

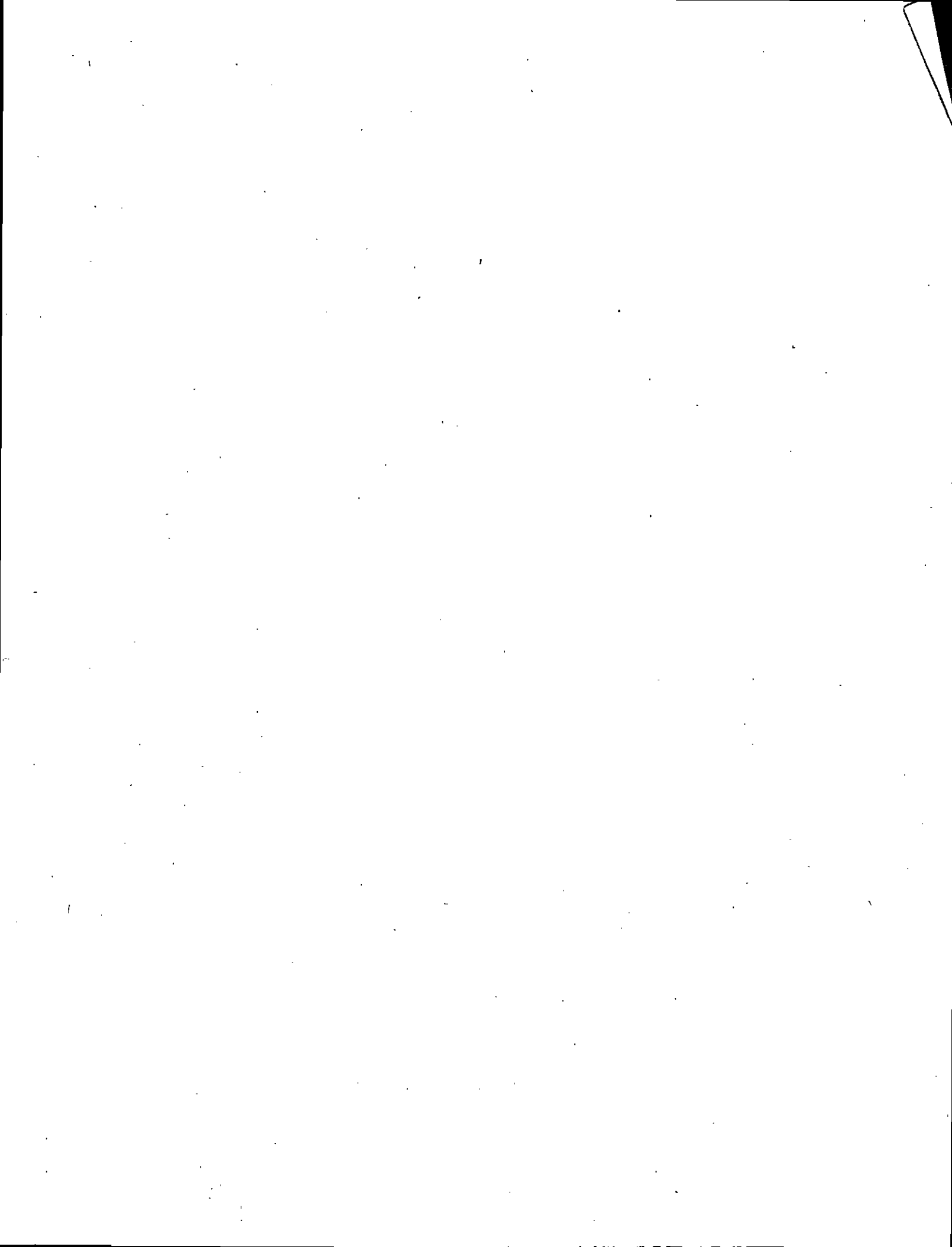
**USDOE – Hanford Site  
Leachate Collection Tank for Trench 31  
Richland WA  
License: FF-01  
(EU 472; NOC 1020)**

**Licensing File**

**Table of Contents**

- 1) Licensing Checklist
- 2) Other Applicable Documentation (Emails, reports, calculations, etc.)
- 3) Informal Draft EU License
  - a) Licensee Comments on Informal Draft
  - b) Resolution of Comments
- 4) 28 Day Draft
  - a) Licensee Acceptance
  - b) RAES response and explanation of city notification time requirement
- 5) Final License

**1**



# LICENSING CHECKLIST

(Rev. 2)

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

TPF  RAES date received 06/30/16 and IM# assigned LB 4751

~~TPF~~  Entered into RAES Tracking/RDIT 16-129. Completeness Review due N/A

TPF  To HP3 (responsible for facility) for assignment: JWS

TPF  To assigned HP2: TPF

~~TPF~~  Add draft Table of Contents and separator pages to file.

