42) **"Dose commitment"** means the total radiation dose to a part of the body that will result from retention in the body of radioactive material. For purposes of estimating the dose commitment, it is assumed that from the time of intake the period of exposure to retained material will not exceed (~~fifty~~) 50 years.

(43) **"Dose equivalent"** ( $H_T$ ) means the product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The units of dose equivalent are the sievert (Sv) and rem.

(44) **"Dose limits"** means the permissible upper bounds of radiation doses established in accordance with these rules. For purposes of these rules, "limits" is an equivalent term.

(45) **"Dosimetry processor"** means a person that processes and evaluates individual monitoring devices in order to determine the radiation dose delivered to the monitoring devices.

(46) **"dpm"** means disintegrations per minute. See also "curie."

(47) **"Effective dose equivalent"** ( $H_E$ ) means the sum of the products of the dose equivalent to each organ or tissue ( $H_T$ ) and the weighting factor ( $w_T$ ) applicable to each of the body organs or tissues that are irradiated ( $H_E = \sum w_T H_T$ ).

(48) **"Embryo/fetus"** means the developing human organism from conception until the time of birth.

(49) **"Entrance or access point"** means any opening through which an individual or extremity of an individual could gain access to radi-

ation areas or to licensed radioactive materials. This includes entry or exit portals of sufficient size to permit human entry, without respect to their intended use.

(50) "**Exposure**" means (a) being exposed to ionizing radiation or to radioactive material, or (b) the quotient of  $dQ$  by  $dm$  where " $dQ$ " is the absolute value of the total charge of the ions of one sign produced in air when all the electrons (negatrons and positrons) liberated by photons in a volume element of air having mass " $dm$ " are completely stopped in air. The special unit of exposure is the roentgen (R) and the SI equivalent is the coulomb per kilogram (c/kg). One roentgen is equal to  $2.58 \times 10^{-4}$  coulomb per kilogram of air.

(51) "**Exposure rate**" means the exposure per unit of time, such as roentgen per minute and milliroentgen per hour.

(52) "**External dose**" means that portion of the dose equivalent received from any source of radiation outside the body.

(53) "**Extremity**" means hand, elbow, arm below the elbow, foot, knee, and leg below the knee.

(54) "**Filtering facepiece**" (dust mask) means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium, not equipped with elastomeric sealing surfaces and adjustable straps.

(55) "**Fit factor**" means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

(56) "**Fit test**" means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

(57) "**Former United States Atomic Energy Commission (AEC) or United States Nuclear Regulatory Commission (NRC) licensed facilities**" means nuclear reactors, nuclear fuel reprocessing plants, uranium enrichment plants, or critical mass experimental facilities where AEC or NRC licenses have been terminated.

(58) "**Generally applicable environmental radiation standards**" means standards issued by the United States Environmental Protection Agency (EPA) under the authority of the Atomic Energy Act of 1954, as amended, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.

(59) "**Gray**" (Gy) means the SI unit of absorbed dose. One gray is equal to an absorbed dose of 1 joule/kilogram (100 rad).

(60) "**Healing arts**" means the disciplines of medicine, dentistry, osteopathy, chiropractic, podiatry, and veterinary medicine.

(61) "**Helmet**" means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

(62) "**High radiation area**" means any area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 1 mSv (0.1 rem) in one hour at 30 centimeters from any source of radiation or 30 centimeters from any surface that the radiation penetrates. For purposes of these rules, rooms or areas in which diagnostic X-ray systems are used for healing arts purposes are not considered high radiation areas.

(63) "**Hood**" means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.



- (64) **"Human use"** means the intentional internal or external administration of radiation or radioactive material to human beings.
- (65) **"Immediate"** or **"immediately"** means as soon as possible but no later than four hours after the initiating condition.
- (66) **"IND"** means investigatory new drug for which an exemption has been claimed under the United States Food, Drug and Cosmetic Act (Title 21 C.F.R.).
- (67) **"Individual"** means any human being.
- (68) **"Individual monitoring"** means the assessment of:
- (a) Dose equivalent (i) by the use of individual monitoring devices or (ii) by the use of survey data; or
  - (b) Committed effective dose equivalent (i) by bioassay or (ii) by determination of the time-weighted air concentrations to which an individual has been exposed, that is, DAC-hours.
- (69) **"Individual monitoring devices"** (individual monitoring equipment) means devices designed to be worn by a single individual for the assessment of dose equivalent e.g., as film badges, thermoluminescent dosimeters (TLDs), pocket ionization chambers, and personal ("lapel") air sampling devices.
- (70) **"Inspection"** means an official examination or observation by the department including, but not limited to, tests, surveys, and monitoring to determine compliance with rules, orders, requirements and conditions of the department.
- (71) **"Interlock"** means a device arranged or connected so that the occurrence of an event or condition is required before a second event or condition can occur or continue to occur.
- (72) **"Internal dose"** means that portion of the dose equivalent received from radioactive material taken into the body.
- (73) **"Irretrievable source"** means any sealed source containing licensed material which is pulled off or not connected to the wireline downhole and for which all reasonable effort at recovery, as determined by the department, has been expended.
- (74) **"LDE (lens dose equivalent)"** applies to the external exposure of the lens of the eye and is taken as the dose equivalent at a tissue depth of 0.3 centimeters (300 mg/cm<sup>2</sup>).
- (75) **"License"** means a license issued by the department.
- (76) **"Licensed material"** means radioactive material received, possessed, used, transferred, or disposed under a general or specific license issued by the department.
- (77) **"Licensee"** means any person who is licensed by the department under chapter ((70.98)) 70A.388 RCW.
- (78) **"Loose-fitting facepiece"** means a respiratory inlet covering that is designed to form a partial seal with the face.
- (79) **"Lost or missing licensed material"** means licensed material whose location is unknown. This definition includes licensed material that has been shipped but has not reached its planned destination and whose location cannot be readily traced in the transportation system.
- (80) **"Member of the public"** means an individual except when the individual is receiving an occupational dose.
- (81) **"Minor"** means an individual less than ((eighteen)) 18 years of age.
- (82) **"Monitoring"** means the measurement of radiation, radioactive material concentrations, surface area activities or quantities of radioactive material and the use of the results of these measurements to evaluate potential exposures and doses. For purposes of these rules,

radiation monitoring and radiation protection monitoring are equivalent terms.

(83) "**NARM**" means any naturally occurring or accelerator-produced radioactive material. It does not include by-product, source, or special nuclear material.

(84) "**Nationally tracked source**" means a sealed source containing a quantity equal to or greater than Category 1 or Category 2 levels of any radioactive material listed in WAC 246-221-236. In this context a sealed source is defined as radioactive material that is sealed in a capsule or closely bonded, in a solid form and which is not exempt from regulatory control. It does not mean material encapsulated solely for disposal, or nuclear material contained in any fuel assembly, sub-assembly, fuel rod, or fuel pellet. Category 1 nationally tracked sources are those containing radioactive material at a quantity equal to or greater than the Category 1 threshold. Category 2 nationally tracked sources are those containing radioactive material at a quantity equal to or greater than the Category 2 threshold but less than the Category 1 threshold.

(85) "**Natural radioactivity**" means radioactivity of naturally occurring nuclides.

(86) "**NDA**" means a new drug application which has been submitted to the United States Food and Drug Administration.

(87) "**Negative pressure respirator**" (tight-fitting) means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

(88) "**Nonstochastic effect**" means a health effect, the severity of which varies with the dose and for which a threshold is believed to exist. Radiation-induced cataract formation is an example of a nonstochastic effect. For purposes of these rules, a "deterministic effect" is an equivalent term.

(89) "**NRC**" means the U.S. Nuclear Regulatory Commission.

(90) "**Occupational dose**" means the dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee, registrant, or other person. Occupational dose does not include dose received: From background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under chapter 246-240 WAC, from voluntary participation in medical research programs, or as a member of the public.

(91) "**Ore refineries**" means all processors of a radioactive material ore.

(92) "**Particle accelerator**" means any machine capable of accelerating electrons, protons, deuterons, or other charged particles in a vacuum and of discharging the resultant particulate or other radiation into a medium at energies usually in excess of 1 MeV. For purposes of this definition, "accelerator" is an equivalent term.

(93) "**Permittee**" means a person who has applied for, and received, a valid site use permit for use of the low-level waste disposal facility at Hanford, Washington.

(94) "**Person**" means any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, and any legal successor, representative, agent or agency of the foregoing.

(95) "**Personal supervision**" means supervision where the supervisor is physically present at the facility and in sufficient proximity that contact can be maintained and immediate assistance given as required.

(96) "**Personnel monitoring equipment.**" See individual monitoring devices.

(97) "**PET**" means positron emission tomography.

(98) "**Pharmacist**" means an individual licensed by this state to compound and dispense drugs, and poisons.

(99) "**Physician**" means a medical doctor or doctor of osteopathy licensed by this state to prescribe and dispense drugs in the practice of medicine.

(100) "**Planned special exposure**" means an infrequent exposure to radiation, separate from and in addition to the annual occupational dose limits.

(101) "**Positive pressure respirator**" means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

(102) "**PAPR (powered air-purifying respirator)**" means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

(103) "**Practitioner**" means an individual licensed by the state for the practice of a healing art (i.e., physician, dentist, podiatrist, chiropractor, etc.).

(104) "**Pressure demand respirator**" means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

(105) "**Public dose**" means the dose received by a member of the public from exposure to sources of radiation under the licensee's or registrant's control or to radiation or radioactive material released by the licensee. Public dose does not include occupational dose or doses received from background radiation, from any medical administration the individual has received, from exposure to individuals administered radioactive material and released under chapter 246-240 WAC, or from voluntary participation in medical research programs.

(106) "**Qualified expert**" means an individual who has demonstrated to the satisfaction of the department the knowledge, training, and experience to measure ionizing radiation, to evaluate safety techniques, and to advise regarding radiation protection needs. The department reserves the right to recognize the qualifications of an individual in specific areas of radiation protection.

(107) "**QLFT (qualitative fit test)**" means a pass/fail fit test to assess the adequacy of respirator fit which relies on the individual's response to the test agent.

(108) "**Quality factor (Q)**" means the modifying factor, listed in Tables I and II, that is used to derive dose equivalent from absorbed dose.

TABLE I  
QUALITY FACTORS AND ABSORBED DOSE EQUIVALENCIES

TYPE OF RADIATION	Quality Factor (Q)	Absorbed Dose Equal to A Unit Dose Equivalent <sup>a</sup>
X, gamma, or beta radiation and high-speed electrons	1	1

TYPE OF RADIATION	Quality Factor (Q)	Absorbed Dose Equal to A Unit Dose Equivalent <sup>a</sup>
Alpha particles, multiple-charged particles, fission fragments and heavy particles of unknown charge	20	0.05
Neutrons of unknown energy	10	0.1
High-energy protons	10	0.1

<sup>a</sup> Absorbed dose in rad equal to 1 rem or the absorbed dose in gray equal to 1 Sv.

If it is more convenient to measure the neutron fluence rate rather than to determine the neutron dose equivalent rate in sievert per hour or rem per hour as required for Table I, then 0.01 Sv (1 rem) of neutron radiation of unknown energies may, for purposes of these rules, be assumed to result from a total fluence of 25 million neutrons per square centimeter incident upon the body. If sufficient information exists to estimate the approximate energy distribution of the neutrons, the licensee or registrant may use the fluence rate per unit dose equivalent or the appropriate Q value from Table II to convert a measured tissue dose in gray or rad to dose equivalent in sievert or rem.

TABLE II  
MEAN QUALITY FACTORS, Q, AND FLUENCE PER UNIT DOSE EQUIVALENT FOR MONOENERGETIC NEUTRONS

Neutron Energy (MeV)	Quality Factor <sup>a</sup> (Q)	Fluence per Unit Dose Equivalent <sup>b</sup> (neutrons cm <sup>-2</sup> rem <sup>-1</sup> )	Fluence per Unit Dose Equivalent <sup>b</sup> (neutrons cm <sup>-2</sup> Sv <sup>-1</sup> )
(thermal) 2.5 x 10 <sup>-8</sup>	2	980 x 10 <sup>6</sup>	980 x 10 <sup>8</sup>
1 x 10 <sup>-7</sup>	2	980 x 10 <sup>6</sup>	980 x 10 <sup>8</sup>
1 x 10 <sup>-6</sup>	2	810 x 10 <sup>6</sup>	810 x 10 <sup>8</sup>
1 x 10 <sup>-5</sup>	2	810 x 10 <sup>6</sup>	810 x 10 <sup>8</sup>
1 x 10 <sup>-4</sup>	2	840 x 10 <sup>6</sup>	840 x 10 <sup>8</sup>
1 x 10 <sup>-3</sup>	2	980 x 10 <sup>6</sup>	980 x 10 <sup>8</sup>
1 x 10 <sup>-2</sup>	2.5	1010 x 10 <sup>6</sup>	1010 x 10 <sup>8</sup>
1 x 10 <sup>-1</sup>	7.5	170 x 10 <sup>6</sup>	170 x 10 <sup>8</sup>
5 x 10 <sup>-1</sup>	11	39 x 10 <sup>6</sup>	39 x 10 <sup>8</sup>
1	11	27 x 10 <sup>6</sup>	27 x 10 <sup>8</sup>
2.5	9	29 x 10 <sup>6</sup>	29 x 10 <sup>8</sup>
5	8	23 x 10 <sup>6</sup>	23 x 10 <sup>8</sup>
7	7	24 x 10 <sup>6</sup>	24 x 10 <sup>8</sup>
10	6.5	24 x 10 <sup>6</sup>	24 x 10 <sup>8</sup>
14	7.5	17 x 10 <sup>6</sup>	17 x 10 <sup>8</sup>
20	8	16 x 10 <sup>6</sup>	16 x 10 <sup>8</sup>
40	7	14 x 10 <sup>6</sup>	14 x 10 <sup>8</sup>
60	5.5	16 x 10 <sup>6</sup>	16 x 10 <sup>8</sup>
1 x 10 <sup>2</sup>	4	20 x 10 <sup>6</sup>	20 x 10 <sup>8</sup>
2 x 10 <sup>2</sup>	3.5	19 x 10 <sup>6</sup>	19 x 10 <sup>8</sup>
3 x 10 <sup>2</sup>	3.5	16 x 10 <sup>6</sup>	16 x 10 <sup>8</sup>
4 x 10 <sup>2</sup>	3.5	14 x 10 <sup>6</sup>	14 x 10 <sup>8</sup>

<sup>a</sup> Value of quality factor (Q) at the point where the dose equivalent is maximum in a 30-cm diameter cylinder tissue-equivalent phantom.

<sup>b</sup> Monoenergetic neutrons incident normally on a 30-cm diameter cylinder tissue-equivalent phantom.

(109) "**QNFT (quantitative fit test)**" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

(110) "**Quarter**" means a period of time equal to one-fourth of the year observed by the licensee, approximately (~~thirteen~~) 13 consecutive weeks, providing that the beginning of the first quarter in a year coincides with the starting date of the year and that no day is omitted or duplicated in consecutive quarters.

(111) "**Rad**" means the special unit of absorbed dose. One rad equals one-hundredth of a joule per kilogram of material; for example, if tissue is the material of interest, then 1 rad equals 100 ergs per gram of tissue. One rad is equal to an absorbed dose of 100 erg/gram or 0.01 joule/kilogram (0.01 gray).

(112) "**Radiation**" means alpha particles, beta particles, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. For purposes of these rules: Radiation does not include magnetic fields or nonionizing radiation, such as radiowaves or microwaves, visible, infrared, or ultraviolet light; and ionizing radiation is an equivalent term.

(113) "**Radiation area**" means any area, accessible to individuals, in which radiation levels could result in an individual receiving a dose equivalent in excess of 0.05 mSv (0.005 rem) in one hour at (~~thirty~~) 30 centimeters from the source of radiation or from any surface that the radiation penetrates.

(114) "**Radiation machine**" means any device capable of producing ionizing radiation except those devices with radioactive material as the only source of radiation.

(115) "**Radiation safety officer**" means an individual who has the knowledge and responsibility to apply appropriate radiation protection rules and has been assigned that responsibility by the licensee or registrant.

(116) "**Radiation source.**" See "Source of radiation."

(117) "**Radioactive material**" means any material (solid, liquid, or gas) which emits radiation spontaneously.

(118) "**Radioactive waste**" means any radioactive material which is no longer of use and intended for disposal or treatment for the purposes of disposal.

(119) "**Radioactivity**" means the transformation of unstable atomic nuclei by the emission of radiation.

(120) "**Reference man**" means a hypothetical aggregation of human physical and physiological characteristics determined by international consensus. These characteristics may be used by researchers and public health workers to standardize results of experiments and to relate biological insult to a common base.

(121) "**Registrable item**" means any radiation-producing machine except those exempted by RCW (~~(70.98.180)~~) 70A.388.200 or exempted by the department under the authority of RCW (~~(70.98.080)~~) 70A.388.050.

(122) "**Registrant**" means any person who is registered by the department or is legally obligated to register with the department in accordance with these rules and the act.

(123) "**Registration**" means registration with the department in accordance with the rules adopted by the department.

(124) "**Regulations of the United States Department of Transportation**" means the regulations in 49 C.F.R. Parts 170-189, 14 C.F.R. Part 103, and 46 C.F.R. Part 146.

(125) "**Rem**" means the special unit of any of the quantities expressed as dose equivalent. The dose equivalent in rem is equal to the

absorbed dose in rad multiplied by the quality factor (1 rem = 0.01 Sv).

(126) **"Research and development"** means: (a) Theoretical analysis, exploration, or experimentation; or (b) the extension of investigative findings and theories of a scientific or technical nature into practical application for experimental and demonstration purposes, including the experimental production and testing of models, devices, equipment, materials, and processes. Research and development does not include the internal or external administration of radiation or radioactive material to human beings.

(127) **"Respiratory protective equipment"** means an apparatus, such as a respirator, used to reduce an individual's intake of airborne radioactive materials.

