

0084613

HANFORD SITE AIR OPERATING PERMIT

REVISION E ISSUANCE

SECTION

1 OF 3



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950

December 18, 2009

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Mr. Russell Jim
Environmental Restoration
Waste Management Program
Yakama Nation
P.O. Box 151
Toppenish, Washington 98948

Re: Hanford Site Air Operating Permit, Revision E Issuance

Dear Ladies and Gentlemen:

Per Washington Administrative Code (WAC) 173-401-720, the Department of Ecology, as the permitting authority, issues this Revision E of the Hanford Site Air Operating Permit (AOP), #00-05-006, Renewal 1. The permit conditions and requirements are effective immediately.

The administrative amendments (WAC 173-401-720) include:

- Incorporation of terms, conditions, and limitations of new orders of approval.
- Elimination of terms, conditions, and limitations of permanently removed emission sources.
- Correction of typographical errors and re-organization consolidating conditions for one emission unit.

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Ms. Kral *et al.*
December 18, 2009
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The documentary changes are provided in Enclosures 1 and 2, reflecting conditions issued by Ecology and the Washington State Department of Health, respectively. Enclosure 3 is a disk containing:

- Electronic copies of this Permit Revision.
- Enclosures 1 and 2, each of the affected Hanford Site AOP documents as revised.
- A courtesy copy of Hanford Site AOP documents not revised in this action.

AOP #00-05-006, Renewal 1, Revision E Attachments 1 and 2 will be available to the general public on the Ecology website at: http://www.ecy.wa.gov/programs/nwp/piarchive12_07.htm.

If you have questions, please contact Doug Hendrickson at 509-372-7983 or Oliver Wang at 509-372-7932.

Sincerely,



Jane A. Hedges
Program Manager
Nuclear Waste Program

Doug Hendrickson, P.E.
Lead Air Engineer
Nuclear Waste Program



pll

Enclosures (3)

cc w/enc #3:

Davis Zhen, EPA
Dennis Bowser, USDOE
Mary Jarvis, USDOE

Dave Lauer, BCAA
John Schmidt, WDOH

Administrative Record: AOP
Environmental Portal

cc w/o enc:

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Lucinda Penn, WRPS
Patrick Weiher, Johnson Controls, Inc.

Joan Woolard, WCH
Gabriel Bohnee, NPT
Susan Leckband, HAB
Ken Niles, ODOE
John Martell, WDOH

Table 1.1 List of Significant Emission Units.

Emission unit	Requirements	Description
200CC, Boiler 1		80 HP oil boiler permanently deactivated in September 2007 (per 07-SED-0407).
225-B, Boiler 1	Table 1.3	150 HP fuel oil boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
275-E, Boiler 1		80 HP oil boiler permanently deactivated in September 2007 (per 07-SED-0407).
<i>272-W, Boiler 1</i>		<i>250 HP fuel oil boiler permanently shutdown in October 2009 (per DOE 10/20/2009 letter 10-EMD-0007).</i>
222-S, Boilers 1 & 2	Table 1.3	200 HP fuel oil boilers, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
283-W, Boiler 1	Table 1.3	200 HP fuel oil boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
283-E, Boiler 1	Table 1.3	200 HP fuel oil boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
234-5Z, Boilers 1, 2, & 3	Table 1.3	350 HP fuel oil boilers, subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
242-A, Boiler 1	Table 1.3	200 HP fuel oil boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
242-A, Boilers 2 & 3	Table 1.3	700 HP fuel oil boilers, subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
<i>Portable Boiler 1</i>	<i>Table 1.3</i>	<i>200 HP dual-fuel portable boiler relocated from 200 Area to 300 Area (per DOE 10/20/2009 letter 10-EMD-0006 & NOC 97NM-138 Mod 1, 11/18/2009).</i>
318, Boiler 1	Table 1.3	30 HP natural gas boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
320, Boilers 1 & 2	Table 1.3	100 HP natural gas boilers, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
323, Boiler 1	Table 1.3	50 HP natural gas boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
324, Boilers 1 & 2	Table 1.3	300 HP natural gas boilers, subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
325, Boilers 1 & 2	Table 1.3	125 HP natural gas boilers, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
326, Boilers 1 & 2	Table 1.3	100 HP natural gas boilers, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
327, Boiler 1 (Permanently deactivated 10/2008)	Table 1.3	200 HP natural gas boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115). (Deactivated per DOE 10/27/2008 Letter 09-EMD-0011)
328, Boiler 1		30 HP natural gas boiler permanently deactivated in May 2007 (per 07-SED-0247).
329, Boilers 1, 2, 3 & 4	Table 1.3	50 HP natural gas boilers, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
331, Boilers 1 & 2	Table 1.3	300 HP natural gas boilers, subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
337-B, Boilers 1 & 2		60 HP natural gas boiler permanently deactivated in May 2007 (per 07-SED-0247).
382-A-D, Boiler 1	Table 1.3	200 HP natural gas boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
3709A, Boiler 1	Table 1.3	15 HP natural gas boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).

1.4 Emission Unit Specific Applicable Requirements

The following sections contain emission unit specific requirements for steam generating units (Table 1.3), internal combustion units (Table 1.4), emission units exceeding insignificant emission unit thresholds (Table 1.5), individual NOC approval orders (Table 1.6), and miscellaneous emission units (Table 1.7).

1.4.1 Process: Fossil Fuel Fired Steam Generating Units.

Table 1.3. Emission Limits and Periodic Monitoring Requirements for Steam Generating Units.

Boiler Annex	Unit	>5mmBTU/hr input	Fuel
200CC	Boiler 1 permanently deactivated in September 2007.		
225-B	Boiler 1	Yes	fuel oil
275-E	Boiler 1 permanently deactivated in September 2007.		
<i>272-W</i>	<i>Boiler 1 permanently shutdown in October 2009.</i>		
222-S	Boiler 1	Yes	fuel oil
	Boiler 2	Yes	fuel oil
283-W	Boiler 1	Yes	fuel oil
283-E	Boiler 1	Yes	fuel oil
234-5Z	Boiler 1	Yes	fuel oil
	Boiler 2	Yes	fuel oil
	Boiler 3	Yes	fuel oil
242-A	Boiler 1	Yes	fuel oil
	Boiler 2	Yes	fuel oil
	Boiler 3	Yes	fuel oil
<i>Portable</i>	<i>Boiler 1</i>	<i>Yes</i>	<i>fuel oil/natural gas</i>
318	Boiler 1	No	natural gas
320	Boiler 1	No	natural gas
	Boiler 2	No	natural gas
323	Boiler 1	No	natural gas
324	Boiler 1	Yes	natural gas

Discharge Point P-WTP-001				
200E Area, Vitrification				
Requirement Citation (WAC or Order Citation): PSD-02-01, Amendment 2				
Condition Approval 10/10/2005				
Emission Unit	Approval Condition # Pollutant Condition	Compliance Determination	Compliance Frequency	Required Records
Steam Generating Boilers, Diesel Fire Pumps, Backup Emergency Generators	Approval Condition 2 Fuel Ultra-low sulfur fuel ≤ 0.003% by wt.	Recordkeeping	Semiannual	Fuel purchase records.
Pretreatment Plant	Approval Condition 3 PM ₁₀ ≤ 0.02 g/dscf 24- hour avg or 0.456 lb/hr 24-hour avg	40 CFR 60 Appendix A, Method 5, 40 CFR 51 Appendix M Method 201 or 201A for the front half analysis and 40 CFR 51 Appendix M Method 202 for the back half.	5 years	Testing results and hours of operation.
LAW Vitrification Plant	Approval Condition 5 PM ₁₀ ≤ 36 lb/hr 21% O ₂ , 24-hr avg.	40 CFR 60 Appendix A, Method 5, 40 CFR 51 Appendix M Method 201 or 201A for the front half analysis and 40 CFR 51 Appendix M Method 202 for the back half	5 years	Testing results and hours of operation.
	Approval Condition 4 NO _x ≤ 477 ppmdv at 21% O ₂ , 24 hr avg. or 200.1 lb/day 30-day rolling avg.	40 CFR 60 Appendix A, Method 7E, CEM	CEM Continuous	Testing results, CEM and flow data, and CEM performance evaluation.
HLW Vitrification Plant	Approval Condition 7 PM ₁₀ ≤ 135 lb/hr 21% O ₂ , 24-hr avg.	40 CFR 60 Appendix A, Method 5, 40 CFR 51 Appendix M Method 201 or 201A for the front half analysis and 40 CFR 51 Appendix M Method 202 for the back half	5 years	Testing results and hours of operation.
	Approval Condition 6 NO _x 352 ppmdv at 21% O ₂ , 24 hr avg. or 23.3 lb/day 30-day rolling avg.	40 CFR 60 Appendix A, Method 7E, CEM	CEM Continuous	Testing results, CEM and flow data, and CEM performance evaluation.

Discharge Point P-WTP-001				
200E Area, Vitrification				
Requirement Citation (WAC or Order Citation): PSD-02-01, Amendment 2				
Condition Approval 10/10/2005				
Emission Unit	Approval Condition # Pollutant Condition	Compliance Determination	Compliance Frequency	Required Records
Steam Boilers	Approval Condition 8 Fuel For steam boilers 1, 2, 3, 4, 5, and 6 13,400,000 gallons per year	Verification of fuel purchases	Daily	Fuel purchase records.
	Approval Condition 10 PM ₁₀ ≤ 02 lb/MMBtu 1.0 lb/hr 24-hours.	40 CFR 60 Appendix A, Method 5, 40 CFR 51 Appendix M Method 201 or 201A for the front half analysis and 40 CFR 51 Appendix M Method 202 for the back half	5 years	Testing results and hours of operation.
	Approval Condition 9 NO _x ≤ 0.09 lb/MMBtu 3% O ₂ , or 4.52 lb/hr 24-hr avg.	40 CFR 60 Appendix A, Method 7E, CEM	CEM Continuous	Testing results and hours of operation.
	Approval Condition 2 Fuel Ultra-low sulfur fuel ≤ 0.003% by wt.	Record keeping	Semiannual	Fuel purchase records.
Emergency Generators	Approval Condition 2 Fuel Ultra-low sulfur fuel ≤ 0.003% by wt.	Record keeping	Semiannual	Fuel purchase records.
	Approval Conditions 11 and 13 Hours of operation ≤ 164 hours per year 12 month rolling summation	Installing and operating a non- resettable totalizer on each generator.	Written statement in each semiannual report	Hours of operation.
	Approval Condition 12 NO _x Type I Generator ≤ 391.1 lb/day 24-hr avg.	40 CFR 60 Appendix A, Method 7E	5 years	Testing results and hours of operation.
	Approval Condition 14 NO _x Type II Generator 547.5 lb/day 24-hr avg.	40 CFR 60 Appendix A, Method 7E	5 years	Testing results and hours of operation.
Diesel Fire Water Pumps	Approval Condition 2 Fuel Ultra-low sulfur fuel ≤ 0.003% by wt.	Record keeping	Semiannual	Fuel purchase records.
	Approval Condition 15 Hours of operation ≤ 110 hours per year 12 month rolling summation	Installing and operating a non- resettable totalizer on each generator.	Written statement in each semiannual report	Hours of operation.

Table 1.1 List of Significant Emission Units.

Emission unit	Emission unit	Emission unit
200E WTP Heaters and Dehumidifiers	Table 1.6	NOC approval for Waste Treatment and Immobilization Plant heaters and dehumidifiers. NOC: DE07NWP-004
200E WTP Blasting and Painting Booths	Table 1.6	Hanford Tank Waste Treatment and Immobilization Plant (WTP) Blasting and Painting Booths. NOC: DE08NWP-002
600 Hanford Site Asbestos Landfill	Table 1.7	Miscellaneous emission unit.
600 G-6290 (600 Area Gasoline Distribution)	Table 1.7	Miscellaneous emission unit.
200W 283-W Water Treatment Plant (Chlorine Tank)	Table 1.7	Miscellaneous emission unit. De-registration Effective Date: 4/23/2009 (Hanford Risk Management Plan for EPA Facility ID #100000077276).

Table 1.7. Miscellaneous Emission Units.

Discharge point number	Requirement citation	Regulatory requirement, emission limit, or work practice standard
283-W Water Treatment Plant (Chlorine Tank) De-registration effective date 4/23/2009 (chlorine quantity below 2500 pounds).	40 CFR 68.190(b)(3)	Evaluate 283-W for compliance with newly regulated substances above the threshold (revise Risk Management Plan if needed).
	40 CFR 68.190(b)(7)	Evaluate 283-W for change in Program Level within 6 months after any change.
	40 CFR 68.190(c)	Evaluate 283-W for applicability of 40 CFR 68.
	40 CFR 68.190(b)(6)	Evaluate 283-W for change that requires a revised consequence analysis.
	40 CFR 68.95(a)	Confirm that the required emergency response program has been developed and implemented.
	40 CFR 68.95(a)(4)	Confirm that the required procedures are in place to review and update the emergency response plan to reflect changes at the stationary source.
	40 CFR 68.12(b)(3)	Confirm that emergency response actions have been coordinated with local emergency planning and response agencies.
	40 CFR 68.39(a) to (e)	Confirm that records are being maintained for the offsite consequence analysis.
	WAC 173-400-040(1)	Permittee is considered to be in compliance if no complaints are forwarded or generated by Ecology.
	WAC 173-400-040(6)	Monitor per Section 2.7, Tier 2.

Building	TYPE OF CHANGE	EFFECTED EMISSION UNIT	NOC ID/Title	Description of Changes	Date Changed	FF-01 Page Changes
Building	TYPE OF CHANGE	EFFECTED EMISSION UNIT	NOC ID/Title	Description of Changes	Date Changed	FF-01 Page Changes 03/01/2009
Canister Storage Building	NOC Approval	435	NOC ID 652: Canister Storage Bldg	Added continuous monitoring condition	26-Jan-09	Replace all pages
Building	TYPE OF CHANGE	EFFECTED EMISSION UNIT	NOC ID/Title	Description of Changes	Date Changed	FF-01 Page Changes 10/30/2009
TRU Burial Grounds	NOC Revision	486, 1243, 1244	NOC ID 743: Decontamination Trailer at the Transuranic Waste Retrieval Project	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	12-May-09	Insert new pages
Tank Farms	NOC Revision	50, 57, 58, 486, 498, 749, 885, 886	NOC ID 703: Categorical Tank Farm Facility Waste Retrieval and Closure: Phase II Waste Retrieval Operations	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	28-Jul-09	Replace all pages
200 Areas	NOC Revision	888	NOC ID 696: Tanker Truck Loading of Radioactively Contaminated Waste Water	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	28-Jul-09	Replace all pages
Tank Farms	NOC Revision	476, 486	NOC ID 702: Categorical Tank Farm Facility Waste Retrieval and Closure: Phase 1 - Site Preparation and System Installation	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	28-Jul-09	Replace all pages

Building	TYPE OF CHANGE	EFFECTED EMISSION UNIT	NOC ID/Title	Description of Changes	Date Changed	FF-01 Page Changes
Tank Farms	NOC Revision	57, 58, 134, 486	NOC ID 694: 241-S-102 Installation and Operation of Waste Retrieval Systems	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	29-Jul-09	Replace all pages
Tank Farms	Register EU	1249	Register Emission Unit	Passive vent emission unit being added.	6-Aug-09	Insert new pages
Waste Treatment	NOC Modification	465	NOC ID 747: Demolition of the Purgewater Storage and Treatment Facility Unit #1	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	11-Aug-09	Replace all pages
HAMMER	NOC Approval	1250	NOC ID 749: Use of Radioactive Materials at the Volpentest HAMMER/Hanford Training and Education Center	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	15-Sep-09	Insert new pages
Tank Farms	NOC Revision	476, 486, 498, 713, 714	NOC ID 685: 244-CR Vault Isolation and Interim Stabilization	Approval of new emission units, notices of construction (NOC's), or revisions to currently licensed emissions units.	15-Sep-09	Replace all pages
* Emission Unit Content List	Revision		New list created to reflect changes in Emission Units and NOCs		10/30/2009	Replace all pages

Building	TYPE OF CHANGE	EFFECTED EMISSION UNIT	NOC ID/Title	Description of Changes	Date Changed	FF-01 Page Changes
						11/30/2009

Building	TYPE OF CHANGE	EFFECTED EMISSION UNIT	NOC ID/Title	Description of Changes	Date Changed	FF-01 Page Changes
Waste Treatment	NOC Closure	476	NOC ID 672 - Excavation Activities for the Building of Temporary Construction Facilities and the Main Facilities for the River Protection Project-Waste Treatment Plant (RPP-WTP)	NOC Closure	6/18/2009	Replace all pages
Waste Treatment	NOC Closure	486	NOC ID 672 - Excavation Activities for the Building of Temporary Construction Facilities and the Main Facilities for the River Protection Project-Waste Treatment Plant (RPP-WTP)	NOC Closure	6/18/2009	Replace all pages
Plutonium Finishing Plant	Transition to CERCLA	389	NOC ID 655 -"Transition of the Plutonium Finishing Plant"	Transition to CERCLA	10/23/2009	Remove all pages
Plutonium Finishing Plant	Transition to CERCLA	390	NOC ID 655 -"Transition of the Plutonium Finishing Plant"	Transition to CERCLA	10/23/2009	Remove all pages
Plutonium Finishing Plant	Transition to CERCLA	393	NOC ID 655 -"Transition of the Plutonium Finishing Plant"	Transition to CERCLA	10/23/2009	Remove all pages
Plutonium Finishing Plant	Transition to CERCLA	503	NOC ID 655 -"Transition of the Plutonium Finishing Plant"	Transition to CERCLA	10/23/2009	Remove all pages
U-Plant	Transition to CERCLA	310	NONE	Transition to CERCLA	10/23/2009	Remove all pages
* Emission Unit Content List	Revision		New list created to reflect changes in Emission Units and NOCs		11/30/2009	Replace all pages

*The Department of Energy
Hanford Site Radioactive Air Emissions License
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Partial Approval of the Clean Air Act, Section 112(l), Delegation of Authority to the Washington State Department of Health Federal Register Notice 3

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Partial Approval of the Clean Air Act, Section 112(l), Delegation of Authority to the Washington State Department of Health Federal Register Notice

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This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under Section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 4, 2006. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not

be challenged later in proceedings to enforce its requirements. (See Section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations.

Dated: May 24, 2006.
Cyndy Colantoni,
Acting Regional Administrator, Region 5.

■ 40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

■ 1. The authority citation for part 52 continues to read as follows:

Subpart Y—Minnesota

■ 2. In § 52.1220, the table in paragraph (e) is amended by adding an entry for "Alternative Public Participation Process" after the existing entries to read as follows:

§ 52.1220 Identification of plan.
* * * * *
(e) * * *

EPA-APPROVED MINNESOTA NONREGULATORY PROVISIONS

Name of nonregulatory SIP provision	Applicable geographic or nonattainment area	State submittal date/ effective date	EPA approved date	Comments
Alternative Public Participation Process	Statewide	12/07/05	07/05/06 [insert page number where the document begins].	

* * * * *
[FR Doc. 06-5052 Filed 6-2-06; 8:45 am]
BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

[EPA-R10-OAR-2006-0001; FRL-8177-2]

Partial Approval of the Clean Air Act, Section 112(l), Delegation of Authority to the Washington State Department of Health

AGENCY: Environmental Protection Agency (EPA).
ACTION: Final rule.

SUMMARY: EPA is granting partial approval to Washington State Department of Health's (WDOH) request for delegation of authority to implement and enforce the National Emission Standards for Hazardous Air Pollutants (NESHAP) for radionuclide air emission. This action is being taken under the Clean Air Act (CAA or the Act).

DATES: *Effective Date:* This final rule is effective on July 5, 2006.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R10-OAR-2006-0001. All documents in the electronic docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly

available, i.e., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy during normal business hours at the Office of Air, Waste and Toxics, U.S. Environmental Protection Agency, Region 10, 1200 Sixth Avenue, Seattle, Washington 98101. EPA requests that if at all possible, you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to view the hard copy of the docket.

FOR FURTHER INFORMATION CONTACT: Davis Zhen, (206) 553-7660, or by e-mail at zhen.davis@epa.gov.

SUPPLEMENTARY INFORMATION:

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I. Background

On June 6, 2005, WDOH submitted a request for delegation of authority to implement and enforce 40 CFR part 61, subparts A, B, H, I, K, Q, R, T, and W (Radionuclide NESHAPs). WDOH's request showed that it had adopted without change or modification all of the provisions of the Radionuclide NESHAPs, as in effect on July 1, 2004. On February 22, 2006, EPA proposed a partial approval of WDOH's delegation request. The reason for EPA's decision to grant partial rather than full approval was that WDOH does not currently have express authority to recover criminal fines for knowingly making a false material statement, representation, or certificate in any form, notice or report, or knowingly rendering inadequate any required monitoring device or method, as required by 40 CFR 70.11(a)(3)(iii) and 40 CFR 63.91(d)(3)(i). Please refer to 71 FR 9059 (February 22, 2006) for a detailed description of our proposed partial approval and delegation.

II. Response to Comments

EPA provided a 30-day period for public comment on our February 22, 2006 proposal, which ended on March 24, 2006. No comments were received

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during the public comment period. EPA did receive a comment letter, however, on March 27, 2006, after the close of the public comment period. Although EPA is not legally obligated to respond, a summary of the commenter's concerns and EPA's response to the comments follows. A copy of the comment letter is in the docket.

The commenter states that WDOH's radionuclide regulations are not consistent with and are more stringent than the Radionuclide NESHAPs. The commenter cites a 1983 EPA guidance document regarding delegation of NSPS and NESHAP standards which states that "state regulations dealing with NSPS and NESHAPs must be consistent with the Federal regulations as outlined in 40 CFR Part 60 and 61." Good Practices Manual for Delegation of NSPS and NESHAPs, February 1983. The commenter continues that, although a state regulation is allowed to be more stringent than the corresponding federal regulation, the state regulation should be consistent.

The commenter notes several ways in which it believes WDOH's radionuclide regulations are not consistent with the Radionuclide NESHAPs. First, the commenter states that the WDOH regulations have no *de minimis* exemption from the requirement to obtain a construction permit and that there is no scientific basis for permitting sources below EPA's standard of 0.1 mrem per year. EPA assumes this is a reference to the exemption in 40 CFR 61.96(b) for new construction and modifications with emissions less than 1% of the standard in 40 CFR 61.92 (referred to here as the "*de minimis* exemption" or "*de minimis* level"). The commenter is also concerned that WDOH has allegedly stated that it does not review or assess the economic impact of regulating sources below this *de minimis* level. Second, the commenter states that some of WDOH's exemptions are narrower than those provided in the Radionuclide NESHAPs. As an example, the commenter states that WDOH's exemption to the definition of "modification" for routine maintenance, repair and replacement applies only to abatement technology, whereas EPA's definition of modification has no such limitation. Third, the commenter states that WDOH requires notice of construction applications for accidental releases, whereas the Radionuclide NESHAPs do not. Fourth, the

commenter states that WDOH has expressed concern, and even reluctance, to permit some individual sources, even though their effective doses were below the *de minimis* level individually and actual facility-wide emissions are approximately 0.3% of the Radionuclide NESHAPs facility-wide standard of 10 mrem per year because the unabated (uncontrolled) emissions of the Department of Energy's Hanford facility (DOE Hanford) are approaching the facility-wide standard of 10 mrem per year. The commenter concludes that EPA should not delegate the Radionuclide NESHAPs to WDOH unless WDOH promulgates regulations consistent with the regulations and the intent of the Radionuclide NESHAPs or documents substantial evidence other than that compiled by the EPA to reinforce their regulations.

As the commenter notes and as discussed in the proposal, WDOH has, in addition, adopted other provisions as a matter of state law that regulated radionuclide emissions and that apply to sources subject to the Radionuclide NESHAPs. These requirements are additional to and more stringent than the Radionuclide NESHAPs, by, for example, eliminating exemptions that may be available under the Radionuclide NESHAPs. Section 116 of the CAA makes clear, however, that with some exceptions not relevant here, nothing in title I of the CAA precludes or denies the right of any State to adopt or enforce any standard or limitation respecting emissions of air pollutants or any requirement respecting control or abatement of air pollutant so long as it is not less stringent than a standard or limitation in effect under an applicable implementation plan or under section 111 or 112 of the CAA. EPA made clear in proposing to approve WDOH's delegation request that EPA's partial approval and delegation of the Radionuclide NESHAPs to WDOH does not extend to any additional state standards regulating radionuclide emissions. See 71 FR 9062 and 9063. These additional State standards are enforceable as a matter of State law, but are not enforceable under the CAA or in any way part of this delegation.

III. Final Action

EPA is granting partial approval to WDOH's request for partial approval and delegation of authority to implement and enforce the Radionuclide NESHAPs. Pursuant to the

authority of section 112(f) of the CAA, this partial approval is based on EPA's finding that State law, regulations and agency resources meet the requirements for partial program approval and delegation of authority specified in 40 CFR 63.91 and applicable EPA guidance. Except as provided in Section III.B., EPA is delegating to WDOH authority to implement and enforce 40 CFR part 61, subparts A, B, H, I, K, Q, R, T, and W, as in effect on July 1, 2004. NESHAPs that are promulgated or revised substantively after July 1, 2004 are not delegated to WDOH. These remain the responsibility of EPA. Included as part of the delegation is the authority to approve:

1. "Minor changes to monitoring," including the use of the specified monitoring requirements and procedures with minor changes in methodology as described in 40 CFR 61.14(g)(1)(ii);
2. "Intermediate changes to monitoring;"
3. "Minor changes to recordkeeping/reporting;"
4. "Minor changes in test methods," including the use of a reference method with minor changes in methodology as described in 40 CFR 61.13(b)(1)(i);
5. Waiver of the requirement for emission testing because the owner or operator of a source has demonstrated by other means to WDOH's satisfaction that the source is in compliance with the standard as described in 40 CFR 61.13(h)(1)(iii).

For purposes of this paragraph, the terms in quotations have the meaning assigned to them in 40 CFR 63.90.

EPA is also updating the table published at 40 CFR 61.04(c)(10) showing the most recent delegation status of specific part 61 subparts that have been delegated to State and local air pollution control authorities in Region 10.

A. What Authorities Are Excluded From This Partial Approval and Delegation?

EPA is not delegating authorities under 40 CFR part 61 that specifically indicate they can not be delegated, that require rulemaking to implement, that affect the stringency of the standard, or where national oversight is the only way to ensure national consistency. Table 1 below identifies the specific authorities within 40 CFR part 61, subparts A, B, H, I, K, Q, R, T, and W that EPA is specifically excluding from this delegation.

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TABLE 1.—PART 61 AUTHORITIES EXCLUDED FROM PARTIAL APPROVAL AND DELEGATION

Section	Authorities
61.04(b)	Waiver of recordkeeping.
61.12(d)(1)	Approval of alternative means of emission limitation.
61.13(h)(1)(ii)	Approval of alternatives to test methods (except as provided in 40 CFR 61.13(h)(1)(i)).
61.14(g)(1)(ii)	Approval of alternatives to monitoring that do not qualify as "Minor changes to monitoring," "Intermediate changes to monitoring," or "Minor changes to recordkeeping/reporting." For purposes of the previous sentence, the terms in quotes are defined in 40 CFR 63.90.
61.18	Availability of Information.
61.23(b)	Subpart B—Radon Emissions from Underground Uranium Mines Alternative compliance demonstration to COMPLY-R (requires EPA Headquarters approval).
61.89(b)(2)(ii), (c)(2)(ii)	Subpart H—Emissions of Radionuclides Other than Radon from DOE Facilities (alternatives to test methods).
61.107(b)(2)(iii), (d)(2)(iii)	Subpart I—Radionuclide Emissions from Federal Facilities Other than NRC licensees and Not Covered in Subpart H (alternatives to test methods).
61.125(a)	Subpart K—Radionuclide Emissions from Elemental Phosphorus Plants (alternatives to test methods).
61.205(c), (d), and (e)	Subpart R—Emission from Phosphogypsum Stacks (requires Approval from Assistant Administrator of EPA Office of Air and Radiation).

In addition, because WDOH does not currently have express authority to recover criminal fines for knowingly making a false material statement, representation, or certificate in any form, notice or report or knowingly rendering inadequate any required monitoring device or method, as required by 40 CFR 70.11(a)(3)(iii) and 40 CFR 63.91(d)(3)(i), EPA will continue to retain primary authority to implement and enforce these authorities. This is the basis for partial rather than full approval.

B. How Will This Partial Approval and Delegation Affect Regulated Community?

Generally speaking, the transfer of authority from EPA to WDOH in this delegation changes EPA's role from primary implementer and enforcer to overseer. As a result, sources in Washington subject to the delegated Radionuclide NESHAPs should direct questions and compliance issues to WDOH. For authorities that are NOT delegated (those noted in Section III.A. above), affected sources should continue to work with EPA as their primary contact and submit materials directly to EPA. In such cases, affected sources should copy WDOH on all submittals, questions, and requests. EPA will continue to have primary responsibility to implement and enforce Federal regulations that do not have current state or local agency delegations.

C. Where Will the Regulated Community Send Notifications and Reports?

Sources subject to the delegated NESHAPs will be required to send required notifications, reports and requests to WDOH for WDOH's action and to provide copies to EPA. For authorities that are excluded from this delegation, sources should continue to

send required notifications, reports, and requests to EPA and to provide copies to WDOH.

