

APPENDIX D
Air Emissions License



AIR 14-1005
RAEL-009

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
OFFICE OF RADIATION PROTECTION
309 Bradley Blvd., Suite 201 • Richland, Washington 99352
TDD Relay Service: 1-800-833-6388

October 14, 2014

Sean Murphy, RSO
US Ecology
1777 Terminal Drive
Richland, Washington 99354

Re: Letter to Correct Emission Unit Error in your Radioactive Air Emission License (RAEL-009) and to Clarify Annual Reporting Date

Dear Mr. Murphy:

This letter corrects two items in your RAEL-009:

1. The mis-assignment of Emission Unit 1247 as a "minor, actively ventilated emission unit", which will be changed to a "Major, actively ventilated emission unit".
2. The date of annual air emissions report submittal shall be June 1st, as stated in your Radioactive Materials License # WN-I019-2, Amendment 40.

These changes will be reflected in your RAEL-009 upon renewal in 2015.

If you have any questions regarding this letter, or these corrections, please contact Mr. John Schmidt at (509) 946-3874.

Sincerely,

John Martell, Manager
Radioactive Air Emissions Section

cc: Mike Elsen, WDOH
John Schmidt, WDOH
Kristen Schwab, WDOH
RAES Tracking: Line 842; RAEL-009; EU 124; Follow-up to LB 3792



RADIOACTIVE AIR EMISSIONS LICENSE

For

**Operation of the US Ecology Low Level
Radioactive Waste Disposal Facility**

Issued by

**The State of Washington Department of Health
Office of Radiation Protection
Radioactive Air Emissions**

**License Number:
RAEL-009**

Under the Nuclear Energy and Radiation Control Act, RCW 70.98 the State Clean Air Act, RCW 70.94 and the Radioactive Air Emissions Regulations, Chapters 246-247 WAC, and in reliance on statements and representations made by the Licensee designated below before the effective date of this license, the Licensee is authorized to vent radionuclides from the facilities identified in this license. The State of Washington Department of Health generates this license subject to all applicable rules. This license does not relieve the Licensee of compliance with the NRC License or other State or Federal agencies jurisdiction pertaining to hazardous air pollutants.

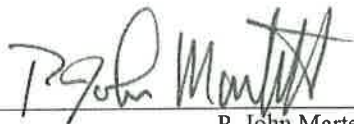
Licensee: US Ecology
1777 Terminal Dr.
Richland, WA 99354

Effective Date: June 23, 2015

Expiration Date: Expiration date coincides with the expiration date of the Radioactive Materials License (WN-I019-2) - December 31, 2018

DATED at Richland, Washington the 30th day of June 2015.

Approved By:



P. John Martell
Manager, Radioactive Air Emissions Section

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The following are state only applicable requirements from Chapter 246-247 of the Washington Administrative Code.

Interpretation of the Regulations and Definitions

Use the following guidance when interpreting the combination of with WAC 173-480 and 246-247. The following definitions apply:

- Washington State Clean Air Act, WAC 173-480 and 246-247
 - Apply only those definitions given for these laws and regulations.
- When a conflict of definition may arise, the more stringent definition as determined by the administrator applies.

When determining applicability of a regulation, the facility should contact the department for guidance prior to use. The department reserves the right to make final determination on applicability of regulations.

Emission Unit Specific Information

The emission unit specific information (i.e., stack height and diameter, average temperature and velocity) are parameters used by the department to identify significant changes in operation of an emission unit. The emission unit specific information contained in this license is to assure consistent emission unit operation, the actual emission unit parameters must be maintained by the emission unit owner/operator and reported as required by WAC 246-247.

Referenced Documents in the Emission Unit Specific Conditions and Limitations

If the document cited in the emission unit specific conditions and limitations reflects:

- *Data that justifies the project or a specific requirement (i.e., design data, calculation data, etc.)* it will stand as the referenced document.
- *Description (i.e., monitoring process, etc.), but does not change a requirement (i.e., frequency of monitoring, etc.)* the latest approved revision of that document will stand as the referenced document.

When determining applicable referenced document, the facility should contact the department for guidance prior to use. The department reserves the right to make final determination on which document will stand as the referenced document.