(128) **"Restricted area"** means any area to which access is limited by the licensee or registrant for purposes of protecting individuals against undue risks from exposure to radiation and radioactive material. "Restricted area" does not include any areas used for residential quarters, although a separate room or rooms in a residential building may be set apart as a restricted area.

(129) **"Roentgen"** (R) means the special unit of exposure. One roentgen equals  $2.58 \times 10^{-4}$  coulombs/kilogram of air.

(130) **"Sanitary sewerage"** means a system of public sewers for carrying off waste water and refuse, but excluding sewage treatment facilities, septic tanks, and leach fields owned or operated by the licensee or registrant.

(131) **"Sealed source"** means any radioactive material that is encased in a capsule designed to prevent leakage or the escape of the radioactive material.

(132) **"SEPA"** means the State Environmental Policy Act under chapter 43.21C RCW.

(133) **"SCBA (self-contained breathing apparatus)"** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

(134) **"Shallow dose equivalent"** ( $H_s$ ), which applies to the external exposure of the skin of the whole body or the skin of an extremity, means the dose equivalent at a tissue depth of 0.007 centimeter ( $7 \text{ mg/cm}^2$ ).

(135) **"SI"** means an abbreviation of the International System of Units.

(136) **"Sievert"** means the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in sievert is equal to the absorbed dose in gray multiplied by the quality factor (1 Sv = 100 rem).

(137) **"Site area emergency"** means events which may occur, are in progress, or have occurred that could lead to a significant release of radioactive material and that could require a response by off-site response organizations to protect persons off-site.

(138) **"Site boundary"** means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee or registrant.

(139) **"Source container"** means a device in which radioactive material is transported or stored.

(140) **"Source material"** means: (a) Uranium or thorium, or any combination thereof, in any physical or chemical form, or (b) ores which contain by weight one-twentieth of one percent (0.05 percent) or

more of uranium, thorium, or any combination thereof. Source material does not include special nuclear material.

(141) **"Source material milling"** means the extraction or concentration of uranium or thorium from any ore processing primarily for its source material content.

(142) **"Source of radiation"** means any radioactive material, or any device or equipment emitting or capable of producing ionizing radiation.

(143) **"Special nuclear material"** means:

(a) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the NRC, under the provisions of section 51 of the Atomic Energy Act of 1954, as amended, determines to be special nuclear material, but does not include source material; or

(b) Any material artificially enriched in any of the foregoing, but does not include source material.

(144) **"Special nuclear material in quantities not sufficient to form a critical mass"** means uranium enriched in the isotope U-235 in quantities not exceeding (~~three hundred fifty~~) 350 grams of contained U-235; uranium-233 in quantities not exceeding (~~two hundred~~) 200 grams; plutonium in quantities not exceeding (~~two hundred~~) 200 grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of the ratios for all of the kinds of special nuclear material in combination shall not exceed "1" (i.e., unity). For example, the following quantities in combination would not exceed the limitation and are within the formula:

$$\begin{array}{rcl} \frac{175 \text{ (grams contained U-235)}}{350} & + & \\ \frac{50 \text{ (grams U-233)}}{200} & + & \\ \frac{50 \text{ (grams Pu)}}{200} & < 1 & \end{array}$$

(145) **"Stochastic effect"** means a health effect that occurs randomly and for which the probability of the effect occurring, rather than its severity, is assumed to be a linear function of dose without threshold. Hereditary effects and cancer incidence are examples of stochastic effects. For purposes of these rules, probabilistic effect is an equivalent term.

(146) **"SAR (supplied-air respirator)"** or **"airline respirator"** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

(147) **"Survey"** means an evaluation of the radiological conditions and potential hazards incident to the production, use, release, disposal, or presence of sources of radiation. When appropriate, the evaluation includes, but is not limited to, tests, physical examinations, calculations and measurements of levels of radiation or concentration of radioactive material present.

(148) **"Test"** means (a) the process of verifying compliance with an applicable rule, or (b) a method for determining the characteristics or condition of sources of radiation or components thereof.

(149) **"These rules"** mean all parts of the rules for radiation protection of the state of Washington.

(150) "**Tight-fitting facepiece**" means a respiratory inlet covering that forms a complete seal with the face.

(151) "**TEDE (total effective dose equivalent)**" means the sum of the effective dose equivalent for external exposures and the committed effective dose equivalent for internal exposures.

(152) "**TODE (total organ dose equivalent)**" means the sum of the deep dose equivalent and the committed dose equivalent to the organ or tissue receiving the highest dose.

(153) "**United States Department of Energy**" means the Department of Energy established by Public Law 95-91, August 4, 1977, 91 Stat. 565, 42 U.S.C. 7101 et seq., to the extent that the department exercises functions formerly vested in the United States Atomic Energy Commission, its chairman, members, officers and components and transferred to the United States Energy Research and Development Administration and to the administrator thereof under sections 104 (b), (c) and (d) of the Energy Reorganization Act of 1974 (Public Law 93-438, October 11, 1974, 88 Stat. 1233 at 1237, 42 U.S.C. 5814 effective January 19, 1975) and retransferred to the Secretary of Energy under section 301(a) of the Department of Energy Organization Act (Public Law 95-91, August 4, 1977, 91 Stat. 565 at 577-578, 42 U.S.C. 7151, effective October 1, 1977).

(154) "**Unrefined and unprocessed ore**" means ore in its natural form prior to any processing, such as grinding, roasting or beneficiating, or refining. Processing does not include sieving or encapsulation of ore, or preparation of samples for laboratory analysis.

(155) "**Unrestricted area**" (uncontrolled area) means any area which is not a restricted area. Areas where the external dose exceeds 2 mrem in any one hour or where the public dose, taking into account occupancy factors, will exceed 100 mrem total effective dose equivalent in any one year must be restricted.

(156) "**User seal check**" (fit check) means an action conducted by the respirator user to determine if the respirator is properly seated to the face. Examples include negative pressure check, positive pressure check, irritant smoke check, or isoamyl acetate check.

(157) "**Very high radiation area**" means an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving an absorbed dose in excess of 5 Gy (500 rad) in one hour at one meter from a source of radiation or one meter from any surface that the radiation penetrates.

(158) "**Waste**" means those low-level radioactive wastes containing source, special nuclear or by-product material that are acceptable for disposal in a land disposal facility. For purposes of this definition, low-level radioactive waste means radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or by-product material as defined in subsection (17)(b), (c), and (d) of the definition of by-product material in this section.

(159) "**Waste handling licensees**" mean persons licensed to receive and store radioactive wastes prior to disposal or persons licensed to dispose of radioactive waste.

(160) "**Week**" means seven consecutive days starting on Sunday.

(161) "**Weighting factor**"  $w_T$  for an organ or tissue (T) means the proportion of the risk of stochastic effects resulting from irradiation of that organ or tissue to the total risk of stochastic effects when the whole body is irradiated uniformly. For calculating the effective dose equivalent, the values of  $w_T$  are:



Organ or Tissue	w <sub>T</sub>
Gonads	0.25
Breast	0.15
Red bone marrow	0.12
Lung	0.12
Thyroid	0.03
Bone surfaces	0.03
Remainder	0.30 <sup>a</sup>
Whole Body	1.00 <sup>b</sup>

- <sup>a</sup> 0.30 results from 0.06 for each of 5 "remainder" organs, excluding the skin and the lens of the eye, that receive the highest doses.
- <sup>b</sup> For the purpose of weighting the external whole body dose, for adding it to the internal dose, a single weighting factor, w<sub>T</sub>=1.0, has been specified. The use of other weighting factors for external exposure will be approved on a case-by-case basis until such time as specific guidance is issued.

(162) **"Whole body"** means, for purposes of external exposure, head, trunk including male gonads, arms above the elbow, or legs above the knee.

(163) **"Worker"** means an individual engaged in activities under a license or registration issued by the department and controlled by a licensee or registrant but does not include the licensee or registrant. Where the licensee or registrant is an individual rather than one of the other legal entities defined under "person," the radiation exposure limits for the worker also apply to the individual who is the licensee or registrant. If students of age (~~(eighteen)~~) 18 years or older are subjected routinely to work involving radiation, then the students are considered to be workers. Individuals of less than (~~(eighteen)~~) 18 years of age shall meet the requirements of WAC 246-221-050.

(164) **"WL (working level)"** means any combination of short-lived radon daughters in 1 liter of air that will result in the ultimate emission of  $1.3 \times 10^5$  MeV of potential alpha particle energy. The short-lived radon daughters are - For radon-222: Polonium-218, lead-214, bismuth-214, and polonium-214; and for radon-220: Polonium-216, lead-212, bismuth-212, and polonium-212.

(165) **"WLM (working level month)"** means an exposure to one working level for (~~(one hundred seventy hours - Two thousand)~~) 170 hours - 2,000 working hours per year divided by (~~(twelve)~~) 12 months per year is approximately equal to (~~(one hundred seventy)~~) 170 hours per month.

(166) **"Year"** means the period of time beginning in January used to determine compliance with the provisions of these rules. The licensee or registrant may change the starting date of the year used to determine compliance by the licensee or registrant provided that the change is made at the beginning of the year and that no day is omitted or duplicated in consecutive years.

AMENDATORY SECTION (Amending WSR 91-02-049, filed 12/27/90, effective 1/31/91)

**WAC 246-220-070 Impounding.** Sources of radiation shall be subject to impoundment pursuant to RCW (~~(70.98.160)~~) 70A.388.180.

AMENDATORY SECTION (Amending WSR 19-05-074, filed 2/19/19, effective 3/22/19)

**WAC 246-224-0001 Purpose.** The purpose of this chapter is to regulate sources of ionizing radiation as required by RCW ((~~70.98.050 and 70.98.080~~) 70A.388.040 and 70A.388.050). This chapter provides for the registration of all radiation machine facilities located in Washington state.

AMENDATORY SECTION (Amending WSR 08-14-074, filed 6/26/08, effective 7/27/08)

**WAC 246-225A-001 Purpose and scope.** This chapter establishes facility design and operation requirements for the use of dental X-ray equipment according to chapter ((70.98)) 70A.388 RCW. The scope of this chapter pertains to dental intra-oral and extra-oral radiography and establishes radiation safety requirements for patients, dental employees, and the public; and establishes optimal diagnostic image processing requirements.

AMENDATORY SECTION (Amending WSR 11-19-013, filed 9/7/11, effective 10/8/11)

**WAC 246-225A-010 Definitions.** The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

(1) "Artifact" means an undesirable optical density or blemish on a radiographic image that detracts from the diagnostic information.

(2) "Barrier" (see "protective barrier").

(3) "Beam" (see "X-ray").

(4) "Beam-limiting device," sometimes called a collimator or cone, means a device that controls the size of the X-ray field.

(5) "Cephalometric" means X-ray imaging specific to the human head and jaw.

(6) "Control panel" means the part of the X-ray system where the switches, knobs, pushbuttons, and other hardware necessary to operate the X-ray system are located.

(7) "CR (computed radiography)" means creating an X-ray image using plates consisting of a special phosphor that when exposed to radiation and then processed by a scanner, provides the information to a computer for display and manipulation.

(8) "CT (computed tomography)" means creating a cross-sectional X-ray image generated by an X-ray source and detector moving around the patient's body.

(9) "Dead-man button" means an X-ray exposure button designed so that it can only be operated by continuous pressure on the button by the operator, and when released before the preset exposure time will stop the exposure.

(10) "Department" means the department of health, which is the state radiation control agency under chapter ((70.98)) 70A.388 RCW.

(11) "Detector" means a device capable of receiving and recording an X-ray image.

(12) "Diagnostic source assembly" means the combination of the tube housing assembly and the collimator.

(13) "Direct scattered radiation" means radiation discharged in a straight line from the object being radiographed.

(14) "DR (direct digital radiography)" means creating an X-ray image by sending signals directly from a solid state detector to a computer for display and manipulation.

(15) "Exposure," as the context implies, means:

(a) The number of electrons, measured in coulombs per kilogram of air, released through the ionization of air molecules by electromagnetic radiation; or

(b) An occupational worker or patient being subjected to radiation either directly or indirectly.

(16) "Extra-oral radiography" means creating a film or digital X-ray image on an image receptor placed outside the mouth. Examples include panoramic and cephalometric X-rays.

(17) "Filter" means material, such as copper or aluminum, placed in the useful beam of the X-ray to block selected energies, and in a safelight to block light that could fog the X-ray film.

(18) "Floor plan" means a drawing of the X-ray room, along with its dimensions, identification of adjacent areas and occupiable space above and below.

(19) "Focal spot" means the area on the anode end of the X-ray tube bombarded by the electrons accelerated from the cathode and from which the useful X-ray beam begins.

(20) "Grid" means a device placed between the patient and the image receptor in extra-oral radiography that reduces scattered radiation that would decrease the quality of the image being created.

(21) "Hand-held" (see "X-ray system").

(22) "Healing arts screening" means using X-ray equipment without an order by a licensed practitioner on an individual who does not have a known or diagnosed disease or symptom to learn if the individual may have an indication of ill health.

(23) "HVL (half-value layer)" means the thickness of material that reduces the intensity of radiation to one-half of its original value.

(24) "Image receptor" means a device that captures an X-ray beam for image processing.

(25) "Intra-oral radiography" means creating a film or digital X-ray image on an image receptor placed inside the mouth.

(26) "kV (kilovolt)" means the unit used to measure electrical energy.

(27) "kVp (kilovolts peak)" means the highest possible voltage across the X-ray tube during an exposure (see also "peak tube potential").

(28) "Leakage radiation" means radiation coming from the X-ray tube, other than the useful X-ray beam.

(29) "Leakage technique factors" means the technique factors associated with the tube housing assembly that are used to measure leakage radiation. They are defined as the maximum rated peak tube potential and the maximum rated continuous tube current at the maximum peak tube potential.

(30) "Licensed practitioner" means an individual licensed to practice dentistry under chapter 18.32 RCW.

(31) "mA (milliampere)" means the unit used to measure electrical current in an X-ray tube.

(32) "mAs (milliampere second)" means the product of the electrical current in the X-ray tube in mA and the time of exposure in seconds.

(33) "Mobile" (see "X-ray system").

(34) "Operator" means a person working under the direction of a licensed practitioner to operate X-ray equipment and who has been properly trained according to WAC 246-225A-020.

(35) "Operatory" means a room in which dental health care procedures are performed.

- (36) "Peak tube potential" means the maximum voltage in the X-ray tube during an exposure.
- (37) "Portable" (see "X-ray system").
- (38) "Position-indicating device" means a device on X-ray equipment that shows where the X-ray beam will be directed and establishes the distance from the X-ray tube to the patient's body. The device may or may not incorporate or serve as a beam-limiting device.
- (39) "Primary beam" (see "useful beam").
- (40) "Primary protective barrier" means the material placed in the useful beam, beyond the patient and image receptor, to reduce remnant primary beam exposure.
- (41) "Protected area" means a space for X-ray equipment operators that is shielded so that X-ray exposures are reduced enough to meet the exposure limits of WAC 246-221-010 (Occupational dose limits for adults) and WAC 246-220-007 (Statement of philosophy). In addition, the space must have no exposure to direct scattered radiation.
- (42) "Protective apron" means a garment made of radiation absorbing materials used to reduce a person's radiation exposure.
- (43) "Protective barrier" means a structure made of radiation absorbing material used to reduce radiation exposure.
- (44) "Quality assurance" means a program designed to produce high quality X-ray images at minimal cost and with minimal patient exposure to radiation.
- (45) "Quick developer" means small-volume chemistry designed to process dental intra-oral film in less than a minute.
- (46) "Radiation safety" means ways to protect patients and staff from unnecessary radiation exposure. Safety measures may include patient exposure reduction, image quality improvement, diagnostic imaging system quality assurance, radiation measurements, dose evaluations, compliance with state and federal regulations, and related issues.
- (47) "Radiographic" means the production of an image created when an X-ray pattern exits an X-rayed object.
- (48) "Radiography" means a way of creating a permanent film or digital image using X-rays.
- (49) "Recording" means creating a permanent image, on film or in a computer, from an X-ray exposure.
- (50) "Registrant" means the owner or controller of the radiation equipment who is responsible for the safe operation of the radiation equipment in accordance with this chapter and chapter ((70.98)) 70A.388 RCW.
- (51) "Registration" means providing required information and continuing contact with the department by any person possessing a radiation machine in accordance with chapter 246-224 WAC, Radiation protection—Radiation machine assembly and registration.
- (52) "Remnant primary beam" means the part of the useful beam that completely passes through the patient and image receptor.
- (53) "Ring-detector type CT" means computed tomography performed with a fan-shaped beam that generates image slices of anatomy rather than using a cone-shaped beam creating a volumetric picture.
- (54) "Safelight" means a lamp with a filter that is used in an X-ray darkroom to provide enough light to see, but not enough to fog the film.
- (55) "Scattered radiation" means radiation that has changed direction, or generated other radiation as it impacts or passes through matter.

(56) "Scram button" means a large, prominently displayed button, mounted in an X-ray operator's area to allow quick termination of an X-ray exposure in case of an emergency.

(57) "Secondary protective barrier" means an object or material sufficient to reduce stray radiation to the required degree as stated in chapter 246-221 WAC (Radiation protection standards).

(58) "SID (source-to-image-receptor distance)" means the distance from the focal spot in the X-ray tube to the center of the surface of the image receptor.

(59) "Source" means the focal spot of the X-ray tube.

(60) "SSD (source-to-skin distance)" means the distance between the focal spot of the X-ray tube and the nearest point on the patient's skin where the primary beam enters.

(61) "Stationary" (see "X-ray system").

(62) "Stray radiation" means the sum of leakage and scattered radiation.

(63) "Technique chart" means a written instruction or guide that X-ray equipment operators use to determine which radiation technique factors to select for each type of radiographic examination.

(64) "Technique factors" means the X-ray system settings selected for a given radiographic examination. They are specified as the peak tube potential in kVp and either:

(a) Tube current measured in mA and exposure time in seconds or pulses; or

(b) The product of tube current and exposure time expressed in mAs.

(65) "Tube" means a glass tube that produces an X-ray when high-voltage electricity is passed between the cathode at one end and the anode at the other.