D. What Are WDOH's Reporting Obligations?

WDOH must maintain a record of all approved alternatives to all monitoring, testing, recordkeeping, and reporting requirements and provide this list of alternatives to EPA at least semi-annually, or at a more frequent basis if requested by EPA. EPA may audit the WDOH-approved alternatives and disapprove any that it determines are inappropriate, after discussion with WDOH. If changes are disapproved, WDOH must notify the source that it must revert to the original applicable monitoring, testing, recordkeeping, and/or reporting requirements (either those requirements of the original section 112 requirements, the alternative requirements approved under 40 CFR part 63, subpart A, or the previously approved site-specific alternative requirements). Also, in cases where the source does not maintain the conditions which prompted the approval of the alternatives to the monitoring testing, recordkeeping, and/or reporting requirements, WDOH must require the source to revert to the original monitoring, testing, recordkeeping, and reporting requirements, or more stringent requirements, if justified.

E. What Is the Effect of Other State Laws Regulating Radionuclide Air Emissions?

This partial approval and delegation delegates to WDOH authority to implement and enforce 40 CFR part 61, subparts A, B, H, I, K, Q, R, T, and W, as in effect on July 1, 2004. The partial approval and delegation does not extend to any additional state standards, including other state standards regulating radionuclide air emissions.

However, if both a State or local regulation and a Federal regulation apply to the same source, both must be complied with, regardless of whether the one is more stringent than the other, pursuant to the requirements of section 116 of the Clean Air Act.

F. Delegation of Newly Promulgated and Revised Radionuclide NESHAPs

WDOH may receive partial approval and delegation of newly promulgated or revised Radionuclide NESHAPs by the following streamlined process: (1) WDOH will send a letter to EPA requesting delegation for such new or revised NESHAPs which WDOH has adopted by reference into Washington regulations; (2) EPA will send a letter of response back to WDOH granting partial approval of the delegation request (or explaining why EPA cannot grant the request), and publish only EPA's approval in the Federal Register; (3) WDOH does not need to send a response back to EPA.

G. How Will WDOH Receive Partial Approval and Delegation of Newly Promulgated and Revised Radionuclide NESHAPs?

WDOH is not obligated to request or receive future delegations. However, EPA encourages WDOH, on an annual basis, to revise its rules to incorporate by reference newly promulgated or revised Radionuclide NESHAPs and request updated delegation. Preferably, WDOH should adopt Federal regulations effective July 1, of each year; this corresponds with the publication date of the Code of Federal Regulations (CFR).

H. How Will This Partial Approval and Delegation Affect Indian Country?

This partial approval and delegation to WDOH to implement and enforce the

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Radionuclide NESHAPs does not extend to sources or activities located in Indian country, as defined in 18 U.S.C. 1151. "Indian country" is defined under 18 U.S.C. 1151 as: (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (2) all dependent Indian communities within the borders of the United States, whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State; and (3) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. Under this definition, EPA treats as reservations trust lands validly set aside for the use of a Tribe, even if the trust lands have not been formally designated as a reservation. Consistent with previous Federal program approvals or delegations, EPA will continue to implement the NESHAPs in Indian country, because WDOH has not adequately demonstrated its authority over sources and activities located within the exterior boundaries of Indian reservations and other areas in Indian country.

IV. Statutory and Executive Order Reviews

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely approves State law as meeting Federal requirements and imposes no additional requirements beyond those imposed by State law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under State law and does not impose any additional enforceable duty beyond that required by State law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the

Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4).

The rule also does not have Tribal implications because it will not have a substantial direct effect on one or more Indian Tribes, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). Consistent with EPA policy, however, EPA nonetheless initiated consultation with representatives of tribal governments in the process of developing this proposal to permit them to have meaningful and timely input into its development.

This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This action merely approves a State request to receive delegation of certain Federal standards, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant.

In reviewing program approval and delegation submissions, EPA's role is to approve submissions provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a delegation submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA to use VCS in place of a delegation submission that otherwise satisfies the provisions of the Clean Air Act. Thus the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small

Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 4, 2006. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements (See section 307(b)(2)).

List of Subjects in 40 CFR Part 61

Environmental protection, Air pollution control, Radionuclides, Reporting, and recordkeeping requirements.

Dated: May 10, 2006.
L. Michael Bogert,
Regional Administrator, Region 10.

■ 40 CFR part 61 is amended to read as follows:

PART 61—[AMENDED]

■ 1. The authority citation for part 61 continues to read as follows:

Authority: 42 U.S.C. 7401, 7412, 7413, 7414, 7416, 7601 and 7602.

Subpart A—General Provisions

■ 2. Section 61.04 is amended by revising the table in paragraph (c)(10) to read as follows:

§ 61.04 Address.

• • • • •
(c) * * *
(10) * * *

DELEGATION STATUS FOR PART 61 STANDARDS—REGION 10¹

Subpart ²	WA													
	AK ADEC ³	ID IDEQ ⁴	OR ODEQ ⁵	OR LRAPA ⁶	Ecology ⁷	BCAA ⁸	NWCAA ⁹	ORCAA ¹⁰	PSCAA ¹¹	SWCAA ¹²	SCAPCA ¹²	YRCAA ¹⁴	WDOH ¹⁵	
A General Provisions ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	X ¹⁶	
B Radon from Underground Uranium Mines													X	
C Beryllium		X	X	X	X	X	X	X	X	X	X	X		
D Beryllium Rocket Motor Firing		X	X	X	X	X	X	X	X	X	X	X		
E Mercury	X	X	X	X	X	X	X	X	X	X	X	X		
F Vinyl Chloride		X	X	X	X	X	X	X	X	X	X	X		
H Radionuclide other than Radon from Dept. of Energy Facilities													X	
I Radionuclide from Federal Facilities other than Nuclear Regulatory Commission Licensees and not covered by Subpart H													X	
J Equipment Leaks of Benzene	X	X	X	X	X	X	X	X	X	X	X	X		
K Radionuclide from Elemental Phosphorus Plants													X	
L Benzene from Coke By-Product Recovery Plants		X	X	X	X	X	X	X	X	X	X	X		
M Asbestos	X				X	X	X	X	X	X	X	X		
N Inorganic Arsenic from Glass Manufacturing Plants		X	X		X	X	X	X	X	X	X	X		
O Inorganic Arsenic from Primary Copper Smelters		X	X		X	X	X	X	X	X	X	X		
P Inorganic Arsenic emissions from Arsenic Trioxide and Metallic Arsenic Production Facilities		X	X		X	X	X	X	X	X	X	X		
Q Radon from Dept. of Energy Facilities													X	
R Radon from Phosphogypsum Stacks													X	
T Radon from Disposal Uranium Mill Tailings													X	
V Equipment Leaks (Fugitive Sources)	X	X	X		X	X	X	X	X	X	X	X		
W Radon from Operating Mill Tailings													X	
Y Benzene from Benzene Storage Vessels	X	X	X		X	X	X	X	X	X	X	X		
BB Benzene from Benzene Transfer Operations		X	X		X	X	X	X	X	X	X	X		
FF Benzene Waste Operations	X	X	X		X	X	X	X	X	X	X	X		

1. Table last updated on July 5, 2006.
 2. Any authority within any subpart of this part (i.e. under "Delegation of Authority") that is identified as not delegable, is not delegated.
 3. Alaska Department of Environmental Conservation (01/19/997). Note: Alaska received delegation for § 61.145 and § 61.154 of subpart M (Asbestos), along with other sections and appendices which are referenced in § 61.145, as § 61.145 applies to sources required to obtain an operating permit under Alaska's regulations. Alaska has not received delegation for subpart M for sources not required to obtain an operating permit under Alaska's regulations.
 4. Idaho Department of Environmental Quality (07/01/2003). Note: Delegation of these part 61 subparts applies only to those sources in Idaho required to obtain an operating permit under title V of the Clean Air Act.
 5. Oregon Department of Environmental Quality (07/01/2004).
 6. Lane Regional Air Pollution Authority (07/01/2001).
 7. Washington Department of Ecology (02/20/2001). Note: Delegation of part 61, subpart M, applies only to sources required to obtain an operating permit under title V of the Clean Air Act, including Hanford. (Pursuant to RCW 70.106.240, only Ecology can enforce non-radionuclide regulations at Hanford).
 8. Benton Clean Air Authority (02/20/2001). Note: Delegation of part 61, subpart M, excludes Hanford, see note #7.
 9. Northwest Clean Air Agency (07/01/2003).
 10. Olympic Regional Clean Air Agency (07/01/2000). Note: Delegation of part 61, subpart M applies only to sources required to obtain an operating permit under title V of the Clean Air Act.

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11. Puget Sound Clean Air Agency (07/01/2005).
12. Southwest Clean Air Agency (03/01/1999).
13. Spokane County Air Pollution Control Authority (02/20/2001).
14. Yakima Regional Clean Air Authority (07/01/2000).
15. Washington State Department of Health (07/01/2004). Note: WDOH is only delegated the Radonucleides-NESHAPs. Other NESHAPs will be enforced by Washington State Department of Ecology and local air agencies, as applicable.
16. General Provisions Authorities which are not delegated include: §§61.04(b), 61.12(d)(1), 61.13(h)(1)(i), 61.14(g)(1)(i) for approval of major alternatives to monitoring; § 61.16; §61.30(c)(4); and any sections in the subpart pertaining to approval of alternative standards (i.e., alternative means of emission limitations), or approval of major alternatives to best methods or monitoring. For definitions of minor, intermediate, and major alternatives or changes to best methods and monitoring, see 40 CFR 63.90.
17. General Provisions Authorities which are not delegated include: waiver of recordkeeping, approval of alternative means of emission limitation, approval of alternative to best methods, except as provided in 40 CFR 61.13(h)(1)(i), approval of alternative to monitoring that do not qualify as "minor changes to monitoring," "intermediate changes to monitoring," or "minor changes to recordkeeping/reporting" as defined in 40 CFR 63.90, and availability of information.

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[FR Doc. E6-8470 Filed 6-2-06; 8:45 am]
BILLING CODE 5660-50-P

**ENVIRONMENTAL PROTECTION
AGENCY**

48 CFR Parts 1532 and 1552

[FRL-8179-6]

**EPAAR Prescription and Clause—
Simplified Acquisition Procedures
Financing**

AGENCY: Environmental Protection
Agency (EPA).
ACTION: Final rule.

SUMMARY: EPA is revising the EPA Acquisition Regulation (EPAAR) Subparts 1532 and 1552 to implement a procedure for simplified acquisition procedures financing. This EPAAR revision adds a prescription and clause for contracting officers to use when approving advance or interim payments on simplified acquisitions. The prescription and clause apply to commercial item orders at or below the simplified acquisition threshold. This action revises the EPAAR, but does not impose any new requirements on Agency contractors. The procedure allows contractors to invoice for advance and interim payments in accordance with standard commercial practices when authorized by the contracting officer and identified in the clause payment schedule.

DATES: This final rule is effective on June 5, 2006.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-OARM-2006-0126. All documents in the docket are listed on the <http://www.regulations.gov> Web site. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through <http://www.regulations.gov> or in hard copy at the OEI Docket, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OEI Docket is (202) 566-1752.

FOR FURTHER INFORMATION CONTACT:
Tiffany Schermerhorn, Policy, Training

and Oversight Division, Office of Acquisition Management, Mail Code 3802R, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 564-9902; fax number: (202) 565-2475; e-mail address: schermerhorn.tiffany@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

The EPAAR additions are necessary so that contracting officers may provide simplified acquisition procedures financing that is appropriate or customary in the commercial marketplace when purchasing commercial items at or below the simplified acquisition threshold. This rule does not impose any new requirements regarding submission of invoices or vouchers since Agency contractors currently submit invoices or vouchers for payment of orders. The EPAAR changes are consistent with the Federal Acquisition Regulation. No public comments were received in response to the proposed rule published on March 13, 2006. However, a minor revision to the proposed language has been made in response to an internal agency comment.

**II. Statutory and Executive Order
Reviews**

A. Executive Order 12866

It has been determined that this rule is not a "significant regulatory action" under the terms of Executive Order 12866 and is therefore not subject to OMB review.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* This rule does not impose any new information collection or other requirements on Agency contractors.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business

as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This final rule will not impose any new requirements on small entities.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising

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Memorandum of Understanding between the Department of Ecology and the Department of Health

MEMORANDUM OF UNDERSTANDING

Between the

Washington State Department of Ecology

and the

Washington State Department of Health

Related to the

RESPECTIVE ROLES AND RESPONSIBILITIES

OF THE TWO AGENCIES IN COORDINATING ACTIVITIES

CONCERNING HANFORD SITE RADIOACTIVE AIR EMISSIONS

DOH Contract # N16119

PURPOSE

This Memorandum of Understanding (MOU) is between the Washington State Department of Health (Health) and the Washington State Department of Ecology (Ecology) under authorities granted within Chapters 43.70, 43.21A, 70.94, and 70.98 of the Revised Code of Washington (RCW). This MOU supersedes the DOH contract N14256. The purpose of this MOU is to clarify the respective roles of Health and Ecology in the issuance and administration of air operating permits and the performance of new source reviews at Hanford. It recognizes Health as the state agency responsible for public health protection and the primary agency responsible for regulation of Hanford facility radioactive air emissions (except as provided in Clause 5 of Ecology's Roles and Responsibilities). It recognizes Ecology as the agency responsible for environmental protection as described in this MOU, including both nonradioactive air and radioactive air issues with specific responsibilities for radionuclides outlined below.

BACKGROUND

Health and Ecology share responsibility for the control of radioactive air emissions pursuant to state and federal statutes. Both agencies have authority to set standards for and to regulate radioactive air emissions per RCW 70.94 and RCW 70.98.

This MOU is designed to aid coordination between the agencies, and to avoid conflicting regulatory requirements for radioactive air emissions at the Hanford facility. This MOU defines the respective roles of Health and Ecology in the regulation of Hanford Site radioactive air emissions, including the determination of compliance, radioactive air emissions control technology standards and the performance of new source review.

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NOTE: This document does not affect the delegation from the U.S. Environmental Protection Agency (EPA) of the National Emission Standards for Hazardous Air Pollutants Program.

RECITALS

Chapter 70.94 RCW and Chapter 173-401 Washington Administrative Code (WAC), administered by Ecology, establish a comprehensive air operating permit program in Washington State consistent with the requirements of Title V of the federal Clean Air Act (42 U.S.C. 7401, et seq.). All sources subject to these laws and regulations must have a permit to operate that assures compliance by the source with all applicable requirements.

Chapter 70.98 RCW and chapter 246-247 WAC, administered by Health, establish radioactive air emission requirements. These requirements are "applicable requirements" under Ecology's WAC 173-401-200.

Air emissions, including radioactive air emissions, at the Hanford Site must be covered under an air operating permit. The U. S. Department of Energy (USDOE) is required to submit two copies of its air operating permit application, one to Health for the licensing of radionuclides, and one to Ecology for the permitting of nonradioactive air emissions. Health will issue a radionuclide air emission license (hereinafter "radioactive air emissions license" or "license") for USDOE, which will be incorporated into the air operating permit issued by Ecology as an applicable requirement in accordance with the interagency procedures outlined below. A permit will be issued by Ecology with Health as a signatory reviewer and issuer of the radioactive air emissions license portion of the permit.

Health and Ecology will work with USDOE to establish a schedule of application submittals. All air operating permits for the Hanford facility will be issued by Ecology and reviewed by Health. All future re-openings, revisions and renewals of permits will follow the same process as outlined in this MOU.

NOTE: Wherever practicable, the provisions of this MOU shall apply to new source review, as well as to air operating permits.

DEFINITIONS

The definitions of terms contained in Chapters 173-400 and 173-401 WAC are incorporated by reference, unless otherwise defined here. Unless a different meaning is clearly required by context, the following words and phrases, as used in this MOU, shall have the following meanings:

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“Compliance determination” refers to the process whereby Health verifies how and whether a specific source meets standards set by Ecology in Chapter 173-480 WAC.

“License” or “radioactive air emissions license” refers to the document issued by Health in accordance with Chapter 246-247 WAC that prescribes the relevant control requirements for radionuclide air emissions.

“Permit” or “operating permit” refers to the document issued by Ecology to USDOE in accordance with Chapter 173-401 WAC, chapter 70.94 RCW, and Title V of the federal Clean Air Act (42 U.S.C. 7401, et seq.). The operating permit gathers in one document all air emission limitations and requirements that apply to a given source.

“Primary or Primarily” - While both Ecology and Health have authority to regulate radionuclide air emissions under Chapters 70.94 RCW and 70.98 RCW, respectively, “primary” exercise of that authority means that, unless extenuating circumstances exist (for example, see Clauses 5 and 6 in the Joint Rules and Activities section), Health will be responsible for the particular activity.

“Standard,” without further description, refers to any requirement established by Ecology through revision of Chapter 173-480 WAC that limits the quantity, rate or concentration of emissions of air pollution on a continuous basis including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under Chapter 173-480 WAC.

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RESPECTIVE ROLES AND ACTIVITIES OF
OF ECOLOGY AND HEALTH

The parties to this MOU describe their responsibilities as follows:

Ecology

1. Ecology issues the air operating permit.
2. Ecology is the state agency responsible for federal and state regulation of nonradioactive hazardous air pollutants at Hanford.
3. Ecology is the point of contact for issues and questions involving nonradioactive air emissions.
4. Ecology is the state agency responsible for determining requirements related to control technologies for nonradioactive air emissions.
5. Ecology sets air quality and emission standards for radioactive air emissions in Chapter 173-480 WAC.¹

Health

1. Health is the state agency primarily responsible for regulation of Hanford Site radionuclide air emissions (except as provided in Clause 5 of Ecology's Roles and Responsibilities). This responsibility does not alter, in any way, existing statutory authorities of Health or Ecology.
2. Health is the state agency primarily responsible for evaluating airborne radionuclide emissions, including during new source reviews, and the agency responsible for the issuance of a radionuclide license that will be incorporated into the Hanford Air Operating Permit consistent with such evaluations.
3. Health is the point of contact for issues and questions pertaining to the regulation of Hanford Site radioactive air emissions.
4. Health is the state agency primarily responsible for evaluating airborne radioactive emissions in order to verify that offsite doses comply with

¹Addition of this clause clarifies that the vehicle anticipated to be the primary way for Ecology to regulate is through the establishment of standards by the rule revision process and does not eliminate any powers that Ecology may have to regulate if Health fails to perform. The Joint Responsibilities section refers to scenarios in which Ecology may exercise its authority in other ways.

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applicable human health standards, and that site worker exposures from radionuclide air emissions are as low as reasonably achievable.

5. Health is the state agency primarily responsible for the implementation of state and federal requirements for radioactive air emission control technology, using EPA guidance for "top down" Best Available Control Technology (BACT). In Health's regulations the BACT process has been adapted to radionuclides and called BARCT in accordance with Chapter 173-480 WAC.
6. Health establishes control requirements for radionuclides for Hanford in a license, issued under Chapter 246-247 WAC, that is incorporated into the air operating permit for Hanford.

JOINT ROLES AND ACTIVITIES OF
THE DEPARTMENTS OF ECOLOGY AND HEALTH

The parties to this MOU recognize and agree to the following:

1. A staff point of contact for each agency will be identified for each Hanford Site new source or source modification to ensure that both agencies' interests are maintained, and to ensure that requirements placed on Hanford facilities are compatible.
2. If it can be demonstrated by Ecology that there will be risk to the public or to the environment without the use of technology different than that proposed by Health, Ecology may request that Health implement the different technology. Health will consider Ecology's request and justify its conclusion on whether to implement the requested technology. If the two parties cannot agree, the issue shall be referred to the General Dispute Resolution Process outlined in this MOU.
3. Both Ecology and Health are committed to cooperation and the sharing of pertinent information in order to aid compliance with applicable regulations, and to ensure protection of both human health and the environment.
4. In accordance with RCW 70.94.162(1) and §502(b)(3) of the federal Clean Air Act Amendments of 1990, air operating permit fees will cover all costs involved in administering the Operating Permit Program with respect to sources of air emissions. Health will bill Energy and collect fees separately, in accordance with Chapter 246-254 WAC, for all non-air operating permit costs incurred by Health in regulating radionuclides. Ecology's permit program costs will include permit administration costs and development and

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oversight costs associated with Health's regulatory activities. Ecology will also bill USDOE and collect fees separately for all costs incurred by Ecology in the setting of standards and regulation of radionuclide air emissions, as well as for all costs incurred by Ecology in regulating nonradioactive air emissions. Health and Ecology will avoid billing USDOE for overlapping costs regarding the Hanford facility. There will be separate costs for separate duties under separate authorities.

5. Both Ecology and Health have identical enforcement authority under Chapter 70.94 RCW, and access to all applicable areas of the Hanford facility for inspections by both or either of the agencies will be a condition of the permit. Health will assume primary responsibility for inspection and enforcement actions that involve only radionuclides at Hanford, including the issuance of notices of violations and any administrative or judicial proceedings that stem from such actions. Ecology will have responsibility for inspection and enforcement actions that involve only nonradionuclides at Hanford, including the issuance of notices of violations and any administrative or judicial proceedings that stem from such actions. Wherever inspections or enforcement actions involve both radionuclide and nonradionuclide air emissions at Hanford, both agencies will share responsibility, including responsibility for issuance of notices of violations and any administrative or judicial proceedings that stem from such actions. However, in all instances of suspected violation, the agencies will confer before a notice of violation is issued (unless an imminent and substantial threat to the environment or human health exists - see below). The EPA will have enforcement authority over all federally enforceable portions of the permit.

If in Ecology's judgment it can be demonstrated that there is risk to the public or to the environment from radioactive air emissions, Ecology will consult with Health. If Health fails to adequately address Ecology's concerns, the Dispute Resolution process outlined in this document will be followed, beginning at the section manager level. If a dispute arises as to which agency is responsible for enforcement, the dispute resolution procedures outlined in this MOU shall be followed, except as provided in Clause 6 of the Joint Roles and Activities Section. No enforcement action on the issue under consideration may be taken by either party until the full dispute resolution procedures have been followed, except as provided in Clause 6 of the Joint Roles and Activities Section.

6. If either agency recognizes an imminent and substantial threat to human health or the environment, that agency may take steps to mitigate the problem, then consult the other agency, and if warranted, follow the dispute resolution process.

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7. Under the timeline requirements for operating permit issuance, Health will handle all radioactive air emissions license procedures, and Ecology will handle all air operating permit issuance procedures and requirements as per this MOU. Ecology will submit notices of permit issuance, modifications, and renewals to the Permit Register as required under WAC 173-401-805. The two agencies will hold joint hearings and will jointly assure proper notice of hearings. The two agencies will jointly prepare responses to public comments. Ecology will submit notices, comments, and the proposed permit to EPA.

8. Under the timeline requirements for operating permit issuance, permitting authorities have 180 days between the time a completeness determination is made and the time when the Draft Permit or Renewal is due. Under this MOU, each agency (Ecology and Health) shall submit to the other a Draft of its license or portion of a Hanford Operating Permit within 90 days after the date that a completeness determination is due or made. Each will then have 30 days to send comments to the other agency. Each agency will then have 30 days to respond to the comments and revise the license or the original Draft Permit. Each agency will have discretion to consider comments received after the 30-day comment period has expired. If a disagreement exists or one agency believes the other agency's response to the comments is insufficient, the issue shall follow the dispute resolution process outlined in this MOU, but in no event shall the deadlines for permit submittals to the EPA be missed.

GENERAL RESOLUTION OF DISPUTES

Both agencies recognize the time constraints that are involved with meeting the operating permit deadlines under the federal Clean Air Act and commit to resolving disputes as expeditiously as possible. Disputes arising from the implementation of this MOU will be resolved at the lowest level possible utilizing standard agency chains of command. Elevation to Ecology's Deputy Director and Health's Assistant Secretary for Environmental Health shall occur only after all reasonable efforts at the Program and Division level have failed or after two weeks after a comment period deadline has passed, whichever comes first. If the dispute still cannot be resolved at the Assistant Director and Assistant Secretary levels, the dispute shall be referred to the Director of Ecology and the Secretary of Health. If the dispute cannot be resolved at the highest agency levels within one week, the dispute shall be referred to the Governor's Office in accordance with RCW 43.17.330. Both agencies shall refrain from issuing a final determination until all disputes are resolved, but in no event shall the deadlines for permit submittals to the EPA be missed.

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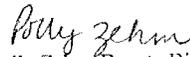
EFFECTIVE DATE, MODIFICATION, AND TERMINATION

This Memorandum of Understanding shall be effective upon signature by the parties, may be amended in writing by mutual consent, and may be terminated by either party after giving 30 days notice to the other party.

Signatures:


Ann Thompson, Contracts Manager
Washington State Department of Health


Date


Polly Zehm, Deputy Director
Washington State Department of Ecology

Date 5/18/07

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Interpretation of the Regulations and Definitions

Use the following guidance when interpreting the combination of 40 CFR 61 Subparts A and H with WAC 173-480 and 246-247. The following definitions apply:

- Federal Clean Air Act and 40 CFR 61 Subparts A and H
 - Apply only those definitions given for these laws or regulations.
- Washington State Clean Air Act, WAC 173-480 and 246-247
 - Apply only those definitions given for these laws and regulations
- When a conflict of definition may arise, the more stringent definition as determined by the administrator applies.

Clarification of these general conditions will occur during the WAC 246-247 regulation rewrite. When determining applicability of a regulation the facility should contact the department for guidance prior to use. The department reserves the right to make final determination on applicability of regulations.

The emission unit specific information

The emission unit specific information (i.e., stack height and diameter, average temperature and velocity) are parameters used by the department to identify significant changes in operation of an emission unit. The emission unit specific information contained in this license is to assure consistent emission unit operation, the actual emission unit parameters must be maintained by the emission unit owner/operator and reported as required by both WAC 246-247 and 40CFR61 Subpart H.

Referenced documents in the emission unit specific conditions and limitations

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

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

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

Definitions Used in This License.

40 CFR 61 Subpart A Definitions (61.02)

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 *et seq.*).

Administrator means the Administrator of the Environmental Protection Agency or his authorized representative.

Alternative method means any method of sampling and analyzing for an air pollutant which is not a reference method but which has been demonstrated to the Administrator's satisfaction to produce results adequate for the Administrator's determination of compliance.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter (40 CFR) or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Capital expenditure means an expenditure for a physical or operational change to a stationary source which exceeds the product of the applicable "annual asset guideline repair allowance percentage" specified in the latest edition of Internal Revenue Service (IRS) Publication 534 and the stationary source's basis, as defined by section 1012 of the Internal Revenue Code. However, the total expenditure for a physical or operational change to a stationary source must not be reduced by any "excluded additions" as defined for stationary sources constructed after December 31, 1981, in IRS Publication 534, as would be done for tax purposes. In addition, "annual asset guideline repair allowance" may be used even though it is excluded for tax purposes in IRS Publication 534.

Commenced means, with respect to the definition of "new source" in section 111(a)(2) of the Act, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

Compliance schedule means the date or dates by which a source or category of sources is required to comply with the standards of this part and with any steps toward such compliance which are set forth in a waiver of compliance under §61.11.

Construction means fabrication, erection, or installation of an affected facility.

Effective date is the date of promulgation in the Federal Register of an applicable standard or other regulation under this part.

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Existing source means any stationary source which is not a new source.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter (40 CFR) and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Monitoring system means any system, required under the monitoring sections in applicable subparts, used to sample and condition (if applicable), to analyze, and to provide a record of emissions or process parameters.

New source means any stationary source, the construction or modification of which is commenced after the publication in the Federal Register of proposed national emission standards for hazardous air pollutants which will be applicable to such source.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source.

Part 70 permit means any permit issued, renewed, or revised pursuant to part 70 of this chapter (40 CFR).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter (40 CFR) and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permitting authority means:

- (1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter (40 CFR); or
- (2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Reference method means any method of sampling and analyzing for an air pollutant, as described in appendix B, 40 CFR 61.

Run means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

Standard means a national emission standard including a design, equipment, work practice or operational standard for a hazardous air pollutant proposed or promulgated under this part.

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Startup means the setting in operation of a stationary source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

- (1) The provisions of this part; and/or
- (2) The permit program established under part 70 of this chapter (40 CFR). The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant (radionuclides in this case) which has been designated as hazardous by the Administrator.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

40 CFR 61 Subpart H Definitions (61.91)

As used in this subpart, all terms not defined here have the meaning given them in the Clean Air Act or 40 CFR part 61, subpart A. The following terms shall have the following specific meanings:

- (a) *Effective dose equivalent* means the sum of the products of absorbed dose and appropriate factors to account for differences in biological effectiveness due to the quality of radiation and its distribution in the body of reference man. The unit of the effective dose equivalent is the rem. For purposes of this subpart, doses caused by radon-222 and its respective decay products formed after the radon is released from the facility are not included. The method for calculating effective dose equivalent and the definition of reference man are outlined in the International Commission on Radiological Protection's Publication No. 26.
- (b) *Facility* means all buildings, structures and operations on one contiguous site.
- (c) *Radionuclide* means a type of atom which spontaneously undergoes radioactive decay.
- (d) *Residence* means any home, house, apartment building, or other place of dwelling which is occupied during any portion of the relevant year.

WAC 246-247 Definitions (*WAC 246-247-030 June 26, 2005*)

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

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

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

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

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

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

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

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emissions. A BARCT compliance demonstration is the conclusion of an evaluative process that results in the selection of the most effective control technology from all known feasible alternatives. In no event shall application of BARCT result in emissions of radionuclides that could exceed the applicable standards of WAC 246-247-040. Control technology that meets BARCT requirements also meets ALARACT requirements. See WAC 173-480-030 and 246-247-120.

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

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

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

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

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

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

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

(14) "License" means a radioactive air emissions license, either issued by the department or incorporated by the department as an applicable portion of an air operating permit issued by the department of ecology or a local air pollution control authority, with requirements and limitations listed therein to which the licensed or permitted party must comply. Compliance with the license requirements shall be determined and enforced by the department.