1.0 WAC 246-247 Definitions (WAC 246-247-030 updated May 8, 2014)

Terms used in this chapter have the definitions set forth below with reference to radioactive air emissions.

(1) “**Abatement technology**” means any mechanism, process or method that has the potential to reduce public exposure to radioactive air emissions. Abatement control features include automatic mechanisms and administrative controls used in the operation and control of abatement technology from entry of radionuclides into the ventilated vapor space to release to the environment.

(2) “**Administrative control**” means any policy or procedure that limits the emission of radionuclides.

(3) “**ALARA**” means as low as reasonably achievable making every reasonable effort to maintain exposures to radiation as far below the dose standards in this chapter as is practical, consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other socioeconomic considerations, and in relation to the utilization of nuclear energy, ionizing radiation, and radioactive materials in the public interest. See WAC 246-220-007.

(4) “**As low as reasonably achievable control technology**” (ALARACT) means the use of radionuclide emission control technology that achieves emission levels that are consistent with the philosophy of ALARA. ALARACT compliance is demonstrated by evaluating the existing control system and proposed nonsignificant modifications in relation to applicable technology standards and other control technologies operated successfully in similar applications. In no event shall application of ALARACT result in emissions of radionuclides that could cause exceedance of the applicable standards of WAC 246-247-040. See the definition of ALARA WAC 246-247-030(3). Note that ALARACT is equivalent to, but replaces, RACT in the May 7, 1986, version of chapter 173-480 WAC.

(5) “**Annual possession quantity**” means the sum of the quantity of a radionuclide on hand at the beginning of the calendar year and the quantity of that radionuclide received or produced during the calendar year.

(6) “**Best available radionuclide control technology**” (BARCT) means technology that will result in a radionuclide emission limitation based on the maximum degree of reduction for radionuclides from any proposed newly constructed or significantly modified emission units that the licensing authority determines is achievable on a case-by-case basis. A BARCT compliance demonstration must consider energy, environmental, and economic impacts, and other costs through examination of production processes, and available methods, systems, and techniques for the control of radionuclide emissions. A BARCT compliance demonstration is the conclusion of an evaluative process that results in the selection of the most effective control

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technology from all known feasible alternatives. In no event shall application of BARCT result in emissions of radionuclides that could exceed the applicable standards of WAC 246-247-040. Control technology that meets BARCT requirements also meets ALARACT requirements. See WAC 173-480-030 and 246-247-120.

(7) “**Committed effective dose equivalent**” (CEDE) means the sum of the products of absorbed dose from internally deposited radionuclides and appropriate factors to account for differences in biological effectiveness due to the quality of radiation and its distribution in the body of reference man over a fifty-year period.

(8) “**Construction**” means fabrication, erection, or installation of a new building, structure, plant, process, or operation within a facility that has the potential to emit airborne radionuclides. Construction includes activities of a permanent nature aimed at completion of the emission unit, such as pouring concrete, putting in a foundation, or installing utilities directly related to the emission unit. It does not include preliminary activities such as tests to determine site suitability, equipment procurement and storage, site clearing and grading, and the construction of ancillary buildings.

(9) “**Decommissioning**” means actions taken to reduce or eliminate the potential public health and safety impacts of a building, structure, or plant that has permanently ceased operations, including, but not limited to, actions such as decontamination, demolition, and disposition.

(10) “**Emission unit**” means any single location that emits or has the potential to emit airborne radioactive material. This may be a point source, nonpoint source, or source of fugitive emissions.

(11) “**Facility**” means all buildings, structures, plants, processes, and operations on one contiguous site under control of the same owner or operator.

(12) “**Fugitive emissions**” are radioactive air emissions which do not and could not reasonably pass through a stack, vent, or other functionally equivalent structure, and which are not feasible to directly measure and quantify.

(13) “**Indication device**” means any method or apparatus used to monitor, or to enable monitoring, the operation of abatement controls or the potential or actual radioactive air emissions.

(14) “**License**” means a radioactive air emissions license issued by the department with requirements and limitations listed therein. Compliance with the license requirements are determined and enforced by the department. The license will be incorporated as an applicable requirement in the air operating permit issued by the department of ecology or a local air pollution control authority when the department of ecology or a local air pollution control authority issues an air operating permit.