(66) "Tube housing assembly" means the X-ray tube and its housing. It includes high-voltage or filament transformers and other appropriate elements when they are contained within the tube housing.

(67) "Tube housing port" means the portion of the tube housing assembly that the X-rays pass through.

(68) "Useful beam" means the radiation that passes through the tube housing port and the opening of the beam-limiting device.

(69) "Variance" means a department-authorized alternative to a requirement of this chapter.

(70) "X-ray" means a beam of ionizing radiation produced by a machine.

(71) "X-ray control" means a device that controls how much electricity enters the X-ray high-voltage generator or the X-ray tube. It includes equipment that controls the technique factors for an exposure.

(72) "X-ray equipment" means the entire X-ray system or parts of the system.

(73) "X-ray exposure button" means the part of the X-ray system that when engaged generates the production of an X-ray.

(74) "X-ray high-voltage generator" means a device that supplies electrical energy to the X-ray tube to create an X-ray beam.

(75) "X-ray system" means all of the components of a machine used for the controlled production of X-rays. It includes minimally an X-ray high-voltage generator, an X-ray control, a tube housing assembly, a beam-limiting device, and the necessary supporting structures. Additional components which function with the system, such as the image receptor, are considered integral parts of the system. Types of X-ray systems are:

(a) "Hand-held" means a self-contained X-ray system designed to be held in one or two hands to perform intra-oral radiography. Hand-held X-ray systems used on a tripod or stand are considered to be "portable" systems.

(b) "Mobile" means an X-ray system mounted on a permanent base with wheels or casters for moving the X-ray system fully assembled. It is intended to be taken from one geographical location to another or from one room to another.

(c) "Portable" means an X-ray system designed to be hand-carried, but not hand-held during use.

(d) "Stationary" means an X-ray system that is installed in a fixed location, such as bolted to a floor or wall.

(76) "X-ray tube" means any electron tube which is designed to be used primarily for the production of X-rays.

AMENDATORY SECTION (Amending WSR 16-23-030, filed 11/8/16, effective 1/1/17)

**WAC 246-226-001 Authority, purpose, and scope.** The requirements of this chapter are adopted pursuant to the provisions of chapter ((70.98)) 70A.388 RCW.

This chapter establishes CT X-ray system requirements for the intentional exposure of humans to ionizing radiation for diagnostic imaging.



AMENDATORY SECTION (Amending WSR 02-14-050, filed 6/27/02, effective 7/28/02)

**WAC 246-229-0001 Purpose.** The purpose of this chapter is to regulate certain sources of ionizing radiation as required by RCW ((70.98.050 and 70.98.080)) 70A.388.040 and 70A.388.050. This chapter provides for the registration and use of all particle accelerators installed and/or used in Washington state.

AMENDATORY SECTION (Amending WSR 18-15-017, filed 7/9/18, effective 8/9/18)

**WAC 246-236-015 Commencement of construction.** (1) Commencement of construction of a new irradiator may not occur prior to the submission to the department of both an application for a license for the irradiator and the fee required by chapter 246-254 WAC.

(2) Any activities undertaken prior to the issuance of a license are entirely at the risk of the applicant and have no bearing on the issuance of a license with respect to the requirements of chapter ~~((70.98))~~ 70A.388 RCW, and rules and administrative orders issued under chapters 34.05 and ~~((70.98))~~ 70A.388 RCW.

(3) Commencement of construction as defined in WAC 246-236-010 may include nonconstruction activities if the activity has a reasonable nexus to radiological safety and security.

**WAC 246-252-030 Criteria related to disposition of uranium mill tailings or wastes.** As used in this section, the term "by-product material" means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

As required by WAC 246-235-110(6), each applicant for a license to possess and use source material in conjunction with uranium or thorium milling, or by-product material at sites formerly associated with such milling, is required to include in a license application proposed specifications relating to the milling operation and the disposition of tailings or waste resulting from such milling activities. This section establishes criteria relating to the siting, operation, decontamination, decommissioning, and reclamation of mills and tailings or waste systems and sites at which such mills and systems are located and site and by-product material ownership. Applications must clearly demonstrate how these criteria have been addressed. The specifications shall be developed considering the expected full capacity of tailings or waste systems and the lifetime of mill operations. Where later expansions of systems or operations may be likely, the amenability of the disposal system to accommodate increased capacities without degradation in long-term stability and other performance factors shall be evaluated.

Licenseses or applicants may propose alternatives to the specific requirements in these criteria. The alternative proposals may take into account local or regional conditions, including geology, topography, hydrology, and meteorology. The department may find that the proposed alternatives meet the department's requirements if the alternatives will achieve a level of stabilization and containment of the sites concerned, and a level of protection for public health, safety, and the environment from radiological and nonradiological hazards associated with the sites, which is equivalent to, to the extent practicable, or more stringent than the level which would be achieved by the requirements of the standards promulgated by the United States Environmental Protection Agency in 40 C.F.R. 192, Subparts D and E.

(1) Criterion 1 - In selecting among alternative tailings disposal sites or judging the adequacy of existing tailings sites, the following site features which would contribute to meeting the broad objective of permanent isolation of the tailings and associated contaminants from man and the environment for (~~one thousand~~) 1,000 years to the extent reasonably achievable, and in any case, for at least (~~two hundred~~) 200 years without ongoing active maintenance shall be considered:

- (a) Remoteness from populated areas;
- (b) Hydrogeologic and other environmental conditions conducive to continued immobilization and isolation of contaminants from groundwater sources; and
- (c) Potential for minimizing erosion, disturbance, and dispersion by natural forces over the long term.

The site selection process must be an optimization to the maximum extent reasonably achievable in terms of these features.

In the selection of disposal sites, primary emphasis shall be given to isolation of tailings or wastes, a matter having long-term impacts, as opposed to consideration only of short-term convenience or

benefits, such as minimization of transportation or land acquisition costs. While isolation of tailings will be a function of both site characteristics and engineering design, overriding consideration shall be given to siting features given the long-term nature of the tailings hazards.

Tailings shall be disposed in a manner such that no active maintenance is required to preserve the condition of the site.

(2) Criterion 2 - To avoid proliferation of small waste disposal sites, by-product material from in-situ extraction operations, such as residues from solution evaporation or contaminated control processes, and wastes from small remote above ground extraction operations shall be disposed at existing large mill tailings disposal sites; unless, considering the nature of the wastes, such as their volume and specific activity and the costs and environmental impacts of transporting the wastes to a large disposal site, such off-site disposal is demonstrated to be impracticable or the advantage of on-site burial clearly outweighs the benefits of reducing the perpetual surveillance obligations.

(3) Criterion 3 - The "prime option" for disposal of tailings is placement below grade, either in mines or specially excavated pits (that is, where the need for any specially constructed retention structure is eliminated).

The evaluation of alternative sites and disposal methods performed by mill operators in support of their proposed tailings disposal program (provided in applicants' environmental reports) shall reflect serious consideration of this disposal mode. In some instances, below grade disposal may not be the most environmentally sound approach, such as might be the case if a groundwater formation is relatively close to the surface or not very well isolated by overlying soils and rock. Also, geologic and topographic conditions might make full, below grade burial impracticable; for example, near-surface bedrock could create prominent excavation costs while more suitable alternate sites may be available. Where full below grade burial is not practicable, the size of the retention structures, and the size and steepness of slopes of associated exposed embankments, shall be minimized by excavation to the maximum extent reasonably achievable or appropriate, given the geologic and hydrogeologic conditions at a site. In these cases, it must be demonstrated that an above-grade disposal program will provide reasonably equivalent isolation of the tailings from natural erosional forces.

(4) Criterion 4 - The following site and design criteria shall be adhered to whether tailings or wastes are disposed of above or below grade:

(a) Upstream rainfall catchment areas must be minimized to decrease erosion potential and the size of the probable maximum flood which could erode or wash out sections of the tailings disposal area.

(b) Topographic features shall provide good wind protection.

(c) Embankment and cover slopes shall be relatively flat after final stabilization to minimize erosion potential and to provide conservative factors of safety assuring long-term stability. The broad objective should be to contour final slopes to grades which are as close as possible to those which would be provided if tailings were disposed of below grade; this could, for example, lead to slopes of about (~~ten~~) 10 horizontal to one vertical (10h:1v) or less steep. In general, slopes should not be steeper than about 5h:1v. Where steeper slopes are proposed, reasons why a slope less steep than 5h:1v would

be impracticable should be provided, and compensating factors and conditions which make such slopes acceptable should be identified.

(d) A fully self-sustaining vegetative cover shall be established or rock cover employed to reduce wind and water erosion to negligible levels.

Where a full vegetative cover is not likely to be self-sustaining due to climatic conditions, such as in semi-arid and arid regions, rock cover shall be employed on slopes of the impoundment system. The NRC will consider relaxing this requirement for extremely gentle slopes such as those which may exist on the top of the pile.

The following factors shall be considered in establishing the final rock cover design to avoid displacement of rock particles by human and animal traffic or by natural processes, and to preclude undercutting and piping:

(i) Shape, size, composition, gradation of rock particles (excepting bedding material, average particle size shall be at least cobble size or greater);

(ii) Rock cover thickness and zoning of particles by size; and

(iii) Steepness of underlying slopes.

(e) Individual rock fragments must be dense, sound, and resistant to abrasion, and free from defects that would tend to unduly increase their destruction by water and frost actions. Weak, friable, or laminated aggregate may not be used. Shale, rock laminated with shale, and cherts may not be used.

Rock covering of slopes may be unnecessary where top covers are very thick (on the order of ~~(ten)~~ 10 meters or greater); impoundment slopes are very gentle (on the order of 10h:1v or less); bulk cover materials have inherently favorable erosion resistance characteristics; and there is negligible drainage catchment area upstream of the pile, and good wind protection as described in (a) and (b) of this subsection (Criterion 4).

(f) Impoundment surfaces shall be contoured to avoid areas of concentrated surface runoff or abrupt or sharp changes in slope gradient. In addition to rock cover on slopes, areas toward which surface runoff might be directed shall be well protected with substantial rock cover (riprap). In addition to providing for stability of the impoundment systems itself, the overall stability, erosion potential, and geomorphology of surrounding terrain shall be evaluated to assure that there are no processes, such as gully erosion, which would lead to impoundment instability.

(g) The impoundment may not be located near a capable fault that could cause a maximum credible earthquake larger than that which the impoundment could reasonably be expected to withstand. As used in this criterion, the term "capable fault" has the same meaning as defined in Section III (g) of Appendix A of 10 C.F.R. Part 100. The term "maximum credible earthquake" means that earthquake which would cause the maximum vibratory ground motion based upon an evaluation of earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface material.

(h) The impoundment, where feasible, should be designed to incorporate features which will promote deposition of suspended particles. For example, design features which promote deposition of sediment suspended in any runoff which flows into the impoundment area might be utilized; the object of such a design feature would be to enhance the thickness of cover over time.

(5) Criterion 5 - Criteria 5(a) through 5(g) and new Criterion 13 incorporate the basic groundwater protection standards imposed by the

United States Environmental Protection Agency in 40 C.F.R. Part 192, Subparts D and E (48 FR 45926; October 7, 1983) which apply during operations and prior to the end of closure. Groundwater monitoring to comply with these standards is required by Criterion 7.

(a) The primary groundwater protection standard is a design standard for surface impoundments used to manage uranium and thorium by-product material. Surface impoundments (except for an existing portion) must have a liner that is designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil, groundwater, or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil, groundwater, or surface water) during the active life of the facility, provided that impoundment closure includes removal or decontamination of all waste residues, contaminated containment system components (liners), contaminated subsoils, and structures and equipment contaminated with waste and leachate. For impoundments that will be closed with the liner material left in place, the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility.

(b) The liner required by (a) of this subsection must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the wastes or leachate.

(c) The applicant or licensee will be exempted from the requirements of (a) of this subsection if the department finds, based on a demonstration by the applicant or licensee, that alternate design and operating practices, including the closure plan, together with site characteristics will prevent the migration of any hazardous constituents into groundwater or surface water at any future time. In deciding whether to grant an exemption, the department will consider:

(i) The nature and quantity of the wastes;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the attenuation capacity and thickness of the liners and soils present between the impoundment and groundwater or surface water; and

(iv) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(d) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave actions; rainfall; run-on; from malfunctions of level controllers, alarms, and other equipment; and human error.

(e) When dikes are used to form the surface impoundment, the dikes must be designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In en-

suring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the impoundment.

(f) Uranium and thorium by-product materials must be managed to conform to the following secondary groundwater protection standard: Hazardous constituents entering the groundwater from a licensed site must not exceed the specified concentration limits in the uppermost aquifer beyond the point of compliance during the compliance period. Hazardous constituents are those constituents identified by the department pursuant to (g) of this subsection. Specified concentration limits are those limits established by the department as indicated in (j) of this subsection. The department will also establish the point of compliance and compliance period on a site specific basis through license conditions and orders. The objective in selecting the point of compliance is to provide the earliest practicable warning that the impoundment is releasing hazardous constituents to the groundwater. The point of compliance must be selected to provide prompt indication of groundwater contamination on the hydraulically downgradient edge of the disposal area. The department must identify hazardous constituents, establish concentration limits, set the compliance period, and adjust the point of compliance, if needed, when the detection monitoring established under criterion 7 indicates leakage of hazardous constituents from the disposal area.

(g) A constituent becomes a hazardous constituent subject to (j) of this subsection when the constituent:

(i) Is reasonably expected to be in or derived from the by-product material in the disposal area;

(ii) Has been detected in the groundwater in the uppermost aquifer; and

(iii) Is listed in WAC 246-252-050 Appendix A.

(h) The department may exclude a detected constituent from the set of hazardous constituents on a site specific basis if it finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to exclude constituents, the department will consider the following:

(i) Potential adverse effect on groundwater quality, considering:

(A) The physical and chemical characteristics of the waste in the licensed site, including its potential for migration;

(B) The hydrogeological characteristics of the facility and surrounding land;

(C) The quantity of groundwater and the direction of groundwater flow;

(D) The proximity and withdrawal rates of groundwater users;

(E) The current and future uses of groundwater in the area;

(F) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(G) The potential for health risks caused by human exposure to waste constituents;

(H) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(I) The persistence and permanence of the potential adverse effects.

(ii) Potential adverse effects on hydraulically connected surface water quality, considering:

- (A) The volume and physical and chemical characteristics of the waste in the licensed site;
- (B) The hydrogeological characteristics of the facility and surrounding land;
- (C) The quantity and quality of groundwater, and the direction of groundwater flow;
- (D) The patterns of rainfall in the region;
- (E) The proximity of the licensed site to surface waters;
- (F) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
- (G) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
- (H) The potential for health risks caused by human exposure to waste constituents;
- (I) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
- (J) The persistence and permanence of the potential adverse effects.
  - (i) In making any determinations under (h) and (k) of this subsection about the use of groundwater in the area around the facility, the department will consider any identification of underground sources of drinking water and exempted aquifers made by the United States Environmental Protection Agency.
  - (j) At the point of compliance, the concentration of a hazardous constituent must not exceed:
    - (i) The department approved background concentration of that constituent in the groundwater;
    - (ii) The respective value given in the table in subsection (5)(1) of this section if the constituent is listed in the table and if the background level of the constituent is below the value listed; or
    - (iii) An alternate concentration limit established by the department.
  - (k) Conceptually, background concentrations pose no incremental hazards and the drinking water limits in (j)(i) of this subsection state acceptable hazards but these two options may not be practically achievable at a specific site. Alternate concentration limits that present no significant hazard may be proposed by licensees for department consideration. Licensees must provide the basis for any proposed limits including consideration of practicable corrective actions, that limits are as low as reasonably achievable, and information on the factors the department must consider.

The department will establish a site specific alternate concentration limit for a hazardous constituent as provided in (j) of this subsection if it finds that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the department will apply its as low as reasonably achievable criterion in this chapter. The department will also consider the following factors:

    - (i) Potential adverse effects on groundwater quality, considering:
      - (A) The physical and chemical characteristics of the waste in the licensed site including its potential for migration;
      - (B) The hydrogeological characteristics of the facility and surrounding land;



- (C) The quantity of groundwater and the direction of groundwater flow;
- (D) The proximity and withdrawal rates of groundwater users;
- (E) The current and future uses of groundwater in the area;
- (F) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;
- (G) The potential for health risks caused by human exposure to waste constituents;
- (H) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
- (I) The persistence and permanence of the potential adverse effects.
- (ii) Potential adverse effects on hydraulically connected surface water quality, considering:
  - (A) The volume and physical and chemical characteristics of the waste in the licensed site;
  - (B) The hydrogeological characteristics of the facility and surrounding land;
  - (C) The quantity and quality of groundwater, and the direction of groundwater flow;
  - (D) The patterns of rainfall in the region;
  - (E) The proximity of the licensed site to surface waters;
  - (F) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
  - (G) The existing quality of surface water including other sources of contamination and the cumulative impact on surface water quality;
  - (H) The potential for health risks caused by human exposure to waste constituents;
  - (I) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
  - (J) The persistence and permanence of the potential adverse effects.
- (1) MAXIMUM VALUES FOR GROUNDWATER PROTECTION:

Constituent or Property	Maximum Concentration
	Milligrams per liter
Arsenic .....	0.05
Barium .....	1.0
Cadmium .....	0.01
Chromium .....	0.05
Lead .....	0.05
Mercury .....	0.002
Selenium .....	0.01
Silver .....	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7 -exoxy- 1,4,4a,5,6,7,8,9a-octahydro-1, 4-endo- 5,8-dimethano naphthalene) .....	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer) .....	0.004
Methoxychlor (1,1,1-Trichloro-2,2-bis) (p-methoxyphenylethane) .....	0.1
Toxaphene (C <sub>10</sub> H <sub>10</sub> Cl <sub>6</sub> , Technical chlorinated camphene, 67-69 percent chlorine) .....	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid) .....	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic	

Constituent or Property	Maximum Concentration
	Milligrams per liter
acid) .....	0.01
	Picocuries per liter
Combined radium - 226 and radium - 228 .....	5
Gross alpha - particle activity (excluding radon and uranium when producing uranium by-product material or thorium when producing thorium by-product material) .....	15

(m) If the groundwater protection standards established under (f) of this subsection are exceeded at a licensed site, a corrective action program must be put into operation as soon as is practicable, and in no event later than ~~((eighteen))~~ 18 months after the department finds that the standards have been exceeded. The licensee shall submit the proposed corrective action program and supporting rationale for department approval prior to putting the program into operation, unless otherwise directed by the department. The objective of the program is to return hazardous constituent concentration levels in groundwater to the concentration limits set as standards. The licensee's proposed program must address removing the hazardous constituents that have entered the groundwater at the point of compliance or treating them in place. The program must also address removing or treating in place any hazardous constituents that exceed concentration limits in groundwater between the point of compliance and the downgradient facility property boundary. The licensee shall continue corrective action measures to the extent necessary to achieve and maintain compliance with the groundwater protection standard. The department will determine when the licensee may terminate corrective action measures based on data from the groundwater monitoring program and other information that provide reasonable assurance that the groundwater protection standard will not be exceeded.

