

Chapter 246-232 WAC

RADIOACTIVE MATERIAL—LICENSING APPLICABILITY

WAC

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DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

246-232-100	Requirements for users of the Washington commercial low-level waste disposal site. [Statutory Authority: RCW 43.70.040. 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. 86-17-027 (Order 2406), § 402-19-530, filed 8/13/86. Statutory Authority: RCW 70.98.080. 83-19-050 (Order 2026), § 402-19-530, filed 9/16/83. Statutory Authority: RCW 70.98.050. 81-01-011 (Order 1570), § 402-19-530, filed 12/8/80. Statutory Authority: RCW 70.98.080. 80-02-080 (Order 1481), § 402-19-530, filed 1/21/80.] Repealed by 91-15-112 (Order 184), filed 7/24/91, effective 8/24/91.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. 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. 86-17-027 (Order 2406), § 402-19-540, filed 8/13/86.] Repealed by 91-15-112 (Order 184), filed 7/24/91, effective 8/24/91.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. A person may not receive, possess, use, transfer, own or acquire radioactive material except as authorized in a specific or general license issued under chapters 246-233 or 246-235 WAC or 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.

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

WAC 246-232-006 Exemption of certain source material. (1) A person is exempt from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses, owns, or transfers 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 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 this chapter and chapters 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 fifty 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 if the glaze contains twenty percent or less by weight source material; and

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

(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 contained in finished optical lenses if each lens contains thirty percent or less by weight of thorium. The exemption contained in this subparagraph shall not be deemed to authorize either:

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

(ii) The receipt, possession, use or transfer of thorium 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.

[Statutory Authority: RCW 70.98.050 and 70.98.080. 09-06-003, § 246-232-006, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. 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 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) The counterweights are manufactured in accordance with a specific license issued by the United States Nuclear Regulatory Commission authorizing distribution by the licensee pursuant to 10 C.F.R. Part 40;

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

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

(iv) 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 (c) (v) (B) and (C) 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 regulations.

(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. 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. A person is exempt from these regulations 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 timepieces or hands or dials containing the following specified quantities of radioactive material and the following specified levels of radiation*:

*Note: Authority to transfer possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source material or by-product material whose subsequent possession, use, transfer and disposal by all other persons who are exempted from regulatory requirements may be obtained only from the United States Nuclear Regulatory Commission, Washington, D.C. 20555.

(1)(a) 925 megabecquerels (25 millicuries) or less of tritium per timepiece;

(b) 185 megabecquerels (5 millicuries) or less of tritium per hand;

(c) 555 megabecquerels (15 millicuries) or less of tritium per dial (bezels when used shall be considered as part of the dial);

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

(e) 740 kilobecquerels (20 microcuries) or less of promethium-147 per watch hand or 1.48 megabecquerels (40 microcuries) or less of promethium-147 per other timepiece hand;

(f) 2.22 megabecquerels (60 microcuries) or less of promethium-147 per watch dial or 4.44 megabecquerels (120 microcuries) or less 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, 1 microgray (0.1 millirad) per hour at 10 centimeters from any surface;

(b) For pocket watches, 1 microgray (0.1 millirad) per hour at 1 centimeter from any surface;

(c) For any other timepiece, 2 micrograys (0.2 millirad) per hour at 10 centimeters from any surface.

(3) 37 kilobecquerels (1 microcurie) of radium-226 per timepiece in timepieces manufactured prior to the effective date of these regulations.

[Statutory Authority: RCW 70.98.050 and 70.98.080. 09-06-003, § 246-232-008, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. 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. A person is exempt from these regulations 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:*

*Note: Authority to transfer possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source material or by-product material whose subsequent possession, use, transfer and disposal by all other persons who are exempted from regulatory requirements may be obtained only from the United States Nuclear Regulatory Commission, Washington, D.C. 20555.

(1) Lock illuminators containing 555 megabecquerels (15 millicuries) or less of tritium or 74 megabecquerels (2 millicuries) or less of promethium-147 installed in automobile locks. The levels of radiation from each lock illuminator containing promethium-147 will not exceed 10 micrograys (1 millirad) per hour at 1 centimeter from any surface when measured through 50 milligrams per square centimeter of absorber.

(2) Precision balances containing 37 megabecquerels (1 millicurie) or less of tritium per balance or 18.5 megabecquerels (0.5 millicurie) or less of tritium per balance part.

(3) Automobile shift quadrants containing 925 megabecquerels (25 millicuries) or less of tritium.

(4) Marine compasses containing 27.8 gigabecquerels (750 millicuries) or less of tritium gas and other marine navigational instruments containing 9.25 gigabecquerels (250 millicuries) or less of tritium gas.

(5) Thermostat dials and pointers containing 925 megabecquerels (25 millicuries) or less of tritium per thermostat.

(6) Electron tubes* if 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 (1 millirad) per hour at 1 centimeter from any surface when measured through 7 milligrams per square centimeter of absorber:

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

(b) 37 kilobecquerels (1 microcurie) or less of cobalt-60;

(c) 185 kilobecquerels (5 microcuries) or less of nickel-63;

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

(e) 185 kilobecquerels (5 microcuries) or less of cesium-137;

(f) 1.11 megabecquerels (30 microcuries) or less of promethium-147;

(g) 37 kilobecquerels (1 microcurie) or less of radium-226:

*Note: For purposes of this subdivision, "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.

