

## Chapter 246-232 WAC

### RADIOACTIVE MATERIAL—LICENSING APPLICABILITY

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[Statutory Authority: RCW 70.98.050. WSR 01-02-068,

§ 246-232-013, filed 12/29/00, effective 1/29/01.]

Repealed by WSR 13-24-025, filed 11/22/13, effective

12/23/13. Statutory Authority: RCW 70.98.050.

246-232-100 Requirements for users of the Washington commercial

low-level waste disposal site. [Statutory Authority:

RCW 43.70.040. WSR 91-02-049 (Order 121), recodified

as § 246-232-100, filed 12/27/90, effective 1/31/91.

Statutory Authority: RCW 70.98.080 and chapter

70.121 RCW. WSR 86-17-027 (Order 2406), § 402-19-

530, filed 8/13/86. Statutory Authority: RCW

70.98.080. WSR 83-19-050 (Order 2026), § 402-19-530,  
filed 9/16/83. Statutory Authority: RCW 70.98.050.  
WSR 81-01-011 (Order 1570), § 402-19-530, filed  
12/8/80. Statutory Authority: RCW 70.98.080. WSR 80-  
02-080 (Order 1481), § 402-19-530, filed 1/21/80.]  
Repealed by WSR 91-15-112 (Order 184), filed  
7/24/91, effective 8/24/91. Statutory Authority: RCW  
70.98.050 and 70.98.080.

246-232-110 Large volumes of naturally occurring material.  
[Statutory Authority: RCW 43.70.040. WSR 91-02-049  
(Order 121), recodified as § 246-232-110, filed  
12/27/90, effective 1/31/91. Statutory Authority:  
RCW 70.98.080 and chapter 70.121 RCW. WSR 86-17-027  
(Order 2406), § 402-19-540, filed 8/13/86.] Repealed  
by WSR 91-15-112 (Order 184), filed 7/24/91,  
effective 8/24/91. Statutory Authority: RCW  
70.98.050 and 70.98.080.

**WAC 246-232-001 Purpose and scope.** (1) This chapter prescribes rules governing licensing of radioactive material. No person shall manufacture, produce, transfer, receive, acquire, own, possess, or use radioactive material except:

(a) As authorized in a specific or general license issued under chapters 246-233 or 246-235 WAC;

(b) As authorized in a specific or general license issued under regulations of NRC or an agreement state equivalent to chapters 246-233 or 246-235 WAC; or

(c) As otherwise provided in this chapter.

(2) In addition to the requirements of this chapter, and chapters 246-233 or 246-235 WAC, all licensees must comply with chapters 246-220, 246-221, 246-222, 246-231, 246-247, and 246-254 WAC. Licensees engaged in the practice of nuclear medicine are subject to chapter 246-240 WAC, licensees engaged in industrial radiographic operations are subject to chapter 246-243 WAC, licensees using sealed sources in the healing arts are subject to chapter 246-240 WAC, licensees using radioactive material in well logging and subsurface tracer studies are subject to chapter 246-244 WAC, licensees engaged in land

disposal of radioactive waste are subject to chapter 246-250 WAC, and licensees owning or operating uranium or thorium mills and associated mill tailings are subject to chapter 246-252 WAC.

(3) No person may introduce radioactive material into a product or material, knowing or having reason to believe that it will be transferred to persons exempt under this section or other sections or equivalent regulations of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555.

[Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-001, filed 11/22/13, effective 12/23/13; WSR 06-05-019, § 246-232-001, filed 2/6/06, effective 3/9/06; WSR 99-15-105, § 246-232-001, filed 7/21/99, effective 8/21/99. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-001, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-001, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 83-19-050 (Order 2026), § 402-19-010, filed 9/16/83; WSR 79-12-073 (Order 1459), § 402-19-010, filed 11/30/79, effective 1/1/80. Formerly chapter 402-20 WAC.]

#### **GENERAL PROVISIONS**

**WAC 246-232-004 Completeness and accuracy of information.**

(1) Information provided to the department by an applicant for a license or by a licensee or information required by statute or by the department's rules, orders, or license conditions to be maintained by the applicant or the licensee must be complete and accurate in all material respects.

(2) Each applicant or licensee must notify the department of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety. An applicant or licensee violates this subsection only if the applicant or licensee fails to notify the department of information that the applicant or licensee has identified as having a significant implication for public health and safety. Notification must be provided to the department within two working days of identifying the information. This requirement is not applicable to information which is already required to be provided to the department by other reporting or updating requirements.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-004, filed 9/20/22, effective 10/21/22.]

**WAC 246-232-005 Deliberate misconduct.** (1) Any licensee; certificate of registration holder; applicant for a license or certificate of registration; employee of a licensee or certificate of registration holder or applicant; or any contractor (including a supplier or consultant), subcontractor, employee of a contractor or subcontractor of any licensee or certificate of registration holder or applicant for a license or certificate of registration; who knowingly provides to any licensee, applicant, certificate holder, contractor, or subcontractor, any components, equipment, materials, or other goods or services that relate to a licensee's, certificate holder's, or applicant's activities in chapters 246-220 through 246-254 WAC, may not:

(a) Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee, certificate of registration holder, or applicant to be in violation of any rule or order; or any term, condition, or limitation of any license issued by the department; or



(b) Deliberately submit to the department, a licensee, certificate of registration holder, an applicant, or a licensee's, certificate holder's, or applicant's contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the department.

(2) A person who violates subsection (1)(a) or (b) of this section may be subject to enforcement action under chapter 70A.388 RCW.

(3) For the purposes of subsection (1)(a) of this section, deliberate misconduct by a person means an intentional act or omission that the person knows:

(a) Would cause a licensee, certificate of registration holder, or applicant to be in violation of any rule or order; or any term, condition, or limitation, of any license issued by the department; or

(b) Constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee, certificate of registration holder, applicant, contractor, or subcontractor.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-005, filed 9/20/22, effective 10/21/22.]

## **EXEMPTIONS**

### **WAC 246-232-006 Exemption of certain source material. (1)**

A person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses, transfers, or delivers, source material in any chemical mixture, compound, solution or alloy in which the source material is by weight less than 1/20 of one percent (0.05 percent) of the mixture, compound, solution, or alloy.

(2) A person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses or transfers unrefined and unprocessed ore containing source material, provided such person shall not refine or process such ore unless authorized to do so in a specific license.

(3) A person is exempt from the requirements for a license and from this chapter and chapters 246-221, 246-246, 246-222,

246-233, and 246-235 WAC to the extent that the person receives, possesses, uses or transfers:

(a) Any quantities of thorium contained in:

(i) Incandescent gas mantles;

(ii) Vacuum tubes;

(iii) Welding rods;

(iv) Electric lamps for illuminating purposes if each lamp contains 50 milligrams or less of thorium;

(v) Germicidal lamps, sunlamps and lamps for outdoor or industrial lighting if each lamp contains two grams or less of thorium;

(vi) Rare earth metals and compounds, mixtures, and products containing 0.25 percent or less by weight thorium, uranium, or any combination of these; or

(vii) Personnel neutron dosimeters if each dosimeter contains 1.85 gigabecquerels (50 milligrams) or less of thorium.

(b) Source material contained in the following products:

(i) Glazed ceramic tableware manufactured before August 27, 2013, if the glaze contains 20 percent or less by weight source material;

(ii) Piezoelectric ceramic containing two percent or less by weight source material; and

(iii) Glassware containing not more than two percent by weight source material or, for glassware manufactured before August 27, 2013, 10 percent by weight source material; but not including commercially manufactured glass brick, pane glass, ceramic tile, or other glass or ceramic used in construction.

(c) Photographic film, negatives and prints containing uranium or thorium;

(d) Any finished product or part fabricated of, or containing, tungsten-thorium or magnesium-thorium alloys if the thorium content of the alloy is four percent or less by weight. The exemption contained in this subparagraph shall not be deemed to authorize the chemical, physical or metallurgical treatment or processing of any such product or part;

(e) Thorium or uranium contained in or on finished optical lenses and mirrors, provided that each lens or mirror does not contain more than 10 percent by weight of thorium or uranium or, for lenses manufactured before August 27, 2013, 30 percent by

weight of thorium. The exemption contained in this subparagraph shall not be deemed to authorize either:

(i) The shaping, grinding or polishing of such lens or mirror or manufacturing processes other than the assembly of such lens or mirror into optical systems and devices without alteration of the lens or mirror; or

(ii) The receipt, possession, use or transfer of thorium or uranium contained in contact lenses, or in spectacles, or in eyepieces in binoculars or other optical instruments.

(f) Uranium contained in detector heads for use in fire detection units if each detector head contains 185 becquerels (0.005 microcuries) or less of uranium; or

(g) Thorium contained in any finished aircraft engine part containing nickel-thoria alloy if:

(i) The thorium is dispersed in the nickel-thoria alloy in the form of finely divided thoria (thorium dioxide); and

(ii) The thorium content in the nickel-thoria alloy is four percent or less by weight.

(4) The exemptions in subsection (3) of this section do not authorize the manufacture of any of the products described.

(5) No person may initially transfer for sale or distribution a product containing source material to persons exempt under this section, or equivalent regulations of an agreement state or the NRC, unless authorized by a license issued under 10 C.F.R. 40.52 to initially transfer such products for sale or distribution.

(a) Persons initially distributing source material in products covered by the exemptions in this section before August 27, 2013, without specific authorization may continue such distribution for one year beyond this date. Initial distribution may also be continued until NRC takes final action on a pending application for license or license amendment to specifically authorize distribution submitted no later than one year beyond this date.

(b) Persons authorized by an agreement state to manufacture, process, or produce these materials or products containing source material, and persons who import finished products or parts for sale or distribution must be authorized by a license issued under 10 C.F.R. 40.52 for distribution only and

are exempt from the requirements of chapters 246-221 and 246-222 WAC, and WAC 246-235-020 (1) and (2).