(n) In developing and conducting groundwater protection programs, applicants and licensees shall also consider the following:

(i) Installation of bottom liners (where synthetic liners are used, a leakage detection system must be installed immediately below the liner to ensure major failures are detected if they occur. This is in addition to the groundwater monitoring program conducted as provided in Criterion 7. Where clay liners are proposed or relatively thin, in-situ clay soils are to be relied upon for seepage control, tests must be conducted with representative tailings solutions and clay materials to confirm that no significant deterioration of permeability or stability properties will occur with continuous exposure of clay to tailings solutions. Tests must be run for a sufficient period of time to reveal any effects if they are going to occur (in some cases deterioration has been observed to occur rather rapidly after about nine months of exposure)).

(ii) Mill process designs which provide the maximum practicable recycle of solutions and conservation of water to reduce the net input of liquid to the tailings impoundment.

(iii) Dewatering of tailings by process devices or in-situ drainage systems (at new sites, tailings must be dewatered by a drainage system installed at the bottom of the impoundment to lower the phreatic surface and reduce the driving head of seepage, unless tests show tailings are not amenable to such a system. Where in-situ dewatering is to be conducted, the impoundment bottom must be graded to assure

that the drains are at a low point. The drains must be protected by suitable filter materials to assure that drains remain free running. The drainage system must also be adequately sized to assure good drainage).

(iv) Neutralization to promote immobilization of hazardous constituents.

(o) Where groundwater impacts are occurring at an existing site due to seepage, action must be taken to alleviate conditions that lead to excessive seepage impacts and restore groundwater quality. The specific seepage control and groundwater protection method, or combination of methods, to be used must be worked out on a site-specific basis. Technical specifications must be prepared to control installation of seepage control systems. A quality assurance, testing, and inspection program, which includes supervision by a qualified engineer or scientist, must be established to assure the specifications are met.

(p) In support of a tailings disposal system proposal, the applicant/operator shall supply information concerning the following:

(i) The chemical and radioactive characteristics of the waste solutions.

(ii) The characteristics of the underlying soil and geologic formations particularly as they will control transport of contaminants and solutions. This includes detailed information concerning extent, thickness, uniformity, shape, and orientation of underlying strata. Hydraulic gradients and conductivities of the various formations must be determined. This information must be gathered from borings and field survey methods taken within the proposed impoundment area and in surrounding areas where contaminants might migrate to groundwater. The information gathered on boreholes must include both geologic and geophysical logs in sufficient number and degree of sophistication to allow determining significant discontinuities, fractures, and channeled deposits of high hydraulic conductivity. If field survey methods are used, they should be in addition to and calibrated with borehole logging. Hydrologic parameters such as permeability may not be determined on the basis of laboratory analysis of samples alone; a sufficient amount of field testing (e.g., pump tests) must be conducted to assure actual field properties are adequately understood. Testing must be conducted to allow estimating chemi-sorption attenuation properties of underlying soil and rock.

(iii) Location, extent, quality, capacity and current uses of any groundwater at and near the site.

(q) Steps must be taken during stockpiling of ore to minimize penetration of radionuclides into underlying soils; suitable methods include lining or compaction of ore storage areas.

(6) Criterion 6 - (a) In disposing of waste by-product material, licensees shall place an earthen cover (or approved alternative) over tailings or wastes at the end of milling operations and shall close the waste disposal area in accordance with a design<sup>1</sup> which provides reasonable assurance of control of radiological hazards to:

(i) Be effective for 1,000 years, to the extent reasonably achievable, and, in any case, for at least 200 years; and

(ii) Limit releases of Radon-222 from uranium by-product materials, and Radon-220 from thorium by-product materials, to the atmosphere so as not to exceed an average<sup>2</sup> release rate of 20 picocuries per square meter per second (pCi/m<sup>2</sup>s) to the extent practicable throughout the effective design life determined pursuant to (a)(i) of this subsection (this criterion). In computing required tailings cover

thicknesses, moisture in soils in excess of amounts found normally in similar soils in similar circumstances may not be considered. Direct gamma exposure from the tailings or wastes should be reduced to background levels. The effects of any thin synthetic layer may not be taken into account in determining the calculated radon exhalation level. If nonsoil materials are proposed as cover materials, it must be demonstrated that these materials will not crack or degrade by differential settlement, weathering, or other mechanism, over long-term intervals.

(b) As soon as reasonably achievable after emplacement of the final cover to limit releases of Radon-222 from uranium by-product material and prior to placement of erosion protection barriers or other features necessary for long-term control of the tailings, the licensee shall verify through appropriate testing and analysis that the design and construction of the final radon barrier is effective in limiting releases of Radon-222 to a level not exceeding 20 pCi/m<sup>2</sup>s averaged over the entire pile or impoundment using the procedures described in 40 C.F.R. part 61, appendix B, Method 115, or another method of verification approved by NRC as being at least as effective in demonstrating the effectiveness of the final radon barrier.

(c) When phased emplacement of the final radon barrier is included in the applicable reclamation plan, the verification of Radon-222 release rates required in (b) of this subsection (this criterion) must be conducted for each portion of the pile or impoundment as the final radon barrier for that portion is emplaced.

(d) Within (~~ninety~~) 90 days of the completion of all testing and analysis relevant to the required verification in (b) and (c) of this subsection (this criterion), the uranium mill licensee shall report to the department the results detailing the actions taken to verify that levels of release of Radon-222 do not exceed 20 pCi/m<sup>2</sup>s when averaged over the entire pile or impoundment. The licensee shall maintain records until termination of the license documenting the source of input parameters including the results of all measurements on which they are based, the calculations or analytical methods used to derive values for input parameters, and the procedure used to determine compliance. These records shall be kept in a form suitable for transfer to the custodial agency at the time of transfer of the site to DOE or a state for long-term care if requested.

(e) Near surface cover materials (i.e., within the top three meters) may not include waste or rock that contains elevated levels of radium; soils used for near surface cover must be essentially the same, as far as radioactivity is concerned, as that of surrounding surface soils. This is to ensure that surface radon exhalation is not significantly above background because of the cover material itself.

(f) The design requirements in this criterion for longevity and control of radon releases apply to any portion of a licensed or disposal site unless such portion contains a concentration of radium in land, averaged over areas of 100 square meters, which, as a result of by-product material, does not exceed the background level by more than:

(i) 5 picocuries per gram (pCi/g) of radium-226, or, in the case of thorium by-product material, radium-228, averaged over the first 15 centimeters (cm) below the surface; and

(ii) 15 pCi/g of radium-226, or, in the case of thorium by-product material, radium-228, averaged over 15-cm thick layers more than 15 cm below the surface.

(g) By-product material containing concentrations of radionuclides other than radium in soil, and surface activity on remaining structures, must not result in a total effective dose equivalent (TEDE) exceeding the dose from cleanup of radium contaminated soil to the standard (benchmark dose) contained in (f) of this subsection, and must be at levels which are as low as is reasonably achievable (ALARA). If more than one residual radionuclide is present in the same 100 square meter area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed "1" (unity). A calculation of the potential peak annual TEDE within 1000 years to the average member of the critical group that would result from applying the radium standard, not including radon, on the site must be submitted for approval. The use of decommissioning plans with benchmark doses which exceed 100 mrem/yr, before application of ALARA, requires the approval of the department. This requirement for dose criteria does not apply to sites that have decommissioning plans for soil and structures approved before June 11, 1999.

(h) The licensee shall also address the nonradiological hazards associated with the wastes in planning and implementing closure. The licensee shall ensure that disposal areas are closed in a manner that minimizes the need for further maintenance. To the extent necessary to prevent threats to human health and the environment, the licensee shall control, minimize, or eliminate post-closure escape of nonradiological hazardous constituents, leachate, contaminated rainwater, or waste decomposition products to the ground or surface waters or to the atmosphere.

<sup>1</sup> In the case of thorium by-product materials, the standard applies only to design. Monitoring for radon emissions from thorium by-product materials after installation of an appropriately designed cover is not required.

<sup>2</sup> This average applies to the entire surface of each disposal area over a period of at least one year, but a period short compared to 100 years. Radon will come from both by-product materials and from covering materials. Radon emissions from covering materials should be estimated as part of developing a closure plan for each site. The standard, however, applies only to emissions from by-product materials to the atmosphere.

Criterion 6A - (a) For impoundments containing uranium by-product materials, the final radon barrier must be completed as expeditiously as practicable considering technological feasibility after the pile or impoundment ceases operation in accordance with a written, department-approved reclamation plan. (The term as expeditiously as practicable considering technological feasibility as specifically defined in WAC 246-252-010 includes factors beyond the control of the licensee.) Deadlines for completion of the final radon barrier and, if applicable, the following interim milestones must be established as a condition of the individual license: Windblown tailings retrieval and placement on the pile and interim stabilization (including dewatering or the removal of freestanding liquids and recontouring). The placement of erosion protection barriers or other features necessary for long-term control of the tailings must also be completed in a timely manner in accordance with a written, approved reclamation plan.

(b) The department may approve a licensee's request to extend the time for performance of milestones related to emplacement of the final radon barrier if, after providing an opportunity for public participation, the department finds that the licensee has adequately demonstrated in the manner required in subsection (6)(b) of this section (Criterion 6) that releases of Radon-222 do not exceed an average of 20 pCi/m<sup>2</sup>s. If the delay is approved on the basis that the radon releases do not exceed 20 pCi/m<sup>2</sup>s, a verification of radon levels, as required by subsection (6)(b) of this section (Criterion 6), must be made annually during the period of delay. In addition, once the department has

established the date in the reclamation plan for the milestone for completion of the final radon barrier, the department may extend that date based on cost if, after providing an opportunity for public participation, the department finds that the licensee is making good faith efforts to emplace the final radon barrier, the delay is consistent with the definitions of available technology, and the radon releases caused by the delay will not result in a significant incremental risk to the public health.

(c) The department may authorize by license amendment, upon licensee request, a portion of the impoundment to accept uranium by-product material or such materials that are similar in physical, chemical, and radiological characteristics to the uranium mill tailings and associated wastes already in the pile or impoundment from other sources, during the closure process. No such authorization will be made if it results in a delay or impediment to emplacement of the final radon barrier over the remainder of the impoundment in a manner that will achieve levels of Radon-222 releases not exceeding 20 pCi/m<sup>2</sup>s averaged over the entire impoundment. The verification required in subsection (6)(b) of this section (Criterion 6) may be completed with a portion of the impoundment being used for further disposal if the department makes a final finding that the impoundment will continue to achieve a level of Radon-222 releases not exceeding 20 pCi/m<sup>2</sup>s averaged over the entire impoundment. In this case, after the final radon barrier is complete except for the continuing disposal area:

- (i) Only by-product material will be authorized for disposal;
- (ii) The disposal will be limited to the specified existing disposal area; and
- (iii) This authorization will only be made after providing opportunity for public participation.

Reclamation of the disposal area, as appropriate, must be completed in a timely manner after disposal operations cease in accordance with subsection (6)(a) of this section (Criterion 6); however, these actions are not required to be complete as part of meeting the deadline for final radon barrier construction.

(7) Criterion 7 - At least one full year prior to any major site construction, a preoperational monitoring program must be conducted to provide complete baseline data on a milling site and its environs. Throughout the construction and operating phases of the mill, an operational monitoring program must be conducted to complete the following:

- (a) To measure or evaluate compliance with applicable standards and regulations;
- (b) To evaluate performance of control systems and procedures;
- (c) To evaluate environmental impacts of operation; and
- (d) To detect potential long-term effects.

The licensee shall establish a detection monitoring program needed for the department to set the site-specific groundwater protection standards in Criterion 5 of this section. For all monitoring under this paragraph, the licensee or applicant will propose for department approval as license conditions, which constituents are to be monitored on a site-specific basis. A detection monitoring program has two purposes. The initial purpose of the program is to detect leakage of hazardous constituents from the disposal area so that the need to set groundwater protection standards is monitored. If leakage is detected, the second purpose of the program is to generate data and information

needed for the department to establish the standards under Criterion 5. The data and information must provide a sufficient basis to identify those hazardous constituents which require concentration limit standards and to enable the department to set the limits for those constituents and the compliance period. They may also need to provide the basis for adjustments to the point of compliance. For licenses in effect September 30, 1983, the detection monitoring programs must have been in place by October 1, 1984. For licenses issued after September 30, 1983, the detection monitoring programs must be in place when specified by the department in orders or license conditions. Once groundwater protection standards have been established pursuant to Criterion 5, the licensee shall establish and implement a compliance monitoring program. The purpose of the compliance monitoring program is to determine that the hazardous constituent concentrations in groundwater continue to comply with the standards set by the department. In conjunction with a corrective action program, the licensee shall establish and implement a corrective action monitoring program. The purpose of the corrective action monitoring program is to demonstrate the effectiveness of the corrective actions. Any monitoring program required by this paragraph may be based on existing monitoring programs to the extent the existing programs can meet the stated objective for the program.

(8) Criterion 8 - Milling operations shall be conducted so that all airborne effluent releases are reduced to as low as is reasonably achievable. The primary means of accomplishing this shall be by means of emission controls. Institutional controls, such as extending the site boundary and exclusion area, may be employed to ensure that off-site exposure limits are met, but only after all practicable measures have been taken to control emissions at the source. Notwithstanding the existence of individual dose standards, strict control of emissions is necessary to assure that population exposures are reduced to the maximum extent reasonably achievable and to avoid site contamination. The greatest potential sources of off-site radiation exposure (aside from radon exposure) are dusting from dry surfaces of the tailings disposal area not covered by tailings solution and emissions from yellowcake drying and packaging operations. During operations and prior to closure, radiation doses from radon emissions from surface impoundments shall be kept as low as is reasonably achievable. Checks shall be made and logged hourly of all parameters (e.g., differential pressure and scrubber water flow rate) which determine the efficiency of yellowcake stack emission control equipment operation. It shall be determined whether or not conditions are within a range prescribed to ensure that the equipment is operating consistently near peak efficiency; corrective action shall be taken when performance is outside of prescribed ranges. Effluent control devices shall be operative at all times during drying and packaging operations and whenever air is exhausting from the yellowcake stack.

Drying and packaging operations shall terminate when controls are inoperative. When checks indicate the equipment is not operating within the range prescribed for peak efficiency, actions shall be taken to restore parameters to the prescribed range. When this cannot be done without shutdown and repairs, drying and packaging operations shall cease as soon as practicable.

Operations may not be restarted after cessation due to off-normal performance until needed corrective actions have been identified and implemented. All such cessations, corrective actions, and restarts

shall be reported to the department in writing, within (~~ten~~) 10 days of the subsequent restart.

To control dusting from tailings, that portion not covered by standing liquids shall be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable. This requirement may be relaxed if tailings are effectively sheltered from wind, such as may be the case where they are disposed of below grade and the tailings surface is not exposed to wind. Consideration shall be given in planning tailings disposal programs to methods which would allow phased covering and reclamation of tailings impoundments since this will help in controlling particulate and radon emissions during operation. To control dustings from diffuse sources, such as tailings and ore pads where automatic controls do not apply, operators shall develop written operating procedures specifying the methods of control which will be utilized.

Milling operations producing or involving thorium by-product material shall be conducted in such a manner as to provide reasonable assurance that the annual dose equivalent does not exceed (~~twenty-five~~) 25 millirems to the whole body, (~~seventy-five~~) 75 millirems to the thyroid, and (~~twenty-five~~) 25 millirems to any other organ of any member of the public as a result of exposures to the planned discharge of radioactive materials, Radon-220 and its daughters excepted, to the general environment.

Uranium and thorium by-product materials shall be managed so as to conform to the applicable provisions of Title 40 of the Code of Federal Regulations, Part 440, Ore Mining and Dressing Point Source Category: Effluent Limitations Guidelines and New Source Performance Standards, Subpart C, Uranium, Radium, and Vanadium Ores Subcategory, as codified on January 1, 1983.

The licensee shall establish a detection monitoring program needed to establish the groundwater protection standards in subsection (5)(f) of this section. A detection monitoring program has two purposes. The initial purpose of the program is to detect leakage of hazardous constituents from the disposal area so that the need to set groundwater protection standards is monitored. If leakage is detected, the second purpose of the program is to generate data and information needed for the department to establish the standards under subsection (5)(f) of this section. The data and information must provide a sufficient basis to identify those hazardous constituents which require concentration limit standards and to enable the department to set the limits for those constituents and the compliance period. They may also need to provide the basis for adjustments to the point of compliance. For licenses in effect September 30, 1983, the detection monitoring programs must have been in place by October 1, 1984. For licenses issued after September 30, 1983, the detection monitoring programs must be in place when specified by the department in orders or license conditions. Once groundwater protection standards have been established pursuant to subsection (5)(f) of this section, the licensee shall establish and implement a compliance monitoring program. The purpose of the compliance monitoring program is to determine that the hazardous constituent concentrations in groundwater continue to comply with the standards set by the department. In conjunction with a corrective action program, the licensee shall establish and implement a corrective action monitoring program. The purpose of the corrective action monitoring program is to demonstrate the effectiveness of the corrective actions. Any monitoring program required by this paragraph may be



based on existing monitoring programs to the extent the existing programs can meet the stated objective for the program.