(7) Ionizing radiation measuring instruments containing, for purposes of internal calibration or standardization, one or

more but not to exceed 10 exempt sources of radioactive material.

(a) Each individual source shall not exceed 1.85 kilobecquerels (0.05 microcuries) of americium-241 or the applicable exempt quantity set forth in WAC 246-232-120, Schedule B.

(b) An individual source may contain more than one radionuclide but the total quantity in the individual source shall not exceed unity based on the sum of the fractional parts of one or more of the exempt quantities set forth in WAC 246-232-120, Schedule B. For purposes of this subsection, 1.85 kilobecquerels (0.05 microcuries) of americium-241 is considered an exempt quantity.

(8) Spark gap irradiators containing 37 kilobecquerels (1 microcurie) or less of cobalt-60 per spark gap irradiator for use in electrically ignited fuel oil burners having a firing rate of at least three gallons (11.4 liters) per hour.

[Statutory Authority: RCW 70.98.050 and 70.98.080. 09-06-003, § 246-232-009, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. 01-02-068, § 246-232-009, filed 12/29/00, effective 1/29/01.]

WAC 246-232-010 Exempt concentrations and exempt quantities. (1) Exempt concentrations.

(a) Except as provided in (b) of this subsection, a person is exempt from this chapter and chapters 246-233 and 246-235 WAC to the extent that the person receives, possesses, uses, transfers, owns or acquires products or materials containing radioactive material in concentrations less than or equal to those listed in WAC 246-232-130, Schedule C.

(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 (a) of this subsection or equivalent regulations of the United States Nuclear Regulatory Commission, any agreement state or licensing state, except in accordance with a specific license issued under WAC 246-235-105 or the general license provided in WAC 246-232-040.

(2) Exempt quantities.

(a) Except as provided in (b) and (c) of this subsection, a person is exempt from these regulations to the extent that such person receives, possesses, uses, transfers, owns or acquires radioactive material in individual quantities each of which is less than or equal to the applicable quantity set forth in WAC 246-232-120, Schedule B.

(b) This subsection does not authorize the production, packaging or repackaging of radioactive material for 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, knowing or having reason to believe that such quantities of radioactive material will be transferred to persons exempt under subsection (2) of this section or equivalent regulations of the United States Nuclear Regulatory Commission or any agreement state or licensing state, except in accordance with a specific license issued by the United States Nuclear Regulatory Commission, under Section 32.18 of 10 CFR Part 32 or by the department under WAC 246-235-105 which license states that the radioactive material may be transferred by the

licensee to persons exempt under subsection (2) of this section or the equivalent regulations of the United States Nuclear Regulatory Commission or any agreement state or licensing state.

[Statutory Authority: RCW 70.98.050, 01-02-068, § 246-232-010, filed 12/29/00, effective 1/29/01; 98-13-037, § 246-232-010, filed 6/8/98, effective 7/9/98. Statutory Authority: RCW 70.98.050 and 70.98.080, 91-15-112 (Order 184), § 246-232-010, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040, 91-02-049 (Order 121), recodified as § 246-232-010, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080, 87-01-031 (Order 2450), § 402-19-190, filed 12/11/86; 83-19-050 (Order 2026), § 402-19-190, filed 9/16/83. Statutory Authority: RCW 70.98.050, 81-01-011 (Order 1570), § 402-19-190, filed 12/8/80. Statutory Authority: RCW 70.98.080, 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) Tritium, krypton-85 or promethium-147. A person is exempt from these regulations to the extent that the person receives, possesses, uses, transfers, owns or acquires, and does not manufacture, process, produce, or initially transfer for sale or distribution, self-luminous products containing 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 United States Nuclear Regulatory Commission under Section 32.22 of 10 C.F.R. Part 32, which license authorizes the transfer of the product to persons who are exempt from regulatory requirements. The exemption in this subsection does not apply to tritium, krypton-85 or promethium-147 used in products primarily for frivolous purposes or in toys or adornments.

(2) Radium-226. A person is exempt from these regulations to the extent that the person receives, possesses, uses, transfers or owns articles containing less than 3.7 kilobecquerels (0.1 microcurie) of radium-226 which were manufactured prior to October 1983.

[Statutory Authority: RCW 70.98.050 and 70.98.080, 09-06-003, § 246-232-011, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050, 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 person is exempt from these regulations to the extent that the person receives, possesses, uses, transfers, owns or acquires, and does not manufacture, process or produce, radioactive material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards if the detectors have been manufactured, imported, or transferred in accordance with a specific license issued by the United States Nuclear Regulatory Commission* or an agreement state, under Section 32.26 of 10 C.F.R. Part 32, or licensing state under WAC 246-235-105, which authorizes the transfer of the detectors to persons who are exempt from regulatory requirements.