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-006, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 17-01-034, § 246-232-006, filed 12/12/16, effective 1/12/17; WSR 16-13-054, § 246-232-006, filed 6/10/16, effective 7/11/16. Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-006, filed 11/22/13, effective 12/23/13. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-232-006, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. WSR 01-02-068, § 246-232-006, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-007 Exemption of certain depleted uranium**

**items.** (1) A person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses or transfers:

(a) Depleted uranium contained in counterweights installed in aircraft, rockets, projectiles and missiles, or stored or handled in connection with installation or removal of such counterweights if:

(i) Each counterweight has been impressed with the following legend clearly legible through any plating or other covering: "DEPLETED URANIUM"\*;

(ii) Each counterweight is durably and legibly labeled or marked with the identification of the manufacturer and the statement: "UNAUTHORIZED ALTERATIONS PROHIBITED"\*; and

(iii) The exemption contained in this subparagraph shall not be deemed to authorize the chemical, physical or metallurgical treatment or processing of any such counterweight other than repair or restoration of any plating or other covering.

\*Note: The requirements specified in (1)(a)(i) and (ii) of this subsection need not be met by counterweights manufactured prior to December 31, 1969, provided that such counterweights are impressed with the legend, "CAUTION - RADIOACTIVE MATERIAL - URANIUM," as previously required by the rules and were manufactured under a specific license issued by the Atomic Energy Commission and were impressed with the legend required by WAC 246-232-007 (1)(a)(i) in effect on June 30, 1969.

(b) Natural or depleted uranium used as shielding constituting part of any shipping container which is conspicuously and legibly impressed with the legend "CAUTION - RADIOACTIVE SHIELDING - URANIUM" and the uranium metal is encased in mild steel or in an equally fire resistant metal of a minimum wall thickness of 3.2 millimeters.



(2) The exemptions in this subsection do not authorize the manufacture of any of the products described.

[Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 17-01-034, § 246-232-007, filed 12/12/16, effective 1/12/17; WSR 16-13-054, § 246-232-007, filed 6/10/16, effective 7/11/16.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-007, filed 11/22/13, effective 12/23/13; WSR 01-02-068, § 246-232-007, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-008 Exemption of certain timepieces, hands or dials.** No person may introduce radioactive material into a product or material, knowing or having reason to believe that it will be transferred to persons exempt under this section or other sections or equivalent regulations of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555. A person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses, transfers, owns or acquires, and does not apply radioactive material to, or incorporate radioactive material into, the following timepieces or hands or dials

containing not more than the following specified quantities of radioactive material and not exceeding the following specified levels of radiation:

(1) (a) Nine hundred twenty-five megabecquerels (25 millicuries) of tritium per timepiece;

(b) One hundred eighty-five megabecquerels (five millicuries) of tritium per hand;

(c) Five hundred fifty-five megabecquerels (15 millicuries) of tritium per dial (bezels when used shall be considered as part of the dial);

(d) 3.7 megabecquerels (100 microcuries) of promethium-147 per watch or 7.4 megabecquerels (200 microcuries) of promethium-147 per any other timepiece;

(e) Seven hundred forty kilobecquerels (20 microcuries) of promethium-147 per watch hand or 1.48 megabecquerels (40 microcuries) of promethium-147 per other timepiece hand;

(f) 2.22 megabecquerels (60 microcuries) of promethium-147 per watch dial or 4.44 megabecquerels (120 microcuries) of promethium-147 per other timepiece dial (bezels when used shall be considered as part of the dial);

(2) The levels of radiation from hands and dials containing promethium-147 will not exceed, when measured through 50 milligrams per square centimeter of absorber:

(a) For wrist watches, one microgray (0.1 millirad) per hour at 10 centimeters from any surface;

(b) For pocket watches, one microgray (0.1 millirad) per hour at one centimeter from any surface;

(c) For any other timepiece, two micrograys (0.2 millirad) per hour at 10 centimeters from any surface.

(3) Thirty-seven kilobecquerels (one microcurie) of radium-226 per timepiece in intact timepieces manufactured prior to November 30, 2007.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-008, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-008, filed 11/22/13, effective 12/23/13. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-232-008, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. WSR 01-02-068, § 246-232-008, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-009 Exemption of certain items containing**

**radioactive material.** No person may introduce radioactive material into a product or material, knowing or having reason to believe that it will be transferred to persons exempt under this section or other sections or equivalent regulations of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555. A person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent the person receives, possesses, uses, transfers, owns or acquires, and does not apply radioactive material to, or incorporate radioactive material into, the following products:

(1) Static elimination devices which contain, as a sealed source or sources, by-product material consisting of a total of not more than 18.5 MBq (500 microcuries) of Po-210 per device.

(2)(a) Ion generating tubes designed for ionization of air that contain, as a sealed source or sources, by-product material consisting of a total of not more than 18.5 MBq (500 microcuries) of Po-210 per device or a total of not more than 1.85 GBq (50 millicuries) of hydrogen-3 (tritium) per device.

(b) Such devices authorized before October 23, 2012, for use under the general license then provided in this section and equivalent regulations of an agreement state or the NRC, and manufactured, tested, and labeled by the manufacturer in accordance with the specifications contained in a specific license issued by the department, an agreement state, or the NRC.

(3) Balances of precision containing not more than 37 megabecquerels (one millicurie) of tritium per balance or 18.5 megabecquerels (0.5 millicurie) of tritium per balance part manufactured before December 17, 2007.

(4) Marine compasses containing not more than 27.8 gigabecquerels (750 millicuries) of tritium gas and other marine navigational instruments containing not more than 9.25 gigabecquerels (250 millicuries) of tritium gas manufactured before December 17, 2007.

(5) Ionization chamber smoke detectors containing not more than 37 kilobecquerels (one microcurie) of americium-241 per detector in the form of a foil and designed to protect life and property from fires.

(6) For purposes of this subsection, "electron tubes" include spark gap tubes, power tubes, gas tubes including glow lamps, receiving tubes, microwave tubes, indicator tubes, pick-up tubes, radiation detection tubes, and any other completely sealed tube that is designed to conduct or control electrical currents. Electron tubes provided that each tube contains no more than one of the following specified quantities of radioactive material and the levels of radiation from each electron tube do not exceed 10 micrograys (one millirad) per hour at one centimeter from any surface when measured through seven milligrams per square centimeter of absorber:

(a) 5.55 gigabecquerels (150 millicuries) of tritium per microwave receiver protector tube or 370 megabecquerels (10 millicuries) of tritium per any other electron tube;

(b) Thirty-seven kilobecquerels (one microcurie) of cobalt-60;

(c) One hundred eighty-five kilobecquerels (five microcuries) of nickel-63;

(d) 1.11 megabecquerels (30 microcuries) of krypton-85;

(e) One hundred eighty-five kilobecquerels (five microcuries) of cesium-137;

(f) 1.11 megabecquerels (30 microcuries) of promethium-147.

(7) Ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, one or more sources of radioactive material, provided that:

(a) Each source contains not more than one exempt quantity set forth in WAC 246-232-120, Schedule B, exempt quantities of radioactive materials; and

(b) Each instrument contains no more than 10 exempt quantities. For purposes of this subsection, an instrument's source(s) may contain either one type or different types of radionuclides and an individual exempt quantity may be composed of fractional parts of one or more of the exempt quantities in WAC 246-232-120, Schedule B, exempt quantities of radioactive materials, provided that the sum of such fractions must not exceed unity.

(c) For purposes of this subsection, 1.85 kilobecquerels (0.05 microcurie) of americium-241 is considered an exempt quantity.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-009, filed 9/20/22, effective 10/21/22. Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 17-01-034, § 246-232-009, filed 12/12/16, effective 1/12/17. Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-009, filed 11/22/13, effective 12/23/13. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-232-009, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. WSR 01-02-068, § 246-232-009, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-010 Exempt concentrations and exempt quantities.** This section shall not be deemed to authorize the import of radioactive material or products containing radioactive material.

(1) Exempt concentrations.

(a) Except as provided in (b) of this subsection, a person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses, transfers, owns or acquires, and does not apply radioactive material to, or incorporate radioactive material into, products or materials



containing radioactive material in concentrations in excess of those in WAC 246-232-130, Schedule C, exempt concentrations.

(b) No person may introduce radioactive material into a product or material knowing, or having reason to believe, that it will be transferred to persons exempt under this section or equivalent regulations of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555.

(c) A manufacturer, processor, or producer of a product or material is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that this person transfers radioactive material contained in a product or material in concentrations not in excess of those specified in WAC 246-232-130, Schedule C, and introduced into the product or material by a licensee holding a specific license issued by the NRC expressly authorizing such manufacture or introduction. This exemption does not apply to the transfer of radioactive material contained in any food, beverage, cosmetic, drug, or other commodity or product designed for ingestion or inhalation by, or application to, a human being.

(2) Exempt quantities.

(a)(i) Except as provided in (b) through (d) of this subsection, any person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that such person receives, possesses, uses, transfers, owns, or acquires, and does not apply radioactive material to, or incorporate radioactive material into, radioactive material in individual quantities, each of which does not exceed the applicable quantity set forth in WAC 246-232-120, Schedule B, exempt quantities of radioactive materials.

(ii) Any person who possesses radioactive material received or acquired under the general license is exempt from the requirements for a license set forth in chapters 246-333, 246-235 WAC, and this chapter to the extent that such person uses, transfers, or owns such radioactive material. Such exemption does not apply for Radium-226.

(b) This subsection does not authorize the production, packaging, repackaging, or transfer of radioactive material for the purposes of commercial distribution, or the incorporation of

radioactive material into products intended for commercial distribution.

(c) No person may, for purposes of commercial distribution, transfer radioactive material in the individual quantities set forth in WAC 246-232-120, Schedule B, exempt quantities of radioactive materials, knowing or having reason to believe that such quantities of radioactive material will be transferred to persons exempt under this section or equivalent rules of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555.