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(15) “**Maximally exposed individual**” (MEI) means any member of the public (real or hypothetical) who abides or resides in an unrestricted area, and may receive the highest TEDE from the emission unit(s) under consideration, taking into account all exposure pathways affected by the radioactive air emissions.

(16) “**Modification**” means any physical change in, or change in the method of operation of, an emission unit that could increase the amount of radioactive materials emitted or may result in the emission of any radionuclide not previously emitted. This definition includes the cleanup of land contaminated with radioactive material, the decommissioning of buildings, structures, or plants where radioactive contamination exists, and changes that will cause an increase in the emission unit’s operating design capacity. This definition excludes routine maintenance, routine repair, replacement-in-kind, any increases in the production rate or hours of operation, provided the emission unit does not exceed the release quantities specified in the license application or the operating design capacity approved by the department, addition of abatement technology as long as it is not less environmentally beneficial than existing, approved controls, and changes that result in an increase in the quantity of emissions of an existing radionuclide that will be offset by an equal or greater decrease in the quantity of emissions of another radionuclide that is deemed at least as hazardous with regard to its TEDE to the MEI.

(17) “**Monitoring**” means the measurement of radioactive material released to the ambient air by means of an in-line radiation detector, and/or by the withdrawal of representative samples from the effluent stream. Ambient air measurements may be acceptable for nonpoint sources and fugitive emissions.

(18) “**Nonpoint source**” is a location at which radioactive air emissions originate from an area, such as contaminated ground above a near-surface waste disposal unit, whose extent may or may not be well-defined.

(19) “**Notice of construction**” (NOC) is an application submitted to the department by an applicant that contains information required by WAC 246-247-060 for proposed construction or modification of a registered emission unit(s), or for modification of an existing, unregistered emission unit(s).

(20) “**Point source**” is a discrete, well-defined location from which radioactive air emissions originate, such as a stack, vent, or other functionally equivalent structure.

(21) “**Potential-to-emit**” means the rate of release of radionuclides from an emission unit based on the actual or potential discharge of the effluent stream that would result if all abatement control equipment did not exist, but operations are otherwise normal. Determine the potential-to-emit by one of the following methods:

(a) Multiply the annual possession quantity of each radionuclide by the release fraction for that radionuclide, depending on its physical state. Use the following release fractions:

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- (i) 1 for gases;
- (ii) 10⁻³ for liquids or particulate solids; and
- (iii) 10⁻⁶ for solids.

Determine the physical state for each radionuclide by considering its chemical form and the highest temperature to which it is subjected. Use a release fraction of one if the radionuclide is subjected to temperatures at or above its boiling point; use a release fraction of 10⁻³ if the radionuclide is subjected to temperatures at or above its melting point, but below its boiling point. If the chemical form is not known, use a release fraction of one for any radionuclide that is heated to a temperature of one hundred degrees Celsius or more, boils at a temperature of one hundred degrees Celsius or less, or is intentionally dispersed into the environment. Other release fractions may be used only with the department's approval; or

- (b) Perform a back-calculation using measured emission rates and in situ measurements of the control equipment efficiencies, as approved by the department; or
- (c) Measure the quantities of radionuclides captured in each control device, coupled with in situ measurements of the control equipment efficiencies, as approved by the department; or
- (d) Sample the effluent upstream from all control devices, as approved by the department; or
- (e) Use an alternative method approved by the department.

(22) "**Replacement-in-kind**" means the substitution of existing systems, equipment, components, or devices of an emission unit's control technology with systems, equipment, components, or devices with equivalent, or better, performance specifications that will perform the same function(s).

(23) "**Routine**" means:

- (a) Maintenance, repair, or replacement-in-kind performed on systems, equipment, components, or devices of an emission unit's abatement technology as a planned part of an established inspection, maintenance, or quality assurance program that does not increase the emission unit's operating design capacity; or
- (b) Normal, day-to-day operations of a facility.

(24) "**Sealed source**" means radioactive material that is permanently bonded or fixed in a capsule or matrix, or radioactive material in airtight containers, designed to prevent release and dispersal of the radioactive material under the most severe conditions encountered in normal use and handling.