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

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

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

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

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

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

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

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

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

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

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

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

(23) "Routine" means:

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

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

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

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

(27) "Uranium fuel cycle" means the operations of milling uranium ore, chemical conversion of uranium, isotopic enrichment of uranium, fabrication of uranium fuel, generation of electricity in a nuclear power plant that uses uranium fuel, and reprocessing of spent uranium fuel, to the extent that these operations solely support the production of electrical power for public use.

Excluded are mining operations, waste disposal sites, transportation of any radioactive material, and the reuse of recovered nonuranium special nuclear and by-product materials from the cycle.

**Hanford Site License General Conditions Applicable
to Sources of Radioactive Air Emissions**

**DOE Federal Facilities
40CFR61 Subparts A, H, and WAC
246-247 General Conditions**

State and Federally Enforceable

1.0 40CFR61 Subpart A

1.1 List of pollutants and applicability of part 61

The following list presents the substances that, pursuant to section 112 of the Act, have been designated as hazardous air pollutants. The Federal Register citations and dates refer to the publication in which the listing decision was originally published.

Radionuclides (44 FR 76738; Dec. 27, 1979) **(61.01(a))**

This part applies to the owner or operator of any stationary source for which a standard is prescribed under this part. **(61.01(c))**

In addition to complying with the provisions of this part, the owner or operator of a stationary source subject to a standard in this part may be required to obtain an operating permit issued to stationary sources by an authorized State air pollution control agency or by the Administrator of the U.S. Environmental Protection Agency (EPA) pursuant to title V of the Clean Air Act (Act) as amended November 15, 1990 (42 U.S.C. 7661). For more information about obtaining an operating permit see part 70 of this chapter. **(61.01(d))**

1.2 Address

Section 112(d) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce national emission standards for hazardous air pollutants for stationary sources located in such State. If the authority to implement and enforce a standard under this part has been delegated to a State, all information required to be submitted to EPA under paragraph (a) of this section shall also be submitted to the appropriate State agency (provided, that each specific delegation may exempt sources from a certain Federal or State reporting requirement). The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to EPA and the State agency. If acceptable to both the Administrator and the owner or operator of a source, notifications and reports may be submitted on electronic media. **(61.04(b))**

1.3 Prohibitive activities.

After the effective date of any standard, no owner or operator shall construct or modify any stationary source subject to that standard without first obtaining written approval from the Administrator in accordance with this subpart, except under an exemption granted by the President under section 112(c)(2) of the Act. Sources, the construction or

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modification of which commenced after the publication date of the standards proposed to be applicable to the sources, are subject to this prohibition. **(61.05(a))**

After the effective date of any standard, no owner or operator shall operate a new stationary source subject to that standard in violation of the standard, except under an exemption granted by the President under section 112(c)(2) of the Act. **(61.05(b))**

Ninety days after the effective date of any standard, no owner or operator shall operate any existing source subject to that standard in violation of the standard, except under a waiver granted by the Administrator under this part or under an exemption granted by the President under section 112(c)(2) of the Act. **(61.05(c))**

No owner or operator subject to the provisions of this part shall fail to report, revise reports, or report source test results as required under this part. **(61.05(d))**

1.4 Determination of construction or modification.

An owner or operator may submit to the Administrator a written application for a determination of whether actions intended to be taken by the owner or operator constitute construction or modification, or commencement thereof, of a source subject to a standard. The Administrator will notify the owner or operator of his determination within 30 days after receiving sufficient information to evaluate the application. **(61.06)**

1.5 Application for approval of construction or modification.

The owner or operator shall submit to the Administrator an application for approval of the construction of any new source or modification of any existing source **(of radionuclides to the ambient air)**. The application shall be submitted before the construction or modification is planned to commence, or within 30 days after the effective date if the construction or modification had commenced before the effective date and initial startup has not occurred. A separate application shall be submitted for each stationary source. **(61.07(a))**

Each application for approval of construction shall include—

- (1) The name and address of the applicant;
- (2) The location or proposed location of the source; and
- (3) Technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including a description of any equipment to be used for control of emissions. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations. **(61.07(b))**

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Each application for approval of modification shall include, in addition to the information required in paragraph (b) of this section—

- (1) The precise nature of the proposed changes;
- (2) The productive capacity of the source before and after the changes are completed; and
- (3) Calculations of estimates of **(radionuclide)** emissions before and after the changes are completed, in sufficient detail to permit assessment of the validity of the calculations. **(61.07(c))**

1.6 Approval of construction or modification

The Administrator will notify the owner or operator of approval or intention to deny approval of construction or modification within 60 days after receipt of sufficient information to evaluate an application under §61.07. **(61.08(a))**

If the Administrator determines that a stationary source for which an application under §61.07 was submitted will not cause emissions in violation of a standard if properly operated, the Administrator will approve the construction or modification. **(61.08(b))**

Before denying any application for approval of construction or modification, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with—

- (1) Notice of the information and findings on which the intended denial is based; and
- (2) Notice of opportunity for the applicant to present, within such time limit as the Administrator shall specify, additional information or arguments to the Administrator before final action on the application. **(61.08(c))**

A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 days of presentation of additional information or arguments, or 60 days after the final date specified for presentation if no presentation is made. **(61.08(d))**

Neither the submission of an application for approval nor the Administrator's approval of construction or modification shall—

- (1) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or of any other applicable Federal, State, or local requirement; or
- (2) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act. **(61.08(e))**

1.7 Notification of startup.

The owner or operator of each stationary source which has an initial startup after the effective date of a standard shall furnish the Administrator with written notification as follows:

- (1) A notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days before that date.
- (2) A notification of the actual date of initial startup of the source within 15 days after that date. **(61.09(a))**

If any State or local agency requires a notice which contains all the information required in the notification in paragraph (a) of this section, sending the Administrator a copy of that notification will satisfy paragraph (a) of this section. **(61.09(b))**

1.8 Waiver of compliance.

Based on the information provided in any request under §61.10, or other information, the Administrator may grant a waiver of compliance with a standard for a period not exceeding 2 years after the effective date of the standard. **(61.11(a))**

The waiver will be in writing and will—

- (1) Identify the stationary source covered;
- (2) Specify the termination date of the waiver;
- (3) Specify dates by which steps toward compliance are to be taken; and
- (4) Specify any additional conditions which the Administrator determines necessary to assure installation of the necessary controls within the waiver period and to assure protection of the health of persons during the waiver period. **(61.11(b))**

The Administrator may terminate the waiver at an earlier date than specified if any specification under paragraphs (b)(3) and (b)(4) of this section are not met. **(61.11(c))**

Before denying any request for a waiver, the Administrator will notify the owner or operator making the request of the Administrator's intention to issue the denial, together with—

- (1) Notice of the information and findings on which the intended denial is based; and
- (2) Notice of opportunity for the owner or operator to present, within the time limit the Administrator specifies, additional information or arguments to the Administrator before final action on the request. **(61.11(d))**

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A final determination to deny any request for a waiver will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 60 days after presentation of additional information or argument; or within 60 days after the final date specified for the presentation if no presentation is made. **(61.11(e))**

The granting of a waiver under this section shall not abrogate the Administrator's authority under section 114 of the Act. **(61.11(f))**

1.9 Compliance with standards and maintenance requirements.

Compliance with numerical emission limits shall be determined in accordance with emission tests established in §61.13 or as otherwise specified in an individual subpart. **(61.12(a))**

Compliance with design, equipment, work practice or operational standards shall be determined as specified in an individual subpart **(Subpart H)**. **(61.12(b))**

The owner or operator of each stationary source shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the source. **(61.12(c))**

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this part, nothing in this part shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test had been performed. **(61.12(e))**

1.10 Emission tests and waiver of emission tests.

40CFR61.13 Does not apply

1.11 Monitoring requirements.

Unless otherwise specified, this section applies to each monitoring system required under each subpart **(Subpart H)** which requires monitoring. **(61.14(a))**

Each owner or operator shall maintain and operate each monitoring system as specified in the applicable subpart **(Subpart H)** and in a manner consistent with good air pollution control practice for minimizing emissions. Any unavoidable breakdown or malfunction

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of the monitoring system should be repaired or adjusted as soon as practicable after its occurrence. The Administrator's determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but not be limited to, review of operating and maintenance procedures, manufacturer recommendations and specifications, and inspection of the monitoring system.

(61.14(b))

When required by the applicable subpart (**Subpart H**), and at any other time the Administrator may require, the owner or operator of a source being monitored shall conduct a performance evaluation of the monitoring system and furnish the Administrator with a copy of a written report of the results within 60 days of the evaluation. Such a performance evaluation shall be conducted according to the applicable specifications and procedures described in the applicable subpart. The owner or operator of the source shall furnish the Administrator with written notification of the date of the performance evaluation at least 30 days before the evaluation is to begin. **(61.14(c))**

When the effluents from a single source, or from two or more sources subject to the same emission standards, are combined before being released to the atmosphere, the owner or operator shall install a monitoring system on each effluent or on the combined effluent. If two or more sources are not subject to the same emission standards, the owner or operator shall install a separate monitoring system on each effluent, unless otherwise specified. If the applicable standard is a mass emission standard and the effluent from one source is released to the atmosphere through more than one point, the owner or operator shall install a monitoring system at each emission point unless the installation of fewer systems is approved by the Administrator. **(61.14(d))**

The owner or operator of each monitoring system shall reduce the monitoring data as specified in each applicable subpart (**Subpart H**). Monitoring data recorded during periods of unavoidable monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in any data average. **(61.14(e))**

The owner or operator shall maintain records of monitoring data, monitoring system calibration checks, and the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative. These records shall be maintained at the source for a minimum of 2 years and made available, upon request, for inspection by the Administrator. **(61.14(f))**

(1) Monitoring shall be conducted as set forth in this section and the applicable subpart (Subpart H) unless the Administrator—

- (i) Specifies or approves the use of the specified monitoring requirements and procedures with minor changes in methodology; or
- (ii) Approves the use of alternatives to any monitoring requirements or procedures.

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(2) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, the Administrator may require the monitoring requirements and procedures specified in this part. **(61.14(g))**

1.12 Modification.

Except as provided under paragraph (d) of this section, any physical or operational change to a stationary source which results in an increase in the rate of emission to the atmosphere of a hazardous pollutant (**radionuclides**) to which a standard applies shall be considered a modification. **(61.15(a))**

Upon modification, an existing source shall become a new source for each hazardous pollutant (**radionuclides in this case**) for which the rate of emission to the atmosphere increases and to which a standard applies. **(61.15(b))**

The following shall not, by themselves, be considered modifications under this part:

(1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category.

(2) An increase in production rate of a stationary source, if that increase can be accomplished without a capital expenditure on the stationary source.

(3) An increase in the hours of operation.

(5) The relocation or change in ownership of a stationary source. However, such activities must be reported in accordance with §61.10(c). **(61.15(d))**

1.13 Circumvention

No owner or operator shall build, erect, install, or use any article machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size. **(61.19)**

2.0 40CFR61 Subpart H

2.1 Designation of facilities

The provisions of this subpart apply to operations at any facility owned or operated by the Department of Energy that emits any radionuclide other than radon-222 and radon-220 into the air, except that this subpart does not apply to disposal at facilities subject to 40 CFR part 191, subpart B or 40 CFR part 192. **(61.90)**

2.2 Standard

Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/yr. **(61.92)**

2.3 Determining compliance

To determine compliance with the standard, radionuclide emissions shall be determined and effective dose equivalent values to members of the public calculated using EPA approved sampling procedures, computer models CAP-88 or AIRDOS-PC, or other procedures for which EPA has granted prior approval. DOE facilities for which the maximally exposed individual lives within 3 kilometers of all sources of emissions in the facility, may use EPA's COMPLY model and associated procedures for determining dose for purposes of compliance. **(61.93(a))**

2.4 Emissions monitoring and test procedures.

Radionuclides emission rates from existing point sources (stacks or vents) shall be measured in accordance with the following requirements or with the requirements of paragraph (c) of this section, or other procedures for which EPA has granted prior approval:

(1) Effluent flow rate measurements shall be made using the following methods:

(i) Reference Method 2 of appendix A to part 60 of this chapter shall be used to determine velocity and volumetric flow rates for stacks and large vents.

(ii) Reference Method 2A of appendix A to part 60 of this chapter shall be used to measure flow rates through pipes and small vents.

(iii) The frequency of the flow rate measurements shall depend upon the variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates only periodic measurements are necessary.

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(2) Radionuclides shall be directly monitored or extracted, collected and measured using the following methods:

(i) Reference Method 1 of appendix A to part 60 of this chapter shall be used to select monitoring or sampling sites.

(ii) The effluent stream shall be directly monitored continuously with an in-line detector or representative samples of the effluent stream shall be withdrawn continuously from the sampling site following the guidance presented in ANSIN13.1-1969 "Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities" (including the guidance presented in appendix A of ANSIN13.1) (incorporated by reference—see §61.18). The requirements for continuous sampling are applicable to batch processes when the unit is in operation. Periodic sampling (grab samples) may be used only with EPA's prior approval. Such approval may be granted in cases where continuous sampling is not practical and radionuclide emission rates are relatively constant. In such cases, grab samples shall be collected with sufficient frequency so as to provide a representative sample of the emissions.

(iii) Radionuclides shall be collected and measured using procedures based on the principles of measurement described in appendix B, Method 114. Use of methods based on principles of measurement different from those described in appendix B, Method 114 must have prior approval from the Administrator. EPA reserves the right to approve measurement procedures.

(iv) A quality assurance program shall be conducted that meets the performance requirements described in appendix B, Method 114.

(3) When it is impractical to measure the effluent flow rate at an existing source in accordance with the requirements of paragraph (b)(1) of this section or to monitor or sample an effluent stream at an existing source in accordance with the site selection and sample extraction requirements of paragraph (b)(2) of this section, the facility owner or operator may use alternative effluent flow rate measurement procedures or site selection and sample extraction procedures provided that:

(i) It can be shown that the requirements of paragraph (b) (1) or (2) of this section are impractical for the effluent stream.

(ii) The alternative procedure will not significantly underestimate the emissions.

(iii) The alternative procedure is fully documented.

(iv) The owner or operator has received prior approval from EPA.

(4)(i) Radionuclide emission measurements in conformance with the requirements of paragraph (b) of this section shall be made at all release points which have a potential to discharge radionuclides into the air in quantities which could cause an effective dose

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equivalent in excess of 1% of the standard. All radionuclides which could contribute greater than 10% of the potential effective dose equivalent for a release point shall be measured. With prior EPA approval, DOE may determine these emissions through alternative procedures. For other release points which have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions.

(ii) To determine whether a release point is subject to the emission measurement requirements of paragraph (b) of this section, it is necessary to evaluate the potential for radionuclide emissions for that release point. In evaluating the potential of a release point to discharge radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal.

(5) Environmental measurements of radionuclide air concentrations at critical receptor locations may be used as an alternative to air dispersion calculations in demonstrating compliance with the standard if the owner or operator meets the following criteria:

(i) The air at the point of measurement shall be continuously sampled for collection of radionuclides.

(ii) Those radionuclides released from the facility, which are the major contributors to the effective dose equivalent must be collected and measured as part of the environmental measurement program.

(iii) Radionuclide concentrations which would cause an effective dose equivalent of 10% of the standard shall be readily detectable and distinguishable from background.

(iv) Net measured radionuclide concentrations shall be compared to the concentration levels in Table 2 of appendix E to determine compliance with the standard. In the case of multiple radionuclides being released from a facility, compliance shall be demonstrated if the value for all radionuclides is less than the concentration level in Table 2, and the sum of the fractions that result when each measured concentration value is divided by the value in Table 2 for each radionuclide is less than 1.

(v) A quality assurance program shall be conducted that meets the performance requirements described in appendix B, Method 114.

(vi) Use of environmental measurements to demonstrate compliance with the standard is subject to prior approval of EPA. Applications for approval shall include a detailed description of the sampling and analytical methodology and show how the above criteria will be met. **(61.93(b))**

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Radionuclide emission rates from new point sources (stacks or vents) as defined in subpart A shall be measured in accordance with the following requirements, or other procedures for which EPA has granted prior approval:

(1) Effluent flow rate measurements shall be made using the following methods:

- (i) ANSI/HPS N13.1-1999 "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities" (incorporated by reference—see §61.18) shall be used to determine velocity and volumetric flow rates for stacks and large vents.
- (ii) ANSI/HPS N13.1-1999 shall be used to measure flow rates through pipes and small vents.
- (iii) The frequency of the flow rate measurements shall depend upon variability of the effluent flow rate. For variable flow rates, continuous or frequent flow rate measurements shall be made. For relatively constant flow rates only periodic measurements are necessary.

(2) Radionuclide shall be directly monitored or extracted, collected and measured using the following methods:

- (i) ANSI/HPS N13.1-1999 shall be used to select monitoring or sampling sites.
- (ii) The effluent stream shall be directly monitored continuously with an in-line detector or representative samples of the effluent stream shall be withdrawn continuously from the sampling site following the guidance presented in ANSI/HPS N13.1-1999. The requirements for continuous sampling are applicable to batch processes when the unit is in operation. Periodic sampling (grab samples) may be used only with EPA's prior approval. Such approval may be granted in cases where continuous sampling is not practical and radionuclide emission rates are relatively constant. In such cases, grab samples shall be collected with sufficient frequency so as to provide a representative sample of the emissions.
- (iii) Radionuclides shall be collected and measured using procedures based on the principles of measurement described in appendix B, Method 114 of this part. Use of methods based on principles of measurement different from those described in appendix B, Method 114 of this part must have prior approval from the Administrator. EPA reserves the right to approve measurement procedures.
- (iv) A quality assurance program shall be conducted that meets the performance requirements described in ANSI/HPS N13.1-1999. **(61.93(c))**

When it is impractical to measure the effluent flow rate at a source in accordance with the requirements of paragraph (b)(1) or (c) of this section or to monitor or sample an effluent stream at a source in accordance with the site selection and sample extraction

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requirements of paragraph (b)(2) or (c) of this section, the facility owner or operator may use alternative effluent flow rate measurement procedures or site selection and sample extraction procedures provided that:

- (1) It can be shown that the requirements of paragraph (b)(1) or (2) or (c) of this section are impractical for the effluent stream.
- (2) The alternative procedure will not significantly underestimate the emissions.
- (3) The alternative procedure is fully documented.
- (4) The owner or operator has received prior approval from EPA. (61.93(d))

Radionuclide emission measurements in conformance with the requirements of paragraph (b) or (c) of this section shall be made at all release points that have a potential to discharge radionuclides into the air in quantities that could cause an effective dose equivalent in excess of 1% of the standard. All radionuclides that could contribute greater than 10% of the potential effective dose equivalent for a release point shall be measured. With prior EPA approval, DOE may determine these emissions through alternative procedures. For other release points that have a potential to release radionuclides into the air, periodic confirmatory measurements shall be made to verify the low emissions. **(61.93(e))**

To determine whether a release point is subject to the emission measurement requirements of paragraph (b) or (c) of this section, it is necessary to evaluate the potential for radionuclide emissions for that release point. In evaluating the potential of a release point to discharge radionuclides into the air for the purposes of this section, the estimated radionuclide release rates shall be based on the discharge of the effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal. **(61.93(f))**

Environmental measurements of radionuclide air concentrations at critical receptor locations may be used as an alternative to air dispersion calculations in demonstrating compliance with the standard if the owner or operator meets the following criteria:

- (1) The air at the point of measurement shall be continuously sampled for collection of radionuclides.
- (2) Those radionuclides released from the facility that are the major contributors to the effective dose equivalent must be collected and measured as part of the environmental measurement program.
- (3) Radionuclide concentrations that would cause an effective dose equivalent of 10% of the standard shall be readily detectable and distinguishable from background.

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(4) Net measured radionuclide concentrations shall be compared to the concentration levels in Table 2 appendix E of this part to determine compliance with the standard. In the case of multiple radionuclides being released from a facility, compliance shall be demonstrated if the value for all radionuclides is less than the concentration level in Table 2 of appendix E of this part, and the sum of the fractions that result when each measured concentration value is divided by the value in Table 2 of appendix E of this part for each radionuclide is less than 1.

(5) A quality assurance program shall be conducted that meets the performance requirements described in appendix B, Method 114 of this part.

(6) Use of environmental measurements to demonstrate compliance with the standard is subject to prior approval of EPA. Applications for approval shall include a detailed description of the sampling and analytical methodology and show how the above criteria will be met. **(61.93(g))**

2.5 Compliance and reporting

Compliance with this standard shall be determined by calculating the highest effective dose equivalent to any member of the public at any offsite point where there is a residence, school, business or office. The owners or operators of each facility shall submit an annual report to both EPA headquarters and the appropriate regional office by June 30 which includes the results of the monitoring as recorded in DOE's Effluent Information System and the dose calculations required by §61.93(a) for the previous calendar year.

In addition to the requirements of paragraph (a) of this section, an annual report shall include the following information:

- (1) The name and location of the facility.
- (2) A list of the radioactive materials used at the facility.
- (3) A description of the handling and processing that the radioactive materials undergo at the facility.
- (4) A list of the stacks or vents or other points where radioactive materials are released to the atmosphere.
- (5) A description of the effluent controls that are used on each stack, vent, or other release point and an estimate of the efficiency of each control device.
- (6) Distances from the points of release to the nearest residence, school, business or office and the nearest farms producing vegetables, milk, and meat.

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(7) The values used for all other user-supplied input parameters for the computer models (e.g., meteorological data) and the source of these data.

(8) A brief description of all construction and modifications which were completed in the calendar year for which the report is prepared, but for which the requirement to apply for approval to construct or modify was waived under §61.96 and associated documentation developed by DOE to support the waiver. EPA reserves the right to require that DOE send to EPA all the information that normally would be required in an application to construct or modify, following receipt of the description and supporting documentation.

(9) Each report shall be signed and dated by a corporate officer or public official in charge of the facility and contain the following declaration immediately above the signature line: "I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See, 18 U.S.C. 1001." **(61.94(b))**

If the facility is not in compliance with the emission limits of §61.92 in the calendar year covered by the report, then the facility must commence reporting to the Administrator on a monthly basis the information listed in paragraph (b) of this section, for the preceding month. These reports will start the month immediately following the submittal of the annual report for the year in noncompliance and will be due 30 days following the end of each month. This increased level of reporting will continue until the Administrator has determined that the monthly reports are no longer necessary. In addition to all the information required in paragraph (b) of this section, monthly reports shall also include the following information:

(1) All controls or other changes in operation of the facility that will be or are being installed to bring the facility into compliance.

(2) If the facility is under a judicial or administrative enforcement decree, the report will describe the facilities performance under the terms of the decree. **(61.94(c))**

In those instances where the information requested is classified, such information will be made available to EPA separate from the report and will be handled and controlled according to applicable security and classification regulations and requirements. **(61.94(d))**

2.6 Recordkeeping requirements.

All facilities must maintain records documenting the source of input parameters including the results of all measurements upon which they are based, the calculations and/or analytical methods used to derive values for input parameters, and the procedure used to determine effective dose equivalent. This documentation should be sufficient to allow an

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independent auditor to verify the accuracy of the determination made concerning the facility's compliance with the standard. These records must be kept at the site of the facility for at least five years and, upon request, be made available for inspection by the Administrator, or his authorized representative. **(61.95)**

2.7 Applications to construct or modify

In addition to any activity that is defined as construction under 40 CFR part 61, subpart A, any fabrication, erection or installation of a new building or structure within a facility that emits radionuclides is also defined as new construction for purposes of 40 CFR part 61, subpart A. **(61.96(a))**

An application for approval under §61.07 or notification of startup under §61.09 does not need to be filed for any new construction of or modification within an existing facility if the effective dose equivalent, caused by all emissions from the new construction or modification, is less than 1% of the standard prescribed in §61.92. For purposes of this paragraph the effective dose equivalent shall be calculated using the source term derived using appendix D as input to the dispersion and other computer models described in §61.93. DOE may, with prior approval from EPA, use another procedure for estimating the source term for use in this paragraph. A facility is eligible for this exemption only if, based on its last annual report, the facility is in compliance with this subpart. **(61.96(b))**
[[This applies to 40CFR61 subpart H only. State exemption process requires more information for exemption determination.]]

Conditions to approvals granted under §61.08 will not contain requirements for post approval reporting on operating conditions beyond those specified in §61.94. **(61.96(c))**
[[This applies to 40CFR61 subpart H approvals granted under 61.08.]]

2.8 Exemption from the reporting and testing requirements of 40CFR61.10

All facilities designated under this subpart are exempt from the reporting requirements of 40 CFR 61.10. **(61.97)**

State Enforceable ONLY

3.0 WAC 246-247 (June 26, 2005)

3.1 Applicability

The standards and requirements of this chapter apply statewide at the following types of facilities that emit radionuclides to the air:

United States Department of Energy (DOE) facilities; **(WAC 246-247-010(1(b)))**

The standards and requirements of this chapter apply to point sources, nonpoint sources, and fugitive emissions. **(WAC 246-247-010(2))**

The standards and requirements of this chapter apply to stationary and mobile emission units, whether temporary or permanent. **(WAC 246-247-010(3))**

The control technology standards and requirements of this chapter apply to the abatement technology and indication devices of facilities and emission units subject to this chapter. Control technology requirements apply from entry of radionuclides into the ventilated vapor space to the point of release to the environment. **(WAC 246-247-010(4))**

In accordance with RCW 70.94.161(10), air operating permits issued under chapter 173-401 WAC shall incorporate all applicable requirements of this chapter. Therefore, all facilities listed in subsection (1) of this section that are also subject to the operating permit regulations in chapter 173-401 WAC shall be considered in compliance with the requirements of this chapter if they comply with all the applicable requirements of the air operating permit issued under chapter 173-401 WAC. These applicable requirements shall be contained in the radioactive air emissions license which shall be incorporated as part of the air operating permit. In accordance with RCW 70.94.422(1), the department shall enforce all the requirements contained in the radioactive air emissions license. **(WAC 246-247-010(5))**

Should any of the federal regulations that have been adopted by reference in this chapter be rescinded, the affected facilities shall nonetheless comply with all other applicable requirements of this chapter. **(WAC 246-247-010(6))**

3.2 Exemptions

The following types of facilities or sources of radiation are exempt from the requirements of this chapter because they release no airborne radioactivity, or they prima facie comply with the standards in WAC 246-247-040, or they are already adequately regulated under other requirements:

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- (a) Users of only sealed sources;
- (b) Sealed sources;
- (c) Accelerators less than 200 MeV;
- (d) Nuclear-powered vessels underway or moored dockside unless under a maintenance condition with a potential-to-emit;
- (e) Uranium mill tailings piles disposed of under 40 CFR Part 192
(WAC 246-247-020(1))

Any exemptions shall be consistent with 40 CFR 61. No exemptions from the standards in WAC 246-247-040 will be granted. **(WAC 246-247-020(2)(a))**

A federal facility may request exemption from some of the requirements of WAC 246-247-060 and 246-247-075 if the potential-to-emit, for the emission unit(s) under consideration, results in a TEDE to the MEI from all pathways less than 0.1 mrem/yr.
(WAC 246-247-020(c))

The facility shall submit all the data necessary to make the exemption determinations of (b) and (c) of this subsection. The department shall determine if any exemptions apply.
(WAC 246-247-020(2)(d))

The department may require a facility with exempt emission units to submit a radioactive air emissions report to confirm compliance with applicable standards. The department reserves the right to conduct inspections and audits of the facility to confirm the status of its exempt emission units. **(WAC 246-247-020(3))**

(4) Naturally occurring airborne radionuclides are exempt from the requirements of this chapter unless the concentrations or rates of emissions have been enhanced by industrial processes. **(WAC 246-247-020(4))**

3.3 National standards adopted by reference for sources of radionuclide emissions

The following federal standards, as in effect on July 1, 2004, are adopted by reference except as provided in paragraphs (2) and (3) below.
These standards apply in addition to other requirements of this Chapter.

- (a) For federal facilities:
 - (i) 40 CFR Part 61, Subpart A - General Provisions

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- (ii) 40 CFR Part 61, Subpart H - National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities

(WAC 246-247-035(1))

References to “Administrator” or “EPA” in 40 CFR Part 61 include the Department of Health except in any section of 40 CFR Part 61 for which a federal rule or delegation indicates that the authority will not be delegated to the State. **(WAC 246-247-035(2))**

Any change or alternative to standards, emission monitoring and test procedures, compliance and reporting requirements, or recordkeeping requirements must be approved by EPA. [[See *Federal Register June 5, 2006 (Volume 71, Number 107)* **(WAC 246-247-035(3))**

3.4 General standards

Standards for radioactive air emissions in the state of Washington are contained in WAC 173-480-040, 173-480-050, and 173-480-060. Additional standards for emissions of radionuclides other than radon from United States Department of Energy facilities are contained in 40 CFR Part 61, subparts H (as effective on October 9, 2002). **(WAC 246-247-040(1))**

All new construction and significant modifications of emission units commenced after August 10, 1988 (the date this chapter originally became effective) shall utilize BARCT (see Appendix B). **(WAC 246-247-040(3))**

All existing emission units and nonsignificant modifications shall utilize ALARACT (see Appendix C). **(WAC 246-247-040(4))**

In order to implement these standards, the department may set limits on emission rates for specific radionuclides from specific emission units and/or set requirements and limitations on the operation of the emission unit(s) as specified in a license. **(WAC 246-247-040(5))**

All emissions of radionuclides, including those due to emergency conditions resulting from startup, shutdown, maintenance activities, or process upsets are subject to the standards of this section and, therefore, subject to the enforcement actions of WAC 246-247-100. **(WAC 246-247-040(6))**

3.5 Applications, registration and licensing

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For those facilities subject to the operating permit regulations in chapter 173-401 WAC, the radioactive air emissions license will be incorporated as an applicable portion of the air operating permit issued by the department of ecology or a local air pollution control authority. The department will be responsible for determining the facility's compliance with and enforcing the requirements of the radioactive air emissions license. **(WAC 2460-247-060)**

Requirements for new construction or modification of emission units.