*Note: Authority to transfer possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source material or by-product material whose subsequent possession, use, transfer and disposal by all other persons are exempted from regulatory requirements may be obtained only from the United States Nuclear Regulatory Commission, Washington, D.C. 20555.

(2) Gas and aerosol detectors previously manufactured and distributed to general licensees in accordance with a specific license issued by an agreement state shall be considered exempt under subsection (1) of this section if the device is labeled in accordance with the specific license authorizing distribution of the generally licensed device and if the device meets the requirements of WAC 246-235-105.

(3) Gas and aerosol detectors containing naturally occurring and accelerator-produced radioactive material (NARM) previously manufactured and distributed in accordance with a specific license issued by a licensing state shall be considered exempt under subsection (1) of this section if the device is labeled in accordance with the specific license authorizing distribution of the generally licensed device, and if the device meets the requirements of WAC 246-235-105.

[Statutory Authority: RCW 70.98.050, 01-02-068, § 246-232-012, filed 12/29/00, effective 1/29/01.]

WAC 246-232-013 Exemption of certain resins containing scandium-46 and designed for sand consolidation in oil wells. A person is exempt from these regulations to the extent that the person receives, possesses, uses, transfers, owns or acquires synthetic plastic resins containing scandium-46 that are designed for sand consolidation in oil wells. The resins shall have been manufactured or imported in accordance with a specific license issued by the United States Nuclear Regulatory Commission or shall have been manufactured in accordance with the specifications contained in a specific license issued by the department or any agreement state to the manufacturer of resins under licensing requirements equivalent to those in Sections 32.16 and 32.17 of 10 C.F.R. Part 32 of the regulations of the United States Nuclear Regulatory Commission. This exemption does not authorize the manufacture or initial transfer for sale or distribution of any resins containing scandium-46.

[Statutory Authority: RCW 70.98.050, 01-02-068, § 246-232-013, 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 set forth in chapters 246-233 and 246-235 WAC if the person receives, possesses, uses, transfers, owns, or acquires capsules containing 37 kilobecquerels (1 microcurie) 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 shall 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, repack, or transfer for commercial distribution these capsules shall apply for and receive a specific license from the United States Nuclear Regulatory Commission under Section 32.21 of 10 C.F.R. Part 32.

(4) Nothing in this section relieves persons from complying with applicable United States Food and Drug Administration, other federal, and state requirements governing receipt, administration, and use of drugs.

[Statutory Authority: RCW 70.98.050. 06-05-019, § 246-232-014, filed 2/6/06, effective 3/9/06; 01-02-068, § 246-232-014, filed 12/29/00, effective 1/29/01.]

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

(1) General licenses provided in chapter 246-233 WAC are effective without the filing of applications with the department or the issuance of licensing documents to the particular persons, although registration or the filing of a certificate with the department may be required by the particular general license. The general licensee is subject to all other applicable portions of these regulations and any limitations of the general license.

(2) Specific licenses require the submission of an application to the department and the issuance of a licensing document by the department. The licensee is subject to all applicable portions of these regulations as well as any limitations specified in the licensing document. (See chapter 246-235 WAC.)

[Statutory Authority: RCW 70.98.050. 04-04-055, § 246-232-020, filed 1/30/04, effective 3/1/04. Statutory Authority: RCW 70.98.050 and 70.98.080. 91-15-112 (Order 184), § 246-232-020, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-020, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 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. 91-02-049 (Order 121), recodified as § 246-232-030, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 79-12-073 (Order 1459), § 402-19-240, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-200.]

WAC 246-232-040 Reciprocal recognition of licenses. (1) Subject to these regulations, any person who holds a specific license from the United States Nuclear Regulatory Commission or any agreement state or licensing state, and issued by the agency having jurisdiction where the licensee maintains an office for directing the licensed activity and at which radiation safety records are normally maintained, is hereby granted a general license to conduct the activities authorized in such licensing document within this state for a period not in excess of one hundred eighty days in that twelve month period which commences the date approval is granted, and the appropriate fee received, by the department provided that:

(a) The licensing document does not limit the activity authorized by such document to specified installations or locations;

(b) The licensed activity is not conducted in an area under exclusive federal jurisdiction;

(c) The out-of-state licensee notifies the department in writing and pays or has paid the appropriate fee (refer to chapter 246-254 WAC), at least three days prior to each entry to the state to engage in such activity. The written notification must be sent to the Radioactive Materials Section, Department of Health, Mailstop 47827, Olympia, Washington 98504-7827 and the fee should be sent to Washington State Department of Health, Revenue Accounting, P.O. Box 1099, Olympia, Washington 98504. Such notification shall indicate the location, period, and type of proposed possession and use within the state, and shall be accompanied by copies of the pertinent licensing documents. If, for a specific case, the three-day period would impose an undue hardship on the out-of-state licensee, the licensee may, upon telephone application to the department (360-236-3220), obtain permission to proceed sooner. The department may waive the requirement for filing additional written notifications during the remainder of the twelve months following the receipt of the initial notification from a person engaging in activities under the general license provided in this subsection;

(d) The out-of-state licensee complies with all applicable regulations of the department and with all the terms and conditions of the licensing document, except any such terms and conditions which may be inconsistent with applicable regulations of the department;

(e) The out-of-state licensee supplies such other information as the department may request; and

(f) The out-of-state licensee shall not transfer or dispose of radioactive material possessed or used under the general license provided in this subsection except by transfer to a person:

(i) Specifically licensed by the department or by the United States Nuclear Regulatory Commission, an agreement state or a licensing state to receive such material; or

(ii) Exempt from the requirements for a license for such material under WAC 246-232-010(1).