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(25) “**Significant**” means the potential-to-emit airborne radioactivity at a rate that could increase the TEDE to the MEI by at least 1.0 mrem/yr as a result of a proposed modification.

(26) “**Total effective dose equivalent**” (TEDE) means the sum of the dose equivalent due to external exposures and the CEDE due to internal exposures.

(27) “**Uranium fuel cycle**” means the operations of milling uranium ore, chemical conversion of uranium, isotopic enrichment of uranium, fabrication of uranium fuel, generation of electricity in a nuclear power plant that uses uranium fuel, and reprocessing of spent uranium fuel, to the extent that these operations solely support the production of electrical power for public use. Excluded are mining operations, waste disposal sites, transportation of any radioactive material, and the reuse of recovered nonuranium special nuclear and by-product materials from the cycle.

2.0 Applicability

1. The standards and requirements of this chapter apply statewide at the facilities that emit radionuclides to the air, licensed by the department or by the United States Nuclear Regulatory Commission (NRC). (WAC 246-247-010(1)(a))
2. The standards and requirements of this chapter apply to point sources, nonpoint sources, and fugitive emissions. (WAC 246-247-010(2))
3. The standards and requirements of this chapter apply to stationary and mobile emission units, whether temporary or permanent. (WAC 246-247-010(3))
4. The control technology standards and requirements of this chapter apply to the abatement technology and indication devices of facilities and emission units subject to this chapter. Control technology requirements apply from entry of radionuclides into the ventilated vapor space to the point of release to the environment. (WAC 246-247-010(4))

3.0 Exemptions

1. Sealed sources of radiation are exempt from the requirements of this license because they release no airborne radioactivity, or they prima facie comply with the standards in WAC 246-247-040, or they are already adequately regulated under other requirements. (WAC 246-247-020(1))
2. No exemptions from the standards in WAC 246-247-040 will be granted. (WAC 246-247-020(2)(a))
3. A nonfederal facility may request exemption from some of the requirements of WAC 246-247-060 and 246-247-075 if the potential-to-emit, for the emission unit(s) under consideration, results in compliance at level 1 of the COMPLY computer code or level 1 of

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the NCRP's Commentary No. 3, or equivalent as approved by the department. (WAC 246-247-020(2)(b))

4. The facility shall submit all the data necessary to make the exemption determinations. The department shall determine if any exemptions apply. (WAC 246-247-020(2)(d))
5. The department may require a facility with exempt emission units to submit a radioactive air emissions report to confirm compliance with applicable standards. The department reserves the right to conduct inspections and audits of the facility to confirm the status of its exempt emission units. (WAC 246-247-020(3))
6. Naturally occurring airborne radionuclides are exempt from the requirements of this license unless the concentrations or rates of emissions have been enhanced by industrial processes. (WAC 246-247-020(4))

4.0 General Standards

1. Standards for radioactive air emissions in the state of Washington are contained in WAC 173-480-040, 173-480-050, and 173-480-060. Additional standards for NRC licensees are contained in 10 CFR 20.1101 (as effective on January 9, 1997). In accordance with WAC 173-480-050(3), the department shall enforce the most stringent standard in effect, notwithstanding any agreement between EPA and any other agency, including those agreements made pursuant to 42 USC 7412(d)(9). (WAC 246-247-040(1))
2. In addition to the radioactive air emission standards of WAC 246-247-040(1), the department's radioactive materials licensees shall comply with the limitations on radioactive air emissions contained in WAC 246-221-070. (WAC 246-247-040(2))
3. All new construction and significant modifications of emission units commenced after August 10, 1988 shall utilize BARCT. (WAC 246-247-040(3))
4. All existing emission units and nonsignificant modifications shall utilize ALARACT. (WAC 246-247-040(4))
5. In order to implement the standards in WAC 246-247-040(1), the department may set limits on emission rates for specific radionuclides from specific emission units and/or set requirements and limitations on the operation of the emission unit(s) as specified in a license. (WAC 246-247-040(5))
6. All emissions of radionuclides, including those due to emergency conditions resulting from startup, shutdown, maintenance activities, or process upsets are subject to the standards of WAC 246-247-040 and, therefore, subject to the enforcement actions of WAC 246-247-100. (WAC 246-247-040(6))