(d) No person may, for purposes of producing an increased radiation level, combine quantities of radioactive material covered by this exemption so that the aggregate quantity exceeds the limits set forth in WAC 246-232-120, Schedule B, exempt quantities of radioactive materials, except for radioactive material combined within a device placed in use before May 3, 1999, or as otherwise permitted by these rules.

[Statutory Authority: RCW 70.98.050. WSR 15-06-015, § 246-232-010, filed 2/23/15, effective 3/26/15; WSR 13-24-025, § 246-232-010, filed 11/22/13, effective 12/23/13; WSR 01-02-068, § 246-232-010, filed 12/29/00, effective 1/29/01; WSR 98-13-037, §

246-232-010, filed 6/8/98, effective 7/9/98. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-010, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-010, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-190, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-19-190, filed 9/16/83. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-19-190, filed 12/8/80. Statutory Authority: RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-190, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-190.]

**WAC 246-232-011 Exemption of certain self-luminous products containing radioactive material(s).** (1) Hydrogen-3 (tritium), krypton-85, or promethium-147.

(a) A person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses, transfers, owns or acquires, and does not manufacture, process, produce, apply radioactive material to, incorporate radioactive material into, or initially transfer for sale or distribution, self-luminous products containing hydrogen-3 (tritium), krypton-85, or promethium-147 in self-luminous products manufactured,

processed, produced, imported or initially transferred in accordance with a specific license issued by the NRC. The exemption in this subsection does not apply to hydrogen-3, (tritium), krypton-85, or promethium-147 used in products primarily for frivolous purposes or in toys or adornments.

(b) Any person who desires to manufacture, process, produce, or initially transfer for sale or distribution self-luminous products containing tritium (H-3), krypton-85 (Kr-85), or promethium-147 (Pm-147) for use under (a) of this subsection should apply for a license under 10 C.F.R. 32.22 and for a certificate of registration in accordance with WAC 246-235-108.

(2) No person may introduce radioactive material into a product or material knowing, or having reason to believe, that it will be transferred to persons exempt under this section or other sections or equivalent regulations of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555.

[Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 17-01-034, § 246-232-011, filed 12/12/16, effective 1/12/17; WSR 16-13-054, § 246-232-011, filed 6/10/16, effective 7/11/16.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-

011, filed 11/22/13, effective 12/23/13. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-232-011, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. WSR 01-02-068, § 246-232-011, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-012 Exemption of certain gas and aerosol detectors containing radioactive material.** (1)(a) Except for persons who manufacture, process, produce, or initially transfer for sale or distribution gas and aerosol detectors containing radioactive material, any person is exempt from the requirements for a license and from this chapter and chapters 246-221, 246-222, 246-233, 246-235, 246-240, 246-243, and 246-244 WAC to the extent that the person receives, possesses, uses, transfers, owns or acquires radioactive material in gas and aerosol detectors designed to protect health, safety, or property, and manufactured, processed, produced, or initially transferred in accordance with a specific license issued under 10 C.F.R. 32.26 which authorizes the initial transfer of the product for use under this chapter. This exemption also covers gas and aerosol detectors manufactured or distributed before November 30, 2007,

in accordance with a specific license issued by a state under provisions comparable to 10 C.F.R. 32.26 authorizing distribution to persons exempt from regulatory requirements.

(b) Any person who desires to manufacture, process, or produce gas and aerosol detectors containing radioactive material, or to initially transfer such products for use under this subsection should apply for a license under 10 C.F.R. 32.26 and for a certificate of registration in accordance with WAC 246-235-108.

(2) No person may introduce radioactive material into a product or material knowing, or having reason to believe, that it will be transferred to persons exempt under this section or other sections or equivalent regulations of the NRC or an agreement state, except in accordance with a specific license issued by the NRC, Washington, D.C. 20555.

[Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 17-01-034, § 246-232-012, filed 12/12/16, effective 1/12/17; WSR 16-13-054, § 246-232-012, filed 6/10/16, effective 7/11/16. Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-012, filed 11/22/13, effective 12/23/13; WSR 01-02-068, § 246-232-012, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-014 Exemption of C-14 urea diagnostic capsules**

**for human use.** (1) Except as provided in subsections (2) and (3) of this section, a person is exempt from the requirements for a license and from this chapter and chapters 246-233 and 246-235 WAC if the person receives, possesses, uses, transfers, owns, or acquires, and does not apply radioactive material to, or incorporate radioactive material into, capsules containing 37 kilobecquerels (one microcurie) of carbon-14 urea (allowing for nominal variation that may occur during the manufacturing process) each, for "in-vivo" diagnostic use for humans.

(2) A person who desires to use the capsules for research involving human subjects must apply for and receive a specific license under chapters 246-240 and 246-235 WAC.

(3) A person who desires to manufacture, prepare, process, produce, package, repackage, or transfer for commercial distribution these capsules must do so in accordance with a specific license issued by the NRC, Washington, D.C. 20555.

(4) Nothing in this section relieves persons from complying with applicable United States Food and Drug Administration,



federal, and state requirements governing receipt,  
administration, and use of drugs.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-014, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 16-13-054, § 246-232-014, filed 6/10/16, effective 7/11/16. Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-014, filed 11/22/13, effective 12/23/13; WSR 06-05-019, § 246-232-014, filed 2/6/06, effective 3/9/06; WSR 01-02-068, § 246-232-014, filed 12/29/00, effective 1/29/01.]

**WAC 246-232-015 Certain industrial devices.** (1) Except for persons who manufacture, process, produce, or initially transfer for sale or distribution industrial devices containing radioactive material designed and manufactured for the purpose of detecting, measuring, gauging or controlling thickness, density, level, interface location, radiation, leakage, or qualitative or quantitative chemical composition, or for producing an ionized atmosphere, any person is exempt from the requirements for a license and from the regulations in chapters 246-222, 246-221, 246-232, 246-233, 246-235, 246-243, 246-240, and 246-244 WAC to the extent that such person receives,

possesses, uses, transfers, owns, or acquires radioactive material, in these certain detecting, measuring, gauging, or controlling devices and certain devices for producing an ionized atmosphere, and manufactured, processed, produced, or initially transferred in accordance with a specific license issued under 10 C.F.R. 32.30 which authorizes the initial transfer of the device for use under this section. This exemption does not cover sources not incorporated into a device, such as calibration and reference sources.

(2) Any person who desires to manufacture, process, produce, or initially transfer for sale or distribution industrial devices containing radioactive material for use under subsection (1) of this section, should apply for a license under 10 C.F.R. 32.30 and for a certificate of registration in accordance with WAC 246-235-108.

[Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 17-01-034, § 246-232-015, filed 12/12/16, effective 1/12/17; WSR 16-13-054, § 246-232-015, filed 6/10/16, effective 7/11/16.]

**WAC 246-232-020 Types of licenses.** Licenses for radioactive material are of two types: General and specific.

(1) A general license is provided by regulation and grants authority to a person for certain activities involving radioactive material, and is effective without filing an application with the department or issuance of licensing documents to a particular person. However, registration or the filing of a certificate with the department may also be required by the particular general license. The general licensee is subject to all other applicable rules and any limitations of the general license.

(2) The department issues a specific license to a named person, after review and approval of an application. The licensee is subject to all applicable rules, including chapter 246-235 WAC, Radioactive materials - Specific licenses, and any limitations specified in the specific license.

[Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-020, filed 11/22/13, effective 12/23/13; WSR 04-04-055, § 246-232-020, filed 1/30/04, effective 3/1/04. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-020, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-020, filed 12/27/90, effective 1/31/91. Statutory Authority:

RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-220, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-020.]

**WAC 246-232-030 Prelicensing inspection.** The department may verify information contained in applications and secure additional information deemed necessary to make a reasonable determination as to whether to issue a license and whether any special conditions should be attached thereto by visiting the facility or location where radioactive materials would be possessed or used, and by discussing details of the proposed possession or use of the radioactive materials with the applicant or representatives designated by the applicant. Such visits may be made by the department or its duly authorized representatives.

[Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-030, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-240, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-200.]

## **LICENSES**

**WAC 246-232-040 Reciprocal recognition of licenses.**

Before radioactive material can be used at any temporary job site, the jurisdictional status of the job site must be determined. Authorization for use of radioactive material at job sites under exclusive federal jurisdiction must be obtained from the appropriate regional office of the NRC, Washington, D.C.

20555. Before radioactive materials can be used as a temporary job site in another state, authorization must be obtained from that state if it is an agreement state, or from the NRC if it is a nonagreement state.

(1) A person authorized by a license issued by the NRC or an agreement state, may obtain authorization from the department to work in Washington state provided:

(a) The out-of-state license is issued by the NRC or agreement state with jurisdiction where the licensee maintains an office for directing the licensed work and for retaining radiation safety records;

(b) The out-of-state licensee must not possess or use radioactive materials or conduct authorized work in Washington state for more than 180 days in that 12-month period which

starts the date approval is granted, and the appropriate fee is received by the department, as required in chapter 246-254 WAC;

(c) The out-of-state licensing document authorizes the work conducted;

(d) The licensed work is not conducted in an area under exclusive federal jurisdiction;

(e) The appropriate fee is currently paid, as required in chapter 246-254 WAC. Licensees send fees to Washington State Department of Health, Revenue Accounting, P.O. Box 1099, Olympia, Washington 98504-1099;

(f) The out-of-state licensee notifies the department in writing at least three days before each entry into Washington state to conduct licensed work.

(i) The written notification must be sent to the Radioactive Materials Section, Department of Health, P.O. Box 47827, Olympia, Washington 98504-7827. Fax, email, or other notifications may be approved by the department.

(ii) The written notification must include use and storage location(s), start and end dates of licensed work, and type of

proposed possession and use in Washington state, and must include licensing documents authorizing the licensed work.