~~TPF~~  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.

~~TPF~~  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 NOT** obsolete 'old' NOC, EU, etc. before the new final, approved, license is issued (you may have to exclude old from AOP for printing purposes).

~~TPF~~  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.)*

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

~~TPF~~  HSC - work with HP3 to resolve any comments then forward draft "Completeness Determination" letter to AA3 for finalization (HSC will update RAES Tracking/RDIT 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.)

~~TPF~~  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/RDIT 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/RDIT, verify database concurrence, and return license file to HP2 with due date for licensee response or final issuance of license.

Final Due Date: 9/12/16

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/RDIT
- Verify database concurrence
- Update Licensee List
- Add final file to database 'inbox' to be entered/scanned

**2**

**Frazier, Thomas (DOH)**

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**From:** Faust, Eric T <Eric.Faust@rl.doe.gov>  
**Sent:** Wednesday, July 20, 2016 7:30 AM  
**To:** Frazier, Thomas (DOH)  
**Cc:** Karschnia, Paul T; Schmidt, John W (DOH)  
**Subject:** RE: Review of Updated Licenses for Trench 31 and 34: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) (NOC 834) and Decontamination Trailer at the Transuranic Waste Retrieval Project (NOC 851)

Tom,

Tad and I reviewed the licenses that you sent; we had no comments.

Thanks for providing us the opportunity,

Eric  
509-376-9607

---

**From:** Frazier, Thomas (DOH) [mailto:Thomas.Frazier@DOH.WA.GOV]  
**Sent:** Friday, July 08, 2016 1:17 PM  
**To:** Faust, Eric T <Eric.Faust@rl.doe.gov>  
**Cc:** Karschnia, Paul T <Paul\_T\_Karschnia@rl.gov>; Schmidt, John <john.schmidt@doh.wa.gov>  
**Subject:** Review of Updated Licenses for Trench 31 and 34: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) (NOC 834) and Decontamination Trailer at the Transuranic Waste Retrieval Project (NOC 851)  
**Importance:** High

Eric here are the revised Licenses for

NOC 834 Trench 31 and 34: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal):

NOW - Trench 31: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) (NOC 1020) (EU 472) and Trench 34: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) (NOC 1021)(EU 473)

NOC 851 Decontamination Trailer at the Transuranic Waste Retrieval Project:

NOW - Decontamination Trailer at the Transuranic Waste Retrieval Project (NOC 1018) (1243) and Decontamination Trailer at the Transuranic Waste Retrieval Project (NOC 1019) (EU 1244)

Take a look at them and provide any comments or corrections that you may have by Wednesday July 20; since I will be out of the office until then.

Thanks,

Tom

3



Sept 12, 2016

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

Dear Mr. Shoop:

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), your application was approved, as negotiated, on Sept 12, 2016, according to the enclosed EU specific license.

**Trench 31 Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) (Replaces NOC834) (NOC 1020, EU472)**

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](mailto:Thomas.Frazier@doh.wa.gov) or, by phone, at (509) 946-0774.

Sincerely,

John Martell, Manager  
Radioactive Air Emissions Section

Enclosure: NOC 1020 for EU 472

cc: Ruth Allen, WRPS  
Matthew Barnett, PNNL  
Shawna Berven, WDOH  
Lilyann Bauder, Ecology  
Lucinda Borneman, WRPS  
Lee Bostic, BNI  
Cliff Clark, USDOE-RL  
Jack Donnelly, WRPS  
Rick Engelmann, CHPRC  
Dennis Faulk, EPA  
Thomas Frazier, WDOH  
Eric Faust, USDOE-RL  
Gary Fritz, MSA  
Phil Gent, Ecology  
Reed Kaldor, MSA  
Paul Karschnia, CHPRC  
Ed MacAlister, USDOE-RL  
Valarie Peery, Ecology  
Maria Skorska, Ecology  
John Schmidt, WDOH  
Jeff Voogd, WRPS  
Joan Woolard, MSA  
Davis Zhen, EPA  
Environmental Portal  
RAES Tracking: Line 16-129; EU 472; NOC 1020

Emission Unit ID: 472

200W P-Trench31 001

Leachate Collection Tank for Trench 31

This is a MINOR, FUGITIVE, non-point source emission unit.