- (a) Early in the design phase, the applicant shall submit a NOC containing the information required in **(WAC 246-247)** Appendix A.
- (b) Within thirty days of receipt of the NOC, the department shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with **(WAC 246-247)** Appendix B or C, respectively.
- (c) Within sixty days of receipt of all required information, the department shall issue an approval or denial to construct. The department may require changes to the final proposed control technology.
- (d) The applicant may request a phased approval process by so stating and submitting a limited application. The department may grant a conditional approval to construct for such activities as would not preclude the construction or installation of any control or monitoring equipment required after review of the completed application.
- (e) The department shall issue a license, or amend an existing license, authorizing operation of the emission unit(s) when the proposed new construction or modification is complete. For facilities subject to the air operating permit requirements of chapter 173-401 WAC, the license shall become part of the air operating permit issued by the department of ecology or a local air pollution control authority. For new construction, this action shall constitute registration of the emission unit(s). **(WAC 246-247-060 (1))**

Requirements for modification of unregistered emission units that are not exempt from these regulations.

- (a) The applicant shall submit an application containing the information required in WAC 246-247 **(WAC 246-247)** Appendix A.
- (b) Within thirty days of receipt of the application, the department shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of

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BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with **(WAC 246-247) Appendix B or C**, respectively.

- (c) Within sixty days of receipt of all required information, the department shall issue or amend the license. For facilities subject to the air operating permit requirements of chapter 173-401 WAC, the license shall become part of the air operating permit issued by the department of ecology or a local air pollution control authority. This action shall constitute registration of the emission unit(s). A determination of noncompliance may result in the issuance of a notice of violation.
- (d) The department reserves the right to require the owner of an existing, unregistered emission unit to make modifications necessary to comply with the applicable standards of WAC 246-247-040. **(WAC 246-247-060(2))**

If an emission unit is in violation of any standards contained in WAC 246-247-040, the facility shall either submit a compliance plan which describes how it intends to achieve compliance with the standards, and/or cease operation of the emission unit(s). The facility shall submit the compliance plan within forty-five days of the notice of violation. The cessation of operation of the emission unit(s) shall not necessarily exempt the facility from the requirements of this chapter if active or passive ventilation and radioactive air emission controls will still be required. The department reserves the right to take further enforcement action, if necessary, in accordance with WAC 246-247-100. **(WAC 246-247-060(3))**

The facility shall notify the department at least seven calendar days prior to any planned preoperational tests of new or modified emission units that involve emissions control, monitoring, or containment systems of the emission unit(s). The department reserves the right to witness or require preoperational tests involving the emissions control, monitoring, or containment systems of the emission unit(s). **(WAC 246-247-060(4))**

The license shall specify the requirements and limitations of operation to assure compliance with this chapter. The facility shall comply with the requirements and limitations of the license. **(WAC 246-247-060(5))**

All radioactive air emissions licenses issued by the department, except those issued to radioactive materials licensees, shall have an expiration date of five years from date of issuance or as specified in the air operating permit. **(WAC 246-247-060(6))**

Each federal facility that comes under the authority of this chapter shall hold one license for each site, base, or installation. When applicable, the license shall be part of the facility's air operating permit. **(WAC-246-247-060(7))**

Facilities may request a single categorical license which identifies limits and conditions of operation for similar multipurpose temporary and/or portable emission units. When

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applicable, the license shall be part of the facility's air operating permit. **(WAC 246-247-060(8))**

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

3.6 Fees

For non-air operating permit costs, all facilities under the authority of this chapter shall submit fees in accordance with WAC 246-254-160. **(WAC 246-247-065(1))**

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

3.7 Monitoring, testing and quality assurance

All radioactive air emissions monitoring, testing, and quality assurance requirements of 40 CFR 61, subpart H (as effective on October 9, 2002), are adopted by reference, as applicable as specified by the referenced subparts. **(WAC 246-247-075 (1))**

Equipment and procedures used for the continuous monitoring of radioactive air emissions shall conform, *as applicable*, to the guidance contained in ANSI N13.1, ANSI N42.18, ANSI N323, ANSI N317, reference methods 1, 1A, 2, 2A, 2C, 2D, 4, 5, and 17 of 40 CFR Part 60, Appendix A, 40 CFR Part 52, Appendix E, and any other methods approved by the department. **(WAC 246-247-075(2))**

The operator of an emission unit with a potential-to-emit of less than 0.1 mrem/yr TEDE to the MEI may estimate those radionuclide emissions, in lieu of monitoring, in accordance with 40 CFR 61 Appendix D, or other procedure approved by the department. The department may require periodic confirmatory measurements (e.g., grab samples) during routine operations to verify the low emissions. Methods to implement periodic confirmatory monitoring shall be approved by the department. **(WAC 246-247-075(3))**

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The department may allow a facility to use alternative monitoring procedures or methods if continuous monitoring is not a feasible or reasonable requirement. **(WAC 246-247-075(4))**

Licensed facilities shall conduct and document a quality assurance program. Except for those types of facilities specified in subsection (5) of this section, the quality assurance program shall be compatible with applicable national standards such as ANSI/ASME NQA-1-1988, ANSI/ASME NQA-2-1986, QA/R-2, and QA/R-5. **(WAC 246-247-075(6))**

Facilities shall monitor nonpoint and fugitive emissions of radioactive material. **(WAC 246-247-075(8))**

The department may conduct an environmental surveillance program to ensure that radiation doses to the public from emission units are in compliance with applicable standards. The department may require the operator of any emission unit to conduct stack sampling, ambient air monitoring, or other testing as necessary to demonstrate compliance with the standards in WAC 246-247-040. **(WAC 246-247-075(9))**

The department may require the owner or operator of an emission unit to make provision, at existing emission unit sampling stations, for the department to take split or collocated samples of the emissions. **(WAC 246-247-075(10))**

The planning for any proposed new construction or significant modification of the emission unit must address accidental releases with a probability of occurrence during the expected life of the emission unit of greater than one percent. **(WAC 246-247-075(11))**

All facilities must be able to demonstrate that appropriate supervisors and workers are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures. **(WAC 246-247-075(12))**

All facilities must be able to demonstrate the reliability and accuracy of the radioactive air emissions monitoring data. **(WAC 246-247-075(13))**

3.8 Inspections, reporting, and recordkeeping

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

All reporting and recordkeeping requirements of 40 CFR 61, subparts H (as effective on October 9, 2002), are adopted by reference, as applicable as specified by the referenced subparts. **(WAC 246-247-080(2))**

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The facility shall annually submit to the department the information requirements adopted in subsection (2) of this section, as applicable, along with the following additional information, as applicable:

- (a) The results of emission measurements for those emission units subject only to periodic confirmatory measurements;
- (b) Wind rose or joint frequency table;
- (c) Annual average ambient temperature;
- (d) Annual average emission unit gas temperature, if available;
- (e) Annual total rainfall;
- (f) Annual average emission unit flow rate and total volume of air released during the calendar year.

If this additional information is available in another annual report, the facility may instead provide a copy of that report along with the information requirements in this subsection. Annual reports are due by June 30 for the previous calendar year's operations. **(WAC 246-247-080(3))**

Any report or application that contains proprietary or procurement-sensitive information shall be submitted to the department with those portions so designated. The department shall hold this information confidential, unless required to release the information pursuant to laws, regulations, or court order. **(WAC 246-247-080(4))**

The facility shall notify the department within twenty-four hours of any shutdown, or of any transient abnormal condition lasting more than four hours or other change in facility operations which, if allowed to persist, would result in emissions of radioactive material in excess of applicable standards or license requirements. If requested by the department, the facility shall submit a written report within ten days including known causes, corrective actions taken, and any preventive measures taken or planned to minimize or eliminate the chance of recurrence. **(WAC 246-247-080(5))**

The facility shall file a report of closure with the department whenever operations producing emissions of radioactive material are permanently ceased at any emission unit (except temporary emission units) regulated under this chapter. The closure report shall indicate whether, despite cessation of operations, there is still a potential for radioactive air emissions and a need for an active or passive ventilation system with emission control and/or monitoring devices. If decommissioning is planned and will constitute a modification, a NOC is required, as applicable, in accordance with WAC 246-247-060. **(WAC 246-247-080(6))**

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The facility shall maintain a log for each emission unit that has received categorical approval under WAC 246-247-060(8). The log shall contain records of important operations parameters including the date, location, and duration of the release, measured or calculated radionuclide concentrations, the type of emissions (liquid, gaseous, solid), and the type of emission control and monitoring equipment. **(WAC 246-247-080(7))**

The facility shall maintain readily retrievable storage areas for all records and documents related to, and which may help establish compliance with, the requirements of this chapter. The facility shall keep these records available for department inspection for at least five years. **(WAC 246-247-080(8))**

The facility shall ensure all emission units are fully accessible to department inspectors. In the event the hazards associated with accessibility to a unit require training and/or restrictions or requirements for entry, the facility owner or operator shall inform the department, prior to arrival, of those restrictions or requirements. The owner or operator shall be responsible for providing the necessary training, escorts, and support services to allow the department to inspect the facility. **(WAC 246-247-080(9))**

The facility shall make available, in a timely manner, all documents requested by the department for review. The facility shall allow the department to review documents in advance of an inspection. The facility shall allow access to classified documents by representatives of the department with the appropriate security clearance and a demonstrable need-to-know. **(WAC 246-247-080(10))**

The facility shall respond in writing in a timely manner, or within a time limit set by the department, to inspection results which require the facility to implement corrective actions or any other actions so directed by the department. **(WAC 246-247-080(11))**

3.9 Compliance determination for existing emission units and facilities

All procedures for determining compliance with the dose equivalent standards of 40 CFR 61, subparts H (as effective on October 9, 2002), are adopted by reference, as applicable as specified by the referenced subparts. **(WAC 246-247-085(1))**

Facilities subject to 40 CFR 61 shall use computer codes or procedures approved by the EPA to determine the TEDE to the MEI; all other facilities shall use computer codes or procedures approved by the department. **(WAC 246-247-085(2))**

The determination of compliance with the dose equivalent standard of WAC 246-247-040 shall include all radioactive air emissions resulting from routine and nonroutine operations for the past calendar year. **(WAC 246-247-085(3))**

3.10 Enforcement actions

In accordance with RCW 70.94.422, the department may take any of the following actions to enforce compliance with the provisions of this chapter:

- (a) Notice of violation and compliance order (RCW 70.94.332).
- (b) Restraining order or temporary or permanent injunction (RCW 70.94.425; also RCW 70.98.140).
- (c) Penalty: Fine and/or imprisonment (RCW 70.94.430).
- (d) Civil penalty: Up to ten thousand dollars for each day of continued noncompliance (RCW 70.94.431 (1) through (7)).
- (e) Assurance of discontinuance (RCW 70.94.435).

(WAC 246-247-100(1))

The department, in accordance with RCW 70.98.050 (4)(I), may issue subpoenas in order to compel attendance of witnesses and/or production of records or documents in connection with any adjudicative or other administrative proceeding. **(WAC 246-247-100(2))**

The department, in accordance with RCW 70.98.160, may impound sources of ionizing radiation. **(WAC 246-247-100(3))**

The secretary of the department, in accordance with RCW 43.70.190, is authorized to bring an action to prohibit a violation or a threatened violation of any department rules or regulation, or to bring any legal proceeding authorized by law to a county superior court. **(WAC 246-247-100(4))**

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

3.11 Appendix A -- Application information requirements.

- (1) Name and address of the facility, and location (latitude and longitude) of the emission unit(s).
- (2) Name, title, address, and phone number of the responsible manager.
- (3) Identify the type of proposed action for which this application is submitted:

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- (a) Construction of new emission unit(s);
 - (b) Modification of existing emission unit(s); identify whether this is a significant modification;
 - (c) Modification of existing unit(s), unregistered.
- (4) If this project is subject to the requirements of the State Environmental Policy Act (SEPA) contained in chapter 197-11 WAC, provide the name of the lead agency, lead agency contact person, and their phone number.
- (5) Describe the chemical and physical processes upstream of the emission unit(s).
- (6) Describe the existing and proposed (as applicable) abatement technology. Describe the basis for the use of the proposed system. Include expected efficiency of each control device, and the annual average volumetric flow rate(s) in meters³/sec for the emission unit(s).
- (7) Provide conceptual drawings showing all applicable control technology components from the point of entry of radionuclides into the vapor space to release to the environment.
- (8) Identify each radionuclide that could contribute greater than ten percent of the potential-to-emit TEDE to the MEI, or greater than 0.1 mrem/yr potential-to-emit TEDE to the MEI.
- (9) Describe the effluent monitoring system for the proposed control system. Describe each piece of monitoring equipment and its monitoring capability, including detection limits, for each radionuclide that could contribute greater than ten percent of the potential-to-emit TEDE to the MEI, or greater than 0.1 mrem/yr potential-to-emit TEDE to the MEI, or greater than twenty-five percent of the TEDE to the MEI, after controls. Describe the method for monitoring or calculating those radionuclide emissions. Describe the method with detail sufficient to demonstrate compliance with the applicable requirements.
- (10) Indicate the annual possession quantity for each radionuclide.
- (11) Indicate the physical form of each radionuclide in inventory: Solid, particulate solids, liquid, or gas.
- (12) Indicate the release form of each radionuclide in inventory: Particulate solids, vapor, or gas. Give the chemical form and ICRP 30 solubility class, if known.
- (13) Release rates.

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- (a) New emission unit(s): Give predicted release rates without any emissions control equipment (the potential-to-emit) and with the proposed control equipment using the efficiencies described in subsection (6) of this section.
- (b) Modified emission unit(s): Give predicted release rates without any emissions control equipment (the potential-to-emit) and with the existing and proposed control equipment using the efficiencies described in subsection (6) of this section. Provide the latest year's emissions data or emissions estimates.

In all cases, indicate whether the emission unit is operating in a batch or continuous mode.

- (14) Identify the MEI by distance and direction from the emission unit(s). The MEI is determined by considering distance, windrose data, presence of vegetable gardens, and meat or milk producing animals at unrestricted areas surrounding the emission unit.
- (15) Calculate the TEDE to the MEI using an approved procedure (see WAC 246-247-085). For each radionuclide identified in subsection (8) of this section, determine the TEDE to the MEI for existing and proposed emission controls, and without any emission controls (the potential-to-emit) using the release rates from subsection (13) of this section. Provide all input data used in the calculations.
- (16) Provide cost factors for construction, operation, and maintenance of the proposed control technology components and system, if a BARCT or ALARACT demonstration is not submitted with the NOC.
- (17) Provide an estimate of the lifetime for the facility process with the emission rates provided in this application.
- (18) Indicate which of the following control technology standards have been considered and will be complied with in the design and operation of new or modified emission unit(s) described in this application:

ASME/ANSI AG-1, Code on Nuclear Air and Gas Treatment (where there are conflicts in standards with the other listed references, this standard shall take precedence)

ASME/ANSI N509, Nuclear Power Plant Air-Cleaning Units and Components

ASME/ANSI N510, Testing of Nuclear Air Treatment Systems

ANSI/ASME NQA-1, Quality Assurance Program Requirements for Nuclear Facilities

40 CFR 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 4, 5, and 17

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ANSI/HPS N13.1.1999, Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities if the unit's potential-to-emit exceeds 0.1 mrem/yr TEDE to the MEI and the unit is required to meet ANSI/HPS N13.1.1999 under federal regulations.

ANSI N13.1.1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities if the unit's potential-to-emit exceeds 0.1 mrem/yr TEDE to the MEI and the unit is not required to meet ANSI/HPS N13.1.1999 under federal regulations.

For each standard not so indicated, give reason(s) to support adequacy of the design and operation of the emission unit(s) as proposed. (WAC 246-247-110)

4.0 Quality Assurance Requirements for PCM Using Stack Sampling (AIR 05-303 dated March 18, 2005) State Only Requirement. (WAC 246-247-040(5) and 060(5))

The following is being provided as clarification to those licenses issued for all minor point source emission units that use sample extraction as the approved form of periodic confirmatory measurement. This clarification deals with the "State Only" requirement concerning 40 CFR 61, Appendix B, Method 114 for minor point sources.

When the quality assurance method referenced in Attachment 2 of the Hanford Site Air Operating Permit, 00-05-006, states either Method 114 or Method 114(3) the following will be the meaning:

Actions to assure quality of periodic confirmatory measurement shall be as follows:

- (1) Implementation of quality checks supporting the periodic confirmatory measurements. These checks shall assure that the emissions measurements are sufficient to verify low emissions;
- (2) Stack flow measurements will be conducted annually;
- (3) An annual calibration will be performed on the existing sample flow meter or an annual function check will be performed if the flow meter is replaced by either a rotameter or a magnahelic gauge;
- (4) The effluent samples will be collected on standard (very high efficiency particulate air) sample filters;
- (5) The laboratory sample analysis will meet the requirements of Appendix B, Method 114(3); and
- (6) The following items shall be documented in a NESHAP Quality Assurance Project Plan or other documents:
 - (i) The sample collection and analysis procedures used;
 - (ii) The quality control program for evaluating and tracking the quality of the periodic confirmatory measurement data against preset criteria. The quality

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control program should include, where applicable, a system of replicates, spiked samples, split samples, blanks and control charts. The number and frequency of such quality control checks shall be identified; and
(iii) The sample tracking system to provide positive identification of samples and data through all phases of the sample collection, analysis, and reporting system. Sample handling and preservation procedures to maintain the integrity of the samples during collection, storage, and analysis.

5.0 Method for Monitoring and Reporting of Diffuse and Fugitive Sources and Emissions. (WAC 246-247-040(5) and 060(5))

5.1 Diffuse and Fugitive Sources at Hanford

The ambient air monitoring conducted at the Hanford Site has been accepted by the department as the method for demonstrating compliance to emissions limits for diffuse and fugitive sources. Those sources with Emission Unit specific conditions and limitations within the FF-01 License must be monitored, meet the applicable quality assurance and analysis requirements. All required ambient air monitors shall be identified along with their data measurements in the annual Radionuclide Air Emissions Report.

5.1.1 Monitoring

Monitoring of diffuse and fugitive emissions must be conducted to estimate public dose. This is accomplished by conducting monitoring or other testing as required by the department (WAC 246-247-075(8) and (9)). Environmental air pathways are monitored near facilities emitting radionuclides from either point sources or diffuse and fugitive sources. The environmental air pathways for air emissions from the Hanford Site must be monitored using a network of ambient air samplers.

5.1.2 Near-Facility Monitoring

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Near-facility environmental monitoring is defined as the Department of Energy's monitoring on the Hanford Site near facilities with radioactive materials that are potentially dispersible. Monitoring locations are associated mostly with major nuclear facilities and waste storage or disposal facilities such as container storage, burial grounds, underground tanks (i.e., Tank Farms in the 200 Areas), ponds, cribs, trenches, and ditches.

In accordance with the definition of "Monitoring" provided in WAC 246-247-030(17), required monitoring activities include the measurement of radionuclides in ambient air. Samples are collected from known or expected transport pathways, which are generally downwind of potential or actual airborne release points and down-gradient of liquid discharges. The accepted primary method of monitoring diffuse and fugitive emissions is ambient air sampling, with other media samples (e.g., surface soil, vegetation for deposition, radiological surveys and thermoluminescent dosimeters) used as qualitative indicators.

5.1.3 Site-Wide Monitoring

In addition, the Department of Energy conducts air monitoring at site-wide locations away from the facilities, offsite around the perimeter of the Hanford Site, and in nearby and distant communities. Because a person could live as close to the Hanford Site as some of the perimeter stations, their data represent maximum exposures for a member of the public. Therefore, ambient air sampling data from the perimeter locations most closely reflect the actual impacts of radionuclide air emissions from point sources and diffuse and fugitive sources at the Hanford Site.

5.1.4 Quality Assurance and Analysis

All required ambient air samples collected and analyzed must be compatible with the quality assurance requirements of national standards such as NQA-1, EPA QA/R-5, and Method 114 as applicable. Near-facility ambient air samples from individual stations must be composited at a frequency no greater than 6 months. Analysis of other media samples will be conducted at labs with the appropriate quality assurance programs in-place.

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5.1.5 Reporting

The average results from the analysis of composite ambient air samples must be reported on an annual basis as required by WAC 246-247-080.

5.1.5.1 Near Facility Monitoring and Reporting

Comparison against 10% of the values listed in Table 2 of 40 CFR 61 Appendix E must be performed. Any analytical result that exceeds these values will be reported to the department. Notification may take the form of an email. These comparisons shall be used to demonstrate that activities being conducted under various approvals are being maintained as ALARACT or BARCT.

5.1.5.2 Hanford Facility Off-site Diffuse and Fugitive Ambient Air Concentration Procedure for Annual Reporting of Emissions

For purposes of annual reporting of emissions, any emissions from diffuse and fugitive sources are estimated from ambient air monitoring data collected at the Hanford Site perimeter. Radionuclide air concentrations resulting from monitored stack emissions at Hanford facilities and other nearby non-DOE sources are calculated for each of the perimeter sample locations using the CAP88-PC atmospheric dispersion modeling code. The combined contributions to airborne radionuclide concentrations attributable to the stack emissions from these sources will be subtracted from the ambient air sampling results. Averaged regional background concentrations for each radionuclide will be calculated from the air sample results obtained at distant community sampling stations located outside the 80-km (50-mile) radius from Hanford sources. The average background concentration at these stations will also be subtracted from the ambient monitoring results at Hanford perimeter stations. The air concentrations at the site perimeter, corrected as described for monitored emissions sources and background concentrations, are assumed to be attributable to emissions from diffuse sources.

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Annual emissions from diffuse and fugitive sources will be estimated using the corrected perimeter air concentrations attributable to fugitive emissions, and by performing a back-calculation using CAP88-PC. For purposes of conservatism in estimating emissions, the 200 West Area near the center of the Hanford Site is assumed to be the source of all diffuse and fugitive emissions. The average aggregate emissions from diffuse sources will then be used to estimate the dose at the Hanford Site perimeter with the CAP88-PC code. The annual Hanford Site Radionuclide Air Emissions Report will contain results for the perimeter location having the highest dose and separately the dose at the location of the maximally exposed member of the public from monitored stack sources. The maximum combined dose to a member of the public from monitored stack emissions and potential diffuse source emissions will be reported to demonstrate compliance with the 10 mrem/year standard in 40 CFR Part 61, Subpart H, as adopted by WAC 246-247.

5.1.6 Additional Monitoring Requirements for Specific Activities with Diffuse/Fugitive Emissions

Additional monitoring or testing requirements (issued as Notice of Construction Approval Conditions and Limitations) may be placed on emissions units for a specific activity as authorized in WAC 246-247-075(9).

5.1.7 Changes to the Diffuse and Fugitive Environmental Monitoring

Prior to making a change (i.e., moving, or removing air sample locations, or changing the sampling period) to the accepted periodic confirmatory measurement (for minor diffuse and fugitive sources) or continuous measurement (for major diffuse and fugitive sources), the Department of Energy shall provide a written request describing the change to the Department of Health, Air Emissions and Defense Waste Section for approval. The request for approval may take the form of an email or formal letter.

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NOC_ID 669	Emission Unit 106
Emission Unit 63	Emission Unit 107
NOC_ID 669	Emission Unit 108
Emission Unit 65	Emission Unit 109
Emission Unit 66	Emission Unit 110
Emission Unit 67	Emission Unit 111
Emission Unit 68	Emission Unit 112
Emission Unit 69	Emission Unit 113
Emission Unit 70	Emission Unit 114
Emission Unit 71	Emission Unit 115
Emission Unit 72	Emission Unit 116
Emission Unit 73	Emission Unit 117
Emission Unit 74	Emission Unit 118
Emission Unit 75	Emission Unit 119
Emission Unit 76	Emission Unit 120
Emission Unit 77	Emission Unit 121
Emission Unit 78	Emission Unit 122
Emission Unit 79	Emission Unit 123
Emission Unit 80	Emission Unit 124
Emission Unit 81	Emission Unit 125
Emission Unit 82	Emission Unit 126
Emission Unit 83	Emission Unit 127
Emission Unit 84	Emission Unit 128
Emission Unit 85	Emission Unit 129
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Emission Unit 289	NOC_ID 645
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Emission Unit 291	NOC_ID 712
Emission Unit 292	Emission Unit 422
Emission Unit 293	Emission Unit 423
Emission Unit 294	NOC_ID 704
Emission Unit 301	Emission Unit 435
NOC_ID 690	NOC_ID 652
Emission Unit 302	Emission Unit 436
Emission Unit 303	NOC_ID 643
Emission Unit 304	Emission Unit 438
Emission Unit 305	Emission Unit 439
Emission Unit 308	NOC_ID 654
Emission Unit 314	Emission Unit 443
NOC_ID 711	NOC_ID 684
Emission Unit 315	Emission Unit 447
NOC_ID 648	NOC_ID 664
Emission Unit 332	NOC_ID 670
Emission Unit 337	NOC_ID 673
Emission Unit 340	NOC_ID 689
NOC_ID 649	NOC_ID 708
Emission Unit 355	NOC_ID 711
Emission Unit 357	Emission Unit 448
Emission Unit 358	NOC_ID 641
Emission Unit 361	Emission Unit 454
NOC_ID 687	NOC_ID 650
Emission Unit 362	Emission Unit 455
NOC_ID 677	NOC_ID 663
Emission Unit 366	NOC_ID 670
NOC_ID 701	NOC_ID 708
Emission Unit 369	NOC_ID 719
Emission Unit 384	Emission Unit 461
NOC_ID 665	NOC_ID 654
Emission Unit 385	Emission Unit 465
NOC_ID 646	NOC_ID 747
Emission Unit 395	Emission Unit 472
Emission Unit 396	NOC_ID 662
NOC_ID 646	Emission Unit 473
Emission Unit 397	NOC_ID 662
NOC_ID 646	Emission Unit 476
Emission Unit 398	NOC_ID 647
NOC_ID 639	NOC_ID 658
Emission Unit 399	NOC_ID 670
NOC_ID 646	NOC_ID 685
Emission Unit 402	NOC_ID 689

NOC_ID 702
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Emission Unit 486
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NOC_ID 670

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NOC_ID 703
Emission Unit 504
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Emission Unit 539
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Emission Unit 541
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Emission Unit 689

Emission Unit 712
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Emission Unit ID: 1

200E P-241C111-001

241-C-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 50

200 W-296P045-001

296-P-45

This is a MAJOR, ACTIVELY ventilated emission unit.

Tank Farms

Emission Unit Information

Stack Height: 21.00 ft. 6.40 m. Stack Diameter 0.50 ft. 0.15 m.

Average Stack Effluent Temperature: 90 degrees Fahrenheit. 32 degrees Celsius.

Average Stack Exhaust Velocity: 38.22 ft/second. 11.65 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
	Prefilter	1	
	Heater	1	
	HEPA	2	2 HEPAs in series
	Fan	1	
	Demister	1	

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(2)	40 CFR 61, Appendix B Method 114	Each radionuclide that could contribute greater than 10% of the potential TEDE	Continuous

Sampling Requirements Record sample collected biweekly

Additional Requirements

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

Operational Status This emission unit is a skid/mobile type portable exhauster used to support tank farm operations, such as but not limited to, waste characterization, waste retrieval, decommissioning, deactivation, maintenance, and construction and operation support activities. The emission unit is a portable exhauster that operates intermittently or continuously.

This Emission Unit has 2 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
Categorical Tank Farm Facility Waste Retrieval and Closure: Phase II Waste Retrieval Operations	AIR 09-704	7/28/2009	703

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 1.31E+00 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 1.61E+03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The operation of the waste retrieval system(s) for the removal of radioactive wastes from all 149 Single Shell Tanks (SST) at the Hanford Site.

SALTCAKE DISSOLUTION WASTE RETRIEVAL SYSTEM

The saltcake dissolution waste retrieval system may be used to retrieve soluble saltcake waste. This method

retrieves the soluble portion of the waste only, resulting in very few of the solids being pumped from the tank. The saltcake dissolution waste retrieval system deployed in the SSTs is for water, chemical agent, or catalyst liquid to be added to the tank using a variety of spray nozzles or "sprinklers". The approach is to sprinkle the waste surface with water, chemical agent, or catalyst liquid. The added water, chemical agent, or catalyst liquid must stay in contact with the saltcake for a long enough period of time for the brine to become saturated. Once the brine is saturated, it is pumped from the SST to a receiver tank, staging tank, storage DST or other staging/storage vessel associated with the supplemental treatment, packaging or disposal. Salt solution will be removed using the existing saltwell pump or other pump placed into the tank.

A tank not equipped with a saltwell pump, a transfer pump (progressive cavity, vertical turbine) can be installed and operated.

Remotely directable water distribution devices will be located in risers spaced as far apart as practical. A combination of spraying water, chemical agent, or catalyst liquid to dissolve the saltcake can be used in conjunction with directing a flow of water or recirculating water at the waste to move it to the pump suction to allow the pumping of waste from the tank. Recirculated waste from the pump may be sent back to the tank as an alternative to using water to direct dissolution waste to the pump suction.

MODIFIED SLUCING WASTE RETRIEVAL SYSTEM

Modified sluicing can be used for some SST waste retrieval. Modified sluicing is the introduction of liquid at low to moderate pressures and volumes into the waste. The liquid dissolves and breaks apart solid materials and suspends them in the waste slurry. A transfer pump installed in the tank provides the motive force to transfer the liquid slurry to a receiver tank.