(iii) If an unexpected need or emergency means the three-day notice is impossible or would impose an undue hardship on the out-of-state licensee, the out-of-state licensee may telephone the department (360-236-3221), for permission to proceed immediately.

(iv) The department may waive the requirement for filing additional written notifications during the remainder of the 12 months following the receipt of the initial notification.

(g) The out-of-state licensee must:

(i) Comply with all terms and conditions of the licensing document issued by the licensing authority except such terms or conditions contrary to the requirements or rules of the department or this section;

(ii) Comply with all applicable rules, terms and conditions of the department; and

(iii) Promptly provide other information the department may request.

(h) The out-of-state licensee must request approval for changes in work locations, radioactive material, or work conducted if different from the most recent information provided to the department.

(i) The out-of-state licensee may not transfer or dispose of radioactive material except by transfer to a person specifically licensed by the department or by the NRC or an agreement state to receive such material.

(j) The out-of-state specific licensee may possess or use radioactive material or conduct authorized work in offshore waters for more than 180 days in any calendar year, if the specific license issued by an agreement state or the NRC authorizes the specific licensee to possess or use radioactive material or conduct authorized work in offshore waters for an unlimited period of time.

(2) A person who holds a specific license issued by the NRC or an agreement state authorizing the holder to manufacture, install, or service a device described in WAC 246-233-020 within the areas subject to the jurisdiction of the licensing body is hereby granted a general license to install and service such



device in this state in areas not under exclusive federal jurisdiction provided:

(a) Such person must file a report with the department within 30 days after the end of each calendar quarter in which any device is transferred to or from, or installed in this state. Each report must identify each general licensee to or from whom such device is transferred by name and address, the device manufacturer (or initial transferor), model number and serial number, and the quantity and type of radioactive material contained in the device;

(b) The device has been, and is, manufactured, labeled, installed, and serviced in accordance with applicable provisions of the specific license issued to a person by the NRC or an agreement state;

(c) Such person must ensure that any labels required to be affixed to the device under rules of the authority which licensed the manufacture of the device bear a statement that removal of the label is prohibited; and

(d) The specific licensee must provide each general licensee to and from whom such device is transferred, or on

whose premises such device is installed, a copy of the general license in WAC 246-233-020.

(3) The department may withdraw, limit, or qualify its acceptance of any specific license or equivalent licensing document issued by another agency, or any product distributed pursuant to such licensing document, upon determining that such action is necessary to prevent undue hazard to public health and safety, or to the environment, or to property.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-040, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-040, filed 11/22/13, effective 12/23/13; WSR 04-04-055, § 246-232-040, filed 1/30/04, effective 3/1/04; WSR 01-02-068, § 246-232-040, filed 12/29/00, effective 1/29/01; WSR 99-15-105, § 246-232-040, filed 7/21/99, effective 8/21/99; WSR 98-13-037, § 246-232-040, filed 6/8/98, effective 7/9/98. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-040, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-040, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-250, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-19-250, filed 9/16/83. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-19-250, filed 12/8/80. Statutory Authority:

RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-250, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-210.]

**WAC 246-232-050 Terms and conditions of licenses. (1)**

Each license issued pursuant to the rules in chapters 246-220 through 246-254 WAC is subject to all the provisions of chapter 70A.388 RCW, and to all applicable rules and orders of the department.

(2)(a) No license issued or granted under chapters 246-220 through 246-254 WAC nor any right under a license may be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person, unless the department finds, after securing full information, that the transfer is in accordance with the provisions of chapter 70A.388 RCW, and gives its consent in writing.

(b) An application for transfer of license must include:

(i) The identity, technical and financial qualifications of the proposed transferee; and

(ii) Financial assurance for decommissioning information required by WAC 246-235-075.

(3) Each person licensed by the department pursuant to chapters 246-220 through 246-254 WAC shall confine use and possession of the radioactive material to the locations and purposes authorized by the license. Except as otherwise provided in the license, a license issued pursuant to the rules in chapters 246-220 through 246-254 WAC carries with it the right to receive, acquire, own, and possess radioactive material. Preparation for shipment and transport of radioactive material must be in accordance with the provisions of chapter 246-231 WAC.

(4) Approval of licensee's procedures by the department does not release the licensee from responsibility if adherence to these procedures results in undue exposure to individuals or loss of control of radioactive material.

(5) The department may incorporate, in any license issued pursuant to the rules in chapters 246-220 through 246-254 WAC, at the time of issuance, or thereafter by appropriate rule or order, such additional requirements and conditions with respect

to the licensee's receipt, possession, use, and transfer of radioactive material as it deems appropriate or necessary in order to:

(a) Protect health or to minimize danger to life or property;

(b) Require such reports and the keeping of such records, and to provide for such inspections of activities under the license as may be necessary or appropriate to effectuate the purposes of chapters 70A.388 RCW and 246-220 through 246-254 WAC.

(6) Licensees required to submit emergency plans by WAC 246-235-077 must follow the emergency plan approved by the department. The licensee may change the approved emergency plan without department approval only if the changes do not decrease the effectiveness of the plan. The licensee must furnish the change to the department and to affected offsite response organizations within six months after the change is made. Proposed changes that decrease, or potentially decrease, the effectiveness of the approved emergency plan may not be

implemented without prior application to and prior approval by the department.

(7) Each licensee preparing technetium-99m radiopharmaceuticals from molybdenum-99/technetium-99m generators or rubidium-82 from strontium-82/rubidium-82 generators must test the generator eluates for molybdenum-99 breakthrough or strontium-82 and strontium-85 contamination, respectively, in accordance with WAC 246-240-160. The licensee must record the results of each test and retain each record for three years after the record is made. The licensee must report the results of any test that exceeds the permissible concentration listed in WAC 246-240-160(1) at the time of generator elution, in accordance with WAC 246-240-660.

(8) Each specific licensee must notify the department of health, office of radiation protection, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code by or against:

(a) The licensee;

(b) An entity (as the term is defined in 11 U.S.C. 101(15)) controlling the licensee or listing the license or licensee as property of the estate; or

(c) An affiliate (as the term is defined in 11 U.S.C. 101(2)) of the licensee.

(9) The specific licensee's bankruptcy notification must include:

(a) The bankruptcy court in which the petition for bankruptcy was filed;

(b) The date of the filing of the petition;

(c) A complete and detailed inventory of all radioactive material possessed under the license including nuclide, form, activity and planned disposition;

(d) An estimation of the type and quantities of radioactive material the licensee plans to continue to receive or use on a routine basis;

(e) A description of security and storage for the radioactive material currently possessed;

(f) A plan for radioactive waste disposal, the estimated completion date(s), and the cost;

(g) An evaluation of facility and equipment contamination, estimate of clean-up costs, and a decontamination plan which includes a thorough description of how the cleanup will be funded and how it will be accomplished;

(h) An organizational chart specifying sole owners, partnerships, or officers in the corporation who have legal and fiscal responsibilities for the licensee;

(i) A description of any other changes affecting the terms and conditions of the radioactive materials license.

(10) Each specific licensee must notify the department within five working days if any items in subsection (9) of this section change during bankruptcy proceedings.

(11) The department will consider clean-up costs as part of the licensee's administrative costs if decontamination is necessary to comply with chapters 246-220 through 246-254 WAC.

(12) Each general licensee required to register by WAC 246-233-020 (3)(k) must notify the department of health, radiation protection, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any



chapter of Title 11 (Bankruptcy) of the United States Code by or against:

(a) The licensee;

(b) An entity (as that term is defined in 11 U.S.C. 101(15)) controlling the licensee or listing the license or licensee as property of the estate; or

(c) An affiliate (as that term is defined in 11 U.S.C. 101(2)) of the licensee.

(13) The general licensee's bankruptcy notification must include:

(a) The bankruptcy court in which the petition for bankruptcy was filed; and

(b) The date of the filing of the petition.

(14) Security requirements for portable gauges. Each portable gauge licensee must use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.

(15) (a) Authorization under WAC 246-235-010 to produce positron emission tomography radioactive drugs for noncommercial

transfer to medical use licensees in its consortium does not relieve the licensee from complying with applicable United States Food and Drug Administration, other federal, and state requirements governing radioactive drugs.

(b) Each licensee authorized under WAC 246-235-010 to produce positron emission tomography radioactive drugs for noncommercial transfer to medical use licensees in its consortium shall:

(i) Satisfy the labeling requirements in WAC 246-235-100 for each positron emission tomography radioactive drug transport radiation shield and each syringe, vial, or other container used to hold a positron emission tomography radioactive drug intended for noncommercial distribution to members of its consortium.

(ii) Possess and use instrumentation to measure the radioactivity of the positron emission tomography radioactive drugs intended for noncommercial distribution to members of its consortium and meet the procedural, radioactivity measurement, instrument test, instrument check, and instrument adjustment requirements in WAC 246-235-100.

(c) A licensee that is a pharmacy authorized under WAC 246-235-010 to produce positron emission tomography radioactive drugs for noncommercial transfer to medical use licensees in its consortium must require that any individual that prepares positron emission tomography radioactive drugs must be:

(i) An authorized nuclear pharmacist that meets the requirements in WAC 246-235-100; or

(ii) An individual under the supervision of an authorized nuclear pharmacist as specified in WAC 246-240-057.

(d) A pharmacy, authorized under WAC 246-235-010 to produce positron emission tomography radioactive drugs for noncommercial transfer to medical use licensees in its consortium that allows an individual to work as an authorized nuclear pharmacist, must meet the requirements of WAC 246-235-100.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-050, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-050, filed 11/22/13, effective 12/23/13; WSR 04-04-055, § 246-232-050, filed 1/30/04, effective 3/1/04. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 92-06-008 (Order 245), § 246-232-050, filed 2/21/92, effective 3/23/92. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-

232-050, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-300, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-19-300, filed 9/16/83. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-19-300, filed 12/8/80. Statutory Authority: RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-300, filed 11/30/79, effective 1/1/80.]