(2) Notwithstanding the provisions of subsection (1) of this section, any person who holds a specific license issued by the United States Nuclear Regulatory Commission, an agreement state or a licensing state authorizing the holder to manufacture, transfer, 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, transfer, demonstrate or service a device in this state in areas not under exclusive federal jurisdiction provided that:

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

(b) The device has been manufactured, labeled, installed, and serviced in accordance with applicable provisions of the specific license issued to such person by the United States Nuclear Regulatory Commission, an agreement state or a licensing state;

(c) Such person shall assure that any labels required to be affixed to the device under regulations of the authority which

licensed manufacture of the device bear a statement that "Removal of this label is prohibited"; and

(d) The holder of the specific license shall furnish to each general licensee to whom such device is transferred or on whose premises such device is installed a copy of the general license contained in WAC 246-233-020(4).

(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 in order to prevent undue hazard to public health and safety or property.

[Statutory Authority: RCW 70.98.050. 04-04-055, § 246-232-040, filed 1/30/04, effective 3/1/04; 01-02-068, § 246-232-040, filed 12/29/00, effective 1/29/01; 99-15-105, § 246-232-040, filed 7/21/99, effective 8/21/99; 98-13-037, § 246-232-040, filed 6/8/98, effective 7/9/98. Statutory Authority: RCW 70.98.050 and 70.98.080. 91-15-112 (Order 184), § 246-232-040, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-040, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 87-01-031 (Order 2450), § 402-19-250, filed 12/11/86; 83-19-050 (Order 2026), § 402-19-250, filed 9/16/83. Statutory Authority: RCW 70.98.050. 81-01-011 (Order 1570), § 402-19-250, filed 12/8/80. Statutory Authority: RCW 70.98.080. 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 this part shall be subject to all the provisions of the act, as now or hereafter in effect, and to all rules, regulations, and orders of the department.

(2) No license issued or granted under chapters 246-233 and 246-235 WAC and no right to possess or utilize radioactive material granted by any license issued pursuant to chapters 246-233 and 246-235 WAC shall be transferred, assigned, or in any manner disposed, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person unless the department shall, after securing full information find that the transfer is in accordance with the provisions of the act, and shall give its consent in writing.

(3) Each person licensed by the department pursuant to chapters 246-233 and 246-235 WAC shall confine use and possession of the material licensed to the locations and purposes authorized by the license.

(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) Each specific licensee shall notify the department of health, radiation protection, in writing, within five working days following the filing of a voluntary or involuntary petition for bankruptcy by or against:

(a) The licensee;

(b) A person controlling the licensee or listing the license or licensee as property of the estate; or

(c) An affiliate of the licensee.

(6) 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 and/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.

(7) Each specific licensee shall notify the department within five working days if any items in subsection (6) of this section change during bankruptcy proceedings.

(8) The department will consider clean-up costs as part of the licensee's administrative costs if decontamination is necessary to comply with these regulations;

(9) Each general licensee that is required to register by WAC 246-233-020 (3)(k) shall notify the department of health, radiation protection, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy by or against:

(a) The licensee;

(b) A person controlling the licensee or listing the license or licensee as property of the estate; or

(c) An affiliate of the licensee.

(10) 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.

(11) For the purposes of this section, "affiliate" means:

(a) A person as defined in WAC 246-220-010 that directly or indirectly owns, controls, or holds with power to vote, twenty percent or more of the outstanding voting securities of the licensee (unless that person holds such securities (i) in a fiduciary or agency capacity without sole discretionary power to vote such securities, or (ii) solely to secure a debt, if such person has not in fact exercised such power to vote);

(b) A corporation, twenty percent or more of whose outstanding voting securities are directly or indirectly owned, controlled, or held with power to vote, by the licensee;

(c) A person whose business is operated under a lease or operating agreement by a licensee, or person substantially all of whose property is operated under an operating agreement with the licensee; or

(d) A person that operates the business or substantially all of the property of the licensee under a lease or operating agreement.

[Statutory Authority: RCW 70.98.050. 04-04-055, § 246-232-050, filed 1/30/04, effective 3/1/04. Statutory Authority: RCW 70.98.050 and 70.98.080. 92-06-008 (Order 245), § 246-232-050, filed 2/21/92, effective

3/23/92. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-050, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 87-01-031 (Order 2450), § 402-19-300, filed 12/11/86; 83-19-050 (Order 2026), § 402-19-300, filed 9/16/83. Statutory Authority: RCW 70.98.050. 81-01-011 (Order 1570), § 402-19-300, filed 12/8/80. Statutory Authority: RCW 70.98.080. 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 thirty 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 facility and/or equipment date specified in 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 sixty 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 twelve 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 twenty-four months; or

(d) No principal activities have been conducted for a period of twenty-four 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 thirty 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 twenty-four 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 twenty-four 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 twenty-four 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 twenty-four-month period;
- (b) Whether sufficient waste disposal capacity is available to allow completion of decommissioning within the allotted twenty-four-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 one hundred 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 and/or waste disposal areas.