Modified sluicing introduces sluice liquid in a controlled fashion using multiple sluicing nozzles at varying pressures and flows, then pumps out the resultant waste slurry. This maintains minimal liquid inventories within the tank at all times. The liquids that could be used in modified sluicing include water, recirculated supernatant/water from the receiving Double Shell Tank, recirculated supernatant/water, chemical agent or catalyst liquid.

VACUUM WASTE RETRIEVAL SYSTEM

A vacuum waste retrieval system can be used for waste retrieval activities in the (SSTs). The vacuum waste retrieval system is introduced into the SSTs by means of an articulating mast system (AMS). The AMS has a horizontal reach and rotational capabilities of 360 degrees. The AMS has a retracted position and can be extended vertically. Air is mixed at the suction end of the AMS enabling the required vertical lift for the waste to a topside receiver tank, batch vessel or a staging SST, storage DST, or other staging/storage vessels associated with supplemental treatment, packaging or disposal.

The AMS will be deployed through and attached to standard riser flanges that are available on the SSTs. Cameras can also be installed in other risers for in-tank viewing and control of the AMS.

For the 200-series tanks in the 241-C, 241-U, 241-B and 241-T Tank Farms a vacuum retrieval process tank, staging tank, staging SST, storage DST or other staging/storage vessel will be deployed. The receiver tank will receive waste in batches from whichever tank is connected into the vacuum retrieval system. The vacuum pressure used to draw up the waste from the tank to the receiver tank is relieved back into the SST being retrieved.

MOBILE RETRIEVAL SYSTEM

A Mobile Retrieval System (MRS) can be used to retrieve waste from some SSTs. The MRS consists of two in-tank systems. The first is a robotic crawler inserted through one riser the second is an AMS inserted through a second riser. The AMS retrieves the sludge from the tank using a vacuum with assisting pneumatic conveyance. The AMS vacuum tube has a horizontal reach and can be extended to the bottom of the tank. The arm rotates 360 degrees. The vacuum will be directed through the AMS in the tank to the end effector, which is in contact with the waste. The pneumatic conveyance-assisted vacuum retrieval system will draw the waste up through the vacuum to the waste vessel in the vessel skid in batches. The AMS is then valved out while the waste vessel is

emptied and pumped out through the over ground transfer lines to a DST, a staging SST or other treatment/disposal options. When the waste vessel is nearly empty, the transfer line will be valved out and the AMS will be valved back in and another batch of waste will be removed from the tank. This process will be repeated until waste near the center of the tank is removed. The robotic crawler will be remotely controlled to move and/or wash waste toward the center of the tank.

The robotic crawler is equipped with a plow blade at the front for pushing/pulling wastes, a screw pump to jet wastes through a small nozzle towards the center of the tank, the ability to direct hot or cold water through the same nozzle to wash wastes off of in-tank equipment, dissolve waste agglomerations in the tank, and wash waste toward the center of the tank for removal.

Any new retrieval methods or changes to processes will need to be provided to WDOH in a revised NOC prior to implementation.

MOBILE ARM RETRIEVAL SYSTEM

The Mobile Arm Retrieval System (MARS) is a waste retrieval system used to retrieve waste from single-shell tanks (SSTs) and move the waste to the double-shell tanks (DSTs). The MARS employs two design options similar to currently permitted systems: 1) a sluicing retrieval option which is intended for retrieval of non-leaker tanks and 2) a vacuum retrieval option is intended for retrieval of assumed leaker tanks. Both options use an arm and sluicing jets and/or a high pressure water scarifier to break up the waste. The sluicer uses waste supernatant recycled from the DST to form a liquid jet using a nozzle. The scarifier uses filtered, pressurized water that comes from a high pressure water skid.

The equipment portion of the MARS includes a vertical, carbon steel mast (square cross section) as the main structural member. Attached to the vertical mast is a carbon fiber robotic arm. The arm is attached to a traveler that raises and lowers the arm relative to the vertical mast. The arm rotates 360 degrees - 380 degrees on a turntable located in the pit box. The arm also pivots up and down from an elbow at the traveler (hydraulic system) and extends and retracts (hydraulic system). The end of the arm articulates. The arm thus provides for a large range of motion such that the sluicing devices (recycle sluicer, water scarifier) located at the end of the arm can aim at most portions of the tank and from varying (e.g., short) distances.

REMOTE WATER LANCE

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure systems, operating controls, cables, and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle, high pressure nozzle(s), or the high pressure mixer.

The high pressure water systems will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and from 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Ac - 227	5.99E+00	Am - 241	8.68E+03	Am - 243	3.39E-01
Ba - 137 m	4.26E+07				

		C - 14	6.25E+02	Cd - 113 m	4.95E+03
Cm - 242	1.97E+01	Cm - 243	1.80E+00	Cm - 244	1.90E+01
Co - 60	2.52E+03	Cs - 134	3.44E+04	Cs - 137	4.89E+07
Eu - 152	8.49E+02	Eu - 154	1.45E+04	Eu - 155	9.54E+03
H - 3	5.95E+03	I - 129	2.95E+01	Nb - 93 m	1.01E+03
Ni - 59	1.05E+02	Ni - 63	9.30E+03	Np - 237	9.50E+01
Pa - 231	1.25E+01	Pu - 238	1.65E+02	Pu - 239	3.17E+03
Pu - 240	5.36E+02	Pu - 241	4.80E+03	Pu - 242	3.34E-02
Ra - 226	1.27E-02	Ra - 228	1.15E+01	Ru - 106	1.22E-02
Sb - 125	1.73E+04	Se - 79	6.36E+01	Sm - 151	8.93E+05
Sn - 126	2.59E+02	Sr - 90	2.91E+06	Tc - 99	2.24E+04
Th - 229	4.20E-01	Th - 232	1.26E+00	U - 232	3.66E+00
U - 233	3.02E+01	U - 234	1.07E+01	U - 235	4.44E-01
U - 236	2.73E-01	U - 238	9.86E+00	Y - 90	2.91E+06
Zr - 93	1.25E+03				

- 4) A pre-operational NDA of the exhausters HEPA filters and a post-operational NDA will be performed the first time each of the four waste retrieval methods (mobile retrieval system, vacuum retrieval, supernatant sluicing, and saltcake dissolution with supernatant) when placed into service. The post-operational NDA should occur after one cycle or phase of waste retrieval operation is completed, a method replaces another method during a cycle/phase or six months from the in-service date, whichever occurs first. The facility may opt to replace the exhausters HEPA filters prior to placing a new waste retrieval method in service and eliminate the pre-operational NDA.
- 5) While the exhausters is operating, and/or tank waste retrieval is underway, all ductwork connections shall have a radiological survey performed monthly to ensure ductwork connections are not degrading.
- 6) All ductwork shall be pressure tested in accordance with the requirements of ASME AG-1 Section SA.
- 7) All ventilation ductwork from the exit of the tank to the inlet of the exhausters filter housing shall be insulated.
- 8) During waste retrieval operations the maximum pressure for any waste retrieval method shall not exceed 37,000 psig.
- 9) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1 Section TA. HEPA filters shall have a minimum efficiency of 99.95%.
- 10) General WAC 246-247 technology standard exemptions justified and documented in RPP-19233, WAC 246-247 technology standard exemption justification for waste tank ventilation systems, may be applied to Phase II NOC retrieval exhausters operations.
- 11) Relative humidity shall be monitored, at least once a month, downstream of the heater and prior to the HEPA filters to ensure the air stream does not exceed 70% relative humidity.
- 12) The annual possession quantity shall be tracked on a WDOH approved log.
- 13) The differential pressure readings for the pre-filters and both stages of HEPA filters shall be monitored, recorded and trended daily. Action levels shall be developed and provided to WDOH for when actions will be taken to assure the pre-filters and HEPA filters will be operated within their design parameters.

- 14) The emission unit stack monitoring system shall meet the requirements of ANSI/HPS N13.1-1999 including the stack monitoring system inspection requirements.
- 15) The exhauster will be operated occasionally during periods of non-retrieval in support of tank waste retrieval preparation activities and to aid in evaporation of residual flush water or sluicing liquid that remains in the tank.

Project Title

Removal of Liquid from Catch Tank 241-ER-311

Approval #

AIR 08-1106

Date Approved

11/10/2008

NOC_ID

718

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 1.47E-05 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 1.47E-03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The action will include the operation of a 500 cfm portable exhauster connected to a riser in conjunction with a inlet HEPA filter to remove evaporate liquid in the 241-ER-311 Catch Tank. A small volume of the liquid may be pumped out during this activity. There may also be an insertion of a sleeve inside the existing risers to direct air flow closer to the liquid surface.

During riser preparation controls will be established using as low as reasonably achievable control technology (ALARACT 1) "Demonstration for riser preparation/opening", ALARACT 4 "Demonstration for packaging and transportation of waste", ALARACT 6 "Demonstration for pit access", ALARACT 13 "Demonstration for installation, operation, and removal of tank equipment", ALARACT 14 "Demonstration for pit work", ALARACT 15 "Demonstration for size reduction of waste equipment for disposal", and ALARACT 16 "Demonstration for work on potentially contaminated ventilation system components".

A portable, 500 cfm ventilation system will be installed on a riser on the 241-ER-311 Catch Tank. The portable exhauster consists of a skid mounted air clean-up train, which includes a heater, a pre-filter, two HEPA filters in series, and a fan, prior to the stack. During exhauster operation air from the tank will be heated before passing through the pre-filter and two HEPA filters to ensure that condensation of air stream moisture is minimized through this section. Drains in each of the filter and heater housings allow entry condensed liquid to flow away from the components and to be collected in a seal pot for removal.

Ductwork will be used to connect the exhauster inlet to the tank riser. Ductwork will essentially be fabricated in conformance with ASME B31.3 Process Piping, and it will meet the requirements of ASME AG-1, Section SA, with the exceptions noted in RPP-1923, "General WAC 246-247 Technology Standards Exemption Justification for Waste Tank Ventilation Systems".

A 500 cfm inlet HEPA filter in an ASME AG-1 compliant housing will be installed on a second riser on the 241-ER-311 to accommodate the inlet air stream created by the use of the portable exhauster. When the exhauster is not running, the inlet HEPA filter will serve as a tank barometric breather filter to provide abatement of particulate emissions from the tank.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Am - 241	4.79E-04	Cs - 137	9.36E+00	Pu - 239/240	3.36E-04
Sr - 89/90	2.88E+00				

- 4) Once every 24 hours a visual inspection of the HEPA filter housing shall be made, including the drain line and seal pot, to look for formation of liquid in the HEPA filter housing. If moisture is present or seal pot level is increasing DOH shall be notified and a path forward established to verify and maintain the integrity of the HEPA filters.
- 5) All ventilation ductwork from the exit of the tank to the inlet of the exhauster filter housing shall be insulated.
- 6) Relative Humidity shall be monitored, at least once every 7 days, to ensure the air stream does not exceed 70% relative humidity downstream of the heater and prior to the HEPA filters.
- 7) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1 Section TA. HEPA filters shall have a minimum efficiency of 99.95%.
- 8) All ductwork shall be pressure tested in accordance with the requirements of ASME AG-1 Section SA.
- 9) The emission unit stack monitoring system shall meet the requirements of ANSI/HPS N13.1-1999.

- 10) The emission unit shall not operate at a flow rate which will exceed the rated capacity of the inlet/breather filter installed on the tank.
- 11) All ductwork connections shall have a radiological survey performed monthly to ensure ductwork connections are not degrading.
- 12) The demister identified as required abatement technology is not required to be operational during liquid removal operations at the 241-ER-311 Catch Tank.

Emission Unit ID: 53

200W P-296P022-001

296-P-22

This is a MINOR, ACTIVELY ventilated emission unit.

241-SY TANK FARM

Emission Unit Information

Stack Height: 13.17 ft. 4.01 m. Stack Diameter 0.69 ft. 0.21 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 33.04 ft/second. 10.07 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	2	2 in series
	Fan	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations and ventilates the annuli of DSTs 241-SY Tank Farm. The tanks store radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

Emission Unit ID: 54

200W P-296P028-001

296-P-28

This is a MINOR, ACTIVELY ventilated emission unit.

241-SY TANK FARM

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Deentrainer	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	Heater	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	Prefilter	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	HEPA	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	Fan	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.

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
	Non-Operational		

Sampling Requirements Non-Operational

Additional Requirements

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

Operational Status The emission unit is non-operational, removed from service and will not be utilized for future tank farm operations. If the emission unit is required for tank farm operations, the proper regulatory requirements and permits will be obtained prior to returning the emission unit to service. Closure is pending submittal of closure form and final inspection and approval by WDOH.

Emission Unit ID: 56

200W P-296SY-001

296-P-23

This is a MINOR, ACTIVELY ventilated emission unit.

241-SY TANK FARM

Emission Unit Information

Stack Height: 17.30 ft. 5.27 m. Stack Diameter 0.51 ft. 0.16 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 83.07 ft/second. 25.32 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Deentrainer	1	
	Heater	Non-Operational	
	Prefilter	1	
	HEPA	2	In series
	Fan	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241-SY Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the applicable regulations and/or permits for the activity being performed and the emission units associated with the activity. This emission unit operates with the "B" train (Western most unit) while the "A" train (Eastern most unit) operates in conjunction with the emission unit (296-S-25). This emission unit is operated in alternation with the "A" train when "B" train is not operational. The emission unit operates intermittently.

Emission Unit ID: 57

200 W-296P043-001

296-P-43

This is a MAJOR, ACTIVELY ventilated emission unit.

Tank Farms

Emission Unit Information

Stack Height: 21.00 ft. 6.40 m. Stack Diameter 0.50 ft. 0.15 m.

Average Stack Effluent Temperature: 90 degrees Fahrenheit. 32 degrees Celsius.

Average Stack Exhaust Velocity: 38.22 ft/second. 11.65 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
	Prefilter	1	
	Heater	1	
	HEPA	2	2 HEPAs in series
	Fan	1	
	Demister	1	

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(2)	40 CFR 61, Appendix B Method 114	Each radionuclide that could contribute greater than 10% of the potential TEDE	Continuous

Sampling Requirements Record sample collected biweekly

Additional Requirements

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

Operational Status This emission unit is a skid/mobile type portable exhauster used to support tank farm operations, such as but not limited to, waste characterization, waste retrieval, decommissioning, deactivation, maintenance, and construction and operation support activities. The emission unit is a portable exhauster that operates intermittently or continuously.

This Emission Unit has 3 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
Installation and Operation of Waste Retrieval Systems in Single-Shell Tank (SST) 241-S-112	AIR 08-1103	11/10/2008	686

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-02 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 7.51E+01 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The Salt Cake Dissolution Retrieval Demonstration Project in SST 241-S-112 uses water that is introduced in a controlled fashion to dissolve and mobilize solids in the tank. The resulting solution is then pumped and transferred to the Double-Shell Tank (DST) system. A portable exhauster will provide active ventilation for some dissolution activities and all waste transfer activities until structural safety considerations force shutdown, at which time passive ventilation shall be used.

The following activities will be performed :

Pit

- a. Opening the 241-S-112 Condenser Pit to remove the old cover plate and install a new cover plate to allow for the connection of a HEPA filter to the exhauster trunk for a portable exhauster.
- b. Enter 241-S-C Valve Pit to disconnect the existing 241-S-112 HIHTL.
- c. Enter the 241-S-109 Valve Pit to remove the existing HIHTL that is no longer needed.
- d. Accessing the 241-S-112A Central Pump Pit to:
 - Install an instrument manifold,
 - Install a transfer pump, and
 - Replacement of the existing HIHTL that is not needed for this project with a new HIHTL.
- e. Enter the 241-S-A Valve Pit to:
 - Connect the hose-in-hose transfer line (HIHTL) from the 241-S-112 Tank to the DST receiver tank, and
 - Install the leak detection hardware.

Pit work shall be performed in accordance with ALARACT 6 "TWRS ALARACT Demonstration for Pit Access" and ALARACT 14 "TWRS ALARACT Demonstration for Pit Work".

Soil Excavation

- a. Excavation of soil inside the tank farm for the installation of an electrical and instrumentation conduit to monitor transfer progress.
- b. Excavation of soil outside the tank farm for conduit and transformer installation.
- c. Excavation of soil inside the tank farm for installation of a new raw water header installed between the 241-SY Tank Farm and the 241-S Tank Farm to the 241-S-112 Tank.
- d. Installation of a HIHTL to convey waste from Tank 241-S-112 to the DST transfer system.

Soil excavation shall be performed in accordance with ALARACT 5 "TWRS ALARACT Demonstration for Soil Excavation (using hand tools)".

In-Tank Equipment

- a. Installation of various motor controlled spray devices into (3) risers near the outside perimeter of the tank and an automatic indexing spray device will be installed on a centrally located riser.
- b. Remove Liquid Observation Well (LOW).
- c. Installation of Stilwell (Level Monitoring Device protection).

Work shall be performed in accordance with ALARACT 1 "TWRS ALARACT Demonstration for Riser Preparation/Opening" and ALARACT 13 "TWRS ALARACT Demonstration for Installation, Operation and Removal of Tank Equipment".

Water Addition/ Dilution

- Installation of a new heat traced and insulated raw water line installed between the 241-S Tank Farm and the 241-SY Tank Farm to the water distribution skid on top of Tank 241-S-112.

Water addition and dilution for salt-cake dissolution shall use portable exhausters for active ventilation when water addition flow rate is above 80 gallons per minute, at less than 80 gallons per minute salt cake dissolution shall use either a breather HEPA filter for passive ventilation, or active ventilation.

Waste Transfer

- Installation of a progressive cavity pump and supporting equipment to recover and transport waste from Tank 241-S-112 to the DST System.

Waste transfer activities shall use portable exhausters for active ventilation until structural safety considerations force shutdown, at which time passive ventilation shall be used.

The major components of the exhauster are; stack, glycol heaters, 1 pre-filter, 2 HEPA filters, 1 exhaust fan, sampling system and a demister which is determined to be optional.

Other

- Removal of the Standard Hydrogen Monitoring Probe.

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydrolaser. The system will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure water skid, operating controls, cables and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle, high pressure nozzle(s).

The high pressure water skid will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 6 to 15 gpm. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect the hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle end submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

The in-tank vehicle, with umbilical, will be deployed through a 12 inch riser in tank 241-S-112 and will weigh on the order of 1,000 pounds plus the weight of the umbilical. A crane will be used to lower the vehicle and the full length of umbilical down into the tank. After the in-tank vehicle and umbilical are in the tank, a cover, with gasket, will be bolted to the riser flange to seal the riser opening. The equipment will be operated outside the tank farm fence.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Ac - 227	6.12E-03	Am - 241	7.24E+01	Am - 243	7.60E+01
Ba - 137 m	2.14E+05	C - 14	3.59E+01	Cd - 109	2.26E+02
Cm - 242	1.14E-02	Cm - 243	5.63E-01	Cm - 244	1.35E+01
Co - 60	6.47E+01	Cs - 134	5.68E-01	Cs - 137	2.26E+05
Eu - 152	1.02E+01	Eu - 154	2.05E+02	Eu - 155	1.96E+02
H - 3	3.08E+02	I - 129	8.43E-01	Nb - 93 m	5.09E+01
Ni - 59	1.08E+01	Ni - 63	9.97E+02	Np - 237	1.56E+00
Pa - 231	1.59E-02	Pu - 238	8.10E+00	Pu - 239	6.08E+01
Pu - 240	9.36E+00	Pu - 241	5.78E+01	Pu - 242	4.16E-04
Ra - 226	5.98E-04	Ra - 228	8.46E-02	Ru - 106	1.84E-04
Sb - 125	1.01E+02	Se - 79	1.73E+00	Sm - 151	4.27E+04
Sn - 126	7.73E+00				

		Sr - 90	1.07E+05	Tc - 99	2.47E+02
Th - 229	4.50E-03	Th - 232	1.35E-03	U - 232	2.78E-01
U - 233	7.11E+00	U - 234	4.65E+00	U - 235	2.01E-02
U - 236	2.51E-02	U - 238	4.52E-01	Y - 90	1.07E+05
Zr - 93	6.26E+01				

- 4) Equipment removal and monitoring (pre and post-job surveys) shall be performed in accordance with ALARACT 13; equipment disposition shall be performed in accordance with ALARACT 4 and 15.
- 5) Radiological monitoring shall be performed in accordance with the latest revision of HNF-5183, Tank Farms Radiological Control Manual.
- 6) The Annual Possession Quantity and potential-to-emit to the MEI shall be tracked on a WDOH approved log.
- 7) The differential pressure across the demister, prefilter, primary HEPA filter, and secondary HEPA filter shall be monitored, recorded and tracked twice a shift during operation of the hydrolaser.
- 8) The dose rate on the prefilter, primary HEPA filter, and secondary HEPA filter shall be monitored, recorded, and tracked twice a shift during operation of the hydrolaser.
- 9) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%.
- 10) The operation of the hydrolaser may occur with the nozzle assemblies above or below the waste surface depending on the mobilization effort desired.
- 11) Monitor and record the digital readout on the CAM unit one per shift during hydrolaser operation.
- 12) After two weeks of operation of the hydrolaser, provide WDOH with:
 - a. The differential pressure readings across the demister, prefilter, primary HEPA filter, and secondary HEPA filter.
 - b. Dose rate readings on the prefilter, primary HEPA filter, and secondary HEPA filter.
 - c. Digital readout from the CAM.

Project Title

241-S-102 Installation and Operation of Waste Retrieval Systems

Approval #

AIR 09-708

Date Approved

7/29/2009

NOC_ID

694

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 1.80E-01 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 8.40E+01 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The salt cake dissolution activity associated with 241-S-102 shall include the following: pit work, soil excavation, in-tank equipment installation/removal, water dilution, and waste transfers.

Pit Work (Diffuse and Fugitive):

- Open the 241-S-102B Distributor pit and cut flange in riser with hold saw or plasma cutter, to install instrumentation manifold and new progressive cavity transfer pump (ALARACT 1, 6, 12, 13, 14);
- Open the two 241-S-102 Condenser pits to replace two existing cover plates with new cover plates. Connect the passive breather filter assembly and connect the trunk of the portable exhauster (ALARACT 4, 6, 14);
- Open the 241-S-A Valve pit, and connect the HIHTL from the 241-S-102 tank to the DST system (ALARACT 6, 14).

Soil Excavation (Diffuse and Fugitive):

- Excavate trenches for tie-in of instrumentation and power systems (ALARACT 5);
- Excavate for HIHTL placement from 241-S-102 to 241-S-A Valve pit (ALARACT 5).

Other Equipment Installation/Removal (Diffuse and Fugitive):

- Install motor controlled spray devices in three risers near the outside perimeter of tank 241-S-102 (ALARACT 1, 13);
- Install automatic spray indexing device in a central riser (ALARACT 1, 13);
- Remove motor controlled and automatic spray indexing devices if necessary (ALARACT 1, 13);
- Place water distribution skid and connect to the raw water header between 241-SY and 241-S tank farms. Connect water distribution skid to spray devices.
- Remove standard hydrogen monitoring system vapor probe (ALARACT 4, 15, 13);
- Place and hook up exhauster and exhauster system;
- Remove unused flammable gas cabinet (per Tank Farm Radcon Control Manual, HNF 5183);
- Place Field Instrument Electrical Skid and connect associated cabling;
- Install stilling well for Enraf Liquid Indicating Transmitter (ALARACT 1, 13);
- Install camera monitoring system (ALARACT 1,13);
- Remove Liquid Observation Well if necessary (ALARACT 1, 13).

Water Dilution and Waste Transfer:

- Water shall be sprayed onto the surface of the in-tank salt cake to dissolve the cake;
- A Remote Water Lance (RWL) may be used at pressures not to exceed 37,000 psig at a flow rate of 6 to 15 gallons per minute. The RWL will be operated with the nozzle submerged.
- A High Pressure Mixer (HPW) may be used at pressures not to exceed 37,000 psig at at flow rate of 4 to 18 gallons per minute.
- The new progressive cavity pump and HIHTL shall be used to transfer waste from tank

- 241-S-102 to the DST (ALARACT 11);
- Operation and maintenance of the portable exhauster(s).

Waste Transfer (S102):

- The new progressive cavity pump and HIHTL shall be used to transfer waste from tank 241-S-102 to the DST (ALARACT 11).

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure water systems, operating controls, cables and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle; high pressure nozzle(s), or the high pressure mixer.

The high pressure water system will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and the 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the tank farm fence. The cables and hoses will connect hydraulically powered in-tank vehicles with ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle and submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

The exhauster will be operated occasionally during periods of non-retrieval in support of tank preparation activities and to aid in evaporation of residual flush water or sluicing liquids that remains in the tank.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Ac - 227	1.34E-03	Am - 241	1.23E+02	Am - 243	4.20E-03
Ba - 137 m	2.41E+05	C - 14	4.78E+01	Cd - 113 m	6.95E+01
Cm - 242	3.02E-01	Cm - 243	2.41E-02	Cm - 244	2.17E-01
Co - 60	1.76E+01	Cs - 134	3.54E-01	Cs - 137	2.55E+05
Eu - 152	3.50E+00	Eu - 154	2.46E+02	Eu - 155	2.70E+02
H - 3	2.09E+02	I - 129	6.81E-01	Nb - 93 m	1.39E+01
Ni - 59	3.00E+00	Ni - 63	2.75E+02	Np - 237	1.30E+00
Pa - 231	4.82E-03	Pu - 238	2.96E+00	Pu - 239	1.15E+02
Pu - 240	1.90E+01	Pu - 241	1.49E+02	Pu - 242	1.14E-03
Ra - 226	2.47E-04	Ra - 228	8.89E-02	Ru - 106	5.74E-05
Sb - 125	3.18E+01	Se - 79	3.88E-01	Sm - 151	1.30E+04
Sn - 126	2.35E+00	Sr - 90	9.29E+04	Tc - 99	2.17E+02
Th - 229	2.20E-03				

		Th - 232	9.50E-03	U - 232	1.42E+00
U - 233	5.83E+00	U - 234	1.81E+00	U - 235	7.35E-02
U - 236	5.63E-02	U - 238	1.65E+00	Y - 90	9.29E+04
Zr - 93	1.90E+01				

- 4) Monthly checks shall be performed on the exhaust duct during active ventilation to ensure there is no degradation of the ductwork or leakage at the connection points [WAC 246-247-040(5), -060(5)].
- 5) The Annual Possession Quantity and Potential-to-Emit to the MEI shall be logged and retained [WAC 246-247-040(5), -060(5)].
- 6) The portable exhauster shall operate continuously when water is being added to the tank via the spray devices. If structural safety considerations force shutdown of the active ventilation system, WDOH shall be notified prior to shutdown of active ventilation. Passive breather filter ventilation may be used when there is no dilution water delivery via the spray devices [WAC 246-247-040(5), -060(5)].
- 7) The heater shall have an automatic trip set point below 200 degrees F. [WAC 246-247-040(5), -060(5)]
- 8) The emission unit monitoring system shall have the following activities performed:[WAC 246-247-040(5)]
 - a. Inspect pitot tube systems for leaks, at least annually.
 - b. Inspect nozzles for alignment, presence of deposits, damage to sharp-edged nozzles, or other potentially degrading factors (corrosion, physical damage, etc) at least annually.
 - c. Check transport lines and if visible deposits are present perform cleaning, at least annually.
 - d. Checks to ensure the tightness of all fittings and connections as well as a leak test of the sample system, at least annually.
 - e. Check the response of stack flow rate monitoring and control system at least quarterly.
 - f. A functional/calibration check of monitoring system instrumentation shall be performed at least annually.

[WAC 246-247-040(5), -060(5)]
- 9) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%. [WAC 246-247-040(5), -060(5)]

Project Title

Categorical Tank Farm Facility Waste Retrieval and Closure: Phase II Waste Retrieval Operations

Approval #

AIR 09-704

Date Approved

7/28/2009

NOC_ID

703

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 1.31E+00 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 1.61E+03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The operation of the waste retrieval system(s) for the removal of radioactive wastes from all 149 Single Shell Tanks (SST) at the Hanford Site.

SALTCAKE DISSOLUTION WASTE RETRIEVAL SYSTEM

The saltcake dissolution waste retrieval system may be used to retrieve soluble saltcake waste. This method retrieves the soluble portion of the waste only, resulting in very few of the solids being pumped from the tank. The saltcake dissolution waste retrieval system deployed in the SSTs is for water, chemical agent, or catalyst liquid to be added to the tank using a variety of spray nozzles or "sprinklers". The approach is to sprinkle the waste surface with water, chemical agent, or catalyst liquid. The added water, chemical agent, or catalyst liquid must stay in contact with the saltcake for a long enough period of time for the brine to become saturated. Once the brine is saturated, it is pumped from the SST to a receiver tank, staging tank, storage DST or other staging/storage vessel associated with the supplemental treatment, packaging or disposal. Salt solution will be removed using the existing saltwell pump or other pump placed into the tank.

A tank not equipped with a saltwell pump, a transfer pump (progressive cavity, vertical turbine) can be installed and operated.

Remotely directable water distribution devices will be located in risers spaced as far apart as practical. A combination of spraying water, chemical agent, or catalyst liquid to dissolve the saltcake can be used in conjunction with directing a flow of water or recirculating water at the waste to move it to the pump suction to allow the pumping of waste from the tank. Recirculated waste from the pump may be sent back to the tank as an alternative to using water to direct dissolution waste to the pump suction.

MODIFIED SLUCING WASTE RETRIEVAL SYSTEM

Modified sluicing can be used for some SST waste retrieval. Modified sluicing is the introduction of liquid at low to moderate pressures and volumes into the waste. The liquid dissolves and breaks apart solid materials and suspends them in the waste slurry. A transfer pump installed in the tank provides the motive force to transfer the liquid slurry to a receiver tank.

