Tru Waste Retrieval Project
Richland WA
FF-01
Mobile Drum Venting System (Active Vent)
(EU 755; NOC 1035)

Licensing File

Table of Contents

1

LICENSING CHECKLIST

(Rev. 2)

1 to 1 Revisions: EU 755 NOC 804

Please initial boxes, as appropriate, rather than placing a check mark in the box

RAES date received N/A and ~~IM# assigned~~ LB 4751.

NEW: EU 755 NOC 1035

Entered into RAES Tracking/RDTT 16-148. Completeness Review due N/A.

To HP3 (responsible for facility) for assignment: JWS

To assigned HP2: Tom F

Add draft Table of Contents and separator pages to file.

Conduct completeness review using "Completeness Review Checklist" and draft "Completeness Notification" letter **within 20 days** of RAES date received. Discuss any concerns/issues with HP3 during this 20 day period.

Place "Completeness Review Checklist" in license file and prepare draft "Completeness Determination" letter. Letter *must go out within 30 days* of RAES date received.

- If application is incomplete, you may need to repeat this (and prior) step(s).
- If application complete, assign NOC ID and EU ID, as appropriate. **Do <u>NOT</u>** obsolete 'old' NOC, EU, etc. before the new final, approved, license is issued (you may have to exclude old from AOP for printing purposes).

Forward license file and draft "Completeness Determination" letter to HP3 for review. *(If 28-day draft has already been reviewed by licensee and HP3 and is ready to go out at the 30 day mark, you may combine completeness and 28-day draft.)*

HP3 - work with HP2 to resolve any comments then forward license file and draft "Completeness Determination" letter to HSC for review.

HSC – work with HP3 to resolve any comments then forward draft "Completeness Determination" letter to AA3 for finalization (HSC will update RAES Tracking/RDTT upon transmittal and will note the 28-Day Draft Due Date, below, upon returning file to you). You now have **60 days** to issue the official 28-Day Draft Approval letter.

28-Day Draft Due Date:_____ (See next step, immediately.)

Is it necessary to send the 20-Day City Notification? If yes, prepare **ASAP** and forward to HP3 for review (follow same process as above for letter issuance [HP3 -> HSC -> AA3]). HSC will update RAES Tracking/RDTT upon transmittal and will notify you of 20-Day Comment Due Date, below, upon returning the file to you).

- USDOE-RL Hanford Site is exempt from this requirement.
- If RAEL is part of a Materials or Waste license, the responsibility falls on them to notify the city.
- We issue these notifications for *new licenses or renewals only*; we do not issue them for modifications.

20-Day Comment Due Date:_____

(see page 2)

Within 40 days _____ of completeness determined, complete thorough review of application and draft license. **Any EU specific conditions must have justification/basis documented in the 'explanation' section of the database**. Discuss any concerns/issues with HP3 during this 40 day period. Also, have HSC do an informal review of the license for consistency before sending to the licensee.

HSC Informal License Review

Send informal draft license to licensee for review, allowing them **a week to 10 days** to get comments back to you. *Be sure to include a 'due date'.*

Upon receipt of response from licensee, resolve any comments/issues/concerns right away and finalize the draft license and transmittal letter (28-day Draft). **At least 3-5 days** before 28-Day Draft Due Date, send license file, draft transmittal letter, and draft license to HP3 for final review.

HP3 approves and forwards license file and draft letter to HSC for review. HSC reviews and forwards to AA3 for finalization (HSC will hold file until licensee receives 28-day draft).

Upon licensee receipt of 28-day draft, HSC will update RAES Tracking/RDTT, verify database concurrence, and return license file to HP2 with due date for licensee response or final issuance of license.

Final Due Date: 12/19/16

Once licensee has accepted, or the 28 days has expired (**no more than 2-3 days before**), obtain an approval number (AIR#) from AA3 and prepare final license and "Final Approval" letter. Send license file (*be sure table of contents provides for final letter/license*), final transmittal letter, and final license to HP3 for final review.

HP3 approves and forwards to HSC for review. HSC forwards to AA3 for finalization.

HSC finalizes:

- Add final letter(s)
- Update RAES Tracking/RDTT
- Verify database concurrence
- Update Licensee List
- Add final file to database 'inbox' to be entered/scanned

2

Frazier, Thomas (DOH)

From:	Faust, Eric T <Eric.Faust@rl.doe.gov>
Sent:	Tuesday, September 13, 2016 8:59 AM
To:	Frazier, Thomas (DOH)
Cc:	Schmidt, John W (DOH); Karschnia, Paul T; Carleo, Frank J; Engelmann, Richard H
Subject:	RE: Informal Drafts of Transuranic Waste Retrieval Project Licenses NOCs 1035 to 1040
Attachments:	NOC 1037 EU 1322 Transuranic Waste Portable Enclosure System #1 rl edits.pdf; NOC 1040 EU 1327 Transuranic Waste Next Generation Retrieval (active) rl edits.pdf

Tom,

Sorry for the wait. Please see attached NOCs for 1037 and 1040. We highlighted in yellow the instances where either NGR or PES should be removed from the licenses (instances of NGR should be redacted in NOC 1037 and instances of PES should be redacted in NOC 1040). Also in NOC 1040, we had questions regarding references to NOC 486. We indicated the comments in the yellow text bubble comment function in the pdf. These were the only comments that we have.

Thanks for the opportunity,

Eric
376-9607

From: Frazier, Thomas (DOH) [mailto:Thomas.Frazier@DOH.WA.GOV]
Sent: Tuesday, August 30, 2016 3:01 PM
To: Faust, Eric T <Eric.Faust@rl.doe.gov>; Karschnia, Paul T <Paul_T_Karschnia@rl.gov>
Cc: Schmidt, John <john.schmidt@doh.wa.gov>
Subject: Informal Drafts of Transuranic Waste Retrieval Project Licenses NOCs 1035 to 1040

Eric and Tad,

Here are informal drafts of the Licenses for the Transuranic Waste Project emission units for your review and comment.

Sincerely,

Tom
946-0774

3

Emission Unit ID: 755

200W DVS - Active

Mobile Drum Venting System (Active Vent)

This is a MINOR, ACTIVELY ventilated emission unit.

TRU Waste Retrieval

Emission Unit Information

Stack Height: ft. m. Stack Diameter 0.10 ft. 0.03 m.

Average Stack Effluent Temperature: 70 degrees Fahrenheit. 21 degrees Celsius.

Average Stack ExhaustVelocity: ft/second. m/second.

Abatement Technology BARCT WAC 246-247-040(3), 040(4)

state only enforceable: WAC 246-247-010(4), 040(5), 060(5)

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA Type Filter	1	Shall be a NucFil ® Model IHF-004 or other with prior approval by the department.