(16) Prior to license termination, each licensee authorized to possess radioactive material with a half-life greater than one hundred twenty 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 one hundred twenty 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 70.98.050. 04-04-055, § 246-232-060, filed 1/30/04, effective 3/1/04; 00-07-085, § 246-232-060, filed 3/15/00, effective 4/15/00; 99-15-105, § 246-232-060, filed 7/21/99, effective 8/21/99. Statutory Authority: RCW 70.98.050 and 70.98.080. 97-08-095, § 246-232-060, filed 4/2/97, effective 5/3/97; 91-15-112 (Order 184), § 246-232-060, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-060, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 83-19-050 (Order 2026), § 402-19-350, 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. 91-02-049 (Order 121), recodified as § 246-232-070, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 87-01-031 (Order 2450), § 402-19-350, filed 12/11/86; 83-19-050 (Order 2026), § 402-19-350, filed 9/16/83; 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, any 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 any person exempt from the regulations in this part to the extent permitted under such exemption;

(d) To any 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 United States Nuclear Regulatory Commission, any agreement state or any licensing state, or to any person otherwise authorized to receive such material by the federal government or any agency thereof, the department, any agreement state or any licensing state; or

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

(3) Before transferring radioactive material to a specific licensee of the department, the United States Nuclear Regulatory Commission, an agreement state or a licensing state, or to a general licensee who is required to register with the department, the United States Nuclear Regulatory Commission, an agreement state or a licensing state prior to receipt of the radioactive material, the licensee transferring the material shall 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 ten days;

(d) The transferor may obtain other sources of information compiled by a reporting service from official records of the department, the United States Nuclear Regulatory Commission, the licensing agency of an agreement state or a licensing 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 United States Nuclear Regulatory Commission, or the licensing agency of an agreement state or a licensing state that the transferee is licensed to receive the radioactive material.

(5) Preparation for shipment and transport of radioactive material shall 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, teletherapy sources, portable moisture/density gauge sources, fixed gauge sources, and Mo-99/Tc-99m generators).

[Statutory Authority: RCW 70.98.050 and 70.98.080. 91-15-112 (Order 184), § 246-232-080, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-080, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 87-01-031 (Order 2450), § 402-19-400, filed 12/11/86. Statutory Authority: RCW 70.98.050. 81-01-011 (Order 1570), § 402-19-400, filed 12/8/80. Statutory Authority: RCW 70.98.080. 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. 99-15-105, § 246-232-090, filed 7/21/99, effective 8/21/99. Statutory Authority: RCW 70.98.050 and 70.98.080. 91-15-112 (Order 184), § 246-232-090, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-090, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 83-19-050 (Order 2026), § 402-19-500, filed 9/16/83. Statutory Authority: RCW 70.98.050. 81-01-011 (Order 1570), § 402-19-500, filed 12/8/80. Statutory Authority: RCW 70.98.080. 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

Radioactive Material	Microcuries
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
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