Daily inspections of tailings or waste retention systems must be conducted by a qualified engineer or scientist and documented. The department must be immediately notified of any failure in a tailings or waste retention system that results in a release of tailings or waste into unrestricted areas, or of any unusual conditions (conditions not contemplated in the design of the retention system) which if not corrected could indicate the potential or lead to failure of the system and result in a release of tailings or waste into unrestricted areas.

(9) Criterion 9 - (a) Pursuant to chapter (~~70.121~~) 70A.310 RCW, and except as otherwise provided, financial surety arrangements must be established by each mill operator before the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. The amount of funds to be ensured by such surety arrangements must be based on department-approved cost estimates in a department-approved plan, or a proposed revision to the plan submitted to the department for approval, if the proposed revision contains a higher cost estimate for:

(i) Decontamination and decommissioning of mill buildings and the milling site to levels which allow unrestricted use of these areas upon decommissioning; and

(ii) The reclamation of tailings or waste areas in accordance with technical criteria delineated in this section.

(b) Each cost estimate must contain:

(i) A detailed cost estimate for decontamination, decommissioning, and reclamation, in an amount reflecting:

(A) The cost of an independent contractor to perform the decontamination, decommissioning, and reclamation activities; and

(B) An adequate contingency factor.

(ii) An estimate of the amount of radioactive contamination in on-site subsurface material;

(iii) Identification of and justification for using the key assumptions contained in the decommissioning cost estimate; and

(iv) A description of the method of assuring funds for decontamination, decommissioning, and reclamation.

(c) The licensee shall submit this plan in conjunction with an environmental report that addresses the expected environmental impacts of the milling operation, decommissioning and tailings reclamation, and evaluates alternatives for mitigating these impacts. The plan must include a signed original of the financial instrument obtained to satisfy the surety arrangement requirements of this criterion (unless a previously submitted and approved financial instrument continues to cover the cost estimate for decommissioning). The surety arrangement must also cover the cost estimate and the payment of the charge for long-term surveillance and control required by subsection (10) of this section.

(d) To avoid unnecessary duplication and expense, the department may accept financial sureties that have been consolidated with financial or surety arrangements established to meet requirements of other federal or state agencies or local governing bodies for decommissioning, decontamination, reclamation, and long-term site surveillance and control, provided such arrangements are considered adequate to satisfy these requirements and that the portion of the surety which covers the decommissioning and reclamation of the mill, mill tailings site and

associated areas, and the long-term funding charge is clearly identified and committed for use in accomplishing these activities.

(e) The licensee's surety mechanism will be reviewed annually by the department to assure, that sufficient funds would be available for completion of the reclamation plan if the work had to be performed by an independent contractor.

(f) The amount of surety liability should be adjusted to recognize any increases or decreases resulting from:

(i) Inflation;

(ii) Changes in engineering plans;

(iii) Activities performed;

(iv) Spills, leakage or migration of radioactive material producing additional contamination in on-site subsurface material that must be remediated to meet applicable remediation criteria;

(v) Waste inventory increasing above the amount previously estimated;

(vi) Waste disposal costs increasing above the amount previously estimated;

(vii) Facility modifications;

(viii) Changes in authorized possession limits;

(ix) Actual remediation costs that exceed the previous cost estimate;

(x) On-site disposal; and

(xi) Any other conditions affecting costs.

(g) Regardless of whether reclamation is phased through the life of the operation or takes place at the end of operations, an appropriate portion of surety liability must be retained until final compliance with the reclamation plan is determined.

(h) The appropriate portion of surety liability retained until final compliance with the reclamation plan is determined will be at least sufficient at all times to cover the costs of decommissioning and reclamation of the areas that are expected to be disturbed before the next license renewal. The term of the surety mechanism must be open ended, unless it can be demonstrated that another arrangement would provide an equivalent level of assurance. This assurance would be provided with a surety instrument which is written for a specified time (for example five years) and which must be automatically renewed unless the surety notifies the department and the licensee with reasonable time (for example (~~ninety~~) 90 days) before the renewal date of their intention not to renew. In such a situation the surety requirement still exists and the licensee would be required to submit an acceptable replacement surety within a brief time to allow at least (~~sixty~~) 60 days for the department to collect.

(i) Proof of forfeiture must not be necessary to collect the surety. In the event that the licensee cannot provide an acceptable replacement surety within the required time, the surety shall be automatically collected before its expiration. The surety instrument must provide for collection of the full face amount immediately on demand without reduction for any reason, except for trustee fees and expenses provided for in a trust agreement, and that the surety will not refuse to make full payment. The conditions described previously would have to be clearly stated on any surety instrument which is not open-ended, and must be agreed to by all parties. Financial surety arrangements generally acceptable to the department are:

(i) Trust funds;

(ii) Surety bonds;

(iii) Irrevocable letters of credit; and

(iv) Combinations of the financial surety arrangements or other types of arrangements as may be approved by the department. If a trust is not used, then a standby trust must be set up to receive funds in the event the department exercises its right to collect the surety. The surety arrangement and the surety or trustee, as applicable, must be acceptable to the department. Self-insurance, or any arrangement which essentially constitutes self-insurance (for example, a contract with a state or federal agency), will not satisfy the surety requirement because this provides no additional assurance other than that which already exists through license requirements.

(10) Criterion 10 - (a) A minimum charge of (~~two hundred fifty thousand dollars~~) \$250,000 (1978 United States dollars) accrued as specified in WAC 246-235-086(4) to cover the costs of long-term surveillance shall be paid by each mill operator to the agency prior to the termination of a uranium or thorium mill license. If site surveillance or control requirements at a particular site are determined, on the basis of a site-specific evaluation, to be significantly greater than those specified in (a) of this subsection (e.g., if fencing is determined to be necessary), variance in funding requirements may be specified by the department. The total charge to cover the costs of long-term surveillance shall be such that, with an assumed one percent annual real interest rate, the collected funds will yield interest in an amount sufficient to cover the annual costs of site surveillance. The charge will be adjusted annually prior to actual payments to recognize inflation. The inflation rate to be used is that indicated by the change in the consumer price index published by the United States Department of Labor, Bureau of Labor Statistics. Contributions by a licensee to the long-term care trust fund pursuant to chapter ((70.121)) 70A.310 RCW shall be transferred to cover the costs assessed under this criterion.

(11) Criterion 11 - These criteria relating to ownership of tailings and their disposal sites become effective on November 8, 1981, and apply to all licenses terminated, issued, or renewed after that date.

Any uranium or thorium milling license or tailings license shall contain such terms and conditions as NRC determines necessary to assure that prior to termination of the license, the licensee will comply with ownership requirements of this criterion for sites used for tailings disposal.

Title to the by-product material licensed pursuant to WAC 246-252-030 and land, including any interests therein (other than land owned by the United States or by the state of Washington) which is used for the disposal of any such by-product material, or is essential to ensure the long-term stability of such disposal site, shall be transferred to the United States or the state of Washington. In view of the fact that physical isolation must be the primary means of long-term control, and government land ownership is a desirable supplementary measure, ownership of certain severable subsurface interests (for example, mineral rights) may be determined to be unnecessary to protect the public health and safety and the environment. In any case, the applicant/operator must demonstrate a serious effort to obtain such subsurface rights, and must, in the event that certain rights cannot be obtained, provide notification in local public land records of the fact that the land is being used for the disposal of radioactive material and is subject to either a NRC general or specific license prohibiting the disruption and disturbance of the tailings. In some rare cases, such as may occur with deep burial where no ongoing

site surveillance will be required, surface land ownership transfer requirements may be waived. For licenses issued before November 8, 1981, NRC may take into account the status of the ownership of such land, and interests therein, and the ability of a licensee to transfer title and custody thereof to the United States or the state. If NRC, subsequent to title transfer, determines that use of the surface or subsurface estates, or both, of the land transferred to the United States or to a state will not endanger the public health, safety, welfare or environment, NRC may permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions provided in these criteria. If NRC permits such use of such land, it will provide the person who transferred such land with the right of first refusal with respect to such use of such land.

Material and land transferred to the United States or a state in accordance with this criterion must be transferred without cost to the United States or a state other than administrative and legal costs incurred in carrying out such transfer.

The provisions of this part, respecting transfer of title and custody to land and tailings and wastes, do not apply in the case of lands held in trust by the United States for any Indian Tribe, or lands owned by such Indian Tribe subject to a restriction against alienation imposed by the United States. In the case of such lands which are used for the disposal of by-product material, as defined in this section, the licensee shall enter into arrangements with NRC as may be appropriate to assure the long-term surveillance of such lands by the United States.

(12) Criterion 12 - The final disposition of tailings or wastes at milling sites should be such that ongoing active maintenance is not necessary to preserve isolation. As a minimum, annual site inspections must be conducted by the government agency retaining ultimate custody of the site where tailings or wastes are stored, to confirm the integrity of the stabilized tailings or waste systems, and to determine the need, if any, for maintenance or monitoring. Results of the inspection must be reported to NRC within (~~sixty~~) 60 days following each inspection. NRC may require more frequent site inspections if, on the basis of a site-specific evaluation, such a need appears necessary, due to the features of a particular tailings or waste disposal system.

(13) Criterion 13 - Secondary groundwater protection standards required by Criterion 5 of this section are concentration limits for individual hazardous constituents. The list of constituents found in Appendix A of this chapter, chapter 246-252 WAC, identifies the constituents for which standards must be set and complied with if the specific constituent is reasonably expected to be in or derived from the by-product material and has been detected in groundwater. For purposes of this criterion, the property of gross alpha activity will be treated as if it is a hazardous constituent. Thus, when setting standards under subsection (5)(j) of this section, the department will also set a limit for gross alpha activity.

**WAC 246-254-130 Radioactive waste disposal site surveillance fee.** (1) The department shall charge a radioactive waste site surveillance fee of (~~twenty-six dollars~~) \$26 per cubic foot to generators and brokers of LLRW (low-level radioactive waste) and NARM (naturally occurring and accelerator produced radioactive material).

(2) The fee shall be an added charge on each cubic foot of LLRW and NARM disposed at the disposal site.

(3) The department shall authorize by contract the operator of a low-level radioactive waste disposal site to collect the fee from waste generators and brokers.

(4) The department shall provide for reimbursement to the site operator for collection costs.

(5) The department shall calculate the fee collected from waste generators and brokers as required under RCW (~~70.98.085~~) 70A.388.060 and the fee shall not exceed the statutory limit specified in that section.

(6) The site operator shall remit the fee to the department as follows:

(a) Quarterly for the first seven quarters of each biennium.

(b) By July 15<sup>th</sup> for the final quarter of the biennium.

AMENDATORY SECTION (Amending WSR 11-12-035, filed 5/25/11, effective 7/1/11)

**WAC 246-272B-01000 Purpose and objectives.** (1) The purpose of this chapter is to protect public health and the environment by establishing a comprehensive framework for statewide management of LOSS.

(2) This chapter implements chapter ((70.118B)) 70A.115 RCW((~~, Large on-site sewage disposal systems,~~)) by establishing regulations for LOSS owners, operators, design engineers, and installers; and their duties in siting, designing, constructing, installing, permitting, operating, monitoring, maintaining, and repairing LOSS to achieve sustainable long-term sewage management.

AMENDATORY SECTION (Amending WSR 11-12-035, filed 5/25/11, effective 7/1/11)

**WAC 246-272B-07100 Department inspections.** (1) The department may enter and inspect any LOSS site or LOSS facility to determine compliance with chapter ((70.118B)) 70A.115 RCW((~~, Large on-site sewage disposal systems~~)) or this chapter:

(a) On any weekday that is not a legal holiday between the hours of 8:00 a.m. and 5:00 p.m.; and

(b) At any time with the consent of the owner or owner's agent.

(2) The department may inspect:

(a) All records, including records of O&M;

(b) All data submitted;

(c) All permits; and

(d) The LOSS, all LOSS components, and all LOSS performance equipment.

(3) During an inspection, the department shall have free and unimpeded access to all:

(a) Buildings, warehouses, storage facilities, and other places reasonably considered to be or to have been part of the LOSS;

(b) Ledgers, books, accounts, memorandums, or records required to be compiled or maintained in this chapter; and

(c) Products, components, maintenance supplies, or other material used in connection with the LOSS.

(4) During the inspection, the department may take such samples as may be reasonably necessary to verify compliance.

(5) The owner shall take preventative or corrective action as directed by the department when results of an inspection indicate conditions which may harm or are harming LOSS operation or which are in violation of any requirements of this chapter.

AMENDATORY SECTION (Amending WSR 11-12-035, filed 5/25/11, effective 7/1/11)

**WAC 246-272B-08100 Enforcement.** (1) The department shall enforce this chapter and chapter ((70.118B)) 70A.115 RCW((~~, Large on-site sewage disposal systems~~)).

(2) When any person is out of compliance with a law or rule regulating LOSS and administered by the department, the department may take appropriate enforcement actions, regardless of any prior approvals issued.

(3) The department may initiate enforcement action against the owner to bring the system into compliance by using one or more of the following options, which include, but are not limited to:

(a) A conference between the department and the owner to explore facts and resolve problems;

(b) A compliance agreement between the department and the owner;

(c) A notice of correction;

(d) A notice of violation;

(e) A state departmental order;

(f) Civil penalties;

(g) Operating permit conditions or approval conditions;

(h) Injunctions; and

(i) Other authorized proceedings.

(4) The department may issue an emergency stop work order or department order to refrain from using any LOSS or portion of the LOSS or improvements to the LOSS until all permits, certifications, approvals, and determinations to proceed required by rule or statute are obtained.

(5) The department may issue an order to stop work on LOSS construction activities that occur or are scheduled to occur prior to receiving department approval, determination to proceed, or a department operating permit.

(6) The department may impose civil penalties pursuant to RCW ((70.118B.050)) 70A.115.050 in an amount of up to ((ten thousand dollars)) \$10,000 per day per violation.

(7) The department may deny an application for an operating permit, approval, or determination to proceed, or revoke, suspend or modify a permit, approval, or determination to proceed if:

(a) The permit was obtained by fraud;

(b) An owner violates or fails to comply with any term or condition of the permit;

(c) A LOSS failure or the need for a repair or replacement of a LOSS component has resulted from neglect or poor management practices;

(d) A person fails, refuses, or is unable to comply with chapter ((70.118B)) 70A.115 RCW((, ~~Large on-site sewage disposal systems~~)) or this chapter;

(e) There is a change in any condition that requires the LOSS to temporarily or permanently limit or stop operating; or

(f) It is necessary to comply with applicable water quality provisions in chapter 90.48 RCW, Water Pollution Control Act.

(8) The department may enjoin a violation or threatened violation of this chapter or chapter ((70.118B)) 70A.115 RCW((, ~~Large on-site sewage disposal systems~~)) in the superior court in the county in which the system is located or in Thurston County.

AMENDATORY SECTION (Amending WSR 11-12-035, filed 5/25/11, effective 7/1/11)

**WAC 246-272B-08200 Notice of decision, appeals, and adjudicative proceedings.** (1) The department's notice of a denial, suspension,

modification, or revocation of a permit; approval; or determination to proceed must be consistent with RCW 43.70.115. An applicant or permit holder has the right to an adjudicative proceeding to contest the decision.

(2) The department's notice of imposition of a civil penalty must be consistent with RCW 43.70.095 and ~~((70.118B.050))~~ 70A.115.050. A person upon whom the department imposes a civil penalty has the right to an adjudicative proceeding.

(3) A person upon whom the department imposes a civil penalty or issues a notice of denial, suspension, modification or revocation of a permit; approval; or determination to proceed may contest a department decision within ~~((twenty-eight))~~ 28 days of receipt of the decision by filing a written application for an adjudicative proceeding by a method showing proof of receipt with the administrative hearings unit, department of health. The person must include the following in or with the application:

- (a) A specific statement of the issue or issues and law involved;
- (b) The grounds for contesting the department decision; and
- (c) A copy of the contested department decision.

(4) An adjudicative proceeding is governed by the Administrative Procedure Act (chapter 34.05 RCW), this chapter, and ~~((chapter 246-10 WAC, Administrative procedure Adjudicative proceedings))~~ the administrative procedures as adopted by the department of health under chapter 246-10 WAC.



AMENDATORY SECTION (Amending WSR 95-24-062, filed 12/1/95, effective 1/1/96)

**WAC 246-273-001 Purpose and authority.** (1) This chapter establishes the review, criteria and decision-making procedures for evaluating on-site sewage disposal system additives to determine whether individual additives have an adverse effect on public health or water quality.

(2) The Washington state department of health administers this chapter under the authority and requirements of chapter ((70.118)) 70A.105 RCW.

AMENDATORY SECTION (Amending WSR 95-24-062, filed 12/1/95, effective 1/1/96)

**WAC 246-273-020 Applicability.** (1) After July 1, 1994, no person shall use, sell, or distribute an on-site sewage disposal system chemical additive in Washington state.

(2) After January 1, 1996, no person shall use, sell or distribute an on-site sewage disposal system additive whose ingredients have not been approved by the department in accordance with requirements of chapter ((70.118)) 70A.105 RCW and this chapter.

AMENDATORY SECTION (Amending WSR 95-24-062, filed 12/1/95, effective 1/1/96)

**WAC 246-273-060 Unfair practices.** Manufacturers of approved additives advertised, sold, or distributed in Washington state shall:

(1) Make no claims relating to the elimination of the need for septic tank pumping or proper septic tank maintenance;

(2) List the components of additive products on the product label, along with information regarding instructions for use and precautions;

(3) Make no false statements, design, or graphic representation relative to an additive product that is inconsistent with RCW ((70.118.060, 70.118.070, or 70.118.080)) 70A.105.060, 70A.105.070, or 70A.105.080; and

(4) Make no claims, either direct or implied, about the performance of the product based on state approval of its ingredients.