Monitoring Requirements

state enforceable: WAC 246-247-040(5), 060(5), and federally enforceable: 40 CFR 61 subpart H

Federal and State Regulatory	Monitoring and Testing Requirements	Radionuclides Requiring Measurement	Sampling Frequency
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)		TOTAL ALPHA TOTAL BETA TOTAL GAMMA	End of each shift of operation

Sampling Requirements Smears of the exhuast vent at the end of each shift of operation.

Additional Requirements

Additional monitoring or sampling requirements established by this License will be listed in the Conditions and Limitations section, if applicable.

Operational Status Activities for the TRU retrieval project Drum Venting Systems support decontamination and decommissioning operations at the Hanford Site.

This Emission Unit has 1 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
Mobile Drum Venting System (Active Vent) Operation (Replaces NOC 804)		Not Approved	1035

Conditions (state only enforceable: WAC 246-247-040(5), 060(5) if not specified)

1) The total abated emission limit for this Notice of Construction is limited to 3.90E-06 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).

2) This approval applies to those additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

Transuranic waste retrieval involves the processes for removing and dispositioning buried suspect transuranic mixed low-level radioactive waste (hereafter called TRU waste) from Hanford Site burial trenches for storage or disposal at other approved locations. Dispositioning is the orderly administration and handling of waste (including contaminated soil) from the low level burial grounds to place it in approved storage or disposal status. The handling includes such actions as: packaging, labeling and tracking waste; venting, assaying, and staging waste; inspecting waste and waste staging areas; sampling/characterizing/designating waste; making arrangements for the transfer of waste; completing necessary paperwork; and performing radiological and/or industrial hygiene surveys.

See the following for a detailed description of specific controls/conditions for each EU associated with the Transuranic Waste Retrieval Project:

EU 455 HEPA-Vacuums

~~EU 486 200 Area Diffuse/ Fugitive; Operation of the Transuranic Waste Retrieval~~ Project
EU 755 Mobile Drum Venting System (Active Ventilation) (MDVS)
EU 756 Mobile Drum Venting System (Passive Ventilation) (MDVS)
EU 1181 Categorical Drum Venting System 2 (DVS2)
EU 1322 Portable Enclosure System #1 (PES)
EU 1326 Vapor Extraction System (VES)
EU 1327 Next Generation Retrieval (NGR)

3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 7.70E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	1.30E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(e)

Alpha release rate based on Am-241 + Progeny. It is recognized that other radionuclides may be present in very limited quantities.
See condition; Release rates: Dart and other Venting Systems.

B/G - 0	1.92E-02	Liquid/Particulate Solid	WAC 246-247-030(21)(e)

Beta/Gamma release rate based on Cs-137 + Progeny. It is recognized that other radionuclides may be present in very limited quantities.
See condition; Release rates: Dart and other Venting Systems.

The radioactive isotopes identified for this emission unit are (no quantities specified):

Am - 241	Am - 243	Cf - 252	Cm - 244	Cs - 134
Cs - 137	Eu - 152	Eu - 154	Pu - 238	Pu - 239/240
Pu - 241	Sr - 90	U - 234	U - 235	U - 236
U - 238				

The potential release rates described in this Condition were used to determine control technologies and monitoring requirements for this approval. DOE must notify the Department of a "modification" to the emission unit, as defined in WAC 246-247-030(16). DOE must notify the Department of any changes to a NESHAP major emission unit when a specific isotope is newly identified as contributing greater than 10% of the potential TEDE to the MEI, or greater than 25% of the TEDE to the MEI after controls. (WAC 246-247-110(9)) DOE must notify the Department of any changes to potential release rates as required by state or federal regulations including changes that would constitute a significant modification to the Air Operating Permit under WAC 173-401-725(4). Notice will be provided according to the particular regulation under which notification is required. If the applicable regulation(s) does not address manner and type of notification, DOE will provide the Department with advance written notice by letter or electronic mail but not solely by copies of documents.

4) CONTAMINATION CONTROL - Post Filter Installation
The top of the drum shall be surveyed while inside the DVS, after installation of the NucFil® filter. If removable contamination is found, the drum lid shall be decontaminated before removal from the DVS. The drum shall be surveyed prior to leaving or immediately after removal from the DVS. Once removed from the DVS, the drum must be immediately decontaminated or contained such that the drum is free of removable contamination (i.e., less than 20 dpm/ 100 cm^2 alpha and less than 1000 dpm/100 cm^2 beta/gamma). Decontamination at the LLBG is attempted in a graded approach (dry rags, wet rags, decontamination solutions, fixatives, or over packing if other methods prove unsuccessful). (WAC 246-247-040(5) and WAC 246-247-060(5))

5) WDOH NOTIFICATION - Loss of Containment
WDOH will be notified per WAC 246-247-080(5) via email or the established procedures in the Environmental Notification program if a loss of containment occurs (dropping, spilling, puncturing a container, or otherwise encountering loss of integrity where contamination escapes containment), which exceeds 100,000 dpm/100 cm^2 beta/gamma or 2,000 dpm/100 cm^2 alpha removable contamination. (WAC 246-247-040(5) and WAC 246-247-060(5))

6) ALTERNATIVE RELEASE RATE APPROVAL, RELEASE RATES - Installation of Drum Vents
These alternative release fractions are approved for this emission unit.

A maximum of 9,000 containers of waste will be processed per year using the MDVS and/or DVS2s venting systems. The processing rate is designed to reflect potential emissions during an average handling time of 60 minutes per container. One drum is processed at a time per DVS or DVS2. Using a release fraction of 1.0 E-03 for particulates and a time factor of 1.03 (60 minutes per container multiplied by 9,000 containers and divided by

526,000 minutes per year).