5.0 Emission Standards

1. The emission of radionuclides to the ambient air from the US Ecology Low Level Radioactive Waste Disposal Facility shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem per year. (WAC 246-247-040(1))
2. US Ecology will be limited to the radionuclides allowed in their Washington State Radioactive Materials License WN-I019-2. (WAC 246-247-040(5), WAC 246-247-060(5))

6.0 Applications, Registration, and Licensing

1. The department will be responsible for determining the facility's compliance with and enforcing the requirements of the radioactive air emissions license. (WAC 246-247-060)
2. Requirements for new construction or modification of emission units.
 - (a) Early in the design phase, the applicant shall submit a NOC containing the information required in Appendix A. (WAC 246-247-110)
 - (b) Within thirty days of receipt of the NOC, the department shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with Appendix B or C, respectively (WAC 246-247-120 or WAC 246-247-130). (WAC 246-247-060(1)(b))
 - (c) Within sixty days of receipt of all required information, the department shall issue an approval or denial to construct. The department may require changes to the final proposed control technology. (WAC 246-247-060(1)(c))
 - (d) The applicant may request a phased approval process by so stating and submitting a limited application. The department may grant a conditional approval to construct for such activities as would not preclude the construction or installation of any control or monitoring equipment required after review of the completed application. (WAC 246-247-060(1)(d))
 - (e) The department shall issue a license, or amend an existing license, authorizing operation of the emission unit(s) when the proposed new construction or modification is complete. For new construction, this action shall constitute registration of the emission unit(s). (WAC 246-247-060 (1)(e))
3. Requirements for modification of unregistered emission units that are not exempt from these regulations.

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- (a) The applicant shall submit an application containing the information required in WAC 246-247-110 Appendix A. **(WAC 246-247-060(2)(a))**
 - (b) Within thirty days of receipt of the application, the department shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with Appendix B or C, respectively (WAC 246-247-120 or WAC 246-247-130). **(WAC 246-247-060(2)(b))**
 - (c) Within sixty days of receipt of all required information, the department shall issue or amend the license. This action shall constitute registration of the emission unit(s). A determination of noncompliance may result in the issuance of a notice of violation. **(WAC 246-247-060(2)(c))**
 - (d) The department reserves the right to require the owner of an existing, unregistered emission unit to make modifications necessary to comply with the applicable standards of WAC 246-247-040. **(WAC 246-247-060(2)(d))**
- 4. If an emission unit is in violation of any standards contained in WAC 246-247-040, the facility shall either submit a compliance plan which describes how it intends to achieve compliance with the standards, and/or cease operation of the emission unit(s). The facility shall submit the compliance plan within forty-five days of the notice of violation. The cessation of operation of the emission unit(s) shall not necessarily exempt the facility from the requirements of WAC 246-247 if active or passive ventilation and radioactive air emission controls will still be required. The department reserves the right to take further enforcement action, if necessary, in accordance with WAC 246-247-100. **(WAC 246-247-060(3))**
 - 5. The facility shall notify the department at least seven calendar days prior to any planned preoperational tests of new or modified emission units that involve emissions control, monitoring, or containment systems of the emission unit(s). The department reserves the right to witness or require preoperational tests involving the emissions control, monitoring, or containment systems of the emission unit(s). **(WAC 246-247-060(4))**
 - 6. The license shall specify the requirements and limitations of operation to assure compliance with WAC 246-247. The facility shall comply with the requirements and limitations of the license. **(WAC 246-247-060(5))**
 - 7. Facilities may request a single categorical license which identifies limits and conditions of operation for similar multipurpose temporary and/or portable emission units. When applicable, the license shall be part of the facility's air operating permit. **(WAC 246-247-060(8))**

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8. All facilities with licensed emission units, except for radioactive materials licensees, shall submit a request to the department for renewal of their radioactive air emissions license at least sixty days prior to expiration of the license or as required by the air operating permit. All renewal requests shall include a summary of the operational status of all emission units, the status of facility compliance with the standards of WAC 246-247-040, and the status of any corrective actions necessary to achieve compliance with the requirements of WAC 246-247. Facilities with licensed emission units that also hold a radioactive materials license issued by the department shall submit this information along with their radioactive material license renewal submittal. If the department is unable to renew a radioactive air emissions license before its expiration date, the existing license, with all of its requirements and limitations, remains in force until the department either renews or revokes the license. (WAC 246-247-060(9))