200 West Burial Grounds

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 |
|--------------|----------------------|---------------------|------------------------|
|--------------|----------------------|---------------------|------------------------|

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 |
|------------------------------|-------------------------------------|-------------------------------------|--------------------|
|------------------------------|-------------------------------------|-------------------------------------|--------------------|

WAC 246-247-075(3)

Before and after emptying the tank. When the tank is not empty, take a monthly smear (after commencement of bulk waste disposal).

*I can not fix do not have administrative privilege*

Smear sample of overflow pipe

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 in Trench 31 and 34 involve receipt and disposal of TSCA wastes on the Hanford Site.

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

| Project Title   | Approval # | Date Approved | NOC_ID |
|---|------------|---------------|--------|
| Trench 31: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)<br>(Replaces NOC 834) |            | Not Approved  | 1020   |

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

- The total abated emission limit for this Notice of Construction is limited to 3.03E-03 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).
- This approval applies only to those 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.

Trench 31 shall be used for the disposal of low-level waste, low-level mixed waste, and radioactive waste containing Toxic Substances Control Act regulated polychlorinated biphenyls resulting from current operations across the Hanford Site, cleanup activities across the Hanford Site and from other offsite facilities. The trench shall provide disposal capacity for approximately 22,000 m3 (28,000 yd3) of waste. Waste to be disposed of in the trench can consist of contaminated soil and debris (bulk waste), sealed containers, vented containers, and any other type of waste meeting Low Level Burial Grounds (LLBG) waste acceptance criteria.

The Trench 31 design encompasses primary and secondary leachate collection systems. The primary and secondary leachate collection systems are comprised of alternating layers of soils, geomembrane liners, collection pipes, collection sumps, sump pumps, and a single collection tank. Liquid accumulates under the disposed material in the bottom of the trench in the primary liner of each trench (not exposed directly to atmosphere). When approximately one foot of precipitation of liquid is accumulated in the collection sumps, the pumps are activated to transfer the liquid to the tank.

The leachate collection tanks at Trenches 31 is above ground. The tank has a capacity of approximately

10,000 gallons. The tank is cylindrical and approximately 8 feet (2.5 meters) in diameter and 24 feet (7.2 meters) long. It is passively vented via a liquid overflow pipe.

For disposal, the liquid will be transferred from the tanks to a tanker truck. Based on past operational experience, it is anticipated that up to approximately 415,000 gallons, per tank, per year could be transferred to the tanker trucks. More than one truck may be used at the same time. The tanker truck(s) shall be fitted with a three-quarter inch vent that will be opened during filling and emptying operations.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 6.10E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

|              |          |                          |                        |
|--------------|----------|--------------------------|------------------------|
| Pu - 239/240 | 9.74E-05 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
|--------------|----------|--------------------------|------------------------|

|       |          |                          |                        |
|-------|----------|--------------------------|------------------------|
| U - 0 | 7.00E-04 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
|-------|----------|--------------------------|------------------------|

Isotopes of U-233/234/235/238

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

|          |          |         |          |              |
|----------|----------|---------|----------|--------------|
| Am - 241 | C - 14   | Co - 60 | Cs - 137 | Eu - 152     |
| Eu - 154 | Eu - 155 | Na - 22 | Pu - 238 | Pu - 239/240 |
| Ra - 226 | Sr - 90  | Tc - 99 | Th - 230 | Th - 232     |
| U - 0    |          |         |          |              |

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) RADIOACTIVE ISOTOPES -Identified

The radioactive isotopes identified for this emission unit represent all of the significant radionuclides historically present for the leachate collection Tank 31, including some that are not significant. Any radionuclide on the chart of nuclides could be present or received at leachate collection Tank 31 in the future.