The predicted release rate from the MDVS (active vent) without any emissions control equipment is 2.1 E-02 Ci/year and the predicted release rate with emissions control equipment is 1.0 E-05 Ci/year. The predicted release rates for the representative radionuclides Am-241+Progeny and Cs-137+Progeny are as follows:

Unabated PTE; Am-241+Progeny 1.3E-03 Ci/yr : Cs-137+Progeny 1.9E-02 Ci/yr
Abated PTE Am-241+Progeny 6.4E-07 Ci/y : Cs-137+Progeny 9.6E-06 Ci/yr

The predicted release rate (unabated) for using the MDVS (passive vent) without any emissions control equipment is 2.2E-05 Ci/yr and the predicted release rate (abated) with emissions control equipment is 2.2E-05 Ci/yr. The predicted release rates for the representative radionuclides Am 241+Progeny and Cs-137+Progeny are as follows:

Unabated PTE; Am-241+Progeny 4.3E-07 Ci/yr : Cs-137+Progeny 2.2E-05 Ci/yr
Abated PTE Am-241+Progeny 4.3E-07 Ci/y : Cs-137+Progeny 2.2E-05 Ci/yr

The passive vent of the MDVS exhausts potential emissions from the use of the HEPA vacuum mounted in the test chamber to collect metal filings after installation of a Nucfil® or equivalent filter. Release rates are calculated by multiplying surface area vacuumed by the contamination level. An estimate of the release rate is calculated by assuming the surface area of the boot that covers the drum lid during the filter installation process (8.3 square inches) multiplied by 9,000 drums with an average contamination level of 10,000 dpm/100 cm^2 beta/gamma and 200 dpm/100 cm^2 alpha. Using a release fraction of 1.0 for the HEPA vacuum use, the potential release rates from using the DVS is 4.3E-7 Ci/yr americium-241 and 2.2E-05 Ci/yr cesium-137. (WAC 246-247-040(5), WAC 246-247-060(5), WAC 246-247-075(4))

7) ALTERNATIVE APPROVAL - Annual Replacement
The system shall be built to meet NQA-1 requirements and shall be aerosol tested annually using ANSI N-510 as guidance for non-ANSI N-509 systems. If in-field aerosol testing is not feasible, an approved alternative is given to replace the filters on an annual basis with the manufacturer tested and certification of HEPA filter with a tested rating of 99.97% efficiency. Records of this testing shall be maintained on file. (WAC 246-247-040(5), WAC 246-247-060(5), WAC 246-247-075(4))

8) PROCESS DESCRIPTION - Venting of Containers
This approval applies to these additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

All work will be performed to meet ALARA practices and will be conducted according to applicable operating procedures, radiological control procedures, and radiological work permit (RWPs).
Vent filters will continue to be installed in designated containers via one of the drum venting systems described in this process description. These systems will ensure personnel and environmental protection. The methodology will require penetrating the container and inserting a vent. Penetration of the lid will be accomplished by either drilling through the lid or puncturing the lid with a filter dart (using Dart System). Container venting systems are described in the following text. Designated drums slated for venting will be vented with the Mobile Drum Venting System (MDVS), Drum Venting System 2 (DVS2), or other venting methods. (WAC 246-247-040(5) and WAC 246-247-060(5))

9) PROCESS DESCRIPTION - MDVS
This approval applies to these additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

The MDVS is enclosed in a trailer containing equipment allowing an operator to sample or vent the drum and install a Nucfil® or equivalent filter. Potential emissions from MDVS operations are point source emissions controlled as described in PROCESS DESCRIPTION - VENTING OF CONTAINERS, MDSV. Inside the MDVS trailer, bulging or potentially pressurized drums may be overpacked, placed in restraints and then vented. (WAC 246-247-040(5) and WAC 246-247-060(5))

10) WDOH NOTIFICATION - Drum Vent Failure
The department shall be notified via email or the established procedures in the Environmental Notification program within 24 hours of all drum vents that fail to be installed properly and smears show >2,000 dpm/100 cm^2 alpha or >100,000 dpm/100 cm^2 beta/gamma removable contamination (an example of a "failure" is a pressure release that blows past the seat of the boot or a deflagration). (WAC 246-247-040(5) and WAC 246-247-060(5))

11) CONTAMINATION CONTROL - Removable Contamination

Fixatives or other controls will be employed if removable contamination levels (other than spot contamination) exceed 100,000 dpm/100 cm^2 beta/gamma or exceed 2,000 dpm/100 cm^2 alpha. (WAC 246-247-040(5) and WAC 246-247-060(5))

12) ABATEMENT TECHNOLOGY - MDVS

The MDVS has a testable HEPA type filter for all emissions resulting from screening headspace gas sampling (HSGS) for hydrogen content and Nucfil® or equivalent filter installation. Metal filings or other residual cuttings from the drilling/filter installation process are removed from the drum lid with a HEPA vacuum. The test compartment is ventilated with a HEPA type filter and is designed to withstand a deflagration as described in the performance specification for this venting system (HNF 12180, Venting System for Low Level Burial Grounds Performance Specification).

The average annual flow for the exhaust port for the venting and HSGS operations is approximately 1 E- 4 meters ^3 /s. (consisting of a continuous flow in the milliliter per second range, with intermittent spikes in the liter per second range). The HEPA vacuum exhausts intermittently into the test chamber (at less than 300 cfm or 1.4 E-1 meters^3 /s.). (WAC 246-247-040(5) and WAC 246-247-060(5))

DUPLICATE

LB#4872

AIR 16-1104
NOC 1035

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

November 17, 2016

CERTIFIED MAIL
7015 0640 0007 5050 7777

Mr. Doug Shoop, Manager
United States Department of Energy
Richland Operations Office
P.O. Box 550, MSIN: A5-14
Richland, Washington 99352

Re: 28-Day Draft Approval of Notice of Construction (NOC) 1035

Reference: Email (LB# 4751), from John Schmidt (WDOH) to Multiple USDOE Staff, "NOC Consolidation", dated June 30, 2016.

Mr. Shoop:

As per the reference email, we have worked with your staff to make changes to move the NOCs and/or Emission Units (EUs) associated with this license from a one-to-many, to a one-to-one relationship. We appreciate your cooperation and willingness to support our future database needs and to make license actions more efficient and cost effective moving forward.

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), the update will be approved according to the enclosed License for:

Mobile Drum Venting System (Active Vent) Operation (Replaces NOC 804)
(EU 755; NOC 1035)

The Washington State Department of Health (DOH) considers the conditions, controls, monitoring requirements, and limitations of the License integral to approval of your application.

This approval shall take effect, and a final approval letter issued, twenty-eight (28) days after you receive this letter, unless you apply for an adjudicative proceeding, as described below.

If you accept the conditions and limitations of this approval and do not wish to apply for an adjudicative proceeding, but wish to proceed under this approval before the 28 days have

elapsed, please notify us in writing and the DOH will issue a final approval letter. Your notice should be mailed or faxed to:

DOH – Office of Radiation Protection
Radioactive Air Emissions Section
309 Bradley Blvd., Suite 201
Richland, Washington 98352
FAX: (509) 946-0876

If there are concerns with the conditions and limitations of the approval, please notify the DOH. If attempts to resolve the concerns fail, the DOH will deny your application and you may contest the conditions and limitations of this approval, within 28 days of receipt, by filing the enclosed Request for Adjudicative Proceeding or a document providing substantially the same information with the DOH, Adjudicative Service Unit (ASU), in a manner that shows proof of service on the ASU. The ASU's address is:

DOH - Adjudicative Service Unit
310 Israel Road SE
P.O. Box 47879
Olympia, Washington 98504-7879

You must include a copy of this approval with your application. *FILING SHALL NOT BE* DEEMED COMPLETE UNTIL THE ADJUDICATIVE SERVICE UNIT ACTUALLY RECEIVES YOUR APPLICATION.