**WAC 246-232-060 Termination of licenses and decommissioning of sites and separate buildings or outdoor areas.** (1) Each specific licensee shall immediately notify the department in writing when the licensee decides to permanently discontinue all activities involving materials authorized under the license and request termination of the license. This notification and request for termination of the license must include the reports and information specified in subsection (3)(c) and (d) of this section. The licensee is subject to the provisions of subsections (3) and (4) of this section, as applicable.

(2) No less than 30 days before the expiration date specified in a specific license, the licensee shall either:

(a) Submit an application for license renewal under WAC 246-235-050; or

(b) Notify the department in writing if the licensee decides not to renew the license.

(3) If a specific licensee does not submit an application for license renewal under WAC 246-235-050, the licensee shall on or before the expiration date specified in the license:

(a) Terminate use of radioactive material;

(b) Properly dispose of radioactive material;

(c) Submit a completed departmental form "Certificate of disposition of radioactive material" or equivalent; and

(d) Submit a radiation survey report to confirm the absence of radioactive materials or establish the levels of radioactive contamination, unless the department determines a radiation survey report is not necessary.

(i) If no radioactive contamination attributable to activities conducted under the license is detected, the licensee shall submit a certification that no detectable radioactive contamination was found. If the information submitted under this paragraph and subsection (3)(c) and (d) of this section is

adequate, the department will notify the licensee in writing that the license is terminated.

(ii) If detectable levels of radioactive contamination attributable to activities conducted under the license are found, the license continues in effect beyond the expiration date, if necessary, with respect to possession of residual radioactive material present as contamination until the licensee meets the criteria established in chapter 246-246 WAC and the department notifies the licensee in writing that the license is terminated. During this time, the licensee is subject to the provisions of subsection (4) of this section. In addition to the information submitted under subsection (3)(c) and (d) of this section, the licensee shall submit a plan for decontamination, if necessary.

(4) Each specific licensee who possesses residual radioactive material under subsection (3)(d)(ii) of this section, following the expiration of the license, shall:

(a) Be limited to actions, involving radioactive material related to decontamination and preparation for release in accordance with chapter 246-246 WAC; and

(b) Continue to control entry to restricted areas until:

(i) Such areas are suitable for release in accordance with chapter 246-246 WAC;

(ii) Contaminated equipment complies with guidance contained in WAC 246-232-140, Schedule D; and

(iii) The department notifies the licensee in writing that the license is terminated.

(5) Each general licensee licensed under the provisions of WAC 246-233-040, shall immediately notify the department in writing when the licensee decides to discontinue all activities involving radioactive materials authorized under the general license. Such notification shall include a description of how the generally licensed material was disposed and the results of facility surveys, if applicable, to confirm the absence of radioactive materials.

(6) Within 60 days of the occurrence of any of the following, each specific licensee shall provide notification to the department in writing of such occurrence, and either begin decommissioning its site, or any separate building or outdoor area that contains residual radioactivity so that the site,

building, or outdoor area is suitable for release in accordance with chapter 246-246 WAC, or submit within 12 months of notification a decommissioning plan, if required by subsection (10) (a) of this section, and begin decommissioning upon approval of that plan if:

(a) The license has expired or has been revoked by the department; or

(b) The licensee has decided to permanently cease principal activities, as defined in this section, at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the site, building, or outdoor area is unsuitable for release in accordance with chapter 246-246 WAC; or

(c) No principal activities under the license have been conducted for a period of 24 months; or

(d) No principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with chapter 246-246 WAC.



(7) As used in this section, principal activities means activities authorized by the license which are essential to achieving the purpose(s) for which the license was issued or amended. Storage during which no licensed material is accessed for use or disposal and activities incidental to decontamination or decommissioning are not principal activities.

(8) Coincident with the notification required by subsection (6) of this section, the licensee shall maintain in effect all decommissioning financial assurances established by the licensee pursuant to WAC 246-235-075 or as required by this section. The amount of the financial assurance must be increased, or may be decreased, as appropriate, to cover the detailed cost estimate for decommissioning established pursuant to subsection (10) (d) (v) of this section. Following approval of the decommissioning plan, a licensee may reduce the amount of the financial assurance as decommissioning proceeds and radiological contamination is reduced at the site with the approval of the department.

(9) The department may grant a request to extend the time periods established in subsection (6) of this section if the

department determines that this relief is not detrimental to the public health and safety and is otherwise in the public interest. The request must be submitted no later than 30 days before notification pursuant to subsection (6) of this section. The schedule for decommissioning set forth in subsection (6) of this section may not commence until the department has made a determination on the request.

(10) (a) A decommissioning plan must be submitted if required by license condition or if the procedures and activities necessary to carry out decommissioning of the site or separate building or outdoor area have not been previously approved by the department and these procedures could increase potential health and safety impacts to workers or to the public, such as in any of the following cases:

(i) Procedures would involve techniques not applied routinely during cleanup or maintenance operations;

(ii) Workers would be entering areas not normally occupied where surface contamination and radiation levels are significantly higher than routinely encountered during operation;

(iii) Procedures could result in significantly greater airborne concentrations of radioactive materials than are present during operation; or

(iv) Procedures could result in significantly greater releases of radioactive material to the environment than those associated with operation.

(b) The department may approve an alternate schedule for submittal of a decommissioning plan required pursuant to subsection (6) of this section if the department determines that the alternative schedule is necessary to the effective conduct of decommissioning operations and presents no undue risk from radiation to the public health and safety and is otherwise in the public interest.

(c) Procedures such as those listed in (a) of this subsection with potential health and safety impacts may not be carried out prior to approval of the decommissioning plan.

(d) The proposed decommissioning plan for the site or separate building or outdoor area must include:

(i) A description of the conditions of the site or separate building or outdoor area sufficient to evaluate the acceptability of the plan;

(ii) A description of planned decommissioning activities;

(iii) A description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning;

(iv) A description of the planned final radiation survey;

(v) An updated detailed cost estimate for decommissioning, comparison of that estimate with present funds set aside for decommissioning, and a plan for assuring the availability of adequate funds for completion of decommissioning;

(vi) A description of the physical security plan and material control and accounting plan provisions in place during decommissioning;

(vii) For decommissioning plans calling for completion of decommissioning later than 24 months after plan approval, the plan shall include a justification for the delay based on the criteria in subsection (12) of this section.

(e) The proposed decommissioning plan will be approved by the department if the information therein demonstrates that the decommissioning will be completed as soon as practicable and that the health and safety of workers and the public will be adequately protected.

(11) (a) Except as provided in subsection (12) of this section, licensees shall complete decommissioning of the site or separate building or outdoor area as soon as practicable but no later than 24 months following the initiation of decommissioning.

(b) Except as provided in subsection (12) of this section, when decommissioning involves the entire site, the licensee shall request license termination as soon as practicable but no later than 24 months following the initiation of decommissioning.

(12) The department may approve a request for an alternative schedule for completion of decommissioning of the site or separate building or outdoor area, and license termination if appropriate, if the department determines that the alternative is warranted by consideration of the following:

(a) Whether it is technically feasible to complete decommissioning within the allotted 24-month period;

(b) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted 24-month period;

(c) Whether a significant volume reduction in wastes requiring disposal will be achieved by allowing short-lived radionuclides to decay;

(d) Whether a significant reduction in radiation exposure to workers can be achieved by allowing short-lived radionuclides to decay; and

(e) Other site-specific factors which the department may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural groundwater restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

(13) As the final step in decommissioning, the licensee shall:

(a) Certify the disposition of all licensed material, including accumulated wastes, by submitting a completed certificate of disposition of radioactive material or equivalent information; and

(b) Conduct a radiation survey of the premises where the licensed activities were carried out and submit a report of the results of this survey, unless the licensee demonstrates in some other manner that the premises are suitable for release in accordance with the criteria for decommissioning in chapter 246-246 WAC. The licensee shall, as appropriate:

(i) Report levels of gamma radiation in units of millisieverts (microroentgen) per hour at one meter from surfaces, and report levels of radioactivity, including alpha and beta, in units of megabecquerels (disintegrations per minute or microcuries) per 100 square centimeters—removable and fixed—for surfaces, megabecquerels (microcuries) per milliliter for water, and becquerels (picocuries) per gram for solids such as soils or concrete; and

(ii) Specify the survey instrument(s) used and certify that each instrument is properly calibrated and tested.

(14) Specific licenses, including expired licenses, will be terminated by written notice to the licensee when the department determines that:

(a) Radioactive material has been properly disposed;

(b) Reasonable effort has been made to eliminate residual radioactive contamination, if present; and

(c) (i) A radiation survey has been performed which demonstrates that the premises are suitable for release in accordance with the criteria for decommissioning in chapter 246-246 WAC; or

(ii) Other information submitted by the licensee is sufficient to demonstrate that the premises are suitable for release in accordance with the criteria for decommissioning in chapter 246-246 WAC; and

(d) Records required by subsections (16) and (18) of this section have been received.

(15) Specific licenses for uranium and thorium milling are exempt from subsections (6)(d), (9) and (10) of this section with respect to reclamation of tailings impoundments or waste disposal areas.



(16) Prior to license termination, each licensee authorized to possess radioactive material with a half-life greater than 120 days, in an unsealed form, shall forward the following records to the department:

(a) Records of disposal required by WAC 246-221-230 (8) (a);  
and

(b) Records of results required by WAC 246-221-230 (7) (h) .

(17) If licensed activities are transferred or assigned in accordance with WAC 246-232-050(2), each licensee authorized to possess radioactive material, with a half-life greater than 120 days, in an unsealed form, shall transfer the following records to the new licensee and the new licensee will be responsible for maintaining these records until the license is terminated:

(a) Records of disposal required by WAC 246-221-230 (8) (a);  
and

(b) Records of results required by WAC 246-221-230 (7) (h) .