Modified sluicing introduces sluice liquid in a controlled fashion using multiple sluicing nozzles at varying pressures and flows, then pumps out the resultant waste slurry. This maintains minimal liquid inventories within the tank at all times. The liquids that could be used in modified sluicing include water, recirculated supernatant/water from the receiving Double Shell Tank, recirculated supernatant/water, chemical agent or catalyst liquid.

VACUUM WASTE RETRIEVAL SYSTEM

A vacuum waste retrieval system can be used for waste retrieval activities in the (SSTs). The vacuum waste retrieval system is introduced into the SSTs by means of an articulating mast system (AMS). The AMS has a horizontal reach and rotational capabilities of 360 degrees. The AMS has a retracted position and can be extended vertically. Air is mixed at the suction end of the AMS enabling the required vertical lift for the waste to a topside receiver tank, batch vessel or a staging SST, storage DST, or other staging/storage vessels associated with supplemental treatment, packaging or disposal.

The AMS will be deployed through and attached to standard riser flanges that are available on the SSTs. Cameras can also be installed in other risers for in-tank viewing and control of the AMS.

For the 200-series tanks in the 241-C, 241-U, 241-B and 241-T Tank Farms a vacuum retrieval process tank, staging tank, staging SST, storage DST or other staging/storage vessel will be deployed. The receiver tank will receive waste in batches from whichever tank is connected into the vacuum retrieval system. The vacuum pressure used to draw up the waste from the tank to the receiver tank is relieved back into the SST being retrieved.

MOBILE RETRIEVAL SYSTEM

A Mobile Retrieval System (MRS) can be used to retrieve waste from some SSTs. The MRS consists of two in-tank systems. The first is a robotic crawler inserted through one riser the second is an AMS inserted through a second riser. The AMS retrieves the sludge from the tank using a vacuum with assisting pneumatic conveyance. The AMS vacuum tube has a horizontal reach and can be extended to the bottom of the tank. The arm rotates 360 degrees. The vacuum will be directed through the AMS in the tank to the end effector, which is in contact with the waste. The pneumatic conveyance-assisted vacuum retrieval system will draw the waste up through the vacuum to the waste vessel in the vessel skid in batches. The AMS is then valved out while the waste vessel is emptied and pumped out through the over ground transfer lines to a DST, a staging SST or other treatment/disposal options. When the waste vessel is nearly empty, the transfer line will be valved out and the AMS will be valved back in and another batch of waste will be removed from the tank. This process will be repeated until waste near the center of the tank is removed. The robotic crawler will be remotely controlled to move and/or wash waste toward the center of the tank.

The robotic crawler is equipped with a plow blade at the front for pushing/pulling wastes, a screw pump to jet wastes through a small nozzle towards the center of the tank, the ability to direct hot or cold water through the same nozzle to wash wastes off of in-tank equipment, dissolve waste agglomerations in the tank, and wash waste toward the center of the tank for removal.

Any new retrieval methods or changes to processes will need to be provided to WDOH in a revised NOC prior to implementation.

MOBILE ARM RETRIEVAL SYSTEM

The Mobile Arm Retrieval System (MARS) is a waste retrieval system used to retrieve waste from single-shell tanks (SSTs) and move the waste to the double-shell tanks (DSTs). The MARS employs two design options similar to currently permitted systems: 1) a sluicing retrieval option which is intended for retrieval of non-leaker tanks and 2) a vacuum retrieval option is intended for retrieval of assumed leaker tanks. Both options use an arm and sluicing jets and/or a high pressure water scarifier to break up the waste. The sluicer uses waste supernatant recycled from the DST to form a liquid jet using a nozzle. The scarifier uses filtered, pressurized water that comes from a high pressure water skid.

The equipment portion of the MARS includes a vertical, carbon steel mast (square cross section) as the main structural member. Attached to the vertical mast is a carbon fiber robotic arm. The arm is attached to a traveler that raises and lowers the arm relative to the vertical mast. The arm rotates 360 degrees - 380 degrees on a turntable located in the pit box. The arm also pivots up and down from an elbow at the traveler (hydraulic system) and extends and retracts (hydraulic system). The end of the arm articulates. The arm thus provides for a large range of motion such that the sluicing devices (recycle sluicer, water scarifier) located at the end of the arm can aim at most portions of the tank and from varying (e.g., short) distances.

REMOTE WATER LANCE

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure systems, operating controls, cables, and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle, high pressure nozzle(s), or the high pressure mixer.

The high pressure water systems will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and from 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Ac - 227	5.99E+00	Am - 241	8.68E+03	Am - 243	3.39E-01
Ba - 137 m	4.26E+07	C - 14	6.25E+02	Cd - 113 m	4.95E+03
Cm - 242	1.97E+01	Cm - 243	1.80E+00	Cm - 244	1.90E+01
Co - 60	2.52E+03	Cs - 134	3.44E+04	Cs - 137	4.89E+07
Eu - 152	8.49E+02	Eu - 154	1.45E+04	Eu - 155	9.54E+03
H - 3	5.95E+03	I - 129	2.95E+01	Nb - 93 m	1.01E+03
Ni - 59	1.05E+02	Ni - 63	9.30E+03	Np - 237	9.50E+01
Pa - 231	1.25E+01	Pu - 238	1.65E+02	Pu - 239	3.17E+03
Pu - 240	5.36E+02	Pu - 241	4.80E+03	Pu - 242	3.34E-02
Ra - 226	1.27E-02	Ra - 228	1.15E+01	Ru - 106	1.22E-02
Sb - 125	1.73E+04	Se - 79	6.36E+01	Sm - 151	8.93E+05
Sn - 126	2.59E+02	Sr - 90	2.91E+06	Tc - 99	2.24E+04
Th - 229	4.20E-01	Th - 232	1.26E+00	U - 232	3.66E+00
U - 233	3.02E+01	U - 234	1.07E+01	U - 235	4.44E-01
U - 236	2.73E-01	U - 238	9.86E+00	Y - 90	2.91E+06
Zr - 93	1.25E+03				

- 4) A pre-operational NDA of the exhauster(s) HEPA filters and a post-operational NDA will be performed the first time each of the four waste retrieval methods (mobile retrieval system, vacuum retrieval, supernatant sluicing, and saltcake dissolution with supernatant) when placed into service. The post-operational NDA should occur after one cycle or phase of waste retrieval operation is completed, a method replaces another method during a cycle/phase or six months from the inservice date, whichever occurs first. The facility may opt to replace the exhauster's HEPA filters prior to placing a new waste retrieval method in service and eliminate the pre-operational NDA.
- 5) While the exhauster is operating, and/or tank waste retrieval is underway, all ductwork connections shall have a radiological survey performed monthly to ensure ductwork connections are not degrading.

- 6) All ductwork shall be pressure tested in accordance with the requirements of ASME AG-1 Section SA.
- 7) All receiver tanks (including waste retrieval process tanks for tank TRU retrieval (staging) SSTs, storage DSTs, or other staging/storage vessels, but not including batch vessel supporting vacuum retrieval) shall have active ventilation during waste receipt, unless alternative controls are documented and approved by WDOH.
- 8) All ventilation ductwork from the exit of the tank to the inlet of the exhauster filter housing shall be insulated.
- 9) During waste retrieval operations the maximum pressure for any waste retrieval method shall not exceed 37,000 psig.
- 10) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1 Section TA. HEPA filters shall have a minimum efficiency of 99.95%.
- 11) General WAC 246-247 technology standard exemptions justified and documented in RPP-19233, WAC 246-247 technology standard exemption justification for waste tank ventilation systems, may be applied to Phase II NOC retrieval exhauster operations.
- 12) Relative humidity shall be monitored, at least once a month, downstream of the heater and prior to the HEPA filters to ensure the air stream does not exceed 70% relative humidity.
- 13) The annual possession quantity shall be tracked on a WDOH approved log.
- 14) The differential pressure readings for the pre-filters and both stages of HEPA filters shall be monitored, recorded and trended daily. Action levels shall be developed and provided to WDOH for when actions will be taken to assure the pre-filters and HEPA filters will be operated within their design parameters.
- 15) The emission unit stack monitoring system shall meet the requirements of ANSI/HPS N13.1-1999 including the stack monitoring system inspection requirements.
- 16) The exhauster will be operated occasionally during periods of non-retrieval in support of tank waste retrieval preparation activities and to aid in evaporation of residual flush water or sluicing liquid that remains in the tank.

Emission Unit ID: 58

200 W-296P044-001

296-P-44

This is a MAJOR, ACTIVELY ventilated emission unit.

Tank Farms

Emission Unit Information

Stack Height: 21.00 ft. 6.40 m. Stack Diameter 0.50 ft. 0.15 m.

Average Stack Effluent Temperature: 90 degrees Fahrenheit. 32 degrees Celsius.

Average Stack Exhaust Velocity: 38.22 ft/second. 11.65 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
	Prefilter	1	
	Heater	1	
	HEPA	2	2 HEPAs in series
	Fan	1	
	Demister	1	

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(2)	40 CFR 61, Appendix B Method 114	Each radionuclide that could contribute greater than 10% of the potential TEDE	Continuous

Sampling Requirements Record sample collected biweekly

Additional Requirements

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

Operational Status This emission unit is a skid/mobile type portable exhauster used to support tank farm operations, such as but not limited to, waste characterization, waste retrieval, decommissioning, deactivation, maintenance, and construction and operation support activities. The emission unit is a portable exhauster that operates intermittently or continuously.

This Emission Unit has 2 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
241-S-102 Installation and Operation of Waste Retrieval Systems	AIR 09-708	7/29/2009	694

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 1.80E-01 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 8.40E+01 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The salt cake dissolution activity associated with 241-S-102 shall include the following: pit work, soil excavation, in-tank equipment installation/removal, water dilution, and waste transfers.

Pit Work (Diffuse and Fugitive):

- Open the 241-S-102B Distributor pit and cut flange in riser with hold saw or plasma cutter,

to install instrumentation manifold and new progressive cavity transfer pump (ALARACT 1, 6, 12, 13, 14);

- Open the two 241-S-102 Condenser pits to replace two existing cover plates with new cover plates. Connect the passive breather filter assembly and connect the trunk of the portable exhauster (ALARACT 4, 6, 14);
- Open the 241-S-A Valve pit, and connect the HIHTL from the 241-S-102 tank to the DST system (ALARACT 6, 14).

Soil Excavation (Diffuse and Fugitive):

- Excavate trenches for tie-in of instrumentation and power systems (ALARACT 5);
- Excavate for HIHTL placement from 241-S-102 to 241-S-A Valve pit (ALARACT 5).

Other Equipment Installation/Removal (Diffuse and Fugitive):

- Install motor controlled spray devices in three risers near the outside perimeter of tank 241-S-102 (ALARACT 1, 13);
- Install automatic spray indexing device in a central riser (ALARACT 1, 13);
- Remove motor controlled and automatic spray indexing devices if necessary (ALARACT 1, 13);
- Place water distribution skid and connect to the raw water header between 241-SY and 241-S tank farms. Connect water distribution skid to spray devices.
- Remove standard hydrogen monitoring system vapor probe (ALARACT 4, 15, 13);
- Place and hook up exhauster and exhauster system;
- Remove unused flammable gas cabinet (per Tank Farm Radcon Control Manual, HNF 5183);
- Place Field Instrument Electrical Skid and connect associated cabling;
- Install stilling well for Enraf Liquid Indicating Transmitter (ALARACT 1, 13);
- Install camera monitoring system (ALARACT 1,13);
- Remove Liquid Observation Well if necessary (ALARACT 1, 13).

Water Dilution and Waste Transfer:

- Water shall be sprayed onto the surface of the in-tank salt cake to dissolve the cake;
- A Remote Water Lance (RWL) may be used at pressures not to exceed 37,000 psig at a flow rate of 6 to 15 gallons per minute. The RWL will be operated with the nozzle submerged.
- A High Pressure Mixer (HPW) may be used at pressures not to exceed 37,000 psig at at flow rate of 4 to 18 gallons per minute.
- The new progressive cavity pump and HIHTL shall be used to transfer waste from tank 241-S-102 to the DST (ALARACT 11);
- Operation and maintenance of the portable exhauster(s).

Waste Transfer (S102):

- The new progressive cavity pump and HIHTL shall be used to transfer waste from tank 241-S-102 to the DST (ALARACT 11).

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure water systems, operating controls, cables and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle; high pressure nozzle(s), or the high pressure mixer.

The high pressure water system will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and the 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the tank farm fence.

The cables and hoses will connect hydraulically powered in-tank vehicles with ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle and submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 pig.

The exhauster will be operated occasionally during periods of non-retrieval in support of tank preparation activities and to aid in evaporation of residual flush water or sluicing liquids that remains in the tank.

3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Ac - 227	1.34E-03	Am - 241	1.23E+02	Am - 243	4.20E-03
Ba - 137 m	2.41E+05	C - 14	4.78E+01	Cd - 113 m	6.95E+01
Cm - 242	3.02E-01	Cm - 243	2.41E-02	Cm - 244	2.17E-01
Co - 60	1.76E+01	Cs - 134	3.54E-01	Cs - 137	2.55E+05
Eu - 152	3.50E+00	Eu - 154	2.46E+02	Eu - 155	2.70E+02
H - 3	2.09E+02	I - 129	6.81E-01	Nb - 93 m	1.39E+01
Ni - 59	3.00E+00	Ni - 63	2.75E+02	Np - 237	1.30E+00
Pa - 231	4.82E-03	Pu - 238	2.96E+00	Pu - 239	1.15E+02
Pu - 240	1.90E+01	Pu - 241	1.49E+02	Pu - 242	1.14E-03
Ra - 226	2.47E-04	Ra - 228	8.89E-02	Ru - 106	5.74E-05
Sb - 125	3.18E+01	Se - 79	3.88E-01	Sm - 151	1.30E+04
Sn - 126	2.35E+00	Sr - 90	9.29E+04	Tc - 99	2.17E+02
Th - 229	2.20E-03	Th - 232	9.50E-03	U - 232	1.42E+00
U - 233	5.83E+00	U - 234	1.81E+00	U - 235	7.35E-02
U - 236	5.63E-02	U - 238	1.65E+00	Y - 90	9.29E+04
Zr - 93	1.90E+01				

- 4) Monthly checks shall be performed on the exhaust duct during active ventilation to ensure there is no degradation of the ductwork or leakage at the connection points [WAC 246-247-040(5), -060(5)].
- 5) Once the portable exhauster system is connected to tank 241-S-102, an operability/acceptance test shall be performed on the system. A test plan shall be provided to WDOH. Test results shall be reported to WDOH [WAC 246-247-040(5), -060(5)].
- 6) The Annual Possession Quantity and Potential-to-Emit to the MEI shall be logged and retained [WAC 246-247-040(5), -060(5)].
- 7) The portable exhauster shall operate continuously when water is being added to the tank via the spray devices. If structural safety considerations force shutdown of the active ventilation system, WDOH shall be notified prior to shutdown of active ventilation. Passive breather filter ventilation may be used when there is no dilution water

delivery via the spray devices [WAC 246-247-040(5), -060(5)].

- 8) The heater shall have an automatic trip set point below 200 degrees F. [WAC 246-247-040(5), -060(5)]
- 9) The emission unit monitoring system shall have the following activities performed:
 - a. Inspect pitot tube systems for leaks, at least annually.
 - b. Inspect nozzles for alignment, presence of deposits, damage to sharp-edged nozzles, or other potentially degrading factors (corrosion, physical damage, etc) at least annually.
 - c. Check transport lines and if visible deposits are present perform cleaning, at least annually.
 - d. Checks to ensure the tightness of all fittings and connections as well as a leak test of the sample system, at least annually.
 - e. Check the response of stack flow rate monitoring and control system at least quarterly.
 - g. A functional/calibration check of monitoring system instrumentation shall be performed at least annually.

[WAC 246-247-040(5), -060(5)]

- 10) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%. [WAC 246-247-040(5), -060(5)]

Project Title

Categorical Tank Farm Facility Waste Retrieval and Closure: Phase II Waste Retrieval Operations

Approval #

AIR 09-704

Date Approved

7/28/2009

NOC_ID

703

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 1.31E+00 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 1.61E+03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The operation of the waste retrieval system(s) for the removal of radioactive wastes from all 149 Single Shell Tanks (SST) at the Hanford Site.

SALTCAKE DISSOLUTION WASTE RETRIEVAL SYSTEM

The saltcake dissolution waste retrieval system may be used to retrieve soluble saltcake waste. This method retrieves the soluble portion of the waste only, resulting in very few of the solids being pumped from the tank. The saltcake dissolution waste retrieval system deployed in the SSTs is for water, chemical agent, or catalyst liquid to be added to the tank using a variety of spray nozzles or "sprinklers". The approach is to sprinkle the waste surface with water, chemical agent, or catalyst liquid. The added water, chemical agent, or catalyst liquid must stay in contact with the saltcake for a long enough period of time for the brine to become saturated. Once the brine is saturated, it is pumped from the SST to a receiver tank, staging tank, storage DST or other staging/storage vessel associated with the supplemental treatment, packaging or disposal. Salt solution will be removed using the existing saltwell pump or other pump placed into the tank.

A tank not equipped with a saltwell pump, a transfer pump (progressive cavity, vertical turbine) can be installed and operated.

Remotely directable water distribution devices will be located in risers spaced as far apart as practical. A combination of spraying water, chemical agent, or catalyst liquid to dissolve the saltcake can be used in conjunction with directing a flow of water or recirculating water at the waste to move it to the pump suction to allow the pumping of waste from the tank. Recirculated waste from the pump may be sent back to the tank as an alternative to using water to direct dissolution waste to the pump suction.

MODIFIED SLUICING WASTE RETRIEVAL SYSTEM

Modified sluicing can be used for some SST waste retrieval. Modified sluicing is the introduction of liquid at low to moderate pressures and volumes into the waste. The liquid dissolves and breaks apart solid materials and suspends them in the waste slurry. A transfer pump installed in the tank provides the motive force to transfer the liquid slurry to a receiver tank.

Modified sluicing introduces sluice liquid in a controlled fashion using multiple sluicing nozzles at varying pressures and flows, then pumps out the resultant waste slurry. This maintains minimal liquid inventories within the tank at all times. The liquids that could be used in modified sluicing include water, recirculated supernatant/water from the receiving Double Shell Tank, recirculated supernatant/water, chemical agent or catalyst liquid.

VACUUM WASTE RETRIEVAL SYSTEM

A vacuum waste retrieval system can be used for waste retrieval activities in the (SSTs). The vacuum waste retrieval system is introduced into the SSTs by means of an articulating mast system (AMS). The AMS has a horizontal reach and rotational capabilities of 360 degrees. The AMS has a retracted position and can be extended vertically. Air is mixed at the suction end of the AMS enabling the required vertical lift for the waste to a topside receiver tank, batch vessel or a staging SST, storage DST, or other staging/storage vessels associated with supplemental treatment, packaging or disposal.

The AMS will be deployed through and attached to standard riser flanges that are available on the SSTs. Cameras can also be installed in other risers for in-tank viewing and control of the AMS.

For the 200-series tanks in the 241-C, 241-U, 241-B and 241-T Tank Farms a vacuum retrieval process tank, staging tank, staging SST, storage DST or other staging/storage vessel will be deployed. The receiver tank will receive waste in batches from whichever tank is connected into the vacuum retrieval system. The vacuum pressure used to draw up the waste from the tank to the receiver tank is relieved back into the SST being retrieved.

MOBILE RETRIEVAL SYSTEM

A Mobile Retrieval System (MRS) can be used to retrieve waste from some SSTs. The MRS consists of two in-tank systems. The first is a robotic crawler inserted through one riser the second is an AMS inserted through a second riser. The AMS retrieves the sludge from the tank using a vacuum with assisting pneumatic conveyance. The AMS vacuum tube has a horizontal reach and can be extended to the bottom of the tank. The arm rotates 360 degrees. The vacuum will be directed through the AMS in the tank to the end effector, which is in contact with the waste. The pneumatic conveyance-assisted vacuum retrieval system will draw the waste up through the vacuum to the waste vessel in the vessel skid in batches. The AMS is then valved out while the waste vessel is emptied and pumped out through the over ground transfer lines to a DST, a staging SST or other treatment/disposal options. When the waste vessel is nearly empty, the transfer line will be valved out and the AMS will be valved back in and another batch of waste will be removed from the tank. This process will be repeated until waste near the center of the tank is removed. The robotic crawler will be remotely controlled to move and/or wash waste toward the center of the tank.

The robotic crawler is equipped with a plow blade at the front for pushing/pulling wastes, a screw pump to jet wastes through a small nozzle towards the center of the tank, the ability to direct hot or cold water through the same nozzle to wash wastes off of in-tank equipment, dissolve waste agglomerations in the tank, and wash waste toward the center of the tank for removal.

Any new retrieval methods or changes to processes will need to be provided to WDOH in a revised NOC prior to implementation.

MOBILE ARM RETRIEVAL SYSTEM

The Mobile Arm Retrieval System (MARS) is a waste retrieval system used to retrieve waste from single-shell tanks (SSTs) and move the waste to the double-shell tanks (DSTs). The MARS employs two design options similar to currently permitted systems: 1) a sluicing retrieval option which is intended for retrieval of non-leaker tanks and 2) a vacuum retrieval option is intended for retrieval of assumed leaker tanks. Both options use an arm and sluicing jets and/or a high pressure water scarifier to break up the waste. The sluicer uses waste supernatant recycled from the DST to form a liquid jet using a nozzle. The scarifier uses filtered, pressurized water that comes from a high pressure water skid.

The equipment portion of the MARS includes a vertical, carbon steel mast (square cross section) as the main structural member. Attached to the vertical mast is a carbon fiber robotic arm. The arm is attached to a traveler that raises and lowers the arm relative to the vertical mast. The arm rotates 360 degrees - 380 degrees on a turntable located in the pit box. The arm also pivots up and down from an elbow at the traveler (hydraulic system) and extends and retracts (hydraulic system). The end of the arm articulates. The arm thus provides for a large range of motion such that the sluicing devices (recycle sluicer, water scarifier) located at the end of the arm can aim at most portions of the tank and from varying (e.g., short) distances.

REMOTE WATER LANCE

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure systems, operating controls, cables, and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle, high pressure nozzle(s), or the high pressure mixer.

The high pressure water systems will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and from 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

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Cm - 242	1.97E+01	Cm - 243	1.80E+00	Cm - 244	1.90E+01
Co - 60	2.52E+03	Cs - 134	3.44E+04	Cs - 137	4.89E+07
Eu - 152	8.49E+02	Eu - 154	1.45E+04	Eu - 155	9.54E+03
H - 3	5.95E+03	I - 129	2.95E+01	Nb - 93 m	1.01E+03
Ni - 59	1.05E+02	Ni - 63	9.30E+03	Np - 237	9.50E+01
Pa - 231	1.25E+01	Pu - 238	1.65E+02	Pu - 239	3.17E+03
Pu - 240	5.36E+02	Pu - 241	4.80E+03	Pu - 242	3.34E-02
Ra - 226	1.27E-02	Ra - 228	1.15E+01	Ru - 106	1.22E-02
Sb - 125	1.73E+04	Se - 79	6.36E+01	Sm - 151	8.93E+05
Sn - 126	2.59E+02	Sr - 90	2.91E+06	Tc - 99	2.24E+04
Th - 229	4.20E-01	Th - 232	1.26E+00	U - 232	3.66E+00
U - 233	3.02E+01	U - 234	1.07E+01	U - 235	4.44E-01
U - 236	2.73E-01	U - 238	9.86E+00	Y - 90	2.91E+06
Zr - 93	1.25E+03				

- 4) A pre-operational NDA of the exhauster(s) HEPA filters and a post-operational NDA will be performed the first time each of the four waste retrieval methods (mobile retrieval system, vacuum retrieval, supernatant sluicing, and saltcake dissolution with supernatant) when placed into service. The post-operational NDA should occur after one cycle or phase of waste retrieval operation is completed, a method replaces another method during a cycle/phase or six months from the inservice date, whichever occurs first. The facility may opt to replace the exhauster's HEPA filters prior to placing a new waste retrieval method in service and eliminate the pre-operational NDA.
- 5) While the exhauster is operating, and/or tank waste retrieval is underway, all ductwork connections shall have a radiological survey performed monthly to ensure ductwork connections are not degrading.

- 6) All ductwork shall be pressure tested in accordance with the requirements of ASME AG-1 Section SA.
- 7) All receiver tanks (including waste retrieval process tanks for tank TRU retrieval (staging) SSTs, storage DSTs, or other staging/storage vessels, but not including batch vessel supporting vacuum retrieval) shall have active ventilation during waste receipt, unless alternative controls are documented and approved by WDOH.
- 8) All ventilation ductwork from the exit of the tank to the inlet of the exhauster filter housing shall be insulated.
- 9) During waste retrieval operations the maximum pressure for any waste retrieval method shall not exceed 37,000 psig.
- 10) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1 Section TA. HEPA filters shall have a minimum efficiency of 99.95%.
- 11) General WAC 246-247 technology standard exemptions justified and documented in RPP-19233, WAC 246-247 technology standard exemption justification for waste tank ventilation systems, may be applied to Phase II NOC retrieval exhauster operations.
- 12) Relative humidity shall be monitored, at least once a month, downstream of the heater and prior to the HEPA filters to ensure the air stream does not exceed 70% relative humidity.
- 13) The annual possession quantity shall be tracked on a WDOH approved log.
- 14) The differential pressure readings for the pre-filters and both stages of HEPA filters shall be monitored, recorded and trended daily. Action levels shall be developed and provided to WDOH for when actions will be taken to assure the pre-filters and HEPA filters will be operated within their design parameters.
- 15) The emission unit stack monitoring system shall meet the requirements of ANSI/HPS N13.1-1999 including the stack monitoring system inspection requirements.
- 16) The exhauster will be operated occasionally during periods of non-retrieval in support of tank waste retrieval preparation activities and to aid in evaporation of residual flush water or sluicing liquid that remains in the tank.

Emission Unit ID: 59

200W S-296S025-001

296-S-25

This is a MINOR, ACTIVELY ventilated emission unit.

241-SY TANK FARM

Emission Unit Information

Stack Height: 19.08 ft. 5.82 m. Stack Diameter 0.67 ft. 0.20 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 47.27 ft/second. 14.41 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Deentrainer	1	
	Heater	1	Heater runs intermittently due to temperature Regulation
	Prefilter	1	
	HEPA	2	In series
	Fan	1	Emission unit operates intermittently

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhaustor used to support tank farm operations by ventilating the DSTs in 241-SY Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the applicable regulations and/or permits for the activity being performed and the emission units associated with the activity. This emission unit operates with the "A" train (Eastern most unit) while the "B" train (Western most unit) operates in conjunction with the emission unit (295-P-23). This emission unit is operated in alternation with the "B" train when "A" train is not operational. The emission unit operates intermittently.

Emission Unit ID: 62

600 S-6266-001

696-W-1

This is a MINOR, ACTIVELY ventilated emission unit.

Waste Sampling and Characterization Facility WSCF

Emission Unit Information

Stack Height: 25.00 ft. 7.62 m. Stack Diameter 4.50 ft. 1.37 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 51.90 ft/second. 15.82 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
	Prefilter	2	In parallel
	HEPA	2	In parallel
	Fan	2	In parallel

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	2 week sample/quarter

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status Operations at the Waste Sampling and Characterization Facility involve low level radiological and chemical sample analyses and storage on the Hanford Site

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

Project Title	Approval #	Date Approved	NOC_ID
Use of Portable Tanks and Revised Source Term Description at Waste Sampling and Characterization Facility (WSCF)	AIR 06-1029	10/5/2006	669

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 2.80E-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.

* Analytical Laboratory Building (696-W-1) - Solid, liquid, and vapor samples contaminated with low levels of radioactive material are processed, on a bench-scale basis, in fume hoods or other controlled air spaces in the building. Evaporation and wet chemistry also are used to prepare samples for analysis. Low-level waste drums are filled inside the laboratory building and transferred either to the Solid Waste Storage Building (described as follows) or other approved facilities on the Hanford Site, or the low-level waste drums are moved to various locations with WSCF.

* Radiochemistry Laboratory (696-W-2) - This is a below grade counting room in the Analytical Laboratory Building with a separately controlled airspace within the building.

* Environmental Data/Computer Center (6270) - This is a non-radiological building and will not be addressed further.

* Environmental Sample Archive Building (6267) - This building provides for controlled storage, indexing, categorizing and retrieval of low-level contaminated samples. Storage is provided for up to 2,500 samples requiring refrigerated storage and up to 11,500 samples requiring ambient storage. This building also provides for temporary storage of unvented drums or other low-level waste, packaged in accordance with applicable laboratory procedures. Less than 100 low-level waste packages are stored at any one time.

* Mobile Laboratory Storage Facility (6269) - This structure houses up to five mobile laboratories and provides protection from adverse weather conditions for the instrumentation and computers inside the mobile laboratories. This area contains calibration laboratory instrumentation used in the mobile laboratories, and a sample preparation area for adding chemical buffers and preservatives to sample containers. This building provides temporary storage of drums, or other waste packages contained with low-levels of radioactive material. Less than 100 low-level waste packages are stored at any one time.

* Solid Waste Storage Building (6265A) - This open-sided building shall provide for temporary storage of drums or other low-level waste packages. Less than 100 low-level waste packages are stored at any one time and will not be addressed further in this license, as these are unvented drums.

* Contaminated Liquid Waste Retention Vault (6266A) - Consists of two 3,785 liter polyethylene tanks contained in a common concrete vault. The tanks are designed to receive low-level inorganic and radiologically contaminated liquid waste or sample excess from the analytical laboratory. The liquid routinely is transferred to an approved disposal facility on the Hanford Site using the portable tanker described as follows. This building also provides temporary storage of drums, or other waste packages contaminated with low-levels of radioactive material. Less than 100 low-level waste packages are stored at any one time.