If you have any questions regarding this approval, please contact Mr. Thomas Frazier at thomas.frazier@doh.wa.gov or by telephone at (509) 946-0774.

Sincerely,

P. John Martell, Manager
Radioactive Air Emissions Section

Enclosures: 1. Conditions and Limitations for EU 755 (NOC 1035)
2. Request for Adjudicative Proceedings

cc: (see next page)

cc: Ruth Allen, WRPS
Matthew Barnett, PNNL
Lilyann Bauder, Ecology
Shawna Berven, WDOH
Lucinda Borneman, WRPS
Lee Bostic, BNI
Frank Carleo, CHPRC
Cliff Clark, USDOE-RL
Jack Donnelly, WRPS
Dennis Faulk, EPA
Eric Faust, USDOE-RL
Tom Frazier, WDOH
Gary Fritz, MSA
Philip Gent, Ecology
Daniel Heuston, Ecology
Reed Kaldor, MSA
Paul Karschnia, CHPRC
Ed MacAlister, USDOE-RL
Jim McAuley, EPA
Valarie Peery, Ecology
John Schmidt, WDOH
Jeff Voogd, WRPS
Davis Zhen, EPA
Environmental Portal
RAES Tracking: Line 16-148; EU 755; NOC 1035

Emission Unit ID: 755

200W DVS - Active

Mobile Drum Venting System (Active Vent)

This is a MINOR, ACTIVELY ventilated emission unit.

TRU Waste Retrieval

Emission Unit Information

Stack Height: ft. m. Stack Diameter 0.10 ft. 0.03 m.

Average Stack Effluent Temperature: 70 degrees Fahrenheit. 21 degrees Celsius.

Average Stack ExhaustVelocity: ft/second. m/second.

Abatement Technology BARCT WAC 246-247-040(3), 040(4)

state only enforceable: WAC 246-247-010(4), 040(5), 060(5)

Zone or Area	*Abatement Technology*	*Required # of Units*	*Additional Description*
	HEPA Type Filter	1	Shall be a Nucfilter or equivalent filter

Monitoring Requirements

state enforceable: WAC 246-247-040(5), 060(5), and federally enforceable: 40 CFR 61 subpart H

Federal and State Regulatory	Monitoring and Testing Requirements	Radionuclides Requiring Measurement	Sampling Frequency
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)		TOTAL ALPHA TOTAL BETA TOTAL GAMMA	End of each shift of operation

Sampling Requirements Smears of the exhuast vent at the end of each shift of operation.

Additional Requirements

Additional monitoring or sampling requirements established by this License will be listed in the Conditions and Limitations section, if applicable.

Operational Status Activities for the TRU retrieval project Drum Venting Systems support decontamination and decommissioning operations at the Hanford Site.

This Emission Unit has 1 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
Mobile Drum Venting System (Active Vent) Operation (Replaces NOC 804)		Not Approved	1035

Conditions (state only enforceable: WAC 246-247-040(5), 060(5) if not specified)

1) The total abated emission limit for this Notice of Construction is limited to 3.90E-06 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).

2) This approval applies to those additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

Transuranic waste retrieval involves the processes for removing and dispositioning buried suspect transuranic mixed low-level radioactive waste (hereafter called TRU waste) from Hanford Site burial trenches for storage or disposal at other approved locations. Dispositioning is the orderly administration and handling of waste (including contaminated soil) from the low level burial grounds to place it in approved storage or disposal status. The handling includes such actions as: packaging, labeling and tracking waste; venting, assaying, and staging waste; inspecting waste and waste staging areas; sampling/characterizing/designating waste; making arrangements for the transfer of waste; completing necessary paperwork; and performing radiological and/or industrial hygiene surveys.

See the following for a detailed description of specific controls/conditions for each EU associated with the Transuranic Waste Retrieval Project:

EU 455 Hanford Sitewide W-PORTEX-007
EU 1440 200 Area Diffuse/ Fugitive; Operation of the Transuranic Waste Retrieval Project

EU 755 Mobile Drum Venting System (Active Ventilation) (MDVS)
EU 756 Mobile Drum Venting System (Passive Ventilation) (MDVS)
EU 1181 Categorical Drum Venting System 2 (DVS2)
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EU 1326 Vapor Extraction System (VES)
EU 1327 Next Generation Retrieval (NGR)

3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 7.70E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	1.30E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(e)

Alpha release rate based on Am-241 + Progeny. It is recognized that other radionuclides may be present in very limited quantities.
See condition; Release rates: Dart and other Venting Systems.

B/G - 0	1.92E-02	Liquid/Particulate Solid	WAC 246-247-030(21)(e)

Beta/Gamma release rate based on Cs-137 + Progeny. It is recognized that other radionuclides may be present in very limited quantities.
See condition; Release rates: Dart and other Venting Systems.

The radioactive isotopes identified for this emission unit are (no quantities specified):

Am - 241	Am - 243	Cf - 252	Cm - 244	Cs - 134
Cs - 137	Eu - 152	Eu - 154	Pu - 238	Pu - 239/240
Pu - 241	Sr - 90	U - 234	U - 235	U - 236
U - 238				

The potential release rates described in this Condition were used to determine control technologies and monitoring requirements for this approval. DOE must notify the Department of a "modification" to the emission unit, as defined in WAC 246-247-030(16). DOE must notify the Department of any changes to a NESHAP major emission unit when a specific isotope is newly identified as contributing greater than 10% of the potential TEDE to the MEI, or greater than 25% of the TEDE to the MEI after controls. (WAC 246-247-110(9)) DOE must notify the Department of any changes to potential release rates as required by state or federal regulations including changes that would constitute a significant modification to the Air Operating Permit under WAC 173-401-725(4). Notice will be provided according to the particular regulation under which notification is required. If the applicable regulation(s) does not address manner and type of notification, DOE will provide the Department with advance written notice by letter or electronic mail but not solely by copies of documents.