AMENDATORY SECTION (Amending WSR 95-24-062, filed 12/1/95, effective 1/1/96)

**WAC 246-273-080 Enforcement.** (1) The attorney general, or appropriate city or county prosecuting attorney may bring appropriate action to enjoin any violation of the:

(a) Prohibition on the sale or distribution of on-site sewage disposal system additives; or

(b) Conditions of RCW (~~(70.118.080 Additives—Unfair practices,)~~) 70A.105.080 and WAC 246-273-060 (1) through (4).

(2) The department may rescind approval of an on-site sewage disposal system additive in response to:

(a) Demonstrated link to on-site sewage disposal system failure resulting from use (consistent with the manufacturer's product-use instructions) of an approved additive; or

(b) Documentation that ingredients or formulation of an approved on-site sewage system additive differs from the ingredients or formulation information submitted for review, and upon which departmental approval was granted.

AMENDATORY SECTION (Amending WSR 11-02-011, filed 12/28/10, effective 7/31/11)

**WAC 246-274-005 Other applicable requirements.** (1) Greywater reuse must comply with all applicable local ordinances and codes, and state statutes and regulations including, but not limited to, the Uniform Plumbing Code, as adopted in chapters 51-56 and 51-57 WAC.

(2) For buildings using an on-site sewage system, the use of a greywater irrigation system does not change the design, capacity, or reserve area requirements, or any other requirement applicable to on-site sewage systems under RCW 43.20.050, chapters ((70.118B)) 70A.115 RCW, or 246-272A, 246-272B, or 246-272C WAC.

(3) The use of a greywater irrigation system does not serve as an alternative to the use of an approved on-site sewage system or connection to an approved public sewer for greywater disposal at any building, including buildings using waterless toilets.

AMENDATORY SECTION (Amending WSR 11-02-011, filed 12/28/10, effective 7/31/11)

**WAC 246-274-011 Greywater irrigation systems—General requirements.** (1) The following conditions and restrictions apply to all tiers of greywater irrigation systems:

(a) The greywater must be used only for subsurface irrigation.

(b) The greywater may be used for subsurface irrigation of plants that produce food but must not come into contact with edible portions of any plant.

(c) The greywater must consist of domestic type flows having the consistency and strength typical of greywater from domestic households.

(d) The greywater may not contain toxic substances, cleaning chemicals or hazardous household products derived from the waste from a water softener, activities such as cleaning car parts, washing greasy or oily rags or clothing, rinsing paint brushes, or disposing of waste solutions from home photo labs or similar hobbyist or home occupation activities, or from home maintenance activities.

(e) The greywater may not contain water used to wash diapers or similarly soiled or infectious materials.

(f) The greywater may not contain biomedical waste as defined in chapter ((70.95K)) 70A.228 RCW.

(g) The greywater may not surface in any way, including through ponding or runoff. It must remain below the surface of the ground so that people and animals do not come into contact with it.

(h) The greywater must be used and contained within the property boundary of the building it originates from or on nearby property where it is legally allowed to be used.

(i) The system may be used only during the growing season.

(j) The system must be located in suitable soil.

(k) The system must be located where the land is stable.

(l) The system may not be located in an environmentally sensitive area, as determined by the local health officer.

(m) The irrigation rates may not be greater than the evapotranspiration rate of the irrigation field.

(n) The system must include a readily accessible diversion valve so the greywater can be directed into the approved public sewer system or on-site sewage system when necessary; for example, when soils are saturated or frozen, or blockage, plugging, or backup of the system occurs, or the maximum allowed gallons per day is reached, or when the building owner chooses not to use the system.

(o) The diversion valve must be visibly labeled.

(p) Pipes and above-ground tanks must be labeled with the words: "CAUTION: NONPOTABLE WATER, DO NOT DRINK."

(q) If mulch is used, it must be permeable enough to allow rapid infiltration of greywater.

(2) The location of the system must meet the minimum horizontal setback requirements established in WAC 246-274-405, Table I.

(3) If the system fails or is suspected of failing, the owner shall immediately divert the greywater to the approved public sewer system or on-site sewage system serving the building as required under WAC 246-274-445.

**WAC 246-296-020 Definitions, abbreviations, and acronyms.** The definitions, abbreviations, and acronyms in this section apply throughout this chapter unless the context clearly indicates otherwise.

(1) "**Affordability**" means a community's ability, on a per household basis, to pay for rate increases that result from a DWSRF loan project.

(2) "**Application**" means the DWSRF loan request form provided by the department.

(3) "**Application package**" means the DWSRF loan application form(s), requirements, terms of assistance, and related information created by the department.

(4) "**Borrower**" means the person that has legal and financial responsibility for the DWSRF loan.

(5) "**Capitalization grant**" means an award by EPA of funds to a state for the DWSRF and other purposes as authorized in Section 1452 of the SDWA.

(6) "**Construction completion report**" means a form provided by the department and completed for each specific construction project to document:

(a) Project construction in accordance with chapter 246-290 WAC and general standards of engineering practice;

(b) Physical capacity changes;

(c) Satisfactory test results; and

(d) The completed form is stamped with an engineer's seal, and signed and dated by a professional engineer.

(7) "**Default**" means failure to meet a financial obligation such as a DWSRF loan payment.

(8) "**Department**" means the Washington state department of health.

(9) "**Disadvantaged community**" means the service area of a proposed project within a public water system where the project will result in:

(a) Water rates that are more than one and one-half percent of the MHI of the service area; or

(b) Restructuring, when one or more public water systems are having financial difficulties.

(10) "**DWSRF (drinking water state revolving fund)**" means the program that meets the requirements of RCW ((~~70.119A.170~~)) 70A.125.160 to administer federal funds and other funds deposited in a dedicated account used to finance public water system infrastructure improvements and drinking water program activities.

(11) "**DWSRF loan**" means an agreement between the department and the borrower in which the DWSRF provides funds for eligible assistance and the borrower agrees to repay the principal sum, applicable interest, and DWSRF loan fee to the DWSRF.

(12) "**DWSRF loan fee**" means a nonrefundable fee that is charged on all DWSRF loans, including DWSRF loans for which all or part of the principal is forgiven.

(13) "**Ecology**" means the Washington state department of ecology.

(14) "**Eligible public water system**" means a Group A community public water system, either privately or publicly owned, or a non-profit Group A noncommunity public water system.

(15) "**Emergency**" means an event such as a natural disaster or other unforeseen or unavoidable circumstances that causes damage or disrupts normal public water system operations and requires immediate action to protect public health and safety. A failure to maintain, replace, reconstruct, upgrade, or make necessary infrastructure improvements does not constitute an emergency.

(16) "**EPA**" means the United States Environmental Protection Agency.

(17) "**Green project**" means a public water system infrastructure improvement project that includes water efficiency, energy efficiency, or environmental innovations as follows:

(a) Water efficiency projects use improved technologies and practices to deliver equal or better service with less water, including preventing water loss and reducing customer demand to protect water resources;

(b) Energy efficiency projects use improved technologies and practices to reduce energy consumption or produce cleaner energy for use in water treatment;

(c) Environmentally innovative projects use new or innovative approaches to manage water resources in a more environmentally sustainable way. Projects that are considered environmentally innovative include those that:

(i) Prevent or remove pollution;

(ii) Help a community adapt to climate change through water resource protection programs; or

(iii) Result in other proven, sustainable environmental benefits.

(18) "**Group A public water system**" is defined and referenced under WAC 246-290-020.

(19) "**Group B public water system**" means a public water system that is not a Group A public water system and is defined and referenced under WAC 246-291-005.

(20) "**Individual water supply system**" means any water system that is not subject to chapter 246-290 or 246-291 WAC; and provides water to either one single-family residence, or to a system with four or fewer connections, all of which serve residences on the same farm.

(21) "**IUP (intended use plan)**" means the federally required document prepared each year by the department identifying the intended uses of the DWSRF funds and describing how those uses support the DWSRF goals.

(22) "**Loan closeout**" means a loan agreement is complete when the loan is repaid in full.

(23) "**MHI (median household income)**" means the midpoint or the average of two midpoints in the range of household incomes in the project's service area. The median divides the list of households in a service area into two parts; half of the households exceed the median, and half of the households are below the median.

(24) "**Multiple benefit**" means projects that address more than one type of health risk.

(25) "**Municipality**" means a city, town, special purpose district, or municipal corporation established according to the applicable laws of this state.

(26) "**NEPA**" means the National Environmental Policy Act of 1969, 42 United States Code 4321 et seq., PL-91-190.

(27) "**Nonprofit organization**" means an entity that has a federal tax exempt status identification number.

(28) "**Owner**" means any agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, in-

stitution, partnership, person, or any other entity that holds as property a public water system.

(29) "**Person**" means any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of these entities.

(30) "**Principal forgiveness**" means that a reduction of a percentage of the total loan amount is not required to be paid back by the borrower. Principal forgiveness is applied when the project is complete.

(31) "**Project report**" means a department-approved document the borrower or borrower's agency develops under WAC 246-290-110.

(32) "**Public water system**" is defined and referenced under WAC 246-290-020.

(33) "**Receivership**" means the voluntary or involuntary transfer of ownership and operation of a public water system according to chapter 7.60 RCW and RCW 43.70.195.

(34) "**Regional benefit**" means project improvements that affect more than one public water system.

(35) "**Restructuring**" means changing public water system ownership including, but not limited to:

(a) Consolidation of two or more existing public water systems into a single public water system;

(b) Transfer of ownership; or

(c) Receivership.

(36) "**SDWA (Safe Drinking Water Act)**" means Public Law 93-523, including all amendments.

(37) "**SEPA**" means the State Environmental Policy Act under chapter 43.21C RCW.

(38) "**Set-aside**" means the use of a portion of DWSRF funds allotted to the state for a range of specific SDWA-related activities under Section 1452 of the SDWA, to fund new programs, and for other drinking water program activities.

(39) "**SERP (state environmental review process)**" means the NEPA-like environmental review process adopted by Washington state to comply with the requirements of 40 C.F.R. 35.3140. SERP combines the SEPA review with additional elements to comply with federal requirements.

(40) "**Surface water**" means a body of water open to the atmosphere and subject to surface runoff.

(41) "**Sustainable**" means able to continue a benefit into the future as a result of appropriate public water system design, processes, operations, governance, and maintenance.

(42) "**SWSMP (small water system management program)**" means a document for a small nonexpanding Group A public water system developed and approved under WAC 246-290-105.

(43) "**System capacity**" means a public water system's operational, technical, managerial, and financial capability to achieve and maintain ongoing compliance with all relevant local, state, and federal plans and regulations.

(44) "**Transfer of ownership**" means to change legal ownership of a public water system from one person to another.

(45) "**Water right**" means a legal authorization, such as a permit, claim, or other authorization, on record with or accepted by the department of ecology, authorizing the beneficial use of water in accordance with all applicable state laws.

(46) "**WFI (water facilities inventory)**" means a department form summarizing a public water system's characteristics.

(47) **"WSP (water system plan)"** means a document that a Group A community public water system submits to the department as required under WAC 246-290-100. The plan addresses a public water system's capacity to comply with relevant local, state, and federal plans and regulations, describes the public water system's present and future needs, and establishes eligibility for funding under this chapter.

AMENDATORY SECTION (Amending WSR 18-21-021, filed 10/4/18, effective 11/4/18)

**WAC 246-296-040 Use of funds by the state.** (1) The department may use the following funds to carry out the purposes of the DWSRF:

(a) Capitalization grants provided by the federal government;

(b) State matching funds appropriated under RCW ((~~70.119A.170~~) 70A.125.160;

(c) Principal and interest payments;

(d) DWSRF loan fees; and

(e) Any other funds earned and deposited.

(2) The department may use these funds to:

(a) Finance DWSRF loans for planning, design, and construction of public water system infrastructure projects that will address or prevent violations of applicable federal, state, and local drinking water requirements;

(b) Finance reasonable costs for the department to administer the DWSRF program; and

(c) Fund set-aside activities as authorized in 40 C.F.R. Section 35.3535 including, but not limited to:

(i) DWSRF program administration;

(ii) Technical assistance specific to small public water systems;

(iii) State drinking water program management; and

(iv) Local assistance and other state programs.



AMENDATORY SECTION (Amending WSR 12-05-079, filed 2/16/12, effective 3/18/12)

**WAC 246-290-990 Water system evaluation and project review and approval fees.** (1) The fees for the review and approval of water system plans, project reports, construction documents, existing systems, and related evaluations required under chapters 246-290, 246-291, 246-293, 246-294, and 246-295 WAC are:

(a) Water system plans required under WAC 246-290-100, 246-290-105, 246-291-140, 246-293-220, and 246-293-230.

Project Type	Group A					
	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
Water system plan (New and Updated)	\$138	\$491	\$1,206	\$2,280	\$3,705	\$5,484
Minor water system plan alteration	\$31	\$115	\$293	\$565	\$919	\$1,349

(b) Satellite management agency (SMA) plans for Group A and Group B water systems required under WAC 246-295-040.

Project Type	Total Active or Approved Services				
	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
SMA plan for ownership (New and Updated)	\$491	\$1,206	\$2,280	\$3,705	\$5,484
SMA approval amendment	\$102 per hour or appropriate fee from category above, whichever is less				
SMA plan for operation only (New and Updated)	\$1,206	\$1,206	\$1,206	\$1,206	\$1,206

Note: SMAs owning water systems and submitting planning documents to the department for review shall be charged only the SMA fee.

(c) New plan elements required under WAC 246-290-100, 246-290-105, 246-290-125, 246-290-132, 246-290-135, 246-290-691, and 246-291-140 including:

(i) Water use efficiency; and

(ii) Wellhead protection, shall be reviewed separately by the department and the fee assessed shall reflect the time spent for this review and shall be calculated based on (~~one hundred two dollars~~) \$102 per hour. After the initial submittal, updated information shall be reviewed as part of the updated water system plan and the review fee shall be included in the applicable updated plan review fee listed under (a) or (b) of this subsection.

(d) Project reports required under WAC 246-290-110 and design reports required under WAC 246-291-120.

Project Type	Group A					
	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
All types of filtration or other complex treatment processes	\$348	\$710	\$1,103	\$1,598	\$2,204	\$2,922
Chemical addition only, such as ion exchange, hypochlorination, or fluoridation	\$102	\$205	\$348	\$525	\$743	\$994
Complete water system (an additional fee shall be assessed for review of treatment facility, if any)	\$205	\$491	\$778	\$1,137	\$1,564	\$2,061
System modifications requiring a detailed evaluation to determine whether the system, as modified, will comply with regulations (an additional fee shall be assessed for review of treatment facility, if any)	\$138	\$348	\$565	\$851	\$1,206	\$1,626

Note: In accordance with WAC 246-290-125, project reports are not required for minor projects that are described in sufficient detail in an approved water system plan, and have been reviewed as part of the process for approving the water system plan.

(e) Special reports or plans required under WAC 246-290-230, 246-290-235, 246-290-250, 246-290-470, 246-290-636, 246-290-640, 246-290-654, 246-290-676, 246-291-230 including:

- (i) Corrosion control recommendation report;
- (ii) Corrosion control study;
- (iii) Plan to cover uncovered reservoirs;
- (iv) Predesign study;
- (v) Uncovered reservoir plan of operation;
- (vi) Tracer study plan;
- (vii) Surface water or GWI treatment facility operations plan;
- (viii) Filtration pilot study; or

(ix) GWI determination reports, shall be reviewed by the department and the fee assessed shall reflect the time spent for this review and shall be calculated based on (~~one hundred two dollars~~) \$102 per hour.

(f) Construction documents required under WAC 246-290-120 and design reports required under WAC 246-291-120.

Project Type	Group A					
	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
All types of filtration or other complex treatment processes	\$348	\$710	\$1,103	\$1,598	\$2,204	\$2,922
Chemical addition only, such as ion exchange, hypochlorination, or fluoridation	\$102	\$205	\$348	\$525	\$743	\$994
Complete new water system except treatment (an additional fee shall be assessed for review of treatment facility, if any)	\$281	\$633	\$919	\$1,279	\$1,709	\$2,204
New source only (an additional fee shall be assessed for review of treatment facility, if any)	\$205	\$382	\$525	\$710	\$919	\$1,172
One or more of the following submitted as a package and not requiring a detailed evaluation as determined by the department: Water line installation, booster pump station, modifications to source pumping, piping-valving, controls or storage reservoir (an additional fee shall be assessed for review of treatment facility, if any)	\$138	\$241	\$382	\$565	\$778	\$1,027
Documents submitted for projects such as water line installation, booster pump stations, modifications to source pumping, piping/valving, controls or storage reservoirs as determined by the department where such projects: Comply with design standards established by the department; Are prepared by a professional engineer in accordance with WAC 246-290-040; and Do not require a detailed evaluation by the department.	\$64	\$118	\$198	\$281	\$389	\$512

(g) Existing system approval required under WAC 246-290-140 and 246-291-130. For the purpose of this subsection the department shall determine whether a system is expanding or nonexpanding.

Project Type	Group A					
	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
NONEXPANDING system not requiring a detailed evaluation by the department	\$268	\$539	\$811	\$1,083	\$1,355	\$1,626

Project Type	Group A					
	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
NONEXPANDING system requiring a detailed evaluation as determined by the department	\$404	\$811	\$1,229	\$1,626	\$2,034	\$2,441
EXPANDING system not requiring a detailed evaluation by the department	\$539	\$1,083	\$1,626	\$2,169	\$2,714	\$3,256
EXPANDING system requiring a detailed evaluation as determined by the department	\$676	\$1,355	\$2,034	\$2,714	\$3,391	\$4,072

(h) Other evaluations and approvals. As applicable, these fees will be charged in addition to the basic fees assessed under (a) through (h) of this subsection.