* Sample Equipment Cleaning Facility - This is a non-radiological building and will not be addressed further.

* Portable Tanker(s) used for Wastewater Transport - Wastewater drums containing liquid waste contaminated with low-levels of radioactive material are stored temporarily at various locations within WSCF. In some cases, the contents of these drums are pumped into a portable tanker at the various locations for transport to other facilities. To accomplish the pumping, a small pump has its drop leg inserted into each drum through the bung hole or other opening, and flexible hose transfers the liquid to the tanker.

3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 1.40E-02 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	3.30E-04	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
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License PTE limit bounds 3.3E-04 Ci/yr 239Pu and release fraction of 0.001. Any radionuclide on the chart of the nuclides could be encountered during operation of the WSCF. The radionuclides specifically listed in the NOC application were chosen to conservatively represent all radionuclide emissions that may occur in particulate form. A small contribution from the gaseous radionuclides may be encountered. Although any radionuclide could be present, for conservatism all alpha is assumed to be 239Pu and all beta/gamma is assumed to be 90Sr for dose calculation estimates. Other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta/gamma constituents.

B/G - 0	6.80E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
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License PTE limit bounds 6.8E-03 Ci/yr 90Sr and release fraction of 0.001. Any radionuclide on the chart of the nuclides could be encountered during operation of the WSCF. The radionuclides specifically listed in the NOC application were chosen to conservatively represent all radionuclide emissions that may occur in particulate form. A small contribution from the gaseous radionuclides may be encountered. Although any radionuclide could be present, for conservatism all alpha is assumed to be 239Pu and all beta/gamma is assumed to be 90Sr for dose calculation estimates. Other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta/gamma constituents.

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) The potential release rates of plutonium and strontium are considered conservative and noted that these radionuclides representative types of alpha and beta radiation that WSCF expects to handle. The WSCF needs to verify annually that plutonium and strontium are the most conservative radionuclides WSCF handles.

Emission Unit ID: 63

600 S-6266-002

696-W-2

This is a MINOR, ACTIVELY ventilated emission unit.

Waste Sampling and Characterization Facility WSCF

Emission Unit Information

Stack Height: 32.00 ft. 9.75 m. Stack Diameter 3.00 ft. 0.91 m.

Average Stack Effluent Temperature: 90 degrees Fahrenheit. 32 degrees Celsius.

Average Stack Exhaust Velocity: 6.60 ft/second. 2.01 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
	Prefilter	2	In parallel
	HEPA	2	In parallel
	Fan	1	An additional standby fan recirculates the air flow back to Building (Bldg. 6266) or can vent it to the atmosphere.

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	2 week sample/quarter

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status Operations at the Waste Sampling and Characterization Facility involve low level radiological and chemical sample analyses and storage on the Hanford Site

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

Project Title	Approval #	Date Approved	NOC_ID
Use of Portable Tanks and Revised Source Term Description at Waste Sampling and Characterization Facility (WSCF)	AIR 06-1029	10/5/2006	669

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 2.80E-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.

* Analytical Laboratory Building (696-W-1) - Solid, liquid, and vapor samples contaminated with low levels of radioactive material are processed, on a bench-scale basis, in fume hoods or other controlled air spaces in the building. Evaporation and wet chemistry also are used to prepare samples for analysis. Low-level waste drums are filled inside the laboratory building and transferred either to the Solid Waste Storage Building (described as follows) or other approved facilities on the Hanford Site, or the low-level waste drums are moved to various locations with WSCF.

* Radiochemistry Laboratory (696-W-2) - This is a below grade counting room in the Analytical Laboratory Building with a separately controlled airspace within the building.

* Environmental Data/Computer Center (6270) - This is a non-radiological building and will not be addressed further.

* Environmental Sample Archive Building (6267) - This building provides for controlled storage, indexing, categorizing and retrieval of low-level contaminated samples. Storage is provided for up to 2,500 samples requiring refrigerated storage and up to 11,500 samples requiring ambient storage. This building also provides for temporary storage of unvented drums or other low-level waste, packaged in accordance with applicable laboratory procedures. Less than 100 low-level waste packages are stored at any one time.

* Mobile Laboratory Storage Facility (6269) - This structure houses up to five mobile laboratories and provides protection from adverse weather conditions for the instrumentation and computers inside the mobile laboratories. This area contains calibration laboratory instrumentation used in the mobile laboratories, and a sample preparation area for adding chemical buffers and preservatives to sample containers. This building provides temporary storage of drums, or other waste packages contained with low-levels of radioactive material. Less than 100 low-level waste packages are stored at any one time.

* Solid Waste Storage Building (6265A) - This open-sided building shall provide for temporary storage of drums or other low-level waste packages. Less than 100 low-level waste packages are stored at any one time and will not be addressed further in this license, as these are unvented drums.

* Contaminated Liquid Waste Retention Vault (6266A) - Consists of two 3,785 liter polyethylene tanks contained in a common concrete vault. The tanks are designed to receive low-level inorganic and radiologically contaminated liquid waste or sample excess from the analytical laboratory. The liquid routinely is transferred to an approved disposal facility on the Hanford Site using the portable tanker described as follows. This building also provides temporary storage of drums, or other waste packages contaminated with low-levels of radioactive material. Less than 100 low-level waste packages are stored at any one time.

* Sample Equipment Cleaning Facility - This is a non-radiological building and will not be addressed further.

* Portable Tanker(s) used for Wastewater Transport - Wastewater drums containing liquid waste contaminated with low-levels of radioactive material are stored temporarily at various locations within WSCF. In some cases, the contents of these drums are pumped into a portable tanker at the various locations for transport to other facilities. To accomplish the pumping, a small pump has its drop leg inserted into each drum through the bung hole or other opening, and flexible hose transfers the liquid to the tanker.

3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 1.40E-02 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	3.30E-04	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
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License PTE limit bounds 3.3E-04 Ci/yr ²³⁹Pu and release fraction of 0.001. Any radionuclide on the chart of the nuclides could be encountered during operation of the WSCF. The radionuclides specifically listed in the NOC application were chosen to conservatively represent all radionuclide emissions that may occur in particulate form. A small contribution from the gaseous radionuclides may be encountered. Although any radionuclide could be present, for conservatism all alpha is assumed to be ²³⁹Pu and all beta/gamma is assumed to be ⁹⁰Sr for dose calculation estimates. Other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta/gamma constituents.

B/G - 0	6.80E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
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License PTE limit bounds 6.8E-03 Ci/yr ⁹⁰Sr and release fraction of 0.001. Any radionuclide on the chart of the nuclides could be encountered during operation of the WSCF. The radionuclides specifically listed in the NOC application were chosen to conservatively represent all radionuclide emissions that may occur in particulate form. A small contribution from the gaseous radionuclides may be encountered. Although any radionuclide could be present, for conservatism all alpha is assumed to be ²³⁹Pu and all beta/gamma is assumed to be ⁹⁰Sr for dose calculation estimates. Other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta/gamma constituents.

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) The potential release rates of plutonium and strontium are considered conservative and noted that these radionuclides representative types of alpha and beta radiation that WSCF expects to handle. The WSCF needs to verify annually that plutonium and strontium are the most conservative radionuclides WSCF handles.

Emission Unit ID: 65

200W P-241T105-001

241-T-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 66

200W P-241T106-001

241-T-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 67

200W P-241T109-001

241-T-109

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 68

200W P-241T102-001

241-T-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 69

200W P-241T107-001

241-T-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 70

200W P-241T111-001

241-T-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 71

200W P-241T104-001

241-T-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 72

200W P-241T112-001

241-T-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 73

200W P-241T108-001

241-T-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 74

200W P-241T203-001

241-T-203

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 75

200W P-241T204-001

241-T-204

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 76

200W P-241T110-001

241-T-110

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 77

200W P-241T202-001

241-T-202

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 78

200W P-241T103-001

241-T-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 79

200W P-241T101-001

241-T-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 80

200W P-241T201-001

241-T-201

This is a MINOR, PASSIVELY ventilated emission unit.

241-T TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 81

200W P-241TY106-001

241-TY-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-TY TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 82

200W P-241TY102-001

241-TY-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-TY TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 83

200W P-241TY105-001

241-TY-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-TY TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 84

200W P-241TY104-001

241-TY-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-TY TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 85

200W P-241TY103-001

241-TY-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-TY TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 86

200W P-241TY101-001

241-TY-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-TY TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 87

200E P-241A103-001

241-A-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-A TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 88

200E P-241A104-001

241-A-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-A TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 90

200E P-241A102-001

241-A-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-A TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 91

200E P-241A105-001

241-A-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-A TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 92

200E P-241A101-001

241-A-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-A TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 93

200E P-296A042-001

296-A-42

This is a MAJOR, ACTIVELY ventilated emission unit.

241-AY/AZ TANK FARM

Emission Unit Information

Stack Height: 55.00 ft. 16.76 m. Stack Diameter 0.83 ft. 0.25 m.

Average Stack Effluent Temperature: 75 degrees Fahrenheit. 24 degrees Celsius.

Average Stack Exhaust Velocity: 30.56 ft/second. 9.31 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
	Condenser	1	At common header. Downtime to be reported by the Tank Farm air emissions notification procedure.
	Water Chiller	1	Downtime to be reported by the Tank Farm air emissions notification procedure.
	HEME	1	Downtime to be reported by the Tank Farm air emissions notification procedure.
	Cooling Water Pump	1	Downtime to be reported by the Tank Farm air emissions notification procedure.
	Heater	1	2 parallel flow paths with 1 operational. Downtime to be reported by the Tank Farm air emissions notification procedure.
	HEPA	2	2 parallel flow paths. Downtime to be reported by the Tank Farm air emissions notification procedure.
	Chiller Pump	1	Downtime to be reported by the Tank Farm air emissions notification procedure.
	Moisture Separator	1	Downtime to be reported by the Tank Farm air emissions notification procedure.
	Fan	1	2 parallel flow paths. Downtime to be negotiated with the department.
	Evaporative Tower	1	Downtime to be reported by the Tank Farm air emissions notification procedure.

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(2)	40 CFR 61, Appendix B Method 114	Each radionuclide that could contribute greater than 10% of the potential TEDE	Continuous

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241 AY/AZ Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit is a primary exhauster ventilation system that operates continuously.

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

Project Title	Approval #	Date Approved	NOC_ID
License to Operate Ventilation of the 241 AY/AZ Tank Farm	AIR 08-908	9/11/2008	708

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 3.28E+00 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 5.75E+03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The 241-AY-101, 241-AY-102, 241-AZ-101, and 241-AZ-102 tanks are double shell tanks. The inner shell is constructed from heat treated, stress-relieved steel. The outer shell is constructed of non stress relieved steel. The two shells are separated by a 2.5 ft annulus and contained inside a concrete shell. The tanks have a usable waste volume of approximately 1,001,000 gal.

The 241 AY and 241 AZ tanks are part of a Resource Conservation and Recovery Act treatment, storage, and/or disposal unit. The tanks contain mixed waste in the form of liquids or contained solids (suspended or settled). The contents in each of the four tanks may be mixed periodically to control gas entrapment in the settled solids, to control temperature, for chemical treatment to control corrosion, or for waste retrieval. Contained solids will be mobilized, as required, as part of this process by hydraulic action of the mixer pumps or by use of air-lift circulators in each of the tanks. During such activities, as well as during storage, the ventilation system maintains the vapor space in each tank below atmospheric pressure.

Airflow is from the tank to a glycol-cooled recirculation system and to a common header. The common header is the point in the overall system at which ventilation flow is provided to the emissions control system. Also, a portion of each tank's exhaust can be recirculated to assist in maintaining temperature.

The recirculation system cools, condenses, removes vapor and some entrained particulates, further removes moisture via a separator, and returns a portion of the cooled vapor to the tank. This provides cooling for the tank while reducing air emissions. Nominal flow rates in the recirculation system vary from zero m³/sec (bypassed) to 0.25 m³/sec per tank, at standard temperature and pressure conditions. At the higher flow rate, approximately 0.05 m³/sec is provided to the emission control system with the remainder to the tank. Similar airflow from the other three tanks is combined in the common ventilation header connecting the discharges of the other recirculation coolant systems. The combined flow is discharged to the emissions control system. The recirculation system is considered part of the process because the collected material is returned to the tank.

When mixer pumps are operating in a tank, the 0.25 m³/sec drawn from this tank may not be recirculated but may be combined with the flow from the other tanks for a total discharge to the emissions control system flow range of 0.4 to 0.5 m³/sec. Numerous other combinations of discharge flow rates are possible but the combined annual average discharge flow rate to the emissions control system will not be greater than 0.5 m³/sec. During system upset conditions, such as an automatic shutdown of one exhaust train and start of the opposite train, discharge flow rates could reach 0.6 m³/sec for several seconds.

The portion of the stream discharged to atmosphere will flow through a condenser, high-efficiency mist eliminator, heater, and two high-efficiency particulate air (HEPA) filters in series. For purposes of calculating abated emissions, only the HEPA filter control efficiencies are used.

The central pump pits on the 241-AY and 241-AZ Tank Farm tanks are approximately 14 ft long x 10 ft wide x 10 ft depth (outside dimensions). Sluice pits and annulus pump pits are somewhat smaller with outside dimensions of 7 ft x 7 ft x 10 ft deep and 5 ft x 5 ft x 10 ft deep.

With the previous NOC revision, modifications to all four tanks and associated equipment were permitted to allow for installation of waste retrieval systems and equipment, through issuance of letter AIR-05-708, including the following major components.

New In Tank Equipment

- Two mixer pumps each in tanks 241-AZ-102, 241-AY-101, and 241-AY-102 for mobilizing the settled solids. Two mixer pumps were installed in tank 241-AZ-101 and permitted previously by WDOH through issuance of AIR-98-708. All of the pumps will be capable of pumping waste through each of two horizontally opposed discharge nozzles.
- A riser extension/spray wash system on top of each of the risers used for mixer pumps. The spray wash system will be used for future decontamination of the mixer pumps if they are removed from the tank.
- One transfer pump in each tank for the transfer of waste.
- New temperature probes for each tank.
- New decant pumps in the AY tanks and associated transfer piping; to include a one-time use hose-in-hose transfer line approximately 40 ft in length.

Ancillary Equipment and Buildings

- Electrical power and instrument cables and other utility tie ins and/or upgrades (e.g., sanitary and raw water, and telecommunications).
- Tie-in to the existing dilution and caustic supply system to bring waste properties into compliance with the feed specifications and to flush and preheat transfer lines. The dilution system will have the capacity of providing approximately 140 gal/minute of pH adjusted water.
- Pit cover blocks.
- Water/diluent piping to and from the process pits.
- Process jumpers.
- Miscellaneous concrete pads for electrical and mechanical equipment.
- Chain link fencing and gates.

Removal, Repair, Decontamination, and Demolition of Existing Equipment

- Removal/repair of transfer and/or mixer pumps, as necessary, during the life of the facility.
- Removal and disposal of several thermocouple probes/instrument trees.
- Removal and disposal of several existing pumps and other miscellaneous equipment (e.g., slurry distributors and process jumpers).
- Additionally, this revision includes removal of HEGA filters.

CONSTRUCTION ACTIVITIES

Construction activities with the PTE could include soil excavation, work in pump pits, pipe cutting, and removal and installation of in tank equipment. Some of these activities are described in, and will be done in accordance with, an applicable tank farm as low as reasonably achievable control technology (ALARACT) demonstration (HNF 4327, Control of Airborne Radioactive Emissions for Frequently Performed TWRS Work Activities (ALARACT Demonstrations). The specific activities and corresponding ALARACT demonstration are called out as applicable in the following sections.

If needed or chosen for use during these activities, the regulated guzzler, a portable/temporary radioactive air emission unit, and a HEPA filtered vacuum radioactive air emission unit may be used in accordance with the latest revisions of the NOC [EPA 1998 letter, "Approval of Short Form Radioactive Air Emissions Notice of Construction (NOC) for Guzzler Excavation and Backfilling Activities in Support of 200 East Area A Farm Complex"; DOE/RL-96-75, "Radioactive Air Emissions Notice of Construction Portable/Temporary Radioactive

Air Emission Units”; and DOE/RL-97-50, “Radioactive Air Emissions Notice of Construction for HEPA Filtered Vacuum Radioactive Air Emission Units,” respectively].

Because of the possibility of encountering previously undetected subsurface contamination, all work will be performed in accordance with appropriate radiological controls and the River Protection Project (RPP) as low as reasonably achievable (ALARA) program. These requirements are carried out through work packages and associated Radiological Work Permits (RWP).

Soil Excavation

Soil will be excavated inside and outside the 241-AZ and 241-AY Tank Farms for the dilution piping that will tie-in to the existing AN Tank Farm caustic supply system and to remove soil in preparation for mixer pump foundations and miscellaneous equipment support structures, to remove soil around pits in preparation of core drilling, and for placement of control building foundations (as required). A total of approximately 6000 yd³ per farm could be excavated. Backfill will be made with the original removed soil or noncontaminated controlled density fill (sand, water, and a small amount of cement).

Soil excavation activities inside the tank farm fence will be performed in accordance with ALARACT Demonstration 5, TWRS ALARACT Demonstration for Soil Excavation (Using Hand Tools). If contamination is discovered outside the tank farm fence, ALARACT 5 will be followed. Clean soil piles could be moved from one place to another within the tank farm with heavy equipment (backhoe, front-end loader, etc.). Soil excavation outside the tank farm fence in noncontaminated soil also could be performed with heavy equipment. The regulated guzzler also could be used as described in the NOC for use in the 241-A Tank Farm Complex (EPA 1998 letter).

Pipe Cutting and Welding

Any required cuts of contaminated piping will be made inside a glove bag using appropriate equipment such as a sawzall or tri tool. To perform a cut without a glove bag, the piping will be surveyed/smear to verify removable contamination levels are equal to or less than 10,000 disintegrations per minute (dpm) per 100 cm² beta gamma and 200 dpm/100 cm² alpha.

Welding may be necessary to join various pieces of equipment. If this is necessary, welding will commence once removable contamination levels in the weld area are reduced to ALARA. The goal will be to achieve 1000 dpm/100 cm² beta gamma and 20 dpm/100 cm² alpha or less, but might not always be attainable.

If needed or chosen for use during these activities, a portable/temporary radioactive air emission unit and a HEPA filtered vacuum radioactive air emission unit could be used in accordance with the latest revisions of the NOCs (DOE/RL-96-75 and DOE/RL-97-50, respectively).

Pit Work

Work to be performed in pits may include replacing existing sets of cover blocks with newly designed cover blocks, core drilling (equivalent of one hundred 14-in. diameter holes for AZ Farm and ten 14 in. diameter holes for AY Farm), installing new nozzles, and removing existing jumpers.

Pit access and work will be performed in accordance with ALARACT Demonstrations 6 and 14, TWRS ALARACT Demonstration for Pit Access, and TWRS ALARACT Demonstration for Pit Work. Activities not covered in these ALARACTs are described in the following.

If needed or chosen for use during these activities, a portable/temporary radioactive air emission unit and HEPA filtered vacuum radioactive air emission unit could be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75 and DOE/RL-97-50, respectively).

At the start of the pit work, the cover blocks will be lifted off and radiologically surveyed to determine an appropriate disposal method. New cover blocks will be installed when all work in the pits is completed.

Core drilling may be performed and will occur below grade level on the outside of the pit. The hole will be drilled from the outside to the inside, with the temporary pit cover in place. Nozzle installation generally will proceed immediately after the hole is completed. If immediate nozzle installation is not possible, the hole will be

temporarily sealed with a plug, tape, or equivalent device until the nozzle can be installed.

Installation of new nozzles in existing pits will take place in an open pit. All parts of the nozzle will be assembled ahead of time and will be lowered into position as a single unit. The piping in the back of the nozzle will be threaded through the hole (from the inside of the pit to the outside) and pulled tight into place from the outside of the pit. Grout will be used to secure and seal the nozzle into place. The front opening of the nozzle, inside the pit, will be fitted with a temporary cap/seal until a jumper is connected to the nozzle. Once the nozzle(s) is/are installed, the temporary pit cover will be replaced until other work inside the pit requires pit cover removal.

Removal of In Tank Equipment

Various in-tank equipment will be removed from the tanks to make room for the waste retrieval equipment, or to be replaced with equivalent equipment built to withstand the mixer pump jet forces. Removed long-length equipment will either be packaged in long-length contaminated equipment disposal containers or size reduced for disposal in accordance with ALARACT Demonstration 15, Tank Farm ALARACT Demonstration for Size Reduction of Waste Equipment for Disposal. Equipment removal will be performed in accordance with ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment. Activities not covered in this ALARACT are described in the following.

If needed or chosen for use during these activities, a portable/temporary radioactive air emission unit, and a HEPA filtered vacuum radioactive air emission unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75 and DOE/RL-97-50, respectively).

Decontamination of removed equipment is not anticipated. The fewer decontamination activities undertaken, the less exposure possibilities there are to the worker and the environment. Contingency decontamination plans, however, are in place if needed. The most likely equipment to be decontaminated would be sections of the flexible receiver. Equipment removal will be performed in accordance with TWRS ALARACT Demonstration 13, Installation, Operation, and Removal of Tank Equipment.

In Tank Equipment Installation

Equipment installation will be performed in accordance with TWRS ALARACT Demonstration 13, Installation, Operation, and Removal of Tank Equipment.

WASTE STAGING AND RETRIEVAL PROCESS OVERVIEW

Mixer pumps will be operated to maintain waste uniformity during staging and to mix the waste for a period before and during transfer. As required by operational directives, mixer pumps will be operated until waste samples verify that adequate mixing has been achieved. Waste samples will be collected in accordance with TWRS ALARACT Demonstration 7, Tank Waste Grab Sampling. If dilution/conditioning is needed, the pH and temperature of the diluents will be adjusted by means of a caustic supply system. Once the waste is verified acceptable, the transfer lines will be preheated/flushed with water, and the waste transfer to the treatment facility will follow. After the transfer, the lines will be flushed again with water.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Ac - 227	1.60E-02	Am - 241	8.20E+04	Am - 243	3.90E+01
Ba - 137 m	1.00E+07	C - 14	2.20E+01	Cd - 113 m	1.00E+03
Cm - 242	7.00E+01	Cm - 243	8.90E+00	Cm - 244	2.10E+02
Co - 60	2.40E+03	Cs - 134	2.90E+03	Cs - 137	1.10E+07
Eu - 152	8.30E+02	Eu - 154	3.60E+04	Eu - 155	3.40E+04
H - 3	2.20E+02	I - 129	1.30E+00	Nb - 93 m	4.20E+02
Ni - 59	1.00E+02	Ni - 63	9.80E+03	Np - 237	4.50E+01

Pa - 231	1.40E-01	Pu - 238	4.80E+02	Pu - 239	5.30E+03
Pu - 240	1.40E+03	Pu - 241	2.40E+04	Pu - 242	1.50E-01
Ra - 226	7.20E-04	Ra - 228	1.60E-01	Ru - 106	1.90E+02
Sb - 125	1.10E+04	Se - 79	8.10E+00	Sm - 151	7.90E+05
Sn - 126	3.40E+01	Sr - 90	1.80E+07	Tc - 99	2.40E+03
Th - 229	6.70E-04	Th - 232	1.60E-01	U - 232	1.70E-02
U - 233	8.90E-01	U - 234	5.40E+00	U - 235	2.20E-01
U - 236	4.00E-01	U - 238	4.20E+00	Y - 90	1.80E+07
Zr - 93	7.00E+02				

4) TANK VENTILATION AND EMISSIONS CONTROL SYSTEM

The existing ventilation and emissions control systems for the 241-AY/AZ Tank Farm will be used during the mixing and transferring of waste in the AY and AZ tanks. The tank farm exhaust system provides ventilation for all AZ and AY tank primary vapor spaces. The system removes heat, water vapor, and particulates, and maintains a negative pressure on the tanks. The emission point is the 296-A-42 Stack.

Inlet air for the AZ and AY tanks is provided through the inlet air filters. Air is exhausted from each tank independently through 10.5-in.-diameter exhaust ducts. The ducts connect to a 55 ft high stack (16.76 m). The exhaust station consists of two filtration subsystems and the stack. Either subsystem can collectively ventilate all the tanks together at a maximum flow rate of approximately 1000 ft³/minute (approximately 0.42 m³/sec). Only one system operates at a time, while the other remains in standby as a backup.

Each filtration subsystem consists of a condenser, high-efficiency mist eliminator, heater, and two HEPA filters in series. Each HEPA filter is rated for 1000 ft³/minute and is equipped with fluid seals. The HEPAs are individually tested annually (in accordance with ASME N510, Testing of Nuclear Air Treatment System) to a minimum efficiency of 99.95% for the removal of particulates with a median diameter of 0.3 microns.

5) MONITORING DURING CONSTRUCTION ACTIVITIES

During soil excavation activities, periodic confirmatory monitoring (PCM) as described in ALARACT 5, will verify low emissions. If the regulated guzzler is used, PCM will be performed as required by the guzzler NOC.

During pipe cutting activities surface contamination surveys will constitute the PCM to verify low emissions. If a portable/temporary radioactive air emission unit or a HEPA filtered vacuum radioactive air emission unit is used, PCM will be performed as required by these NOCs.

During pit work activities, PCM as described in ALARACT 14 will verify low emissions. If a portable/temporary radioactive air emission unit or a HEPA filtered vacuum radioactive air emission unit is used, PCM will be performed as required by these NOCs.

During in tank equipment removal and installation activities surface contamination surveys, as described in ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation and Removal of Tank Equipment (HNF-4327) will constitute the PCM to verify low emissions. If a portable/temporary radioactive air emission unit or a HEPA filtered vacuum radioactive air emission unit is used, PCM will be performed as required by these NOCs.

6) MONITORING DURING OPERATIONS

Continuous monitoring will be obtained through use of the 241-AZ/AY Tank Farms existing sampling and monitoring system (296-A-42 stack). Samples will be collected approximately every 2 weeks and will include representative operation of the waste retrieval systems. The samples will be analyzed, at a minimum, for 90Sr, 137Cs, and 241Am, each of which constitutes 10%, or more, of the EDE. While in operation, the 296-A-42 record sampler instrumentation will be calibrated annually in accordance with approved procedures, and system inspections will be performed daily to ensure instrumentation is operating within specified parameters.

The sampling and monitoring system consists of a continuous sampling record sampler and a continuous air monitor (CAM). The system collects samples at a variable flow rate, depending upon the stack effluent velocity. The system has been designed to match air velocities entering the sample probe with that of the duct in which it is installed. For example for stack flow rates of 400 and 1000 ft³/minute, the sampling system will collect samples at 0.7 and 1.7 ft³/minute, respectively. In this way, the design complies with those requirements specified in ANSI N13.1-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities. There are two sample probes (one for the CAM, one for the sampler) located in the exhaust duct in compliance with the 40 CFR 60 Appendix A, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities, Method 1A requirement. The probe nozzles are configured in accordance with ANSI N13.1-1969. The sample flow totaling instruments are well within the 2.0% accuracy described by Method 2A. The record sampler's collection efficiency during normal operations ranges between 55% (for stack flows of 1000 ft³/minute) and 63% (for stack flows of 400 ft³/minute) for penetration of 10-micron particles (from Deposition 4.0 calculations). In addition, stack flow totalizers are installed that have been certified accurate to the requirements of 40 CFR 52, Appendix E.

Emission Unit ID: 94

200E P-241A106-001

241-A-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-A TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously

Emission Unit ID: 96

200E P-204AR-001

296-A-26

This is a MINOR, ACTIVELY ventilated emission unit.

204 AR Building

Emission Unit Information

Stack Height: 27.00 ft. 8.23 m. Stack Diameter 1.17 ft. 0.36 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 25.50 ft/second. 7.77 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	2	1 filter is located on the line directly to the catch tank. 2nd filter is on the shared/main line for the facility and catch tank
	Fan	1	
	Deentrainer	2	1 located just upstream of each HEPA filter
	Heater	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a building/facility exhauster that is used to ventilate building and facility operations such as but not limited to process vessels, contaminated rooms, catch tank, abandoned facilities awaiting decommissioning, and vaults that support tank farm operations, maintenance, and surveillance activities for tank farms. The exhauster can be used to support current surveillance, maintenance activities, operations or decommissioning, decontamination, and cleanup activities within the building/facility. Many of the activities other than normal surveillance, maintenance, and operation support will be or are regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit is a building/facility exhauster ventilation system that operates intermittently.