4) CONTAMINATION CONTROL - Post Filter Installation
The top of the drum shall be surveyed while inside the DVS, after installation of the NucFil® filter. If removable contamination is found, the drum lid shall be decontaminated before removal from the DVS. The drum shall be surveyed prior to leaving or immediately after removal from the DVS. Once removed from the DVS, the drum must be immediately decontaminated or contained such that the drum is free of removable contamination (i.e., less than 20 dpm/ 100 cm^2 alpha and less than 1000 dpm/100 cm^2 beta/gamma). Decontamination at the LLBG is attempted in a graded approach (dry rags, wet rags, decontamination solutions, fixatives, or over packing if other methods prove unsuccessful). (WAC 246-247-040(5) and WAC 246-247-060(5))

5) WDOH NOTIFICATION - Loss of Containment
WDOH will be notified per WAC 246-247-080(5) via email or the established procedures in the Environmental Notification program if a loss of containment occurs (dropping, spilling, puncturing a container, or otherwise encountering loss of integrity where contamination escapes containment), which exceeds 100,000 dpm/100 cm^2 beta/gamma or 2,000 dpm/100 cm^2 alpha removable contamination. (WAC 246-247-040(5) and WAC 246-247-060(5))

6) ALTERNATIVE RELEASE RATE APPROVAL, RELEASE RATES - Installation of Drum Vents
These alternative release fractions are approved for this emission unit.

A maximum of 9,000 containers of waste will be processed per year using the MDVS and/or DVS2s venting systems. The processing rate is designed to reflect potential emissions during an average handling time of 60 minutes per container. One drum is processed at a time per DVS or DVS2. Using a release fraction of 1.0 E-03 for particulates and a time factor of 1.03 (60 minutes per container multiplied by 9,000 containers and divided by 526,000 minutes per year).

The predicted release rate from the MDVS (active vent) without any emissions control equipment is 2.1 E-02 Ci/year and the predicted release rate with emissions control equipment is 1.0 E-05 Ci/year. The predicted release rates for the representative radionuclides Am-241+Progeny and Cs-137+Progeny are as follows:

Unabated PTE;	Am-241+Progeny	1.3E-03 Ci/yr	:	Cs-137+Progeny	1.9E-02 Ci/yr
Abated PTE	Am-241+Progeny	6.4E-07 Ci/y	:	Cs-137+Progeny	9.6E-06 Ci/yr

The predicted release rate (unabated) for using the MDVS (passive vent) without any emissions control equipment is 2.2E-05 Ci/yr and the predicted release rate (abated) with emissions control equipment is 2.2E-05 Ci/yr. The predicted release rates for the representative radionuclides Am 241+Progeny and Cs-137+Progeny are as follows:

Unabated PTE;	Am-241+Progeny	4.3E-07 Ci/yr	:	Cs-137+Progeny	2.2E-05 Ci/yr
Abated PTE	Am-241+Progeny	4.3E-07 Ci/y	:	Cs-137+Progeny	2.2E-05 Ci/yr

The passive vent of the MDVS exhausts potential emissions from the use of the HEPA vacuum mounted in the test chamber to collect metal filings after installation of a Nucfil® or equivalent filter. Release rates are calculated by multiplying surface area vacuumed by the contamination level. An estimate of the release rate is calculated by assuming the surface area of the boot that covers the drum lid during the filter installation process (8.3 square inches) multiplied by 9,000 drums with an average contamination level of 10,000 dpm/100 cm^2 beta/gamma and 200 dpm/100 cm^2 alpha. Using a release fraction of 1.0 for the HEPA vacuum use, the potential release rates from using the DVS is 4.3E-7 Ci/yr americium-241 and 2.2E-05 Ci/yr cesium-137. (WAC 246-247-040(5), WAC 246-247-060(5), WAC 246-247-075(4))

7) ALTERNATIVE APPROVAL - Annual Replacement
The system shall be built to meet NQA-1 requirements and shall be aerosol tested annually using ANSI N-510 as guidance for non-ANSI N-509 systems. If in-field aerosol testing is not feasible, an approved alternative is given to replace the filters on an annual basis with the manufacturer tested and certification of HEPA filter with a tested rating of 99.97% efficiency. Records of this testing shall be maintained on file. (WAC 246-247-040(5), WAC 246-247-060(5), WAC 246-247-075(4))

8) PROCESS DESCRIPTION - Venting of Containers
This approval applies to these additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

All work will be performed to meet ALARA practices and will be conducted according to applicable operating procedures, radiological control procedures, and radiological work permit (RWPs).
Vent filters will continue to be installed in designated containers via one of the drum venting systems described in this process description. These systems will ensure personnel and environmental protection. The methodology will require penetrating the container and inserting a vent. Penetration of the lid will be accomplished by either drilling through the lid or puncturing the lid with a filter dart (using Dart System). Container venting systems are described in the following text. Designated drums slated for venting will be vented with the Mobile Drum Venting System (MDVS), Drum Venting System 2 (DVS2), or other venting methods. (WAC 246-247-040(5) and WAC 246-247-060(5))

9) PROCESS DESCRIPTION - MDVS
This approval applies to these additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

The MDVS is enclosed in a trailer containing equipment allowing an operator to sample or vent the drum and install a NucFil® or equivalent filter. Potential emissions from MDVS operations are point source emissions controlled as described in Process Description: Venting of Containers, MDSV. Inside the MDVS trailer, bulging or potentially pressurized drums may be overpacked, placed in restraints and then vented. (WAC 246-247-040(5) and WAC 246-247-060(5))

10) WDOH NOTIFICATION - Drum Vent Failure
The department shall be notified via email or the established procedures in the Environmental Notification program within 24 hours of all drum vents that fail to be installed properly and smears show >2,000 dpm/100 cm^2 alpha or

>100,000 dpm/100 cm^2 beta/gamma removable contamination (an example of a "failure" is a pressure release that blows past the seat of the boot or a deflagration). (WAC 246-247-040(5) and WAC 246-247-060(5))

11) CONTAMINATION CONTROL - Removable Contamination
Fixatives or other controls will be employed if removable contamination levels (other than spot contamination) exceed 100,000 dpm/100 cm^2 beta/gamma or exceed 2,000 dpm/100 cm^2 alpha. (WAC 246-247-040(5) and WAC 246-247-060(5))

12) ABATEMENT TECHNOLOGY - Mobile Drum Venting System
The MDVS has a testable HEPA type filter for all emissions resulting from screening headspace gas sampling (HSGS) for hydrogen content and Nucfil® or equivalent filter installation. Metal filings or other residual cuttings from the drilling/filter installation process are removed from the drum lid with a HEPA vacuum. The test compartment is ventilated with a HEPA type filter and is designed to withstand a deflagration as described in the performance specification for this venting system (HNF 12180, Venting System for Low Level Burial Grounds Performance Specification).