Project Type	Group A					
	Group B	<100 Services	100 to 500 Services	501 to 999 Services	1,000 to 9,999 Services	10,000 or more Services
Well-site evaluation and approval including the site inspection and hydrogeologic information review.	\$205	\$309	\$363	\$451	\$565	\$710
Regulatory monitoring plan <sup>1</sup>	No plan required	\$198	\$268	\$337	\$404	\$471
Unfiltered system annual comprehensive report	Not applicable	\$404	\$676	\$947	\$1,218	\$1,489
Water system compliance report	\$115	\$115	\$115	\$115	\$115	\$115

<sup>1</sup>A comprehensive document containing coliform, inorganic chemical and organic chemical monitoring plans in accordance with WAC 246-290-300.

(2) To determine the appropriate fee for a noncommunity system, calculate the service equivalent by taking the average population served each day of operation and dividing by ((~~twenty-five~~) 25) for a transient noncommunity (TNC) system and two and one-half for nontransient noncommunity (NTNC) system. Use the number of service equivalents to find out what Group A size category to look under and submit the appropriate fee. (All noncommunity systems are Group A systems as described in WAC 246-290-020.)

(3) Additional review and approval fees may be assessed as follows:

(a) The basic fee covers an evaluation, or the review of an initial submittal and one resubmittal if required. If additional resubmittals are required, an additional ((~~twenty-five~~) 25) percent of the original fee will be assessed for each additional resubmittal. For water system plan and SMA plan preparation the basic fee also covers a preplanning conference;

(b) Fees for department project approval based on local technical review will be determined on a case-by-case basis as outlined in the applicable memorandum of understanding between the department and the respective local agency;

(c) Fees may be assessed for services which the department determines are not described under subsection (1) of this section. If assessed, the fees will be calculated based on a rate of ((~~one hundred two dollars~~) \$102) per hour.

Examples of these services include, but are not limited to:

- (i) Collection of water quality samples requested by purveyor;
- (ii) Review of alternate technologies requested by purveyor, manufacturer or authorized representative;
- (iii) Sanitary surveys, including the time spent as part of the annual on-site inspections for systems under WAC 246-290-690(3) that

is in addition to the time necessary to assess watershed control and disinfection treatment;

(iv) Well field designations; or

(v) Transfers of ownership under WAC 246-290-035 or 246-294-060.

(d) Additional fees assessed by the department shall be billed to the purveyor using an itemized invoice.

(4) If the legislature revises the water system operating permit fee under RCW ((~~70.119A.110~~) 70A.125.100) to incorporate into it one or more fees for service currently assessed separately under this section, and the purveyor has paid that consolidated fee, the department shall not assess or collect a separate fee under this section for any such service.

(5) All fees required under this section except as noted in subsection (3) of this section, shall be submitted prior to the department's approval. Payment of fees shall be in the form of a check or money order made payable to: The Department of Health, P.O. Box 1099, Olympia, Washington 98507-1099. Payment of a fee shall not guarantee approval of the submitted document or evaluation request.

(6) Purveyors unable to determine the appropriate fee payment to submit should contact the department.

AMENDATORY SECTION (Amending WSR 12-24-070, filed 12/4/12, effective 1/1/14)

**WAC 246-291-001 Purpose and scope.** (1) The purpose of this chapter is to protect the health of consumers by establishing minimum design, construction, and other standards for Group B public drinking water systems.

(2) This chapter is adopted under chapter 43.20 RCW. A purveyor of a Group B public water system shall comply with this chapter and rules adopted by a local board of health under RCW 70.05.060 or 70.46.060 as applicable.

(3) Other statutes relating to this chapter are:

(a) RCW 43.20B.020, Fees for services—Department of health and department of social and health services;

(b) Chapter 43.70 RCW, Department of health;

(c) Chapter ((70.116)) 70A.100 RCW, Public Water System Coordination Act of 1977; and

(d) Chapter ((70.119A)) 70A.125 RCW, Public water systems—Penalties and compliance.

AMENDATORY SECTION (Amending WSR 12-24-070, filed 12/4/12, effective 1/1/14)

**WAC 246-291-030 General administration.** (1) The department administers this chapter unless:

(a) A local board of health adopts rules under RCW 70.05.060 or 70.46.060 to implement this chapter that are at least as stringent as this chapter; or

(b) The local health jurisdiction has accepted primary responsibility for administering this chapter in a JPR.

(2) Existing local rules shall remain in effect, except requirements of this chapter that are more stringent than the local board of health rules.

(3) In addition to the requirements of this chapter for Group B systems, local board of health rules may include, but are not limited to:

(a) System operations and maintenance;

(b) Ongoing water quality and water use monitoring;

(c) Reporting of water quality and water use monitoring data to the local health jurisdiction;

(d) System inspections or sanitary surveys;

(e) Public notification;

(f) Additional requirements for existing systems to be considered in compliance; and

(g) Regulation of systems with one or two service connections.

(4) A local board of health may adopt rules that require a purveyor of a Group B system to obtain an annual operating permit as authorized under RCW ((70.119A.130)) 70A.125.130.

AMENDATORY SECTION (Amending WSR 12-24-070, filed 12/4/12, effective 1/1/14)

**WAC 246-291-050 Enforcement.** (1) When a Group B system is out of compliance with this chapter, the department may initiate enforcement actions under RCW ((70.119A.030 and 70.119A.040)) 70A.125.030 and 70A.125.040.

(2) A health officer may initiate enforcement actions as authorized under RCW 70.46.060 and ((70.119A.050)) 70A.125.050, and as authorized under local board of health rules.

AMENDATORY SECTION (Amending WSR 12-24-070, filed 12/4/12, effective 1/1/14)

**WAC 246-291-090 Public Water System Coordination Act and satellite management.** (1) A purveyor of a new or expanding Group B system shall comply with the applicable coordinated water system plan created under chapter 246-293 WAC and ((70.116)) 70A.100 RCW if located within the boundaries of a critical water supply service area.

(2) The department or health officer shall approve a new or expanding Group B system consistent with requirements under WAC 246-293-190 and RCW ((70.116.060(3))) 70A.100.060(3).

(3) A new Group B system must comply with SMA requirements under RCW ((70.119A.060)) 70A.125.060.

AMENDATORY SECTION (Amending WSR 12-24-070, filed 12/4/12, effective 1/1/14)

**WAC 246-291-120 Design report approval.** (1) A purveyor shall receive written department or health officer approval of a design report prior to:

(a) Installing a new Group B system; or

(b) Providing service to more than the current approved number of service connections.

(2) To obtain design report approval for a Group B system, a purveyor shall provide a copy of the following, at a minimum, to the department or health officer:

(a) Documentation that creating a new system or expanding an existing system does not conflict with any applicable coordinated water system plan adopted under chapter 246-293 WAC;

(b) Documentation that creating a new system complies with the SMA requirements under RCW ((70.119A.060(2-))) 70A.125.060(2);

(c) Source approval under WAC 246-291-125 or 246-291-135;

(d) Documentation that all requirements under WAC 246-291-140 are met;

(e) A system design that complies with the requirements under WAC 246-291-200 including, but not limited to:

(i) Drawings of each project component, including:

(A) Location;

(B) Orientation;

- (C) Size; and
- (D) Easements for:
  - (I) Future access and maintenance of distribution system pipelines located on private property, or franchise agreements necessary for distribution system pipelines located within public right of way; and
  - (II) Other system components, including access and maintenance of reservoirs, wells, and pumping stations.
    - (ii) Material specifications for each project component;
    - (iii) Construction specifications and assembly techniques;
    - (iv) Testing criteria and procedures; and
    - (v) A description of disinfection procedures as required under WAC 246-291-220.
- (3) The design report shall be prepared, sealed, and signed in accordance with chapter 196-23 WAC by a professional engineer who:
  - (a) Is licensed in the state of Washington under chapter 18.43 RCW; and
  - (b) Has specific expertise regarding design, operation, and maintenance of public water systems.
- (4) A local health jurisdiction that has accepted primary responsibility in a JPR under WAC 246-291-030 may adopt by rule, an exception to the professional engineer requirement for Group B systems that:
  - (a) Do not use a variable speed pump;
  - (b) Do not provide fire flow;
  - (c) Do not have special hydraulic considerations;
  - (d) Do not have atmospheric storage in which the bottom elevation of the storage reservoir is below the ground surface; and
  - (e) Serve fewer than (~~ten~~) 10 service connections.
- (5) A purveyor shall submit a "Construction Completion Report for Public Water System Projects" to the department or health officer on a form approved by the department or health officer within (~~sixty~~) 60 days of construction completion, and before use of any approved Group B system. The form must:
  - (a) Be signed by a professional engineer, unless the health officer approves the project as meeting the requirements under subsection (4) of this section;
  - (b) Include a statement that the project is constructed and completed according to the design report requirements under this chapter; and
  - (c) Include a statement that the installation, testing, and disinfection of the Group B system is completed in accordance with this chapter.
- (6) All design changes, except for minor field revisions, must be submitted in writing to, and approved by, the department or health officer.

**WAC 246-292-010 Definitions, abbreviations, and acronyms.** The definitions, abbreviations, and acronyms in this section apply throughout this chapter unless the context clearly indicates otherwise.

(1) **"Air gap"** means a physical separation measured vertically between the lowest point of a free-flowing discharge end of a potable water supply pipeline and the overflow rim of an open or nonpressurized receiving vessel.

(2) **"Approved air gap"** is defined in chapter 246-290 WAC.

(3) **"Approved AVB (approved atmospheric vacuum breaker)"** is defined in chapter 246-290 WAC.

(4) **"Approved backflow preventer"** is defined in chapter 246-290 WAC.

(5) **"Approved backflow prevention assembly"** is defined in chapter 246-290 WAC.

(6) **"Authority having jurisdiction"** means the local official, board, department, or agency authorized to administer and enforce the Uniform Plumbing Code adopted in chapter 19.27 RCW.

(7) **"AVB (atmospheric vacuum breaker)"** means a device that contains an air inlet, vent, air inlet valve, and check seat and is used to prevent backsiphonage backflow.

(8) **"BAT (backflow assembly tester)"** means an individual meeting the requirements of this chapter and certified under chapter ((70.119)) 70A.120 RCW to inspect, field test, maintain, and repair backflow prevention assemblies, devices, and air gaps that protect the public water system.

(9) **"Backflow"** means the reversal of flow of water or other substances through a cross-connection into the public water system or consumer's water system.

(10) **"Backflow preventer"** means a backflow prevention assembly, air gap, or AVB.

(11) **"Backflow preventer inspection and field test"** means the set of procedures and measurements performed by a BAT to evaluate a backflow preventer's approval status, installation, and performance to determine compliance with the requirements in WAC 246-290-490.

(12) **"Backflow prevention assembly"** means a mechanical backflow preventer designed for in-line testing and repair including, but not limited to:

- (a) Reduced pressure backflow assembly;
- (b) Reduced pressure detector assembly;
- (c) Double check valve assembly;
- (d) Double check detector assembly;
- (e) Pressure vacuum breaker assembly; or
- (f) Spill-resistant vacuum breaker assembly.

(13) **"BTO (basic treatment operator)"** means an individual meeting the requirements of this chapter and certified under chapter ((70.119)) 70A.120 RCW to perform routine on-site duties in a water treatment plant. BTO duties affect water treatment plant performance, public water system performance, water quality, water quantity, or public health protection.

(14) **"CCS (cross-connection control specialist)"** means an individual meeting the requirements of this chapter and certified under



chapter ((70.119)) 70A.120 RCW to develop and implement a cross-connection control program.

(15) "**Certificate**" means a document issued annually by the department stating that the operator has met the requirements for a specific certified operator classification in WAC 246-292-060.

(16) "**Certified operator**" means an individual meeting the requirements of this chapter, certified under chapter ((70.119)) 70A.120 RCW, and who has a valid certificate for one or more of the following classifications:

- (a) BAT;
- (b) BTO;
- (c) CCS;
- (d) WDS;
- (e) WDM; or
- (f) WTPO.

(17) "**CEU (continuing education unit)**" means the nationally recognized measurement, similar to college credit, developed by IACET, in which one CEU is awarded for every ((ten)) 10 contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.

(18) "**College credit**" means a measurement that documents completion of educational courses earned toward a college degree from an accredited college or university.

(19) "**Community water system**" means any Group A public water system providing service to ((fifteen)) 15 or more service connections used by year-round residents for ((one hundred eighty)) 180 or more days within a calendar year, regardless of the number of people, or regularly serving at least ((twenty-five)) 25 year-round (i.e., more than ((one hundred eighty)) 180 days per year) residents.

(20) "**Consumer**" means any person receiving water from a public water system from either the meter or the point where the service line connects with the distribution system if no meter is present. For purposes of cross-connection control, "consumer" means the owner or operator of a water system connected to a public water system through a service connection.

(21) "**Consumer's premises**" means a consumer's real property, any easement held by a consumer for the purpose of delivering the water to the consumer's real property, and all buildings and fixtures on the consumer's real property.

(22) "**Consumer's water system**" means any potable or industrial water system that begins at the point of delivery from the public water system and is located on the consumer's premises. The consumer's water system includes all auxiliary sources of supply, storage, treatment, and distribution facilities, piping, plumbing, and fixtures under the control of the consumer.

(23) "**Contract operator**" means a certified operator who is approved by the department to operate three or more Group A public water systems.

(24) "**Cross-connection control program**" means the administrative and technical procedures the purveyor implements to protect the public water system from contamination via cross-connections as required in WAC 246-290-490.

(25) "**Department**" means the Washington state department of health.

(26) "**Distribution system**" means all piping components of a public water system that serve to convey water from transmission mains

linked to source, storage and treatment facilities to the consumer excluding individual services.

(27) "**GED**" means the general educational development test of the American Council on Education.

(28) "**Grandparented certification**" means an operator certification granted before January 1, 2001, under which the department granted an exemption for the existing operator in responsible charge from meeting the initial education, experience and examination requirements for the public water system's assigned certification classification.

(29) "**Gross negligence**" means an act or omission performed or not performed in reckless disregard of a legal duty, or without even slight care.

(30) "**GWI (groundwater under the direct influence of surface water)**" means any water beneath the surface of the ground that the department determines has the following characteristics:

(a) Significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*; or

(b) Significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH closely correlating to climatological or surface water conditions where natural conditions cannot prevent the introduction of surface water pathogens into the source at the system's point of withdrawal.

(31) "**IACET**" means the International Association for Continuing Education and Training.

(32) "**Major segment**" means a distinct portion of a public water system based on system size and complexity that a purveyor assigns to one or more certified operators in responsible charge.

(33) "**Nationally recognized association of certification authorities**" means an organization that:

(a) Serves as an information center for certification activities;

(b) Recommends minimum standards and guidelines for classification of potable water treatment plants, distribution systems, and certification of operators;

(c) Facilitates reciprocity between a state or provincial program; and

(d) Assists authorities in establishing new certification programs and updating existing programs.

(34) "**Noncommunity water system**" means a Group A public water system that is not a community water system. Noncommunity water systems are further defined as nontransient noncommunity and transient noncommunity.

(35) "**Nontransient noncommunity water system**" means a Group A public water system that provides service opportunities to (~~twenty-five~~) 25 or more of the same nonresidential people for (~~one hundred eighty~~) 180 or more days within a calendar year.

(36) "**OIT (operator in training)**" means an individual with less than the required amount of operating experience meeting the requirements of this chapter and certified under chapter (~~70.119~~) 70A.120 RCW to perform routine on-site duties in a water treatment plant or distribution system.

(37) "**Operating experience**" means the routine performance or management of duties:

(a) In a water treatment plant or distribution system; and

(b) That affect water treatment plant performance, distribution system performance, water quality, water quantity, or public health protection.

(38) **"Operating shift"** means a designated period of time in which a certified operator makes decisions and takes actions that directly impact drinking water quality, water quantity, or public health protection.

(39) **"Person"** means any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of these entities.

(40) **"Premises isolation"** is defined in chapter 246-290 WAC.

(41) **"Professional growth reporting period"** means a designated period of time not less than three years, in which a certified operator completes the professional growth requirement in WAC 246-292-095.

(42) **"Public water system (Group A public water system)"** means:

(a) A system with (~~(fifteen)~~) 15 or more service connections, regardless of the number of people; or

(b) A system serving an average of (~~(twenty-five)~~) 25 or more people per day for (~~(sixty)~~) 60 or more days within a calendar year, regardless of the number of service connections; and

(c) In addition, a Group A public water system is further defined in WAC 246-290-020.

(43) **"Purveyor"** means an agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, or person or other entity owning or operating a public water system. Purveyor also means the authorized agents of these entities.

(44) **"Relevant excess education"** means science, applied science, or technology CEUs or college credits that exceed the minimum education required for certification in a specific certified operator classification. Example fields of study include, but are not limited to:

(a) Biology;

(b) Chemistry;

(c) Engineering;

(d) Geology; and

(e) Physics.

(45) **"Relevant water system training"** means training that directly relates to information and procedures that influence water quality, water quantity, or public health protection, including:

(a) The operation or maintenance activities of a public water system; or

(b) Managing the operation or maintenance activities of a public water system.

(46) **"Responsible charge"** means the authority a purveyor grants to a certified operator to make decisions:

(a) That will directly impact water quality, water quantity, or public health protection of a public water system; and

(b) Regarding the daily operational activities, process control, or system integrity of a water treatment plant or distribution system.

(47) **"SMA (satellite system management agency)"** means a person that is approved by the department under chapter 246-295 WAC to own or operate more than one public water system on a regional or county-wide basis without the necessity for a physical connection between the systems.

(48) **"Surface water"** means a body of water open to the atmosphere and subject to surface runoff.

(49) **"Transient noncommunity water system"** means a Group A public water system that serves:

(a) Twenty-five or more different people each day for (~~(sixty)~~) 60 or more days within a calendar year; or

(b) Twenty-five or more of the same people each day for ~~((sixty))~~ 60 or more days, but less than ~~((one hundred eighty))~~ 180 days within the calendar year.

(50) "**USC**" means the University of Southern California.

(51) "**Validated examination**" means an examination that is independently reviewed by subject matter experts, to verify that the examination is based on a job analysis and, where applicable, is related to the classification of a water treatment plant and distribution system.