- 5) PERIODIC CONFIRMATORY MEASUREMENT

Upon commencement of placing non-containerized radioactively contaminated waste in Trench 31, a periodic confirmatory measurement (PCM) activity shall be implemented. This PCM activity shall consist of smearing the orifice(s) of the liquid overflow pipe(s) before and after emptying the tank(s). During those months when the tank is not emptied, a smear shall be taken monthly. After the accumulation of one year's worth of smear data, the frequency of this PCM activity shall be reassessed based on the results of the smear data.

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200W P-Trench31 001

Leachate Collection Tank for Trench 31

This is a MINOR, FUGITIVE, non-point source emission unit.

200 West Burial Grounds

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 |
|--------------|----------------------|---------------------|------------------------|
|--------------|----------------------|---------------------|------------------------|

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 |
|------------------------------|-------------------------------------|-------------------------------------|--------------------|
|------------------------------|-------------------------------------|-------------------------------------|--------------------|

|                    |  |  |   |
|--------------------|--|--|---|
| WAC 246-247-075(3) |  |  | Before and after emptying the tank. When the tank is not empty, take a monthly smear (after commencement of bulk waste disposal). |
|--------------------|--|--|---|

Sampling Requirements Smear sample of overflow pipe

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 in Trench ~~31 and 34~~<sup>31</sup> involve receipt and disposal of TSCA wastes on the Hanford Site.

This Emission Unit has 1 active Notice(s) of Construction. *I cannot fix do not have administrative*

| Project Title | Approval # | Date Approved | NOC_ID |
|---------------|------------|---------------|--------|
|---------------|------------|---------------|--------|

|   |  |              |      |
|---|--|--------------|------|
| Trench 31: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) |  | Not Approved | 1020 |
|---|--|--------------|------|

(Replaced NOC 834)

*Prioult*

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

- The total abated emission limit for this Notice of Construction is limited to 3.03E-03 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).
- This approval applies only to those 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.*

Trenches ~~31 and 34~~ shall be used for the disposal of low-level waste, low-level mixed waste, and radioactive waste containing Toxic Substances Control Act regulated polychlorinated biphenyls resulting from current operations across the Hanford Site, cleanup activities across the Hanford Site and from other offsite facilities.

*The* Each trench shall provide disposal capacity for approximately 22,000 m3 (28,000 yd3) of waste. Waste to be disposed of in the trenches can consist of contaminated soil and debris (bulk waste), sealed containers, vented containers, and any other type of waste meeting Low Level Burial Grounds (LLBG) waste acceptance criteria.

The ~~leachate collection systems for Trenches 31 and 34 share a common design. That design encompasses primary and secondary leachate collection systems. The primary and secondary leachate collection systems are comprised of alternating layers of soils, geomembrane liners, collection pipes, collection sumps, sump pumps, and a single collection tank for each trench.~~ Liquid accumulates under the disposed material in the bottom of ~~each~~ *the* trench in the primary liner of ~~each~~ *the* trench (not exposed directly to atmosphere). When approximately one foot of precipitation of liquid is accumulated in the collection sumps, the pumps are activated to transfer the liquid to the tanks.

The leachate collection tanks at Trenches 31 and 34 are both above ground. <sup>IS</sup> Each tank has a capacity of approximately 10,000 gallons. ~~Both tanks are~~ <sup>the</sup> cylindrical and approximately 8 feet (2.5 meters) in diameter and 24 feet (7.2 meters) long. ~~Both tanks are~~ passively vented via a liquid overflow pipe.

<sup>It is</sup> For disposal, the liquid will be transferred from the tanks to a tanker truck. Based on past operational experience, it is anticipated that up to approximately 415,000 gallons ~~per tank~~ per year could be transferred to the tanker trucks. More than one truck may be used at the same time. The tanker truck(s) shall be fitted with a three-quarter inch vent that will be opened during filling and emptying operations.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 6.10E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

|                               |          |                          |                        |
|-------------------------------|----------|--------------------------|------------------------|
| Pu - 239/240                  | 9.74E-05 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
| U - 0                         | 7.00E-04 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
| Isotopes of U-233/234/235/238 |          |                          |                        |

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

|          |          |         |          |              |
|----------|----------|---------|----------|--------------|
| Am - 241 | C - 14   | Co - 60 | Cs - 137 | Eu - 152     |
| Eu - 154 | Eu - 155 | Na - 22 | Pu - 238 | Pu - 239/240 |
| Ra - 226 | Sr - 90  | Tc - 99 | Th - 230 | Th - 232     |

U - 0

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) RADIOACTIVE ISOTOPES -Identified

The radioactive isotopes identified for this emission unit represent all of the significant radionuclides historically present for the leachate collection Tank 31, including some that are not significant. Any radionuclide on the chart of nuclides could be present or received at leachate collection Tank 31 in the future.