The average annual flow for the exhaust port for the venting and HSGS operations is approximately 1 E- 4 meters ^3 /s. (consisting of a continuous flow in the milliliter per second range, with intermittent spikes in the liter per second range). The HEPA vacuum exhausts intermittently into the test chamber (at less than 300 cfm or 1.4 E-1 meters^3 /s.). (WAC 246-247-040(5) and WAC 246-247-060(5))

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH PROGRAMS
OFFICE OF RADIATION PROTECTION

In Re The Approval of:
28-DAY DRAFT APPROVAL OF NOTICE OF CONSTRUCTION (NOC) 1035

Docket No:
REQUEST FOR ADJUDICATIVE PROCEEDING

Approval No: **AIR 16-1104**

THE STATE OF WASHINGTON TO:

Mr. Doug Shoop, Manager
United States Department of Energy
Richland Operations Office
P.O. Box 550, MSIN: A5-14
Richland, Washington 99352

If you wish to request an adjudicative proceeding, you or your attorney must COMPLETE AND FILE THIS FORM OR A DOCUMENT PROVIDING SUBSTANTIALLY THE SAME INFORMATION WITH THE DEPARTMENT OF HEALTH ADJUDICATIVE SERVICE UNIT WITHIN TWENTY-EIGHT (28) DAYS OF YOUR RECEIPT of this Request for Adjudicative Proceeding form and a copy of the Office of Radiation Protection's approval, **AIR 16-1104**.

You must file your application in a manner that shows proof of service on the Adjudicative Service Unit, at the following address:

Department of Health
Adjudicative Service Unit
310 Israel Road S.E.
P.O. Box 47879
Olympia, WA 98504-7879

With your application, you must include a copy of the Office of Radiation Protection's approval.

FILING SHALL NOT BE DEEMED COMPLETE UNTIL THE ADJUDICATIVE SERVICE UNIT ACTUALLY RECEIVES YOUR APPLICATION.

YOU HAVE THE RIGHT TO a formal hearing in this matter conducted pursuant to Revised Code of Washington (RCW) 43.70.115, Chapter 34.05 RCW, and Chapter 246-10 of the Washington Administrative Code (WAC). Alternatively, you may waive the formal hearing and submit a written statement and supporting documents setting out your position, your defenses, and any mitigating circumstances that you wish to bring to the Department's attention.
You have the right to be represented by an attorney at your own expense.

I,

[ ] I **WILL BE** represented by an attorney. His/her name, address, and phone number are:

Name:

Address:

Phone:

[ ] **I WILL NOT BE** represented by an attorney.

If after submitting this request, you obtain attorney representation or change attorneys, you must notify the Adjudicative Service Unit.

II.

[ ] **I DO NOT** waive my right to a formal hearing.

[ ] **I DO** waive my right to a formal hearing. I understand that if I waive my right to a formal hearing, the Department may decide this matter solely with reference to information in the Department's possession and to such written statements and supporting documents as I may have submitted.

If you choose to waive your right to a formal hearing, please complete the following:

[ ] **I AM NOT** submitting documents to the Department in support of my position.

[ ] I **AM** submitting a sworn statement and/or other documents to the Department in support of my position. Instructions - Please indicate your responses below:

If you are submitting documents to the Department, please list and briefly identify all such documents in the space provided below and on any additional sheet that may be necessary.

III.

ADMISSION/DENIAL OF CONDITIONS OR LIMITATIONS

The Office of Radiation Protection's approval **AIR 16-1104**, dated **November 17, 2016**, contains conditions and limitations set out as numbered paragraphs. In the space below you must indicate, in good faith, whether you admit, or do not contest, or deny the conditions or limitations. Conditions or limitations denied or not contested may later be admitted. Conditions or limitations admitted or not contested shall be conclusively deemed true for further proceedings.

Instructions: I admit, deny, or do not contest the conditions or limitations as follows (fill in the appropriate paragraph number):

	Admit	Deny	Do Not Contest
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]
Paragraph ____	[ ]	[ ]	[ ]

Please attach any additional sheets that may be necessary to respond to all allegations.

If you have chosen not to waive your rights to a formal hearing, please state all grounds for contesting this matter in the space provided below and on any additional sheets that may be necessary.

IV.

You have the right to an interpreter, appointed at no cost, if you are a hearing impaired person or limited English speaking person. If any witness for you is a hearing impaired person or a limited English speaking person, an interpreter will be appointed at your expense.

I **[DO] / [DO NOT]** (circle one) request an interpreter be appointed. If an interpreter is requested, please indicate the person or persons for whom an interpreter is required and their primary language, and/or whether they are hearing impaired.

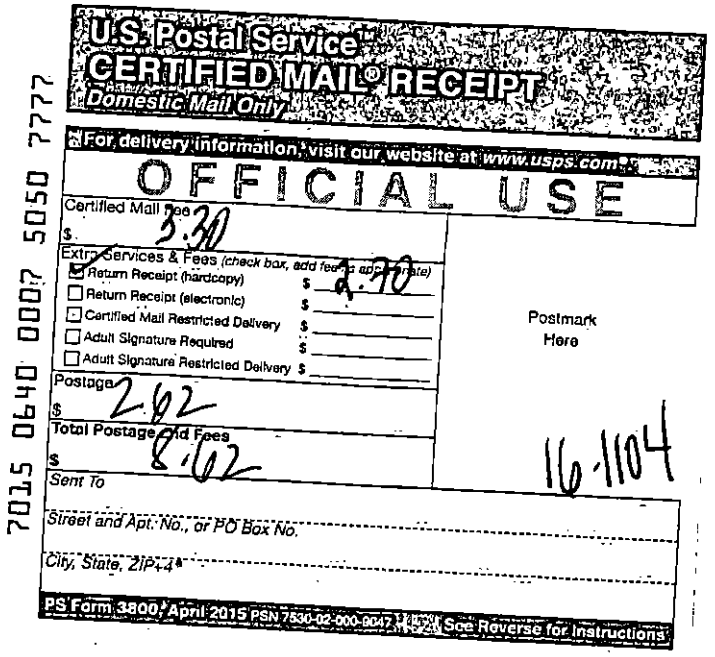
IF YOU FAIL TO FILE YOUR APPLICATION IN A TIMELY MANNER, OR IF YOU FILE YOUR APPLICATION TIMELY BUT FAIL TO APPEAR AT ANY SCHEDULED SETTLEMENT CONFERENCE, PREHEARING CONFERENCE, OR HEARING WITHOUT LEAVE TO DO SO, THE DEPARTMENT MAY DECIDE THIS MATTER WITHOUT YOUR YOUR PARTICIPATION AND WITHOUT FURTHER NOTICE TO YOU.