Radioactive Material	Microcuries	Radioactive Material	Microcuries
Indium-115 (In-115)	10	Rubidium-86 (Rb-86)	10
Iodine-123 (I-123)	100	Rubidium-87 (Rb-87)	10
Iodine-125 (I-125)	1	Ruthenium-97 (Ru-97)	100
Iodine-126 (I-126)	1	Ruthenium-103 (Ru-103)	10
Iodine-129 (I-129)	0.1	Ruthenium-105 (Ru-105)	10
Iodine-131 (I-131)	1	Ruthenium-106 (Ru-106)	1
Iodine-132 (I-132)	10	Samarium-151 (Sm-151)	10
Iodine-133 (I-133)	1	Samarium-153 (Sm-153)	100
Iodine-134 (I-134)	10	Scandium-46 (Sc-46)	10
Iodine-135 (I-135)	10	Scandium-47 (Sc-47)	100
Iridium-192 (Ir-192)	10	Scandium-48 (Sc-48)	10
Iridium-194 (Ir-194)	100	Selenium-75 (Se-75)	10
Iron-52 (Fe-52)	10	Silicon-31 (Is-31)	100
Iron-55 (Fe-55)	100	Silver-105 (Ag-105)	10
Iron-59 (Fe-59)	10	Silver-110m (Ag-110m)	1
Krypton-85 (Kr-85)	100	Silver-111 (Ag-111)	100
Krypton-87 (Kr-87)	10	Sodium-22 (Na-22)	10
Lanthanum-140 (La-140)	10	Sodium-24 (Na-24)	10
Lutetium-177 (Lu-177)	100	Strontium-85 (Sr-85)	10
Manganese-52 (Mn-52)	10	Strontium-89 (Sr-89)	1
Manganese-54 (Mn-54)	10	Strontium-90 (Sr-90)	0.1
Manganese-56 (Mn-56)	10	Strontium-91 (Sr-91)	10
Mercury-197m (Hg-197m)	100	Strontium-92 (Sr-92)	10
Mercury-197 (Hg-197)	100	Sulphur-35 (S-35)	100
Mercury-203 (Hg-203)	10	Tantalum-182 (Ta-182)	10
Molybdenum-99 (Mo-99)	100	Technetium-96 (Tc-96)	10
Neodymium-147 (Nd-147)	100	Technetium-97m (Tc-97m)	100
Neodymium-149 (Nd-149)	100	Technetium-97 (Tc-97)	100
Nickel-59 (Ni-59)	100	Technetium-99m (Tc-99m)	100
Nickel-63 (Ni-63)	10	Technetium-99 (Tc-99)	10
Nickel-65 (Ni-65)	100	Tellurium-125m (Te-125m)	10
Niobium-93m (Nb-93m)	10	Tellurium-127m (Te-127m)	10
Niobium-95 (Nb-95)	10	Tellurium-127 (Te-127)	100
Niobium-97 (Nb-97)	10	Tellurium-129m (Te-129m)	10
Osmium-185 (Os-185)	10	Tellurium-129 (Te-129)	100
Osmium-191m (Os-191m)	100	Tellurium-131m (Te-131m)	10
Osmium-191 (Os-191)	100	Tellurium-132 (Te-132)	10
Osmium-193 (Os-193)	100	Terbium-160 (Tb-160)	10
Palladium-103 (Pd-103)	100	Thallium-200 (Tl-200)	100
Palladium-109 (Pd-109)	100	Thallium-201 (Tl-201)	100
Phosphorus-32 (P-32)	10	Thallium-202 (Tl-202)	100
Platinum-191 (Pt-191)	100	Thallium-204 (Tl-204)	10
Platinum-193m (Pt-193m)	100	Thulium-170 (Tm-170)	10
Platinum-193 (Pt-193)	100	Thulium-171 (Tm-171)	10
Platinum-197m (Pt-197m)	100	Tin-113 (Sn-113)	10
Platinum-197 (Pt-197)	100	Tin-125 (Sn-125)	10
Polonium-210 (Po-210)	0.1	Tungsten-181 (W-181)	10
Potassium-42 (K-42)	10	Tungsten-185 (W-185)	10
Potassium-43 (K-43)	10	Tungsten-187 (W-187)	100
Praseodymium-142 (Pr-142)	100	Vanadium-48 (V-48)	10
Praseodymium-143 (Pr-143)	100	Xenon-131m (Xe-131m)	1,000
Promethium-147 (Pm-147)	10	Xenon-133 (Xe-133)	100
Promethium-149 (Pm-149)	10	Xenon-135 (Xe-135)	100
Radium-226 (Ra-226)	0.1	Ytterbium-169 (Yb-169)	10
Rhenium-186 (Re-186)	100	Ytterbium-175 (Yb-175)	100
Rhenium-188 (Re-188)	100	Yttrium-87 (Y-87)	10
Rhodium-103m (Rh-103m)	100	Yttrium-88 (Y-88)	10
Rhodium-105 (Rh-105)	100	Yttrium-90 (Y-90)	10
Rubidium-81 (Rb-81)	10	Yttrium-91 (Y-91)	10