7.0 Fees

All facilities under the authority of this chapter shall submit fees in accordance with WAC 246-254-160. (WAC 246-247-065(1))

Those facilities required by WAC 246-254-160(2) to submit an application fee, shall submit the fee with the application. (WAC 246-247-065(2))

8.0 Monitoring, Testing, and Quality Assurance

1. The department may, upon request by a nonfederal licensee, authorize provisions specific to that nonfederal licensee, other than those already set forth in WAC 246-247-075 for nonfederal emission unit monitoring, testing, or quality assurance, so long as the department finds reasonable assurance of compliance with the performance objectives of this chapter. (WAC 246-247-075 (1))
2. Equipment and procedures used for the continuous monitoring of radioactive air emissions shall conform, as applicable, to the guidance contained in ANSI N13.1, ANSI N42.18, ANSI N323, ANSI N317, reference methods 1, 1A, 2, 2A, 2C, 2D, 4, 5, and 17 of 40 CFR Part 60, Appendix A, 40 CFR Part 52, Appendix E, and any other methods approved by the department. (WAC 246-247-075(2))
3. The operator of an emission unit with a potential-to-emit of less than 0.1 mrem/yr TEDE to the MEI may estimate those radionuclide emissions, in lieu of monitoring, in accordance with 40 CFR 61 Appendix D, or other procedure approved by the department. The department may require periodic confirmatory measurements (e.g., grab samples) during routine operations to verify the low emissions. Methods to implement periodic confirmatory monitoring shall be approved by the department. (WAC 246-247-075(3))

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4. The department may allow a facility to use alternative monitoring procedures or methods if continuous monitoring is not a feasible or reasonable requirement. **(WAC 246-247-075(4))**
5. Licensed facilities shall conduct and document a quality assurance program. Except for those types of facilities specified in WAC 246-247-075 (5), the quality assurance program shall be compatible with applicable national standards such as ANSI/ASME NQA-1-1988, ANSI/ASME NQA-2-1986, QA/R-2, and QA/R-5. **(WAC 246-247-075(6))**
6. Facilities shall monitor nonpoint and fugitive emissions of radioactive material. **(WAC 246-247-075(8))**
7. The department may conduct an environmental surveillance program to ensure that radiation doses to the public from emission units are in compliance with applicable standards. The department may require the operator of any emission unit to conduct stack sampling, ambient air monitoring, or other testing as necessary to demonstrate compliance with the standards in WAC 246-247-040. **(WAC 246-247-075(9))**
8. The department may require the owner or operator of an emission unit to make provision, at existing emission unit sampling stations, for the department to take split or collocated samples of the emissions. **(WAC 246-247-075(10))**
9. The planning for any proposed new construction or significant modification of the emission unit must address accidental releases with a probability of occurrence during the expected life of the emission unit of greater than one percent. **(WAC 246-247-075(11))**
10. All facilities must be able to demonstrate that appropriate supervisors and workers are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures. **(WAC 246-247-075(12))**
11. All facilities must be able to demonstrate the reliability and accuracy of the radioactive air emissions monitoring data. **(WAC 246-247-075(13))**
12. A facility owner or operator, or any other person may not render inaccurate any monitoring device or method required under chapter 70.98 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto. **(WAC 246-247-075(14))**

9.0 Inspections, Reporting, and Recordkeeping

1. The department reserves the right to inspect and audit all construction activities, equipment, operations, documents, data, and other records related to compliance with the requirements of this chapter. The department may require a demonstration of ALARACT at any time. **(WAC 246-247-080(1))**

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2. The department may, upon request by a nonfederal licensee, other than those already set forth in WAC 246-247-080, for nonfederal emission unit inspections, reporting, or recordkeeping, so long as the department finds reasonable assurance of compliance with the performance objectives of this chapter. **(WAC 246-247-080(2))**
3. The facility shall annually submit to the department the information requirements adopted in WAC 246-247-080(2), as applicable, along with the following additional information, as applicable:
 - (a) The results of emission measurements for those emission units subject only to periodic confirmatory measurements;
 - (b) Wind rose or joint frequency table;
 - (c) Annual average ambient temperature;
 - (d) Annual average emission unit gas temperature, if available;
 - (e) Annual total rainfall;
 - (f) Annual average emission unit flow rate and total volume of air released during the calendar year.