DATED this _____ day of _____, _____

_____
Party

_____
Party's Representative (if any)

WSBA #: _____



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16-1104

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 0640 0007 5050 7777

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Mr. Doug Shoop, Manager
United States Department of Energy
Richland Operations Office
P.O. Box 550, MSIN: A5-14
Richland, WA 99352

9590 9402 1337 5285 0589 02

2. Article Number (Transfer from service label)
7015 0640 0007 5050 7777

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature]
☐ Agent
☐ Addressee

B. Received by (Printed Name) [illegible]
C. Date of Delivery 11/21/16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

RICHLAND WA 99352 NOV 21 2016 USPS

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

5

LB 4906

AIR 16-1220
NOC 1035

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

December 23, 2016

Mr. Doug Shoop, Manager
United States Department of Energy
Richland Operations Office
P.O. Box 550, MSIN: A5-14
Richland, Washington 99352

Re: Final Approval of Notice of Construction (NOC) 1035

Mr. Shoop:

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), your modification was approved on December 19, 2016, according to the enclosed emission unit (EU) specific license for:

Mobile Drum Venting System (Active Vent) Operation (Replaces NOC 804)
(NOC 1035, EU 755)

The conditions, controls, monitoring requirements, and limitations of this license must be observed in order for you to be in compliance with WAC 246-247. Failure to meet any provision of this license may result in the revocation of approval, the issuance of Notices of Violation, or other enforcement actions under WAC 246-247-100.

If you have any questions regarding this approval, please contact Tom Frazier at Thomas.Frazier@doh.wa.gov or, by phone, at (509) 946-0774.

Sincerely,

John Martell, Manager
Radioactive Air Emissions Section

Enclosure: NOC 1035 for EU 755

cc: (see next page)

AIR 16-1220

cc: Ruth Allen, WRPS
Matthew Barnett, PNNL
Lilyann Bauder, Ecology
Shawna Berven, WDOH
Lucinda Borneman, WRPS
Lee Bostic, BNI
Frank Carleo, CHPRC
Cliff Clark, USDOE-RL
Jack Donnelly, WRPS
Rick Engelmann, CHPRC
Dennis Faulk, EPA
Thomas Frazier, WDOH
Eric Faust, USDOE-RL
Gary Fritz, MSA
Philip Gent, Ecology
Reed Kaldor, MSA
Paul Karschnia, CHPRC
Jim McAuley, EPA
John Schmidt, WDOH
Jeff Voogd, WRPS
Environmental Portal
RAES Tracking: Line 16-148; EU 755; NOC 1035

Emission Unit ID: 755

200W DVS - Active

Mobile Drum Venting System (Active Vent)

This is a MINOR, ACTIVELY ventilated emission unit.

TRU Waste Retrieval

Emission Unit Information

Stack Height: ft. m. Stack Diameter 0.10 ft. 0.03 m.

Average Stack Effluent Temperature: 70 degrees Fahrenheit. 21 degrees Celsius.

Average Stack ExhaustVelocity: ft/second. m/second.

Abatement Technology BARCT WAC 246-247-040(3), 040(4)

state only enforceable: WAC 246-247-010(4), 040(5), 060(5)

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA Type Filter	1	Shall be a Nucfilter or equivalent filter

Monitoring Requirements

state enforceable: WAC 246-247-040(5), 060(5), and federally enforceable: 40 CFR 61 subpart H

Federal and State Regulatory	Monitoring and Testing Requirements	Radionuclides Requiring Measurement	Sampling Frequency
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)		TOTAL ALPHA TOTAL BETA TOTAL GAMMA	End of each shift of operation

Sampling Requirements Smears of the exhuast vent at the end of each shift of operation.

Additional Requirements

Additional monitoring or sampling requirements established by this License will be listed in the Conditions and Limitations section, if applicable.

Operational Status *Activities for the TRU retrieval project Drum Venting Systems support decontamination and decommissioning operations at the Hanford Site.*

This Emission Unit has 1 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
Mobile Drum Venting System (Active Vent) Operation (Replaces NOC 804)	AIR 16-1220	12/19/2016	1035

Conditions (state only enforceable: WAC 246-247-040(5), 060(5) if not specified)

1) The total abated emission limit for this Notice of Construction is limited to 3.90E-06 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).

2) This approval applies to those additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

Transuranic waste retrieval involves the processes for removing and dispositioning buried suspect transuranic mixed low-level radioactive waste (hereafter called TRU waste) from Hanford Site burial trenches for storage or disposal at other approved locations. Dispositioning is the orderly administration and handling of waste (including contaminated soil) from the low level burial grounds to place it in approved storage or disposal status. The handling includes such actions as: packaging, labeling and tracking waste; venting, assaying, and staging waste; inspecting waste and waste staging areas; sampling/characterizing/designating waste; making arrangements for the transfer of waste; completing necessary paperwork; and performing radiological and/or industrial hygiene surveys.

See the following for a detailed description of specific controls/conditions for each EU associated with the Transuranic Waste Retrieval Project:

EU 455 Hanford Sitewide W-PORTEX-007
EU 1440 200 Area Diffuse/ Fugitive; Operation of the Transuranic Waste Retrieval Project

EU 755 Mobile Drum Venting System (Active Ventilation) (MDVS)
EU 756 Mobile Drum Venting System (Passive Ventilation) (MDVS)
EU 1181 Categorical Drum Venting System 2 (DVS2)
EU 1322 Portable Enclosure System #1 (PES)
EU 1326 Vapor Extraction System (VES)
EU 1327 Next Generation Retrieval (NGR)

3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 7.70E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	1.30E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(e)

Alpha release rate based on Am-241 + Progeny. It is recognized that other radionuclides may be present in very limited quantities.
See condition; Release rates: Dart and other Venting Systems.

B/G - 0	1.92E-02	Liquid/Particulate Solid	WAC 246-247-030(21)(e)

Beta/Gamma release rate based on Cs-137 + Progeny. It is recognized that other radionuclides may be present in very limited quantities.
See condition; Release rates: Dart and other Venting Systems.