- 5) PERIODIC CONFIRMATORY MEASUREMENT

Upon commencement of placing non-containerized radioactively contaminated waste in Trench 31 ~~and/or Trench 34~~, a periodic confirmatory measurement (PCM) activity shall be implemented. This PCM activity shall consist of smearing the orifice(s) of the liquid overflow pipe(s) before and after emptying the tanks. During those months when the tanks ~~is/are~~ not emptied, a smear shall be taken monthly. After the accumulation of one year's worth of smear data, the frequency of this PCM activity shall be reassessed based on the results of the smear data.

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AIR 16-803  
NOC 1020

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

August 10, 2016

**CERTIFIED MAIL**  
**7004 2890 0001 7162 0883**

Ms. Stacy Charboneau, Assistant Manager  
for Safety and Environment  
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) 1020

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

Ms. Charboneau:

As per the reference email, we have worked with your staff to make changes to move the emission unit (EU) in 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 updates will be approved according to the enclosed License for:

**Trench 31 Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal) (Replaces  
NOC 834)  
(NOC 1020, EU 472)**

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.





Ms. Stacy Charboneau  
August 10, 2016  
Page 2 of 3

AIR 16-803

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 draft approval, please contact Mr. Thomas Frazier at [thomas.frazier@doh.wa.gov](mailto:thomas.frazier@doh.wa.gov) or, by phone, at (509) 946-0774.

Sincerely,



P. John Martell, Manager  
Radioactive Air Emissions Section

Enclosures: 1. Conditions and Limitations for EU 472 (NOC 1020)  
2. Request for Adjudicative Proceedings

cc: (see next page)

Ms. Stacy Charboneau  
August 10, 2016  
Page 3 of 3

AIR 16-803

cc: Ruth Allen, WRPS  
Matthew Barnett, PNNL  
Shawna Berven, WDOH  
Lucinda Borneman, WRPS  
Lee Bostic, BNI  
Cliff Clark, USDOE-RL  
Jack Donnelly, WRPS  
Rick Engelmann, CHPRC  
Dennis Faulk, EPA  
Eric Faust, USDOE-RL  
Thomas Frazier, WDOH  
Gary Fritz, MSA  
Philip Gent, Ecology  
Reed Kaldor, MSA  
Paul Karschnia, CHPRC  
Ed MacAlister, USDOE-RL  
Valarie Peery, Ecology  
John Schmidt, WDOH  
Jeff Voogd, WRPS  
Davis Zhen, EPA  
Environmental Portal  
RAES Tracking: Line 16-126; EU 472; NOC 1020

Emission Unit ID: 472

**200W P-Trench31 001**

**Leachate Collection Tank for Trench 31**

This is a MINOR, FUGITIVE, non-point source emission unit.

200 West Burial Grounds

**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 |
|--------------|----------------------|---------------------|------------------------|
|--------------|----------------------|---------------------|------------------------|

**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 |
|------------------------------|-------------------------------------|-------------------------------------|--------------------|
|------------------------------|-------------------------------------|-------------------------------------|--------------------|

|                    |  |  |   |
|--------------------|--|--|---|
| WAC 246-247-075(3) |  |  | Before and after emptying the tank. When the tank is not empty, take a monthly smear (after commencement of bulk waste disposal). |
|--------------------|--|--|---|

**Sampling Requirements** Smear sample of overflow pipe

**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 in Trench 31 involve receipt and disposal of TSCA wastes on the Hanford Site.

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

| Project Title   | Approval # | Date Approved | NOC_ID |
|---|------------|---------------|--------|
| Trench 31: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)<br>(Replaces NOC 834) |            | Not Approved  | 1020   |

**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 3.03E-03 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).
- 2) This approval applies only to those 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.