If this additional information is available in another annual report, the facility may instead provide a copy of that report along with the information requirements in WAC 246-247-080. Annual reports are due by June 30 for the previous calendar year's operations. **(WAC 246-247-080(3))** Agreement was reached with the department that US Ecology shall submit an annual report covering the air emissions for a calendar year no later than June 1st of the following year, corresponding to the Washington State Radioactive Materials License WN-I019-2. (AIR 14-1005, October 14, 2014) A copy must be submitted electronically to AIRRichland@doh.wa.gov, or sent to Washington State Department of Health, Office of Radiation Protection, Radioactive Air Emissions Section, 309 Bradley Blvd Suite 201, Richland, WA 99352-4524.

4. Any report or application that contains proprietary or procurement-sensitive information shall be submitted to the department with those portions so designated. The department shall hold this information confidential, unless required to release the information pursuant to laws, regulations, or court order. **(WAC 246-247-080(4))**
5. The facility shall notify the department within twenty-four hours of any shutdown, or of any transient abnormal condition lasting more than four hours or other change in facility operations which, if allowed to persist, would result in emissions of radioactive material in excess of applicable standards or license requirements. If requested by the department, the facility shall submit a written report within ten days including known causes, corrective

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actions taken, and any preventive measures taken or planned to minimize or eliminate the chance of recurrence. **(WAC 246-247-080(5))**

6. The facility shall file a report of closure with the department whenever operations producing emissions of radioactive material are permanently ceased at any emission unit (except temporary emission units) regulated under this chapter. The closure report shall indicate whether, despite cessation of operations, there is still a potential for radioactive air emissions and a need for an active or passive ventilation system with emission control and/or monitoring devices. If decommissioning is planned and will constitute a modification, a NOC is required, as applicable, in accordance with WAC 246-247-060. **(WAC 246-247-080(6))**
7. The facility shall maintain a log for each emission unit that has received categorical approval under WAC 246-247-060(8). The log shall contain records of important operations parameters including the date, location, and duration of the release, measured or calculated radionuclide concentrations, the type of emissions (liquid, gaseous, solid), and the type of emission control and monitoring equipment. **(WAC 246-247-080(7))**
8. The facility shall maintain readily retrievable storage areas for all records and documents related to, and which may help establish compliance with, the requirements of this chapter. The facility shall keep these records available for department inspection for at least five years. **(WAC 246-247-080(8))**
9. The facility shall ensure all emission units are fully accessible to department inspectors. In the event the hazards associated with accessibility to a unit require training and/or restrictions or requirements for entry, the facility owner or operator shall inform the department, prior to arrival, of those restrictions or requirements. The owner or operator shall be responsible for providing the necessary training, escorts, and support services to allow the department to inspect the facility. **(WAC 246-247-080(9))**
10. The facility shall make available, in a timely manner, all documents requested by the department for review. The facility shall allow the department to review documents in advance of an inspection. The facility shall allow access to classified documents by representatives of the department with the appropriate security clearance and a demonstrable need-to-know. **(WAC 246-247-080(10))**
11. The facility shall respond in writing in a timely manner, or within a time limit set by the department, to inspection results which require the facility to implement corrective actions or any other actions so directed by the department. **(WAC 246-247-080(11))**
12. A facility owner or operator, or any other person may not make any false material statement, representation, or certification in any form, notice, or report required under chapter 70.98 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto. **(WAC 246-247-080(12))**