(18) Prior to license termination, each licensee shall forward the records required by WAC 246-235-075(6) to the department.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-060, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-060, filed 11/22/13, effective 12/23/13; WSR 04-04-055, § 246-232-060, filed 1/30/04, effective 3/1/04; WSR 00-07-085, § 246-232-060, filed 3/15/00, effective 4/15/00; WSR 99-15-105, § 246-232-060, filed 7/21/99, effective 8/21/99. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 97-08-095, § 246-232-060, filed 4/2/97, effective 5/3/97; WSR 91-15-112 (Order 184), § 246-232-060, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-060, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 83-19-050 (Order 2026), § 402-19-330, filed 9/16/83.]

**WAC 246-232-070 Modification and revocation of licenses.**

(1) The terms and conditions of all licenses shall be subject to amendment, revision, or modification, or the license may be suspended or revoked by reason of amendments to the act, or by reason of rules, regulations, and orders issued by the department.

(2) Any license may be revoked, suspended, or modified, in whole or in part, for any material false statement in the

application or any statement of fact required under provisions of the act, or because of conditions revealed by such application or statement of fact or any report, record, or inspection or other means which would warrant the department to refuse to grant a license on an original application, or for violation of, or failure to observe any of the terms and conditions of the act, or of the license, or of any rule, regulation, or order of the department.

(3) Except in cases of willful disregard for the regulations or applicable license conditions or those in which the public health, interest, or safety requires otherwise, no license shall be modified, suspended, or revoked unless, prior to the institution of proceedings therefore, facts or conduct which may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been accorded an opportunity to demonstrate or achieve compliance with all lawful requirements.

[Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-070, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-350, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-

19-350, filed 9/16/83; WSR 79-12-073 (Order 1459), § 402-19-350, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-180.]

**WAC 246-232-080 Transfer of material.** (1) No licensee shall transfer radioactive material except as authorized pursuant to this section.

(2) Except as otherwise provided in the license and subject to the provisions of this section, a licensee may transfer radioactive material:

(a) To the department. A licensee may transfer material to the department only after receiving prior approval from the department;

(b) To the United States Department of Energy;

(c) To a person exempt from the rules in this part to the extent permitted under such exemption;

(d) To a person authorized to receive such material under terms of a general license or its equivalent, or a specific license or equivalent licensing document, issued by the department, the NRC or an agreement state, or to a person otherwise authorized to receive such material by the federal

government or an agency thereof, the department, or an agreement state; or

(e) As otherwise authorized by the department in writing.

(3) Before transferring radioactive material to a specific licensee of the department, the NRC or an agreement state, or to a general licensee who is required to register with the department, the NRC or an agreement state prior to receipt of the radioactive material, the licensee transferring the material must verify that the transferee's license authorizes the receipt of the type, form, and quantity of radioactive material to be transferred.

(4) The following methods for the verification required by subsection (3) of this section are acceptable:

(a) The transferor may obtain for possession, and read, a current copy of the transferee's specific license or registration certificate;

(b) The transferor may obtain for possession a written certification from the transferee that the transferee is authorized by license or registration certificate to receive the type, form, and quantity of radioactive material to be

transferred, specifying the license or registration certificate number, issuing agency, and expiration date;

(c) For emergency shipments the transferor may accept oral certification by the transferee that the transferee is authorized by license or registration certificate to receive the type, form, and quantity of radioactive material to be transferred, specifying the license or registration certificate number, issuing agency, and expiration date: Provided, That the oral certification is confirmed in writing within 10 days;

(d) The transferor may obtain other sources of information compiled by a reporting service from official records of the department, the NRC or the licensing agency of an agreement state as to the identity of licensees and the scope and expiration dates of licenses and registration; or

(e) When none of the methods of verification described in subsection (4) of this section are readily available or when a transferor desires to verify that information received by one of such methods is correct or up-to-date, the transferor may obtain and record confirmation from the department, the NRC or the

licensing agency of an agreement state that the transferee is licensed to receive the radioactive material.

(5) Preparation for shipment and transport of radioactive material must be in accordance with the provisions of WAC 246-232-090.

(6) The requirements of subsection (4) of this section notwithstanding, no verification is required when returning used, unused or decayed sources of radiation to the original manufacturer, (e.g., industrial radiography sources, high dose-rate afterloader sources, teletherapy sources, portable moisture/density gauge sources, fixed gauge sources, and Mo-99/Tc-99m or Rb-82/Sr-82 generators).

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-080, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-080, filed 11/22/13, effective 12/23/13. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-080, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-080, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-400, filed 12/11/86. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-19-400, filed 12/8/80. Statutory Authority:

RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-400, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-170.]

**WAC 246-232-090 Transportation.** No person shall deliver radioactive material to a carrier for transport or transport radioactive material except as authorized in a general or specific license issued by the department or as exempted in chapter 246-231 WAC. General licenses for transportation of radioactive material and other transportation requirements are found in chapter 246-231 WAC.

[Statutory Authority: RCW 70.98.050. WSR 99-15-105, § 246-232-090, filed 7/21/99, effective 8/21/99. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-090, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-090, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 83-19-050 (Order 2026), § 402-19-500, filed 9/16/83. Statutory Authority: RCW 70.98.050. WSR 81-01-011 (Order 1570), § 402-19-500, filed 12/8/80. Statutory Authority: RCW 70.98.080. WSR 79-12-073 (Order 1459), § 402-19-500, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-220.]



**WAC 246-232-120 Schedule B, exempt quantities of**

**radioactive materials.** (See also WAC 246-232-010(2).)

Radioactive Material	Microcuries
Antimony-122 (Sb-122)	100
Antimony-124 (Sb-124)	10
Antimony-125 (Sb-125)	10
Arsenic-73 (As-73)	100
Arsenic-74 (As-74)	10
Arsenic-76 (As-76)	10
Arsenic-77 (As-77)	100
Barium-131 (Ba-131)	10
Barium-133 (Ba-133)	10
Barium-140 (Ba-140)	10
Bismuth-210 (Bi-210)	1
Bromine-82 (Br-82)	10
Cadmium-109 (Cd-109)	10
Cadmium-115m (Cd-115m)	10
Cadmium-115 (Cd-115)	100
Calcium-45 (Ca-45)	10
Calcium-47 (Ca-47)	10
Carbon-14 (C-14)	100
Cerium-141 (Ce-141)	100
Cerium-143 (Ce-143)	100
Cerium-144 (Ce-144)	1
Cesium-129 (Cs-129)	100
Cesium-131 (Cs-131)	1,000
Cesium-134m (Cs-134m)	100
Cesium-134 (Cs-134)	1
Cesium-135 (Cs-135)	10
Cesium-136 (Cs-136)	10
Cesium-137 (Cs-137)	10
Chlorine-36 (Cl-36)	10
Chlorine-38 (Cl-38)	10
Chromium-51 (Cr-51)	1,000
Cobalt-57 (Co-57)	100
Cobalt-58m (Co-58m)	10
Cobalt-58 (Co-58)	10
Cobalt-60 (Co-60)	1
Copper-64 (Cu-64)	100

Radioactive Material	Microcuries
Dysprosium-165 (Dy-165)	10
Dysprosium-166 (Dy-166)	100
Erbium-169 (Er-169)	100
Erbium-171 (Er-171)	100
Europium-152 (Eu-152) 9.2h	100
Europium-152 (Eu-152) 13 yr	1
Europium-154 (Eu-154)	1
Europium-155 (Eu-155)	10
Fluorine-18 (F-18)	1,000
Gadolinium-153 (Gd-153)	10
Gadolinium-159 (Gd-159)	100
Gallium-67 (Ga-67)	100
Gallium-72 (Ga-72)	10
Germanium-68 (Ge-68)	10
Germanium-71 (Ge-71)	100
Gold-195 (Au-195)	10
Gold-198 (Au-198)	100
Gold-199 (Au-199)	100
Hafnium-181 (Hf-181)	10
Holmium-166 (Ho-166)	100
Hydrogen-3 (H-3)	1,000
Indium-111 (In-111)	100
Indium-113m (In-113m)	100
Indium-114m (In-114m)	10
Indium-115m (In-115m)	100
Indium-115 (In-115)	10
Iodine-123 (I-123)	100
Iodine-125 (I-125)	1
Iodine-126 (I-126)	1
Iodine-129 (I-129)	0.1
Iodine-131 (I-131)	1
Iodine-132 (I-132)	10
Iodine-133 (I-133)	1
Iodine-134 (I-134)	10
Iodine-135 (I-135)	10
Iridium-192 (Ir-192)	10
Iridium-194 (Ir-194)	100
Iron-52 (Fe-52)	10
Iron-55 (Fe-55)	100
Iron-59 (Fe-59)	10

Radioactive Material	Microcuries
Krypton-85 (Kr-85)	100
Krypton-87 (Kr-87)	10
Lanthanum-140 (La-140)	10
Lutetium-177 (Lu-177)	100
Manganese-52 (Mn-52)	10
Manganese-54 (Mn-54)	10
Manganese-56 (Mn-56)	10
Mercury-197m (Hg-197m)	100
Mercury-197 (Hg-197)	100
Mercury-203 (Hg-203)	10
Molybdenum-99 (Mo-99)	100
Neodymium-147 (Nd-147)	100
Neodymium-149 (Nd-149)	100
Nickel-59 (Ni-59)	100
Nickel-63 (Ni-63)	10
Nickel-65 (Ni-65)	100
Niobium-93m (Nb-93m)	10
Niobium-95 (Nb-95)	10
Niobium-97 (Nb-97)	10
Osmium-185 (Os-185)	10
Osmium-191m (Os-191m)	100
Osmium-191 (Os-191)	100
Osmium-193 (Os-193)	100
Palladium-103 (Pd-103)	100
Palladium-109 (Pd-109)	100
Phosphorus-32 (P-32)	10
Platinum-191 (Pt-191)	100
Platinum-193m (Pt-193m)	100
Platinum-193 (Pt-193)	100
Platinum-197m (Pt-197m)	100
Platinum-197 (Pt-197)	100
Polonium-210 (Po-210)	0.1
Potassium-42 (K-42)	10
Potassium-43 (K-43)	10
Praseodymium-142 (Pr-142)	100
Praseodymium-143 (Pr-143)	100
Promethium-147 (Pm-147)	10
Promethium-149 (Pm-149)	10
Radium-226 (Ra-226)	0.1
Rhenium-186 (Re-186)	100