Trench 31 shall be used for the disposal of low-level waste, low-level mixed waste, and radioactive waste containing Toxic Substances Control Act regulated polychlorinated biphenyls resulting from current operations across the Hanford Site, cleanup activities across the Hanford Site and from other offsite facilities. The trench shall provide disposal capacity for approximately 22,000 m3 (28,000 yd3) of waste. Waste to be disposed of in the trench can consist of contaminated soil and debris (bulk waste), sealed containers, vented containers, and any other type of waste meeting Low Level Burial Grounds (LLBG) waste acceptance criteria.

The Trench 31 design encompasses primary and secondary leachate collection systems. The primary and secondary leachate collection systems are comprised of alternating layers of soils, geomembrane liners, collection pipes, collection sumps, sump pumps, and a single collection tank. Liquid accumulates under the disposed material in the bottom of the trench in the primary liner of each trench (not exposed directly to atmosphere). When approximately one foot of precipitation of liquid is accumulated in the collection sumps, the pumps are activated to transfer the liquid to the tank.

The leachate collection tanks at Trenches 31 is above ground. The tank has a capacity of approximately

10,000 gallons. The tank is cylindrical and approximately 8 feet (2.5 meters) in diameter and 24 feet (7.2 meters) long. It is passively vented via a liquid overflow pipe.

For disposal, the liquid will be transferred from the tanks to a tanker truck. Based on past operational experience, it is anticipated that up to approximately 415,000 gallons, per tank, per year could be transferred to the tanker trucks. More than one truck may be used at the same time. The tanker truck(s) shall be fitted with a three-quarter inch vent that will be opened during filling and emptying operations.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 6.10E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

|              |          |                          |                        |
|--------------|----------|--------------------------|------------------------|
| Pu - 239/240 | 9.74E-05 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
|--------------|----------|--------------------------|------------------------|

|       |          |                          |                        |
|-------|----------|--------------------------|------------------------|
| U - 0 | 7.00E-04 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
|-------|----------|--------------------------|------------------------|

Isotopes of U-233/234/235/238

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

|          |          |         |          |              |
|----------|----------|---------|----------|--------------|
| Am - 241 | C - 14   | Co - 60 | Cs - 137 | Eu - 152     |
| Eu - 154 | Eu - 155 | Na - 22 | Pu - 238 | Pu - 239/240 |
| Ra - 226 | Sr - 90  | Tc - 99 | Th - 230 | Th - 232     |
| U - 0    |          |         |          |              |

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) RADIOACTIVE ISOTOPES -Identified

The radioactive isotopes identified for this emission unit represent all of the significant radionuclides historically present for the leachate collection Tank 31, including some that are not significant. Any radionuclide on the chart of nuclides could be present or received at leachate collection Tank 31 in the future.

- 5) PERIODIC CONFIRMATORY MEASUREMENT

Upon commencement of placing non-containerized radioactively contaminated waste in Trench 31, a periodic confirmatory measurement (PCM) activity shall be implemented. This PCM activity shall consist of smearing the orifice(s) of the liquid overflow pipe(s) before and after emptying the tank(s). During those months when the tank is not emptied, a smear shall be taken monthly. After the accumulation of one year's worth of smear data, the frequency of this PCM activity shall be reassessed based on the results of the smear data.

**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) 1020**

Docket No:  
**REQUEST FOR ADJUDICATIVE PROCEEDING**

Approval No:     **AIR 16-803**

THE STATE OF WASHINGTON TO:

**Ms. Stacy Charboneau, 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 16-803**.

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 16-803, dated August 10, 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):

|                 | <u>Admit</u> | <u>Deny</u> | <u>Do Not Contest</u> |
|-----------------|--------------|-------------|-----------------------|
| 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 PARTICIPATION AND WITHOUT FURTHER NOTICE TO YOU.

DATED this \_\_\_\_\_ day of \_\_\_\_\_,

\_\_\_\_\_  
Party

\_\_\_\_\_  
Party's Representative (if any)

WSBA #: \_\_\_\_\_



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7004 2890 0001 9162 0883

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| Certified Fee                                     | 3.30           |
| Return Receipt Fee<br>(Endorsement Required)      | 2.70           |
| Restricted Delivery Fee<br>(Endorsement Required) |                |
| <b>Total Postage &amp; Fees</b>                   | <b>\$ 7.15</b> |

Postmark  
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16-803

Sent To

Street, Apt. No.,  
or PO Box No.