Radioactive Material	Microcuries	Column I Gas con- centra- tion μCi/ml ¹	Column II Liquid and solid concentra- tion μCi/ml ²
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 70.98.080. 09-06-003, § 246-232-120, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 70.98.050. 01-02-068, § 246-232-120, filed 12/29/00, effective 1/29/01. Statutory Authority: RCW 70.98.050 and 70.98.080. 91-15-112 (Order 184), § 246-232-120, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-120, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 83-19-050 (Order 2026), § 402-19-550, filed 9/16/83; 79-12-073 (Order 1459), § 402-19-550, filed 11/30/79, effective 1/1/80. Formerly WAC 402-20-240.]			
WAC 246-232-130 Schedule C, exempt concentrations. (See WAC 246-232-010(1).)			
Element (atomic number)	Isotope	Column I Gas con- centra- tion μCi/ml ¹	Column II Liquid and solid concentra- tion μCi/ml ²
Antimony (51)	Sb-122		3x10 ⁻⁴
	Sb-124		2x10 ⁻⁴
	Sb-125		1x10 ⁻³
Argon (18)	Ar-37	1x10 ⁻³	
	Ar-41	4x10 ⁻⁷	
Arsenic (33)	As-73		5x10 ⁻³
	As-74		5x10 ⁻⁴
	As-76		2x10 ⁻⁴
	As-77		8x10 ⁻⁴
Barium (56)	Ba-131		2x10 ⁻³
	Ba-140		3x10 ⁻⁴
Beryllium (4)	Be-7		2x10 ⁻²
Bismuth (83)	Bi-206		4x10 ⁻⁴
Bromine (35)	Br-82	4x10 ⁻⁷	3x10 ⁻³
Cadmium (48)	Cd-109		2x10 ⁻³
	Cd-115m		3x10 ⁻⁴
	Cd-115		3x10 ⁻⁴
Calcium (20)	Ca-45		9x10 ⁻⁵
	Ca-47		5x10 ⁻⁴
Carbon (6)	C-14	1x10 ⁻⁶	8x10 ⁻³
Cerium (58)	Ce-141		9x10 ⁻⁴
	Ce-143		4x10 ⁻⁴
	Ce-144		1x10 ⁻⁴
Cesium (55)	Cs-131		2x10 ⁻²
	Cs-134m		6x10 ⁻²
	Cs-134		9x10 ⁻⁵
Chlorine (17)	Cl-38	9x10 ⁻⁷	4x10 ⁻³
Chromium (24)	Cr-51		2x10 ⁻²
Cobalt (27)	Co-57		5x10 ⁻³
	Co-58		1x10 ⁻³
	Co-60		5x10 ⁻⁴
Copper (29)	Cu-64		3x10 ⁻³
Dysprosium (66)	Dy-165		4x10 ⁻³
	Dy-166		4x10 ⁻⁴
Erbium (68)	Er-169		9x10 ⁻⁴
	Er-171		1x10 ⁻³
	Europium (63)		6x10 ⁻⁴
	Eu-152 (9.2 h)		
	Eu-155		2x10 ⁻³
Fluorine (9)	F-18	2x10 ⁻⁶	8x10 ⁻³
Gadolinium (64)	Gd-153		2x10 ⁻³
	Gd-159		8x10 ⁻⁴
Gallium (31)	Ga-72		4x10 ⁻⁴
Germanium (32)	Ge-71		2x10 ⁻²
Gold (79)	Au-196		2x10 ⁻³
	Au-198		5x10 ⁻⁴
	Au-199		2x10 ⁻³
Hafnium (72)	Hf-181		7x10 ⁻⁴
Hydrogen (1)	H-3	5x10 ⁻⁶	3x10 ⁻²
Indium (49)	In-113m		1x10 ⁻²
	In-114m		2x10 ⁻⁴
Iodine (53)	I-125	3x10 ⁻⁹	2x10 ⁻⁵
	I-126	3x10 ⁻⁹	2x10 ⁻⁵
	I-131	3x10 ⁻⁹	2x10 ⁻⁵
	I-132	8x10 ⁻⁸	6x10 ⁻⁴
	I-133	1x10 ⁻⁸	7x10 ⁻⁵
	I-134	2x10 ⁻⁷	1x10 ⁻³
Iridium (77)	Ir-190		2x10 ⁻³
	Ir-192		4x10 ⁻⁴
	Ir-194		3x10 ⁻⁴
Iron (26)	Fe-55		8x10 ⁻³
	Fe-59		6x10 ⁻⁴
Krypton (36)	Kr-85m	1x10 ⁻⁶	
	Kr-85		3x10 ⁻⁶
Lanthanum (57)	La-140		2x10 ⁻⁴
Lead (82)	Pb-203		4x10 ⁻³
Lutetium (71)	Lu-177		1x10 ⁻³
Manganese (25)	Mn-52		3x10 ⁻⁴
	Mn-54		1x10 ⁻³
	Mn-56		1x10 ⁻³
Mercury (80)	Hg-197m		2x10 ⁻³
	Hg-197		3x10 ⁻³
	Hg-203		2x10 ⁻⁴
Molybdenum (42)	Mo-99		2x10 ⁻³
Neodymium (60)	And-147		6x10 ⁻⁴
	And-149		3x10 ⁻³
Nickel (28)	Ni-65		1x10 ⁻³
Niobium (Columbium)(41)	Nb-95		1x10 ⁻³
	Nb-97		9x10 ⁻³
Osmium (76)	So-185		7x10 ⁻⁴
	So-191m		3x10 ⁻²
	So-191		2x10 ⁻³
	So-193		6x10 ⁻⁴
Palladium (46)	Pd-103		3x10 ⁻³
	Pd-109		9x10 ⁻⁴
Phosphorus (15)	P-32		2x10 ⁻⁴
Platinum (78)	Pt-191		1x10 ⁻³
	Pt-193m		1x10 ⁻²
	Pt-197m		1x10 ⁻²
	Pt-197		1x10 ⁻³
Potassium (19)	K-42		3x10 ⁻³
Praseodymium (59)	Pr-142		3x10 ⁻⁴
	Pr-143		5x10 ⁻⁴
Promethium (61)	Pm-147		2x10 ⁻³
	Pm-149		4x10 ⁻⁴
Radium (88)	Ra-226		1x10 ⁻⁷
	Ra-228		3x10 ⁻⁷