Radioactive Material	Microcuries
Rhenium-188 (Re-188)	100
Rhodium-103m (Rh-103m)	100
Rhodium-105 (Rh-105)	100
Rubidium-81 (Rb-81)	10
Rubidium-86 (Rb-86)	10
Rubidium-87 (Rb-87)	10
Ruthenium-97 (Ru-97)	100
Ruthenium-103 (Ru-103)	10
Ruthenium-105 (Ru-105)	10
Ruthenium-106 (Ru-106)	1
Samarium-151 (Sm-151)	10
Samarium-153 (Sm-153)	100
Scandium-46 (Sc-46)	10
Scandium-47 (Sc-47)	100
Scandium-48 (Sc-48)	10
Selenium-75 (Se-75)	10
Silicon-31 (Si-31)	100
Silver-105 (Ag-105)	10
Silver-110m (Ag-110m)	1
Silver-111 (Ag-111)	100
Sodium-22 (Na-22)	10
Sodium-24 (Na-24)	10
Strontium-85 (Sr-85)	10
Strontium-89 (Sr-89)	1
Strontium-90 (Sr-90)	0.1
Strontium-91 (Sr-91)	10
Strontium-92 (Sr-92)	10
Sulphur-35 (S-35)	100
Tantalum-182 (Ta-182)	10
Technetium-96 (Tc-96)	10
Technetium-97m (Tc-97m)	100
Technetium-97 (Tc-97)	100
Technetium-99m (Tc-99m)	100
Technetium-99 (Tc-99)	10
Tellurium-125m (Te-125m)	10
Tellurium-127m (Te-127m)	10
Tellurium-127 (Te-127)	100
Tellurium-129m (Te-129m)	10
Tellurium-129 (Te-129)	100
Tellurium-131m (Te-131m)	10

Radioactive Material	Microcuries
Tellurium-132 (Te-132)	10
Terbium-160 (Tb-160)	10
Thallium-200 (Tl-200)	100
Thallium-201 (Tl-201)	100
Thallium-202 (Tl-202)	100
Thallium-204 (Tl-204)	10
Thulium-170 (Tm-170)	10
Thulium-171 (Tm-171)	10
Tin-113 (Sn-113)	10
Tin-125 (Sn-125)	10
Tungsten-181 (W-181)	10
Tungsten-185 (W-185)	10
Tungsten-187 (W-187)	100
Vanadium-48 (V-48)	10
Xenon-131m (Xe-131m)	1,000
Xenon-133 (Xe-133)	100
Xenon-135 (Xe-135)	100
Ytterbium-169 (Yb-169)	10
Ytterbium-175 (Yb-175)	100
Yttrium-87 (Y-87)	10
Yttrium-88 (Y-88)	10
Yttrium-90 (Y-90)	10
Yttrium-91 (Y-91)	10
Yttrium-92 (Y-92)	100
Yttrium-93 (Y-93)	100
Zinc-65 (Zn-65)	10
Zinc-69m (Zn-69m)	100
Zinc-69 (Zn-69)	1,000
Zirconium-93 (Zr-93)	10
Zirconium-95 (Zr-95)	10
Zirconium-97 (Zr-97)	10
Any radioactive material not listed above other than alpha emitting radioactive material	0.1

[Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 16-13-054, § 246-232-120, filed 6/10/16, effective 7/11/16. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-232-120, filed 2/18/09, effective 3/21/09. Statutory Authority:

RCW 70.98.050. WSR 01-02-068, § 246-232-120, filed 12/29/00, effective 1/29/01. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-120, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-120, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 83-19-050 (Order 2026), § 402-19-550, filed 9/16/83; WSR 79-12-073 (Order 1459), § 402-19-550, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-240.]

## SCHEDULES

### WAC 246-232-130 Schedule C, exempt concentrations. (See

WAC 246-232-010(1).)

Element (atomic number)	Radionuclide	Column I Gas concentration $\mu\text{Ci/ml}^1$	Column II Liquid and solid concentration $\mu\text{Ci/ml}^2$
Antimony (51)	Sb-122		$3 \times 10^{-4}$
	Sb-124		$2 \times 10^{-4}$
	Sb-125		$1 \times 10^{-3}$
Argon (18)	Ar-37	$1 \times 10^{-3}$	
	Ar-41	$4 \times 10^{-7}$	
Arsenic (33)	As-73		$5 \times 10^{-3}$
	As-74		$5 \times 10^{-4}$
	As-76		$2 \times 10^{-4}$
	As-77		$8 \times 10^{-4}$
Barium (56)	Ba-131		$2 \times 10^{-3}$
	Ba-140		$3 \times 10^{-4}$
Beryllium (4)	Be-7		$2 \times 10^{-2}$
Bismuth (83)	Bi-206		$4 \times 10^{-4}$
Bromine (35)	Br-82	$4 \times 10^{-7}$	$3 \times 10^{-3}$

Element (atomic number)	Radionuclide	Column I Gas concentration $\mu\text{Ci/ml}^1$	Column II Liquid and solid concentration $\mu\text{Ci/ml}^2$
Cadmium (48)	Cd-109		$2 \times 10^{-3}$
	Cd-115m		$3 \times 10^{-4}$
	Cd-115		$3 \times 10^{-4}$
Calcium (20)	Ca-45		$9 \times 10^{-5}$
	Ca-47		$5 \times 10^{-4}$
Carbon (6)	C-14	$1 \times 10^{-6}$	$8 \times 10^{-3}$
Cerium (58)	Ce-141		$9 \times 10^{-4}$
	Ce-143		$4 \times 10^{-4}$
	Ce-144		$1 \times 10^{-4}$
Cesium (55)	Cs-131		$2 \times 10^{-2}$
	Cs-134m		$6 \times 10^{-2}$
	Cs-134		$9 \times 10^{-5}$
Chlorine (17)	Cl-38	$9 \times 10^{-7}$	$4 \times 10^{-3}$
Chromium (24)	Cr-51		$2 \times 10^{-2}$
Cobalt (27)	Co-57		$5 \times 10^{-3}$
	Co-58		$1 \times 10^{-3}$
	Co-60		$5 \times 10^{-4}$
Copper (29)	Cu-64		$3 \times 10^{-3}$
Dysprosium (66)	Dy-165		$4 \times 10^{-3}$
	Dy-166		$4 \times 10^{-4}$
Erbium (68)	Er-169		$9 \times 10^{-4}$
	Er-171		$1 \times 10^{-3}$
Europium (63)	Eu-152 (9.2 h)		$6 \times 10^{-4}$
	Eu-155		$2 \times 10^{-3}$
Fluorine (9)	F-18	$2 \times 10^{-6}$	$8 \times 10^{-3}$
Gadolinium (64)	Gd-153		$2 \times 10^{-3}$
	Gd-159		$8 \times 10^{-4}$
Gallium (31)	Ga-72		$4 \times 10^{-4}$
Germanium (32)	Ge-71		$2 \times 10^{-2}$
Gold (79)	Au-196		$2 \times 10^{-3}$
	Au-198		$5 \times 10^{-4}$
	Au-199		$2 \times 10^{-3}$
Hafnium (72)	Hf-181		$7 \times 10^{-4}$
Hydrogen (1)	H-3	$5 \times 10^{-6}$	$3 \times 10^{-2}$

Element (atomic number)	Radionuclide	Column I Gas concentration $\mu\text{Ci/ml}^1$	Column II Liquid and solid concentration $\mu\text{Ci/ml}^2$
Indium (49)	In-113m		$1 \times 10^{-2}$
	In-114m		$2 \times 10^{-4}$
Iodine (53)	I-125	$3 \times 10^{-9}$	$2 \times 10^{-5}$
	I-126	$3 \times 10^{-9}$	$2 \times 10^{-5}$
	I-131	$3 \times 10^{-9}$	$2 \times 10^{-5}$
	I-132	$8 \times 10^{-8}$	$6 \times 10^{-4}$
	I-133	$1 \times 10^{-8}$	$7 \times 10^{-5}$
	I-134	$2 \times 10^{-7}$	$1 \times 10^{-3}$
Iridium (77)	Ir-190		$2 \times 10^{-3}$
	Ir-192		$4 \times 10^{-4}$
	Ir-194		$3 \times 10^{-4}$
Iron (26)	Fe-55		$8 \times 10^{-3}$
	Fe-59		$6 \times 10^{-4}$
Krypton (36)	Kr-85m	$1 \times 10^{-6}$	
	Kr-85		$3 \times 10^{-6}$
Lanthanum (57)	La-140		$2 \times 10^{-4}$
Lead (82)	Pb-203		$4 \times 10^{-3}$
Lutetium (71)	Lu-177		$1 \times 10^{-3}$
Manganese (25)	Mn-52		$3 \times 10^{-4}$
	Mn-54		$1 \times 10^{-3}$
	Mn-56		$1 \times 10^{-3}$
Mercury (80)	Hg-197m		$2 \times 10^{-3}$
	Hg-197		$3 \times 10^{-3}$
	Hg-203		$2 \times 10^{-4}$
Molybdenum (42)	Mo-99		$2 \times 10^{-3}$
Neodymium (60)	Nd-147		$6 \times 10^{-4}$
	Nd-149		$3 \times 10^{-3}$
Nickel (28)	Ni-65		$1 \times 10^{-3}$
Niobium (41)	Nb-95		$1 \times 10^{-3}$
	Nb-97		$9 \times 10^{-3}$
Osmium (76)	Os-185		$7 \times 10^{-4}$
	Os-191m		$3 \times 10^{-2}$
	Os-191		$2 \times 10^{-3}$
	Os-193		$6 \times 10^{-4}$