City, State, ZIP+4

PS Form 3800, June 2002 See Reverse for Instructions

**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.

1. Article Addressed to:

**Ms. Stacey Charboneau, Manager**  
**United States Department of Energy**  
**Richland Operations Office**  
**P.O. Box 550, MSIN: A5-14**  
**Richland, WA 99352**

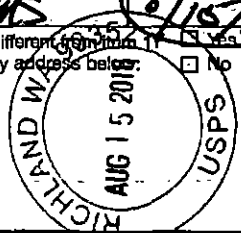


2. Article Number (Transfer from service label)

**7004 2890 0001 9162 0883**

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent  Addressee
- [Signature]*
- B. Received by (Printed Name)  Date of Delivery
- PA Adams* *8/15/16*
- D. Is delivery address different from item 1?  Yes  No
- If YES, enter delivery address below.



- 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

5



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

LB # 4830  
AIR 16-905  
NOC 1020

September 14, 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) 1020

Mr. Shoop:

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), your license was approved, as negotiated, on September 12, 2016, according to the enclosed EU specific license:

**Trench 31 Leachate Collection and Storage Tank (LLBG Mixed  
Waste Disposal) (Replaces NOC834)  
(NOC 1020, EU472)**

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](mailto:Thomas.Frazier@doh.wa.gov) or (509) 946-0774).

Sincerely,

John Martell, Manager  
Radioactive Air Emissions Section

Enclosure: NOC 1020 for EU 472

cc: (see next page)



Mr. Doug Shoop  
September 14, 2016  
Page 2 of 2

AIR 16-905

cc: Ruth Allen, WRPS  
Matthew Barnett, PNNL  
Shawna Berven, WDOH  
Lilyann Bauder, Ecology  
Lucinda Borneman, WRPS  
Lee Bostic, BNI  
Cliff Clark, USDOE-RL  
Jack Donnelly, WRPS  
Rick Engelmann, CHPRC  
Dennis Faulk, EPA  
Thomas Frazier, WDOH  
Eric Faust, USDOE-RL  
Gary Fritz, MSA  
Phil Gent, Ecology  
Reed Kaldor, MSA  
Paul Karschnia, CHPRC  
Ed MacAlister, USDOE-RL  
Valarie Peery, Ecology  
Maria Skorska, Ecology  
John Schmidt, WDOH  
Jeff Voogd, WRPS  
Joan Woolard, MSA  
Davis Zhen, EPA  
Environmental Portal  
RAES Tracking: Line 16-129; EU 472; NOC 1020

Emission Unit ID: 472

**200W P-Trench31 001**

**Leachate Collection Tank for Trench 31**

This is a MINOR, FUGITIVE, non-point source emission unit.

200 West Burial Grounds

**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 |
|--------------|----------------------|---------------------|------------------------|
|--------------|----------------------|---------------------|------------------------|

**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 |
|------------------------------|-------------------------------------|-------------------------------------|--------------------|
|------------------------------|-------------------------------------|-------------------------------------|--------------------|

|                    |  |  |   |
|--------------------|--|--|---|
| WAC 246-247-075(3) |  |  | Before and after emptying the tank. When the tank is not empty, take a monthly smear (after commencement of bulk waste disposal). |
|--------------------|--|--|---|

**Sampling Requirements** Smear sample of overflow pipe

**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 in Trench 31 involve receipt and disposal of TSCA wastes on the Hanford Site.

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

| Project Title   | Approval # | Date Approved | NOC_ID |
|---|------------|---------------|--------|
| Trench 31: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)<br>(Replaces NOC 834) | AIR 16-905 | 9/12/2016     | 1020   |

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

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|                               |          |                          |                        |
|-------------------------------|----------|--------------------------|------------------------|
| Pu - 239/240                  | 9.74E-05 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
| U - 0                         | 7.00E-04 | Liquid/Particulate Solid | WAC 246-247-030(21)(e) |
| Isotopes of U-233/234/235/238 |          |                          |                        |

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

|          |          |         |          |              |
|----------|----------|---------|----------|--------------|
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| Eu - 154 | Eu - 155 | Na - 22 | Pu - 238 | Pu - 239/240 |
| Ra - 226 | Sr - 90  | Tc - 99 | Th - 230 | Th - 232     |
| U - 0    |          |         |          |              |

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.

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