Element (atomic number)	Isotope	Column I Gas concentration μCi/ml ¹	Column II Liquid and solid concentration μCi/ml ²
Rhenium (75)	Re-183		6x10 ⁻³
	Re-186		9x10 ⁻⁴
	Re-188		6x10 ⁻⁴
Rhodium (45)	Rh-103m		1x10 ⁻¹
	Rh-105		1x10 ⁻³
Rubidium	Rb-86		7x10 ⁻⁴
Ruthenium (44)	Ru-97		4x10 ⁻³
	Ru-103		8x10 ⁻⁴
	Ru-105		1x10 ⁻³
	Ru-106		1x10 ⁻⁴
Samarium (62)	Sm-153		8x10 ⁻⁴
Scandium (21)	Sc-46		4x10 ⁻⁴
	Sc-47		9x10 ⁻⁴
	Sc-48		3x10 ⁻⁴
Selenium (34)	Se-75		3x10 ⁻³
Silicon (14)	Is-31		9x10 ⁻³
Silver (47)	Ag-105		1x10 ⁻³
	Ag-110m		3x10 ⁻⁴
	Ag-111		4x10 ⁻⁴
Sodium (11)	Na-24		2x10 ⁻³
Strontium (38)	Sr-85		1x10 ⁻³
	Sr-89		1x10 ⁻⁴
	Sr-91		7x10 ⁻⁴
	Sr-92		7x10 ⁻⁴
	S-35	9x10 ⁻⁸	6x10 ⁻⁴
Tantalum (73)	Ta-182		4x10 ⁻⁴
Technetium (43)	Tc-96m		1x10 ⁻¹
	Tc-96		1x10 ⁻³
Tellurium (52)	Te-125m		2x10 ⁻³
	Te-127m		6x10 ⁻⁴
	Te-127		3x10 ⁻³
	Te-129m		3x10 ⁻⁴
	Te-131m		6x10 ⁻⁴
	Te-132		3x10 ⁻⁴
Terbium (65)	Tb-160		4x10 ⁻⁴
Thallium (81)	Tl-200		4x10 ⁻³
	Tl-201		3x10 ⁻³
	Tl-202		1x10 ⁻³
	Tl-204		1x10 ⁻³
Thulium (69)	Tm-170		5x10 ⁻⁴
	Tm-171		5x10 ⁻³
Tin (50)	Sn-113		9x10 ⁻⁴
	Sn-125		2x10 ⁻⁴
Tungsten (Wolfram) (74)	W-181		4x10 ⁻³
	W-187		7x10 ⁻⁴
Vanadium (23)	V-48		3x10 ⁻⁴
Xenon (54)	Xe-131m	4x10 ⁻⁶	
	Xe-133	3x10 ⁻⁶	
	Xe-135	1x10 ⁻⁶	
Ytterbium (70)	Yb-175		1x10 ⁻³
Yttrium (39)	Y-90		2x10 ⁻⁴
	Y-91m		3x10 ⁻²
	Y-91		3x10 ⁻⁴
	Y-92		6x10 ⁻⁴
	Y-93		3x10 ⁻⁴
	Y-93		3x10 ⁻⁴
Zinc (30)	Zn-65		1x10 ⁻³
	Zn-69m		7x10 ⁻⁴
Zirconium (40)	Zn-69		2x10 ⁻²
	Zr-95		6x10 ⁻⁴
	Zr-97		2x10 ⁻⁴
Beta and/or gamma emitting radioactive material not listed above with half-life less than 3 years		1x10 ⁻¹⁰	1x10 ⁻⁶

Notes: ¹Values are given in Column I only for those materials normally used as gases
²μCi/gm for solids

Note 1: Many radioisotopes disintegrate into isotopes which are also radioactive. In expressing the concentrations in Schedule C the activity stated is that of the parent isotope and takes into account the daughters.

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

Example:

$$\frac{\text{Concentration of Isotope A in Product}}{\text{Exempt concentration of Isotope A}} + \frac{\text{Concentration of Isotope B in Product}}{\text{Exempt concentration of Isotope B}} \leq 1$$

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 70.98.050, 01-02-068, § 246-232-130, filed 12/29/00, effective 1/29/01. Statutory Authority: RCW 70.98.050 and 70.98.080, 91-15-112 (Order 184), § 246-232-130, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040, 91-02-049 (Order 121), recodified as § 246-232-130, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080, 87-01-031 (Order 2450), § 402-19-580, filed 12/11/86; 83-19-050 (Order 2026), § 402-19-580, filed 9/16/83; 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 ²	15,000 dpm/100 cm ²	1,000 dpm α/100 cm ²
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm ²	300 dpm/100 cm ²	20 dpm/100 cm ²
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1000 dpm/100 cm ²	3000 dpm/100 cm ²	200 dpm/100 cm ²
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 ²	15,000 dpm/100 cm ²	1000 dpm βγ/100 cm ²

- 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 1 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 cm².
- E The amount of removable radioactive material per 100 cm² 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 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

[Statutory Authority: RCW 70.98.050 and 70.98.080. 09-06-003, § 246-232-140, filed 2/18/09, effective 3/21/09. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-140, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 87-01-031 (Order 2450), § 402-19-590, filed 12/11/86; 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. 91-15-112 (Order 184), § 246-232-990, filed 7/24/91, effective 8/24/91. Statutory Authority: RCW 43.70.040. 91-02-049 (Order 121), recodified as § 246-232-990, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 70.98.080. 83-19-050 (Order 2026), § 402-19-370, filed 9/16/83; 79-12-073 (Order 1459), § 402-19-370, filed 11/30/79, effective 1/1/80.]