10.0 Compliance Determination for Existing Emission Units and Facilities

1. The department may, upon request of a nonfederal licensee, authorize provisions specific to that nonfederal licensee, other than those already set forth in WAC 246-247-085 for determining compliance with appropriate dose equivalent standards by nonfederal emission units, so long as the department finds reasonable assurance of compliance with the performance objectives of this chapter. **(WAC 246-247-085(1))**
2. Facilities shall use computer codes or procedures approved by the department. The CAP88 and/or COMPLY computer codes are approved for use in the determination of compliance with the dose equivalent standard. **(WAC 246-247-085(2))**
3. The determination of compliance with the dose equivalent standard of WAC 246-247-040 shall include all radioactive air emissions resulting from routine and non-routine operations for the past calendar year. **(WAC 246-247-085(3))**
4. For showing compliance with the standard using the COMPLY code:
 - The release height will be 4 meters.
 - Release duration will be 1 hour
 - Release flow rate will be 1000 cfm
 - Building height will be 7 meter
 - Building width will be 16 meters
 - Distance to farm producing meat, milk or vegetables is 10,000 meters. **(WAC 246-247-085(2))**
5. For showing compliance with the standard using the CAP88 code
 - Population file for Hanford
 - Wind file for the most current wind file for the Hanford reservation
 - The source type will be Stack
 - Stack Height will be 4 meters
 - The source diameter will be 1 m²
 - Plume type will be None
 - The lid height will be 1000 m (Default)
 - Agricultural will be default for Washington State.
 - On the Nuclide page, the decay chain length will be 1. Progeny should be deleted, and entered as shown on the manifest for the waste package.
 - The chemical form for each nuclide will be the default
 - Size will be the default for the nuclide. **(WAC 246-247-085(2))**
6. The annual isotopic activity that may have been released (Bq/yr) will be calculated by:
 - (a) Assuming that any beta activity above background from the representative air sample contains the beta emitters that were manifested in the packages inspected, or the

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manifested activity of the shipment. An air concentration will be determined by multiplying the measured net alpha or net beta activity concentration by an activity fraction of the isotopes present (Isotope activity in Bq/total beta emitting activity in Bq):

$$A(i) = \text{Activity concentration Bq/m}^3 \times \frac{\text{Isotopic activity (Bq)}}{\text{Total activity (Bq)}}$$

- (b) This concentration will be multiplied by 1000 ft³/min (assumed flow rate) times the assumed length of time of an inspection air sample (60 minutes/inspection) multiplied by the number of inspections in the year in question.

$$A(i) \frac{\text{Bq}}{\text{m}^3} \times 1000 \frac{\text{ft}^3}{\text{minute inspection}} \times 60 \text{ minutes} \times \frac{\text{Inspection}}{\text{year}} \times \text{correction factor} \left(\frac{\text{m}^3}{\text{ft}^3} \right) = \text{Isotope release} \left(\frac{\text{Bq}}{\text{year}} \right)$$

The isotopes released are also referred to as the Release Rate (RR). The units can be in any convenient unit, and should be the same as required by the code used. **(WAC 246-247-030(21)(e))**

11.0 Enforcement Actions

1. In accordance with RCW 70.94.422, the department may take any of the following actions to enforce compliance with the provisions of this chapter:
 - (a) Notice of violation and compliance order (RCW 70.94.332).
 - (b) Restraining order or temporary or permanent injunction (RCW 70.94.425; also RCW 70.98.140).
 - (c) Penalty: Fine and/or imprisonment (RCW 70.94.430).
 - (d) Civil penalty: Up to ten thousand dollars for each day of continued noncompliance (RCW 70.94.431 (1) through (7)).
 - (e) Assurance of discontinuance (RCW 70.94.435). **(WAC 246-247-100(1))**
2. The department, in accordance with RCW 70.98.050 (4)(1), may issue subpoenas in order to compel attendance of witnesses and/or production of records or documents in connection with any adjudicative or other administrative proceeding. **(WAC 246-247-100(2))**
3. The department, in accordance with RCW 70.98.160, may impound sources of ionizing radiation. **(WAC 246-247-100(3))**
4. The secretary of the department, in accordance with RCW 43.70.190, is authorized to bring an action to prohibit a violation or a threatened violation of any department rules or

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regulation, or to bring any legal proceeding authorized by law to a county superior court.
(WAC 246-247-100(4))

5. Any party, against which an enforcement action is brought by the department, has the right to submit an application for the adjudicative process in accordance with chapter 246-10 WAC and chapter 34.05 RCW. **(WAC 246-247-100(5))**

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Enclosure 1 – Emission Unit Specific License