The radioactive isotopes identified for this emission unit are (no quantities specified):

Am - 241	Am - 243	Cf - 252	Cm - 244	Cs - 134
Cs - 137	Eu - 152	Eu - 154	Pu - 238	Pu - 239/240
Pu - 241	Sr - 90	U - 234	U - 235	U - 236
U - 238				

The potential release rates described in this Condition were used to determine control technologies and monitoring requirements for this approval. DOE must notifiy the Department of a "modification" to the emission unit, as defined in WAC 246-247-030(16). DOE must notify the Department of any changes to a NESHAP major emission unit when a specific isotope is newly identified as contributing greater than 10% of the potential TEDE to the MEI, or greater than 25% of the TEDE to the MEI after controls. (WAC 246-247-110(9)) DOE must notify the Department of any changes to potential release rates as required by state or federal regulations including changes that would constitute a significant modification to the Air Operating Permit under WAC 173-401-725(4). Notice will be provided according to the particular regulation under which notification is required. If the applicable regulation(s) does not address manner and type of notification, DOE will provide the Department with advance written notice by letter or electronic mail but not solely by copies of documents.

4) CONTAMINATION CONTROL - Post Filter Installation
The top of the drum shall be surveyed while inside the DVS, after installation of the NucFil® filter. If removable contamination is found, the drum lid shall be decontaminated before removal from the DVS. The drum shall be surveyed prior to leaving or immediately after removal from the DVS. Once removed from the DVS, the drum must be immediately decontaminated or contained such that the drum is free of removable contamination (i.e., less than 20 dpm/ 100 cm^2 alpha and less than 1000 dpm/100 cm^2 beta/gamma). Decontamination at the LLBG is attempted in a graded approach (dry rags, wet rags, decontamination solutions, fixatives, or over packing if other methods prove unsuccessful). (WAC 246-247-040(5) and WAC 246-247-060(5))

5) WDOH NOTIFICATION - Loss of Containment
WDOH will be notified per WAC 246-247-080(5) via email or the established procedures in the Environmental Notification program if a loss of containment occurs (dropping, spilling, puncturing a container, or otherwise encountering loss of integrity where contamination escapes containment), which exceeds 100,000 dpm/100 cm^2 beta/gamma or 2,000 dpm/100 cm^2 alpha removable contamination. (WAC 246-247-040(5) and WAC 246-247-060(5))

6) ALTERNATIVE RELEASE RATE APPROVAL, RELEASE RATES - Installation of Drum Vents
These alternative release fractions are approved for this emission unit.

A maximum of 9,000 containers of waste will be processed per year using the MDVS and/or DVS2s venting systems. The processing rate is designed to reflect potential emissions during an average handling time of 60 minutes per container. One drum is processed at a time per DVS or DVS2. Using a release fraction of 1.0 E-03 for particulates and a time factor of 1.03 (60 minutes per container multiplied by 9,000 containers and divided by 526,000 minutes per year).

The predicted release rate from the MDVS (active vent) without any emissions control equipment is 2.1 E-02 Ci/year and the predicted release rate with emissions control equipment is 1.0 E-05 Ci/year. The predicted release rates for the representative radionuclides Am-241+Progeny and Cs-137+Progeny are as follows:

Unabated PTE;	Am-241+Progeny	1.3E-03 Ci/yr	:	Cs-137+Progeny	1.9E-02 Ci/yr
Abated PTE	Am-241+Progeny	6.4E-07 Ci/y	:	Cs-137+Progeny	9.6E-06 Ci/yr

The predicted release rate (unabated) for using the MDVS (passive vent) without any emissions control equipment is 2.2E-05 Ci/yr and the predicted release rate (abated) with emissions control equipment is 2.2E-05 Ci/yr. The predicted release rates for the representative radionuclides Am 241+Progeny and Cs-137+Progeny are as follows:

Unabated PTE;	Am-241+Progeny	4.3E-07 Ci/yr	:	Cs-137+Progeny	2.2E-05 Ci/yr
Abated PTE	Am-241+Progeny	4.3E-07 Ci/y	:	Cs-137+Progeny	2.2E-05 Ci/yr

The passive vent of the MDVS exhausts potential emissions from the use of the HEPA vacuum mounted in the test chamber to collect metal filings after installation of a Nucfil® or equivalent filter. Release rates are calculated by multiplying surface area vacuumed by the contamination level. An estimate of the release rate is calculated by assuming the surface area of the boot that covers the drum lid during the filter installation process (8.3 square inches) multiplied by 9,000 drums with an average contamination level of 10,000 dpm/100 cm^2 beta/gamma and 200 dpm/100 cm^2 alpha. Using a release fraction of 1.0 for the HEPA vacuum use, the potential release rates from using the DVS is 4.3E-7 Ci/yr americium-241 and 2.2E-05 Ci/yr cesium-137. (WAC 246-247-040(5), WAC 246-247-060(5), WAC 246-247-075(4))

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The system shall be built to meet NQA-1 requirements and shall be aerosol tested annually using ANSI N-510 as guidance for non-ANSI N-509 systems. If in-field aerosol testing is not feasible, an approved alternative is given to replace the filters on an annual basis with the manufacturer tested and certification of HEPA filter with a tested rating of 99.97% efficiency. Records of this testing shall be maintained on file. (WAC 246-247-040(5), WAC 246-247-060(5), WAC 246-247-075(4))

8) PROCESS DESCRIPTION - Venting of Containers
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9) PROCESS DESCRIPTION - MDVS
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The department shall be notified via email or the established procedures in the Environmental Notification

program within 24 hours of all drum vents that fail to be installed properly and smears show >2,000 dpm/100 cm^2 alpha or >100,000 dpm/100 cm^2 beta/gamma removable contamination (an example of a "failure" is a pressure release that blows past the seat of the boot or a deflagration). (WAC 246-247-040(5) and WAC 246-247-060(5))

11) CONTAMINATION CONTROL - Removable Contamination
Fixatives or other controls will be employed if removable contamination levels (other than spot contamination) exceed 100,000 dpm/100 cm^2 beta/gamma or exceed 2,000 dpm/100 cm^2 alpha. (WAC 246-247-040(5) and WAC 246-247-060(5))

12) ABATEMENT TECHNOLOGY - Mobile Drum Venting System
The MDVS has a testable HEPA type filter for all emissions resulting from screening headspace gas sampling (HSGS) for hydrogen content and Nucfil® or equivalent filter installation. Metal filings or other residual cuttings from the drilling/filter installation process are removed from the drum lid with a HEPA vacuum. The test compartment is ventilated with a HEPA type filter and is designed to withstand a deflagration as described in the performance specification for this venting system (HNF 12180, Venting System for Low Level Burial Grounds Performance Specification).

The average annual flow for the exhaust port for the venting and HSGS operations is approximately 1 E- 4 meters ^3 /s. (consisting of a continuous flow in the milliliter per second range, with intermittent spikes in the liter per second range). The HEPA vacuum exhausts intermittently into the test chamber (at less than 300 cfm or 1.4 E-1 meters^3 /s.). (WAC 246-247-040(5) and WAC 246-247-060(5))