Element (atomic number)	Radionuclide	Column I Gas concentration $\mu\text{Ci/ml}^1$	Column II Liquid and solid concentration $\mu\text{Ci/ml}^2$
Palladium (46)	Pd-103		$3 \times 10^{-3}$
	Pd-109		$9 \times 10^{-4}$
Phosphorus (15)	P-32		$2 \times 10^{-4}$
Platinum (78)	Pt-191		$1 \times 10^{-3}$
	Pt-193m		$1 \times 10^{-2}$
	Pt-197m		$1 \times 10^{-2}$
	Pt-197		$1 \times 10^{-3}$
Potassium (19)	K-42		$3 \times 10^{-3}$
Praseodymium (59)	Pr-142		$3 \times 10^{-4}$
	Pr-143		$5 \times 10^{-4}$
Promethium (61)	Pm-147		$2 \times 10^{-3}$
	Pm-149		$4 \times 10^{-4}$
Radium (88)	Ra-226		$1 \times 10^{-7}$
	Ra-228		$3 \times 10^{-7}$
Rhenium (75)	Re-183		$6 \times 10^{-3}$
	Re-186		$9 \times 10^{-4}$
	Re-188		$6 \times 10^{-4}$
Rhodium (45)	Rh-103m		$1 \times 10^{-1}$
	Rh-105		$1 \times 10^{-3}$
Rubidium (37)	Rb-86		$7 \times 10^{-4}$
Ruthenium (44)	Ru-97		$4 \times 10^{-3}$
	Ru-103		$8 \times 10^{-4}$
	Ru-105		$1 \times 10^{-3}$
	Ru-106		$1 \times 10^{-4}$
Samarium (62)	Sm-153		$8 \times 10^{-4}$
Scandium (21)	Sc-46		$4 \times 10^{-4}$
	Sc-47		$9 \times 10^{-4}$
	Sc-48		$3 \times 10^{-4}$
Selenium (34)	Se-75		$3 \times 10^{-3}$
Silicon (14)	Si-31		$9 \times 10^{-3}$
Silver (47)	Ag-105		$1 \times 10^{-3}$
	Ag-110m		$3 \times 10^{-4}$
	Ag-111		$4 \times 10^{-4}$

Element (atomic number)	Radionuclide	Column I Gas concentration $\mu\text{Ci}/\text{ml}^1$	Column II Liquid and solid concentration $\mu\text{Ci}/\text{ml}^2$
Sodium (11)	Na-24		$2 \times 10^{-3}$
Strontium (38)	Sr-85		$1 \times 10^{-3}$
	Sr-89		$1 \times 10^{-4}$
	Sr-91		$7 \times 10^{-4}$
	Sr-92		$7 \times 10^{-4}$
Sulfur (16)	S-35	$9 \times 10^{-8}$	$6 \times 10^{-4}$
Tantalum (73)	Ta-182		$4 \times 10^{-4}$
Technetium (43)	Tc-96m		$1 \times 10^{-1}$
	Tc-96		$1 \times 10^{-3}$
Tellurium (52)	Te-125m		$2 \times 10^{-3}$
	Te-127m		$6 \times 10^{-4}$
	Te-127		$3 \times 10^{-3}$
	Te-129m		$3 \times 10^{-4}$
	Te-131m		$6 \times 10^{-4}$
	Te-132		$3 \times 10^{-4}$
Terbium (65)	Tb-160		$4 \times 10^{-4}$
Thallium (81)	Tl-200		$4 \times 10^{-3}$
	Tl-201		$3 \times 10^{-3}$
	Tl-202		$1 \times 10^{-3}$
	Tl-204		$1 \times 10^{-3}$
Thulium (69)	Tm-170		$5 \times 10^{-4}$
	Tm-171		$5 \times 10^{-3}$
Tin (50)	Sn-113		$9 \times 10^{-4}$
	Sn-125		$2 \times 10^{-4}$
Tungsten (Wolfram) (74)	W-181		$4 \times 10^{-3}$
	W-187		$7 \times 10^{-4}$
Vanadium (23)	V-48		$3 \times 10^{-4}$
Xenon (54)	Xe-131m	$4 \times 10^{-6}$	
	Xe-133	$3 \times 10^{-6}$	
	Xe-135	$1 \times 10^{-6}$	
Ytterbium (70)	Yb-175		$1 \times 10^{-3}$
Yttrium (39)	Y-90		$2 \times 10^{-4}$
	Y-91m		$3 \times 10^{-2}$

Element (atomic number)	Radionuclide	Column I Gas concentration $\mu\text{Ci/ml}^1$	Column II Liquid and solid concentration $\mu\text{Ci/ml}^2$
	Y-91		$3 \times 10^{-4}$
	Y-92		$6 \times 10^{-4}$
	Y-93		$3 \times 10^{-4}$
Zinc (30)	Zn-65		$1 \times 10^{-3}$
	Zn-69m		$7 \times 10^{-4}$
	Zn-69		$2 \times 10^{-2}$
Zirconium (40)	Zr-95		$6 \times 10^{-4}$
	Zr-97		$2 \times 10^{-4}$
Beta or gamma emitting radioactive material not listed above with half-life less than three years		$1 \times 10^{-10}$	$1 \times 10^{-6}$

Notes: <sup>1</sup> Values are given in Column I only for those materials normally used as gases

<sup>2</sup>  $\mu\text{Ci/gm}$  for solids

Note 1: Many radionuclides decay into nuclides which are also radioactive. In expressing the concentrations in Schedule C the activity stated is that of the parent nuclide and takes into account the daughters.

Note 2: For purposes of WAC 246-232-010(1) where there is involved a combination of nuclides, the limit for the combination should be derived as follows: Determine for each nuclide in the product the ratio between the concentration present in the product and the exempt concentration established in Schedule C for the specific nuclide when not in combination. The sum of such ratios may not exceed "1" (i.e., unity).

Example:

$$\begin{array}{c}
 \frac{\text{Concentration of Nuclide A in Product}}{\text{Exempt concentration of Nuclide A}} \\
 + \\
 \frac{\text{Concentration of Nuclide B in Product}}{\text{Exempt concentration of Nuclide B}} \\
 \leq 1
 \end{array}$$

Note 3: For the purpose of determining concentration in a product or device, the total quantity of radioactive material present is divided by only that weight or volume of the discrete part or component throughout which the radioactive material is relatively uniformly distributed. If the weight or volume of this part or component cannot be determined then the product or device should be evaluated on the basis of the total quantity of radioactive material present.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-130, filed 9/20/22, effective 10/21/22.

Statutory Authority: RCW 70.98.050 and 70.98.110. WSR 16-13-054, § 246-232-130, filed 6/10/16, effective 7/11/16. Statutory Authority: RCW 70.98.050. WSR 13-24-025, § 246-232-130, filed 11/22/13, effective 12/23/13; WSR 01-02-068, § 246-232-130, filed 12/29/00, effective 1/29/01. Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-130, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-130, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-580, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-19-580, filed 9/16/83; WSR 79-12-073 (Order 1459), § 402-19-580, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-250.]

**WAC 246-232-140 Schedule D.** ACCEPTABLE SURFACE CONTAMINATION LEVELS

NUCLIDES A	AVERAGE B C F	MAXIMUM B D F	REMOVABLE B E F WIPE LIMITS
U-nat, U-235, U-238, and associated decay products	5,000 dpm/100 cm <sup>2</sup>	15,000 dpm/100 cm <sup>2</sup>	1,000 dpm α/100 cm <sup>2</sup>
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm <sup>2</sup>	300 dpm/100 cm <sup>2</sup>	20 dpm/100 cm <sup>2</sup>
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1000 dpm/100 cm <sup>2</sup>	3000 dpm/100 cm <sup>2</sup>	200 dpm/100 cm <sup>2</sup>
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except SR-90 and others noted above	5000 dpm/100 cm <sup>2</sup>	15,000 dpm/100 cm <sup>2</sup>	1000 dpm βγ/100 cm <sup>2</sup>

A Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha-and beta-

gamma-emitting nuclides should apply independently.

- B As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
- C Measurements of average contaminant should not be averaged over more than one square meter. For objects of less surface area, the average should be derived for each such object.
- D The maximum contamination level applies to an area of not more than 100 cm<sup>2</sup>.
- E The amount of removable radioactive material per 100 cm<sup>2</sup> of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.
- F The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at one cm and 1.0 mrad/hr at one cm, respectively, measured through not more than seven milligrams per square centimeter of total absorber.

[Statutory Authority: RCW 70A.388.040 and 70A.388.110. WSR 22-19-084, § 246-232-140, filed 9/20/22, effective 10/21/22.]

Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 09-06-003, § 246-232-140, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-140, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. WSR 87-01-031 (Order 2450), § 402-19-590, filed 12/11/86; WSR 83-19-050 (Order 2026), § 402-19-590, filed 9/16/83.]

**WAC 246-232-990 Fees.** Fees are required from all applicants, licensees, or registrants. Chapter 246-254 WAC specifies fees for users of radiation subject to regulation under chapters 246-220 through 246-255 WAC.

[Statutory Authority: RCW 70.98.050 and 70.98.080. WSR 91-15-112 (Order 184), § 246-232-990, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. WSR 91-02-049 (Order 121), recodified as § 246-232-990, filed 12/27/90, effective 1/31/91.]

Statutory Authority: RCW 70.98.080. WSR 83-19-050 (Order 2026),  
§ 402-19-370, filed 9/16/83; WSR 79-12-073 (Order 1459), § 402-  
19-370, filed 11/30/79, effective 1/1/80.]