(52) "**Water-related experience**" means experience:

(a) Operating a water treatment plant or distribution system;

(b) Working in water quality, water resources, or water infrastructure in a federal, state, county, local, or other governmental agency;

(c) Working in industrial water;

(d) Working in wastewater treatment; or

(e) Working as a consulting engineer or operations consultant in water quality, water resources, or water infrastructure.

(53) "**Water treatment plant**" means that portion of a public water system that treats or improves the physical, chemical, or microbial quality of the system's water to comply with water quality requirements in chapter 246-290 WAC.

(54) "**WDM (water distribution manager)**" means an individual meeting the requirements of this chapter and certified under chapter ~~((70.119))~~ 70A.120 RCW to perform or manage routine on-site duties in the distribution system of a public water system that serves more than ~~((two hundred fifty))~~ 250 people. WDM duties affect the public water system performance, water quality, water quantity, or public health protection.

(55) "**WDS (water distribution specialist)**" means an individual meeting the requirements of this chapter and certified under chapter ~~((70.119))~~ 70A.120 RCW to perform or manage on-site duties in a distribution system of a public water system that serves ~~((two hundred fifty))~~ 250 people or less. WDS duties affect public water system performance, water quality, water quantity, or public health protection.

(56) "**WFI (water facilities inventory)**" means the department form required in WAC 246-290-480(2) that summarizes a public water system's characteristics.

(57) "**WTPO (water treatment plant operator)**" means an individual meeting the requirements of this chapter and certified under chapter ~~((70.119))~~ 70A.120 RCW to perform or manage on-site duties in a water treatment plant. WTPO duties affect plant performance, public water system performance, water quality, water quantity, or public health protection.

AMENDATORY SECTION (Amending WSR 14-01-003, filed 12/4/13, effective 1/4/14)

**WAC 246-292-100 Revocation and suspension.** (1) The department may suspend an operator's certificate for up to one year or revoke an operator's certificate for up to five years if the operator:

(a) Obtains a certificate by fraud or deceit;

(b) Performs an act of fraud, deceit, or gross negligence when:

(i) Operating or maintaining a public water system;

(ii) Inspecting, testing, maintaining, or repairing backflow assemblies, devices, or air gaps intended to protect a public water system from contamination; or

(iii) Developing or implementing a cross-connection control program.

(c) Intentionally violates the requirements of this chapter or department statutes, rules, or orders as authorized in chapter 246-290 WAC, RCW ((~~70.119.110, or 70.119A.040~~)) 70A.120.110, or 70A.125.040.

(2) When considering if an act or omission constitutes gross negligence, the department shall consider all pertinent factors including, but not limited to:

(a) The standard of care commonly exercised by a certified operator;

(b) If the legal duty was known or should have been known to the alleged violator; and

(c) The degree to which the alleged gross negligence endangered public health.

(3) An operator whose certificate is suspended shall continue to meet all renewal and professional growth requirements in WAC 246-292-090 and 246-292-095, in order to maintain certification after the suspension period has ended.

(4) An operator whose certificate is revoked may apply for certification after the period of revocation has ended, and shall meet all requirements in WAC 246-292-060 and 246-292-070.

AMENDATORY SECTION (Amending WSR 14-01-003, filed 12/4/13, effective 1/4/14)

**WAC 246-292-110 Enforcement.** (1) When a public water system or operator fails to comply with the requirements of this chapter, the department may initiate appropriate enforcement actions as authorized in chapters ((~~70.119 and 70.119A~~)) 70A.120 and 70A.125 RCW.

(2) The department's enforcement actions against a public water system or operator may include one or more of the following:

(a) Issuing an informal letter directing appropriate corrective measures;

(b) Issuing a notice of violation requiring appropriate corrective measures;

(c) Issuing a compliance schedule of specific actions needed to achieve compliance;

(d) Issuing an order requiring specific actions or ceasing unacceptable activities within a designated time period;

(e) Imposing civil penalties for up to:

(i) Five thousand dollars per day per violation; or

(ii) Ten thousand dollars per day per violation in the case of a violation that the department has determined to be a public health emergency;

(f) Revoking or suspending a certification in accordance with WAC 246-292-100; and

(g) Other legal action by the attorney general or local prosecutor.

AMENDATORY SECTION (Amending WSR 91-02-049, filed 12/27/90, effective 1/31/91)

**WAC 246-293-001 Purpose.** This chapter is promulgated pursuant to the authority granted in the Public Water System Coordination Act of 1977, chapter ((70.116)) 70A.100 RCW, for the purpose of implementing a program relating to public water system coordination within the state of Washington, for evaluation and determination of critical water supply service areas, and assistance for orderly and efficient public water system planning.

AMENDATORY SECTION (Amending WSR 91-02-049, filed 12/27/90, effective 1/31/91)

**WAC 246-293-401 Purpose.** The purpose of this chapter is to provide a process for resolving service area conflicts which arise from implementation of the Public Water System Coordination Act, chapter ((70.116)) 70A.100 RCW, and its procedural regulations, chapter 248-56 WAC.

AMENDATORY SECTION (Amending WSR 91-02-049, filed 12/27/90, effective 1/31/91)

**WAC 246-293-601 Purpose.** This chapter is promulgated pursuant to the authority granted in the Public Water System Coordination Act of 1977, chapter ((70.116)) 70A.100 RCW, for the purpose of establishing minimum performance standards related to fire protection, including provisions for their application and enforcement, and incorporating them into the design and construction of new and expanding public water systems.

AMENDATORY SECTION (Amending WSR 04-06-047, filed 3/1/04, effective 4/1/04)

**WAC 246-294-001 Purpose.** This chapter implements chapter ((70.119A)) 70A.125 RCW and sets operating permit requirements to help assure Group A water systems provide safe and reliable drinking water to the public consistent with chapter 246-290 WAC, state board of health drinking water regulations and chapter 246-292 WAC, water works operator certification regulations.

AMENDATORY SECTION (Amending WSR 12-05-079, filed 2/16/12, effective 3/18/12)

**WAC 246-294-010 Definitions, abbreviations, and acronyms.** The definitions, abbreviations, and acronyms in this section apply throughout this chapter unless the context clearly indicates otherwise.

(1) **"Adequacy"** means an assessment, based upon evaluation of the department's records, of a water system's current ability to provide safe and reliable drinking water in accordance with applicable drinking water statutes and regulations.

(2) **"Community water system"** means any Group A water system:

(a) With ((fifteen)) 15 or more services used by residents for ((one hundred eighty)) 180 or more days within a calendar year, regardless of the number of people; or

(b) Regularly serving ((twenty-five)) 25 or more residents for ((one hundred eighty)) 180 or more days within the calendar year, regardless of the number of services.

(3) **"Department"** means the Washington state department of health.

(4) **"Drinking water regulations"** means the provisions of chapter ((70.119A)) 70A.125 RCW, chapter 246-290 WAC, state board of health drinking water regulations and chapter 246-292 WAC, water works operator certification regulations, that help assure Group A public water systems provide safe and reliable drinking water.

(5) **"Dwelling unit"** means a structure, or unit within a structure, with independent living facilities for one or more persons that include permanent provisions for living, sleeping, eating, cooking, and sanitation. A dwelling unit includes, but is not limited to:

(a) A single family residence; or

(b) Each unit of an apartment building or multifamily building.

(6) **"EPA"** means the Environmental Protection Agency.

(7) **"ERU (equivalent residential unit)"** means a system-specific unit of measure used to express the amount of water consumed by a typical full-time single family residence.

(8) **"Group A water systems"** are defined as community and noncommunity water systems.

(a) Community water system means any Group A water system providing service to ((fifteen)) 15 or more service connections used by year-round residents for ((one hundred eighty)) 180 or more days within a calendar year, regardless of the number of people, or regularly serving at least ((twenty-five)) 25 year-round (i.e., more than ((one hundred eighty)) 180 days per year) residents.

(b) Noncommunity water system means a Group A water system that is not a community water system. Noncommunity water systems are further defined as:

(i) **Nontransient** (NTNC) water systems that provide service opportunity to (~~twenty-five~~) 25 or more of the same nonresidential people for (~~one hundred eighty~~) 180 or more days within a calendar year.

(ii) **Transient** (TNC) water systems that serve:

(A) Twenty-five or more different people each day for (~~sixty~~) 60 or more days within a calendar year;

(B) Twenty-five or more of the same people each day for (~~sixty~~) 60 or more days, but less than (~~one hundred eighty~~) 180 days in a calendar year; or

(C) One thousand or more people for two or more consecutive days within a calendar year.

(9) **"MCL (maximum contaminant level)"** means the maximum permissible level of a contaminant in water the purveyor delivers to any public water system user, measured at the locations identified under WAC 246-290-300, Table 3.

(10) **"Nonresident"** means a person having access to drinking water from a public water system who lives elsewhere. Examples include travelers, transients, employees, students, etc.

(11) **"Nonresidential service connection"** means a connection to a public water system that provides potable water including, but not limited to a:

(a) Commercial property;

(b) Industrial property;

(c) Civic property;

(d) Municipal property;

(e) Institutional property;

(f) School; or

(g) Other authorized use that provides potable water to a nonresidential population.

(12) **"NTNC"** means nontransient noncommunity.

(13) **"Owner"** means any agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, or person or any other entity, that holds as property, a public water system.

(14) **"Public water system"** means any system, providing water for human consumption through pipes or other constructed conveyances, excluding a system serving only one single-family residence and a system with four or fewer connections all of which serve residences on the same farm. The term includes:

(a) Collection, treatment, storage, and/or distribution facilities under control of the purveyor and used primarily in connection with the system.

(b) Collection or pretreatment storage facilities not under control of the purveyor, but primarily used in connection with the system.

(15) **"Recreational service connection"** means a connection to a public water system that provides potable water to each:

(a) Campsite; or

(b) Recreational vehicle site.

(16) **"Resident"** means an individual living in a dwelling unit served by a public water system.

(17) **"Residential service connection"** means a connection to a public water system that provides potable water to a dwelling unit. When the service connection provides water to a residential population



without clearly defined dwelling units, the following formulas are used to determine the number of residential service connections to be included on the WFI form:

(a) Divide the average population served each day by two and one-half; or

(b) Using actual water use data, calculate the total ERUs represented by the service connection in accordance with department design guidance.

(c) The calculated number of services is not less than one.

(18) **"SMA (satellite management agency)"** means an individual, purveyor, or entity that is approved by the department in accordance with chapter 246-295 WAC to own or operate more than one public water system on a regional or county-wide basis, without the necessity for a physical connection between such systems.

(19) **"Service connection"** means a residential, nonresidential, or recreational service connection as defined in this section.

(20) **"SSNC (state significant noncomplier)"** means a system that is violating or has violated department rules, and violations may create, or have created an imminent or a significant risk to human health. Such violations include, but are not limited to, repeat violations of monitoring requirements, failure to address exceedance of permissible levels of regulated contaminants, failure to comply with treatment technique standards or requirements, failure to comply with water works operator certification requirements, or failure to submit to a sanitary survey.

(21) **"TNC"** means transient noncommunity.

(22) **"WFI (water facilities inventory)"** means the department form summarizing each public water system's characteristics.

AMENDATORY SECTION (Amending WSR 12-05-079, filed 2/16/12, effective 3/18/12)

**WAC 246-294-070 Fees.** (1) The fees for Group A water system operating permits are authorized under RCW ((~~70.119A.110~~)) 70A.125.100 and are listed in Table 2.

**TABLE 2  
OPERATING PERMIT FEES**

<b>Classification</b>	<b>2012</b>	<b>2013</b>	<b>2014 and following years</b>
Base fee for all water systems	\$100.00	\$100.00	\$100.00
Per connection fee:			
14 or fewer services	\$0.65	\$0.98	\$1.30
15 - 99 services	\$0.63	\$0.94	\$1.25
100 - 499 services	\$0.60	\$0.90	\$1.20
500 - 999 services	\$0.58	\$0.86	\$1.15
1,000 - 9,999 services	\$0.55	\$0.83	\$1.10
10,000 - 95,000 services	\$0.53	\$0.79	\$1.05
95,001 or more services	\$50,000.00 per year	\$75,000.00 per year	\$100,000.00 per year

Classification	2012	2013	2014 and following years
SMA	Use the per connection fee amount above to calculate the fee based on total number of all service connections owned plus a \$100 base fee	Use the per connection fee amount above to calculate the fee based on total number of all service connections owned plus a \$100 base fee	Use the per connection fee amount above to calculate the fee based on total number of all service connections owned plus a \$100 base fee
Late fee (late fee is charged seventy days after the department mails the renewal application)	Add 10% to applicable fee or \$25.00, whichever is greater	Add 10% to applicable fee or \$25.00, whichever is greater	Add 10% to applicable fee or \$25.00, whichever is greater

(2) For purposes of determining the operating permit fee, service connections shall be counted as follows:

(a) For community water systems, the operating permit fee is based on the total number of residential service connections and non-residential service connections.

(b) Nonresidential service connections are counted as one service connection for each property as defined in WAC 246-294-010(11) regardless of how many buildings are on the property.

(3) For NTNC and TNC systems, owners shall pay the fee in Table 2 based on equivalent number of service connections. Population information used in calculating equivalent number of service connections shall come from the WFI. The department shall use the following formulas to determine equivalent number of service connections:

(a) For NTNC populations, divide the average population served each day by two and one-half; and

(b) For TNC populations, which include recreational service connections, divide the average population served each day by (~~twenty-five~~) 25.

AMENDATORY SECTION (Amending WSR 04-06-047, filed 3/1/04, effective 4/1/04)

**WAC 246-294-090 Enforcement.** The department may initiate appropriate enforcement actions if an owner is out of compliance with these rules or any applicable drinking water regulations. These actions may include any one or combination of the following:

(1) Issuance of informal letters instructing or requiring appropriate corrective measures; or

(2) Issuance of a compliance agreement or schedule; or

(3) Issuance of departmental orders requiring any person to apply for an operating permit as required by these rules and RCW (~~(70.119A.110)~~) 70A.125.100 or to comply with applicable drinking water regulations imposed as part of an operating permit; or

(4) Issuance of civil penalties for up to (~~(five thousand dollars)~~) \$5,000 per day per violation for failure to comply with departmental orders issued in accordance with subsection (3) of this section; or

(5) Legal action by the attorney general or local prosecutor.

AMENDATORY SECTION (Amending WSR 94-18-108, filed 9/6/94, effective 10/7/94)

**WAC 246-295-001 Purpose.** (1) The purpose of these rules is to:

(a) Establish criteria for approving satellite system management agencies hereafter referred to as satellite management agencies (SMAs) pursuant to RCW ((~~70.116.134~~) 70A.100.130;

(b) Delineate the process organizations and/or individuals must follow to be considered an approved SMA; and

(c) Outline procedures for coordination between water users, purveyors, SMAs, local government and the department.

(2) This chapter is specifically designed to ensure:

(a) The enhancement of public health through the use of SMAs;

(b) SMAs are capable of providing high quality drinking water in a reliable manner and in a quantity suitable for intended use;

(c) SMAs are capable of meeting the requirements of the federal Safe Drinking Water Act, P.L. 93-523 and P.L. 99-339; and

(d) Uniformity in the SMAs determination and compliance processes.

(3) Other statutes relating to this chapter are:

(a) Chapter 43.20 RCW, State board of health;

(b) RCW 43.20B.020 Fees for services—Department of health and department of social and health services;

(c) Chapter 43.70 RCW, Department of health;

(d) Chapter ((~~70.116~~) 70A.100 RCW, Public Water System Coordination Act of 1977;

(e) Chapter ((~~70.119~~) 70A.120 RCW, Public water supply systems—Certification and regulation of operators; and

(f) Chapter ((~~70.119A~~) 70A.125, Public water systems—Penalties and compliance.

AMENDATORY SECTION (Amending WSR 94-18-108, filed 9/6/94, effective 10/7/94)

**WAC 246-295-030 Potential satellite management agencies (SMAs).**

(1) Pursuant to RCW ((~~70.116.134(2)~~) 70A.100.130(2)), each county shall identify and submit a list of potential SMAs to the department by January 1, 1995, for areas within the county:

(a) Which are not within a designated future service area of any utility pursuant to the Water System Coordination Act; or

(b) Where an existing purveyor has agreed or where a legal determination has been made that an existing purveyor is unable or unwilling to provide service.

(2) After January 1, 1995, counties may submit names of additional potential SMAs to the department on an ongoing basis.

**WAC 246-295-100 SMA compliance.** (1) A SMA:

(a) Shall comply with all statutes and regulations governing public water systems including but not limited to chapters ((~~70.116, 70.119 and 70.119A~~)) 70A.100, 70A.120, and 70A.125 RCW and chapters 246-290, 246-291, 246-292, 246-293 and 246-294 WAC and the requirements of this chapter; and

(b) Shall adhere to its SMA plan.

(2) The department may revoke, suspend, modify or deny the certification or application of any SMA or applicant which:

(a) Fails to timely submit required information;

(b) Has been subject to departmental enforcement action for violation of statutes or regulations governing public water systems;

(c) Violates or has violated statutes or regulations governing public water systems;

(d) Fails to comply with its SMA plan;

(e) Fails to have or maintain required staff;

(f) Fails to comply with all applicable local ordinances, regulations, plans and policies;

(g) Fails to demonstrate financial viability whether at the time of application or subsequently;

(h) Fails to bring a noncomplying system into regulatory compliance within the time frame established under WAC 246-295-110; or

(i) Operates in a manner that threatens public health.

(3) Any SMA or applicant aggrieved by the department's decision to revoke, suspend, modify or deny their approval or application may appeal such decision in accordance with chapter 246-10 WAC and chapter 34.05 RCW.

(4) An approved SMA that files a timely appeal of a decision to revoke, suspend or modify its approval under chapter 246-10 WAC and/or chapter 34.05 RCW may continue to operate until a final departmental decision is issued, unless protection of the public health, safety and welfare requires summary action.

(5) If a SMA is removed from the approved list and desires reinstatement, the SMA must submit a new notice of intent to become an approved SMA and follow the process outlined in WAC 246-295-040, provided that the reapplication shall be subject to any limitations imposed by final departmental order or if applicable, order on judicial review.