Emission Unit ID: 97

200W P-241U103-001

241-U-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 98

200W P-241U108-001

241-U-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 99

200W P-241U107-001

241-U-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 100

200W P-241U203-001

241-U-203

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 bcta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 101

200W P-241U102-001

241-U-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 102

200W P-241U201-001

241-U-201

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 103

200W P-241U101-001

241-U-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 104

200W P-241U204-001

241-U-204

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 105

200W P-241U109-001

241-U-109

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 106

200W P-241U202-001

241-U-202

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 107

200W P-241U111-001

241-U-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 108

200W P-241U112-001

241-U-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 109

200W P-241U104-001

241-U-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 110

200W P-241U110-001

241-U-110

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 111

200W P-241U106-001

241-U-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 112

200W P-241U105-001

241-U-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-U TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 113

200W P-241TX117-001

241-TX-117

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 114

200W P-241TX107-001

241-TX-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 115

200W P-241TX112-001

241-TX-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 116

200W P-241TX105-001

241-TX-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 117

200W P-241TX113-001

241-TX-113

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 118

200W P-241TX104-001

241-TX-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 119

200W P-241TX114-001

241-TX-114

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 120

200W P-241TX103-001

241-TX-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 121

200W P-241TX110-001

241-TX-110

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 122

200W P-241TX116-001

241-TX-116

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 123

200W P-241TX108-001

241-TX-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 124

200W P-241TX102-001

241-TX-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 125

200W P-241TX115-001

241-TX-115

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 126

200W P-241TX106-001

241-TX-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 127

200W P-241TX101-001

241-TX-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 128

200W P-241TX109-001

241-TX-109

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 129

200W P-241TX118-001

241-TX-118

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 130

200W P-241TX111-001

241-TX-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-TX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 131

200W P-241S104-001

241-S-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 132

200W P-241S101-001

241-S-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 133

200W P-241S103-001

241-S-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 134

200W P-241S102-001

241-S-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height: 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

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

Project Title	Approval #	Date Approved	NOC_ID
241-S-102 Installation and Operation of Waste Retrieval Systems	AIR 09-708	7/29/2009	694

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 1.80E-01 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 8.40E+01 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The salt cake dissolution activity associated with 241-S-102 shall include the following: pit work, soil excavation, in-tank equipment installation/removal, water dilution, and waste transfers.

Pit Work (Diffuse and Fugitive):

- Open the 241-S-102B Distributor pit and cut flange in riser with hold saw or plasma cutter, to install instrumentation manifold and new progressive cavity transfer pump

(ALARACT 1, 6, 12, 13, 14);

- Open the two 241-S-102 Condenser pits to replace two existing cover plates with new cover plates. Connect the passive breather filter assembly and connect the trunk of the portable exhauster (ALARACT 4, 6, 14);
- Open the 241-S-A Valve pit, and connect the HIHTL from the 241-S-102 tank to the DST system (ALARACT 6, 14).

Soil Excavation (Diffuse and Fugitive):

- Excavate trenches for tie-in of instrumentation and power systems (ALARACT 5);
- Excavate for HIHTL placement from 241-S-102 to 241-S-A Valve pit (ALARACT 5).

Other Equipment Installation/Removal (Diffuse and Fugitive):

- Install motor controlled spray devices in three risers near the outside perimeter of tank 241-S-102 (ALARACT 1, 13);
- Install automatic spray indexing device in a central riser (ALARACT 1, 13);
- Remove motor controlled and automatic spray indexing devices if necessary (ALARACT 1, 13);
- Place water distribution skid and connect to the raw water header between 241-SY and 241-S tank farms. Connect water distribution skid to spray devices.
- Remove standard hydrogen monitoring system vapor probe (ALARACT 4, 15, 13);
- Place and hook up exhauster and exhauster system;
- Remove unused flammable gas cabinet (per Tank Farm Radcon Control Manual, HNF 5183);
- Place Field Instrument Electrical Skid and connect associated cabling;
- Install stilling well for Enraf Liquid Indicating Transmitter (ALARACT 1, 13);
- Install camera monitoring system (ALARACT 1,13);
- Remove Liquid Observation Well if necessary (ALARACT 1, 13).

Water Dilution and Waste Transfer:

- Water shall be sprayed onto the surface of the in-tank salt cake to dissolve the cake;
- A Remote Water Lance (RWL) may be used at pressures not to exceed 37,000 psig at a flow rate of 6 to 15 gallons per minute. The RWL will be operated with the nozzle submerged.
- A High Pressure Mixer (HPW) may be used at pressures not to exceed 37,000 psig at at flow rate of 4 to 18 gallons per minute.
- The new progressive cavity pump and HIHTL shall be used to transfer waste from tank 241-S-102 to the DST (ALARACT 11);
- Operation and maintenance of the portable exhauster(s).

Waste Transfer (S102):

- The new progressive cavity pump and HIHTL shall be used to transfer waste from tank 241-S-102 to the DST (ALARACT 11).

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure water systems, operating controls, cables and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle; high pressure nozzle(s), or the high pressure mixer.

The high pressure water system will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and the 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the tank farm fence. The cables and hoses will connect hydraulically powered in-tank vehicles with ex-tank controls and water skid via

the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle and submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

The exhauster will be operated occasionally during periods of non-retrieval in support of tank preparation activities and to aid in evaporation of residual flush water or sluicing liquids that remains in the tank.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Am - 241	1.79E-03	Cs - 137	1.49E-05	Sr - 90	1.96E-03
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- 4) The total abated emission limit for S102 (passive ventilation mode) under this Notice of Construction is limited to 3.0 E-04 to the Maximally Exposed Individual. The total unabated emission limit on the Potential-to-Emit for S102 (passive ventilation mode) under this Notice of Construction is limited to 3.0 E-02 mrem/year to the Maximally Exposed Individual [WAC 246-247-040(5), -060(5)].
- 5) Radiological monitoring shall be performed in accordance with the latest revision of HNF-5183, Tank Farms Radiological Control Manual. [WAC 246-247-040(5), -060(5)]
- 6) The tank shall be ventilated through the passive breather filter (consisting of a single HEPA filter) only when no water is being added to the tank via the spray devices. If structural safety considerations force shutdown of the active ventilation system, WDOH shall be notified prior to resumption of spray water addition. [WAC 246-247-040(5), -060(5)]
- 7) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%. [WAC 246-247-040(5), -060(5)]

Emission Unit ID: 135

200W P-241S108-001

241-S-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 136

200W P-241S109-001

241-S-109

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 137

200W P-241S105-001

241-S-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 138

200W P-241S110-001

241-S-110

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 139

200W P-241S106-001

241-S-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 140

200W P-241S107-001

241-S-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 141

200E P-242A-001

296-A-21

This is a MINOR, ACTIVELY ventilated emission unit.

242-A Evaporator

Emission Unit Information

Stack Height: 22.00 ft. 6.71 m. Stack Diameter 3.50 ft. 1.07 m.

Average Stack Effluent Temperature: 117 degrees Fahrenheit. 47 degrees Celsius.

Average Stack Exhaust Velocity: 33.43 ft/second. 10.19 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Prefilter	1	2 parallel flow paths with 1 bank per flow path
	HEPA	2	2 parallel flow paths with 2 banks per flow path
	Fan	1	2 parallel flow paths (Minimum 1 parallel path in operation)

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a building/facility exhauster that is used to ventilate building and facility operations such as but not limited to process vessels, contaminated rooms, cells, glove boxes, hoods, abandoned facilities awaiting decommissioning, and vaults that support tank farm operations, maintenance, and surveillance activities for tank farms. The exhauster can be used to support current surveillance, maintenance activities, operations or decommissioning, decontamination, and cleanup activities within the building/facility. Many of the activities other than normal surveillance, maintenance, and operation support will be or are regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit is a building/facility exhauster ventilation system that operates intermittently.

Emission Unit ID: 142

200E P-242A-002

296-A-22

This is a MINOR, ACTIVELY ventilated emission unit.

242-A Evaporator

Emission Unit Information

Stack Height: 63.58 ft. 19.38 m. Stack Diameter 0.67 ft. 0.20 m.

Average Stack Effluent Temperature: 120 degrees Fahrenheit. 49 degrees Celsius.

Average Stack Exhaust Velocity: 37.82 ft/second. 11.53 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Heater	1	
	HEPA	2	In series
	Fan	1	Fan operates during 242-A processing.
	Prefilter	1	
	Deentrainer	1	

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)	During campaigns: 40 CFR 60, Appendix A, Method 2; 40 CFR 61, Appendix B, Method 114; During non-campaigns: 40 CFR 61, Appendix B, Method 114(3).	Campaign: TOTAL ALPHA, TOTAL BETA, 137Cs, 90Sr, 239Pu, 238Pu, 241Am, and each radionuclide that could contribute greater than 10% of the potential TEDE. Non-Campaign: Total Alpha, Total Beta.	One week sample per quarter, and continuous sampling during campaign.

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a Vessel Vent exhauster that is used to ventilate the process equipment including the evaporator vessel, C-100 tank and associated piping. The emission unit is a building/facility exhauster ventilation system that operates intermittently.

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

Project Title	Approval #	Date Approved	NOC_ID
Operation of the 242-A Evaporator emission unit 296-A-22	AIR 06-1016	10/5/2006	651

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 1.00E-09 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 3.20E-06 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The 242-A Evaporator facility is used to reduce the volume of waste solutions that do not self-boil, and thus

reduce the number of underground double-shell tanks required for waste storage. The 242-A Evaporator employs a conventional forced-circulation, vacuum evaporation system to concentrate radioactive waste solutions. Principal process components of the evaporator system are located in the 242-A Building. They include the reboiler, vapor-liquid separator, recirculation pump and pipe loop, slurry product pump, condensers, and vessel ventilation system.

The evaporator system receives a mixed blend feed from the feed tank. The feed consists of unprocessed and processed waste and recycled liquid that are removed from storage tanks after solids have settled. The feed is pumped into the recirculation line and blended with the main product slurry stream, which flows to the reboiler via the recirculation pump. The mixture is heated in the reboiler. The vapor liquid separator is maintained at a reduced pressure. Under this reduced pressure, a fraction of the water in the heated slurry flashes to steam and is drawn through two wire mesh deentrainer pads into a vapor line that leads to the primary condenser. As evaporation takes place in the separator vessel, the slurry becomes concentrated. When the process solution has been concentrated to the parameters specified by the campaigns process memo, a fraction is withdrawn from the upper recirculation line, upstream of the feed addition point, and is either gravity drained or pumped by the slurry pump to underground storage tanks.

Vapors removed from the vapor-liquid separator via the vapor line are condensed and routed to the condensate collection tank. The process condensate is discharged to the Liquid Effluent Retention Facility (LERF). Steam condensate is continuously monitored for excessive radiation, pH, and conductivity, and then discharged from the building to the 200 Area Treated Effluent Disposal Facility (TEDF). Upon detection of radioactive contamination, the radiation monitor will automatically divert the steam condensate stream to the feed tank. Cooling water from the condensers, which is also continuously monitored for excessive radiation, pH, and conductivity, is also discharged to the 200 Area TEDF. This used cooling water stream cannot be diverted, thus, if contamination is detected, an evaporator shutdown is required. Non-condensable vapors from the evaporator are filtered and discharged to the atmosphere via the vessel vent system. This system consists of a deentrainment pad, prefilter, heater, high-efficiency filter assembly, and vessel vent exhauster.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Am - 241	3.50E+04	C - 14	1.80E+05	Cm - 244	4.50E+02
Co - 60	4.20E+04	Cs - 134	5.20E+05	Cs - 137	5.20E+07
Eu - 154	1.70E+05	Eu - 155	2.40E+05	I - 129	9.10E+01
Nb - 94	3.40E+03	Pu - 238	4.50E+01	Pu - 239/240	5.60E+03
Pu - 241	5.20E+05	Ra - 226	1.10E+03	Ru - 106	1.80E+06
Se - 79	2.70E+03	Sr - 90	7.70E+06	Tc - 99	7.00E+04

Emission Unit ID: 146

200E P-242AL44-001

LERF Basin #44

This is a MINOR, PASSIVELY ventilated emission unit.

Liquid Effluent Retention Facility (LERF)

Emission Unit Information

Stack Height: 5.00 ft. 1.52 m. Stack Diameter 0.25 ft. 0.08 m.

Average Stack Effluent Temperature: 77 degrees Fahrenheit. 25 degrees Celsius.

Average Stack Exhaust Velocity: 32.50 ft/second. 9.91 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
	Charcoal filter	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	Air - every 2 weeks continuous/deposition - annually

Sampling Requirements Near Field Environment Sampling

Additional Requirements

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

Operational Status Operations at LERF involve receipt and storage of wastewaters on the Hanford Site.

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

Project Title	Approval #	Date Approved	NOC_ID
Operation of the Liquid Effluent Retention Facility and the 200 Area Effluent Treatment Facility	AIR 06-1045	10/5/2006	690

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 4.59E-02 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.

The operation of the Liquid Effluent Retention Facility/200 Area Effluent Treatment Facility (LERF/ETF), which includes the load-in station and load-in station filter skid.

Incoming wastewater can be added directly to the ETF process or received at the LERF or the load-in station. The LERF is allowed to receive wastewaters via underground pipelines from generator facilities, via pipeline from the load-in station, or directly through a series of access ports located at each basin. The load-in station accommodates wastewater receipt via container (e.g., drums, carboys, tankers, etc.).

The ETF wastewater treatment process shall be comprised of a main treatment train and a secondary treatment train. The main treatment train shall provide for the removal or destruction of dangerous and radioactive contaminants from incoming wastewater. After treatment, the effluent shall be transferred to the verification tanks where it is sampled then discharged. Treated effluent is comparable to deionized water and contains tritium, which cannot be economically removed. Contaminants removed in the main treatment train are concentrated in the secondary treatment train. The contaminants shall be heated and dried to a powder form or

removed as sludge and dried by the addition of absorbents. These residues shall be containerized and disposed onsite as radioactive waste.

Additional approval of the process for this activity is contained in the following Conditions/Limitations.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 8.48E-02 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Alpha release rate is assumed to be Pu-239/240. The release rate assumes two full basins and the addition of waste water equivalent to ETF's annual operating capacity. In addition to the isotopes specifically listed as approved under this NOC, other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta-gamma constituents.		
Am - 241	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
B/G - 0	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Beta/Gamma release rate is assumed to be Sr-90/Cs-137. The release rate assumes two full basins and the addition of waste water equivalent to ETF's annual operating capacity. In addition to the isotopes specifically listed as approved under this NOC, other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta-gamma constituents.		
C - 14	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ce - 144	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Cm - 244	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Co - 60	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Cs - 134	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Eu - 154	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Eu - 155	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
H - 3	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
I - 129	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
K - 40	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Mn - 54	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Na - 22	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Nb - 94	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Np - 237	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

Pu - 238	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Pu - 241	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ra - 226	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ru - 106	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Sb - 125	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Se - 79	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Tc - 99	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 233	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 234	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 235	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 236	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 238	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Zn - 65	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Zr - 95	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

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

Am - 241	C - 14	Ce - 144	Cm - 244	Co - 60
Cs - 134	Cs - 137	Eu - 154	Eu - 155	H - 3
I - 129	K - 40	Mn - 54	Na - 22	Nb - 94
Np - 237	Pu - 238	Pu - 239/240	Pu - 241	Ra - 226
Ru - 106	Sb - 125	Se - 79	Sr - 90	Tc - 99
U - 233	U - 234	U - 235	U - 236	U - 238
Zn - 65	Zr - 95			

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) The emissions for this activity from the all LERF basins and diffuse/fugitive emissions are limited to $4.59E-02$ mrem/year unabated and abated.
- 5) The LERF is approved to provide temporary storage, as well as flow and pH equalization, for wastewaters prior to treatment at ETF. The LERF shall consist of three high-density polyethylene double-lined basins, each with an operating capacity of 29.5 million liters. Each basin has a leachate collection system located between the primary and secondary composite liner systems and is also equipped with a floating low-density polyethylene cover firmly attached to the sidewalls to prevent unwanted material from entering the basins and to avoid evaporation of wastewater. To prevent the buildup of gas, each basin is passively vented through vent pipes. Gases exiting through a vent pipe shall be channeled through a carbon adsorption filter.

Emission Unit ID: 147

200E P-242AL43-001

LERF Basin #43

This is a MINOR, PASSIVELY ventilated emission unit.

Liquid Effluent Retention Facility (LERF)

Emission Unit Information

Stack Height: 5.00 ft. 1.52 m. Stack Diameter 0.25 ft. 0.08 m.

Average Stack Effluent Temperature: 77 degrees Fahrenheit. 25 degrees Celsius.

Average Stack Exhaust Velocity: 32.50 ft/second. 9.91 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
	Charcoal filter	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	Air - every 2 weeks continuous/deposition - annually

Sampling Requirements Near Field Environment Sampling

Additional Requirements

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

Operational Status Operations at LERF involve receipt and storage of wastewaters on the Hanford Site.

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

Project Title	Approval #	Date Approved	NOC_ID
Operation of the Liquid Effluent Retention Facility and the 200 Area Effluent Treatment Facility	AIR 06-1045	10/5/2006	690

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 4.59E-02 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.

The operation of the Liquid Effluent Retention Facility/200 Area Effluent Treatment Facility (LERF/ETF), which includes the load-in station and load-in station filter skid.

Incoming wastewater can be added directly to the ETF process or received at the LERF or the load-in station. The LERF is allowed to receive wastewaters via underground pipelines from generator facilities, via pipeline from the load-in station, or directly through a series of access ports located at each basin. The load-in station accommodates wastewater receipt via container (e.g., drums, carboys, tankers, etc.).

The ETF wastewater treatment process shall be comprised of a main treatment train and a secondary treatment train. The main treatment train shall provide for the removal or destruction of dangerous and radioactive contaminants from incoming wastewater. After treatment, the effluent shall be transferred to the verification tanks where it is sampled then discharged. Treated effluent is comparable to deionized water and contains tritium, which cannot be economically removed. Contaminants removed in the main treatment train are concentrated in the secondary treatment train. The contaminants shall be heated and dried to a powder form or

removed as sludge and dried by the addition of absorbents. These residues shall be containerized and disposed onsite as radioactive waste.

Additional approval of the process for this activity is contained in the following Conditions/Limitations.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 8.48E-02 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Alpha release rate is assumed to be Pu-239/240. The release rate assumes two full basins and the addition of waste water equivalent to ETF's annual operating capacity. In addition to the isotopes specifically listed as approved under this NOC, other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta-gamma constituents.		
Am - 241	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
B/G - 0	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Beta/Gamma release rate is assumed to be Sr-90/Cs-137. The release rate assumes two full basins and the addition of waste water equivalent to ETF's annual operating capacity. In addition to the isotopes specifically listed as approved under this NOC, other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta-gamma constituents.		
C - 14	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ce - 144	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Cm - 244	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Co - 60	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Cs - 134	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Eu - 154	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Eu - 155	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
H - 3	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
I - 129	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
K - 40	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Mn - 54	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Na - 22	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Nb - 94	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Np - 237	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

Pu - 238	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Pu - 241	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ra - 226	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ru - 106	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Sb - 125	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Se - 79	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Tc - 99	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 233	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 234	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 235	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 236	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 238	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Zn - 65	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Zr - 95	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

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

Am - 241	C - 14	Ce - 144	Cm - 244	Co - 60
Cs - 134	Cs - 137	Eu - 154	Eu - 155	H - 3
I - 129	K - 40	Mn - 54	Na - 22	Nb - 94
Np - 237	Pu - 238	Pu - 239/240	Pu - 241	Ra - 226
Ru - 106	Sb - 125	Se - 79	Sr - 90	Tc - 99
U - 233	U - 234	U - 235	U - 236	U - 238
Zn - 65	Zr - 95			

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) The emissions for this activity from the all LERF basins and diffuse/fugitive emissions are limited to 4.59E-02 mrem/year unabated and abated.
- 5) The LERF is approved to provide temporary storage, as well as flow and pH equalization, for wastewaters prior to treatment at ETF. The LERF shall consist of three high-density polyethylene double-lined basins, each with an operating capacity of 29.5 million liters. Each basin has a leachate collection system located between the primary and secondary composite liner systems and is also equipped with a floating low-density polyethylene cover firmly attached to the sidewalls to prevent unwanted material from entering the basins and to avoid evaporation of wastewater. To prevent the buildup of gas, each basin is passively vented through vent pipes. Gases exiting through a vent pipe shall be channeled through a carbon adsorption filter.

Emission Unit ID: 148

200E P-242AL42-001

LERF Basin #42

This is a MINOR, PASSIVELY ventilated emission unit.

Liquid Effluent Retention Facility (LERF)

Emission Unit Information

Stack Height: 5.00 ft. 1.52 m. Stack Diameter 0.25 ft. 0.08 m.

Average Stack Effluent Temperature: 77 degrees Fahrenheit. 25 degrees Celsius.

Average Stack Exhaust Velocity: 32.50 ft/second. 9.91 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
	Charcoal filter	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	Air - every 2 weeks continuous/deposition - annually

Sampling Requirements Near Field Environment Sampling

Additional Requirements

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

Operational Status Operations at LERF involve receipt and storage of wastewaters on the Hanford Site.

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

Project Title	Approval #	Date Approved	NOC_ID
Operation of the Liquid Effluent Retention Facility and the 200 Area Effluent Treatment Facility	AIR 06-1045	10/5/2006	690

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 4.59E-02 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.

The operation of the Liquid Effluent Retention Facility/200 Area Effluent Treatment Facility (LERF/ETF), which includes the load-in station and load-in station filter skid.

Incoming wastewater can be added directly to the ETF process or received at the LERF or the load-in station. The LERF is allowed to receive wastewaters via underground pipelines from generator facilities, via pipeline from the load-in station, or directly through a series of access ports located at each basin. The load-in station accommodates wastewater receipt via container (e.g., drums, carboys, tankers, etc.).

The ETF wastewater treatment process shall be comprised of a main treatment train and a secondary treatment train. The main treatment train shall provide for the removal or destruction of dangerous and radioactive contaminants from incoming wastewater. After treatment, the effluent shall be transferred to the verification tanks where it is sampled then discharged. Treated effluent is comparable to deionized water and contains tritium, which cannot be economically removed. Contaminants removed in the main treatment train are concentrated in the secondary treatment train. The contaminants shall be heated and dried to a powder form or

removed as sludge and dried by the addition of absorbents. These residues shall be containerized and disposed onsite as radioactive waste.

Additional approval of the process for this activity is contained in the following Conditions/Limitations.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 8.48E-02 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Alpha release rate is assumed to be Pu-239/240. The release rate assumes two full basins and the addition of waste water equivalent to ETF's annual operating capacity. In addition to the isotopes specifically listed as approved under this NOC, other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta-gamma constituents.		
Am - 241	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
B/G - 0	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Beta/Gamma release rate is assumed to be Sr-90/Cs-137. The release rate assumes two full basins and the addition of waste water equivalent to ETF's annual operating capacity. In addition to the isotopes specifically listed as approved under this NOC, other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta-gamma constituents.		
C - 14	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ce - 144	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Cm - 244	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Co - 60	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Cs - 134	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Eu - 154	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Eu - 155	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
H - 3	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
I - 129	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
K - 40	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Mn - 54	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Na - 22	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Nb - 94	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Np - 237	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

Pu - 238	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Pu - 241	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ra - 226	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Ru - 106	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Sb - 125	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Se - 79	Liquid/Particulate Solid	
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Tc - 99	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 233	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 234	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 235	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 236	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
U - 238	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Zn - 65	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Zr - 95	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

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

Am - 241	C - 14	Ce - 144	Cm - 244	Co - 60
Cs - 134	Cs - 137	Eu - 154	Eu - 155	H - 3
I - 129	K - 40	Mn - 54	Na - 22	Nb - 94
Np - 237	Pu - 238	Pu - 239/240	Pu - 241	Ra - 226
Ru - 106	Sb - 125	Se - 79	Sr - 90	Tc - 99
U - 233	U - 234	U - 235	U - 236	U - 238
Zn - 65	Zr - 95			

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) The emissions for this activity from the all LERF basins and diffuse/fugitive emissions are limited to $4.59E-02$ mrem/year unabated and abated.
- 5) The LERF is approved to provide temporary storage, as well as flow and pH equalization, for wastewaters prior to treatment at ETF. The LERF shall consist of three high-density polyethylene double-lined basins, each with an operating capacity of 29.5 million liters. Each basin has a leachate collection system located between the primary and secondary composite liner systems and is also equipped with a floating low-density polyethylene cover firmly attached to the sidewalls to prevent unwanted material from entering the basins and to avoid evaporation of wastewater. To prevent the buildup of gas, each basin is passively vented through vent pipes. Gases exiting through a vent pipe shall be channeled through a carbon adsorption filter.

Emission Unit ID: 150

200E P-296AW-001

296-A-27

This is a MINOR, ACTIVELY ventilated emission unit.

241-AW TANK FARM

Emission Unit Information

Stack Height: 16.27 ft. 4.96 m. Stack Diameter 0.83 ft. 0.25 m.

Average Stack Effluent Temperature: 110 degrees Fahrenheit. 43 degrees Celsius.

Average Stack Exhaust Velocity: 30.56 ft/second. 9.31 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Decentrainer	1	2 parallel flow paths
	Heater	1	2 parallel flow paths
	Fan	2	2 parallel flow paths, 1 in operation at a time.
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Prefilter	1	2 parallel flow paths

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241-AW Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit operates intermittently.

Emission Unit ID: 156

200E P-296A028-001

296-A-28

This is a MINOR, ACTIVELY ventilated emission unit.

241-AW TANK FARM

Emission Unit Information

Stack Height: 23.50 ft. 7.16 m. Stack Diameter 2.00 ft. 0.61 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 31.83 ft/second. 9.70 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	2	2 filter in series for each train, trains may be operated independently or together
	Fan	1	1 for each train, trains may be operated independently or together
	Deentrainer	1	1 for each train
	Heater	1	1 for each train

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations and ventilates the annuli of DSTs 241-AW Tank Farm. The tanks store radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

Emission Unit ID: 163

200W P-242S-001

296-S-18

This is a MINOR, ACTIVELY ventilated emission unit.

242-S Evaporator

Emission Unit Information

Stack Height: 22.00 ft. 6.71 m. Stack Diameter 3.50 ft. 1.07 m.

Average Stack Effluent Temperature: 117 degrees Fahrenheit. 47 degrees Celsius.

Average Stack Exhaust Velocity: 5.80 ft/second. 1.77 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	2	2 in parallel with 2 in series (1 fan abandoned in place, only one flow path is available for operations)
	Fan	1	2 parallel flow paths (1 fan abandoned in place, only one flow path is available for operations)

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a building/facility exhauster that is used to ventilate building and facility operations such as but not limited to process vessels, contaminated rooms, cells, glove boxes, hoods, abandoned facilities awaiting decommissioning, and vaults that support tank farm operations, maintenance, and surveillance activities for tank farms. The exhauster can be used to support current surveillance, maintenance activities, operations or decommissioning, decontamination, and cleanup activities within the building/facility. Many of the activities other than normal surveillance, maintenance, and operation support will be or are regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit is a building/facility exhauster ventilation system that operates intermittently.

Emission Unit ID: 168

100K R-1706KE-001

1706KE

This is a MINOR, ACTIVELY ventilated emission unit.

1706-KE Lab

Emission Unit Information

Stack Height: 25.00 ft. 7.62 m. Stack Diameter 1.50 ft. 0.46 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 113.00 ft/second. 34.44 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	
	Fan	1	Intermittent operation

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/year

Sampling Requirements Record Sample

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 at the 1706KE Laboratory involve decontamination and decommissioning activities including CERCLA cleanup operations at the Hanford Site

Emission Unit ID: 174

200E P-296A020-001

296-A-20

This is a MINOR, ACTIVELY ventilated emission unit.

241-AZ TANK FARM

Emission Unit Information

Stack Height: 15.70 ft. 4.79 m. Stack Diameter 2.00 ft. 0.61 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 10.61 ft/second. 3.23 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	4	2 HEPA's in series for each train, 2 trains
	Fan	1	
	Radial Damper	1	Set to allow only 2,000 CFM (1,000 CFM per annulus)
	Heater	2	1 per train, 2 trains

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]	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations by ventilating the annuli of DSTs 241-AZ-101 and 241-AZ-102. Each train of this emission unit supports an individual tank (Train A for 241-AZ-101 and Train B for 241-AZ-102). The tank stores radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

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

Project Title	Approval #	Date Approved	NOC_ID
241-AZ Tank Farm Annulus Exhauster Operation	AIR 06-1031	10/5/2006	671

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 1.56E-09 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 3.12E-06 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

Exhausting the annulus of the 241-AZ-101 and 241-AZ-102 double-shell tanks (DSTs). The inner shell is constructed from heat-treated, stress-relieved steel. The outer shell is constructed of non-stress-relieved steel. The two shells are separated by a 2.5 foot annulus and are contained inside a concrete shell. The tanks have a usable waste volume of approximately 1,000,000 gallons each. The 296-A-20 stack exhauster ventilates the

annular space of both 241-AZ-101 and 241-AZ-102. The 241-AZ annulus exhaust fan draws outside air into a common inlet filter assembly. The inlet filter assembly shall consist of two filter stages, a pre-filter bank, and an inlet filter. The air will pass through a distribution manifold and flow control valves into the annular space of both the 241-AZ-101 and 241-AZ-102 tanks, via underground ductwork. The flow control butterfly dampers can be adjusted to distribute air between the sides of the annuli and the air slots below the primary tanks. Exhaust air shall be drawn out of each annulus through underground ducting to individual aboveground exhaust HEPA filter banks (one for each tank), associated heaters, and isolation dampers. To allow for balancing flow between annuli or to allow isolation of an individual exhaust HEPA filter bank, dampers shall be installed upstream of each exhaust HEPA filter bank.

3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Alpha - 0	7.00E-05		Beta - 0	2.99E-02	
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4) Flow rate through the HEPA filters shall not exceed the manufacturer's rating of those HEPA filters.

Emission Unit ID: 175

300 EP-318-01-S

EP-318-01-S

This is a MINOR, ACTIVELY ventilated emission unit.

318 Building

Emission Unit Information

Stack Height: 29.00 ft. 8.84 m. Stack Diameter 0.82 ft. 0.25 m.

Average Stack Effluent Temperature: 79 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 18.91 ft/second. 5.76 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
Exhaust Duct	HEPA	1	12" x 24" x 24" HEPA filter installed in the exhaust duct from the fume hood in Room 126.
Exhaust Duct	Exhaust Fan	1	

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)	40 CFR 61, Appendix B, Method 114(3)	Total Alpha and Total Beta	2 week sample/year

Sampling Requirements Record Sample

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 at the 318 Building support operations. This 29 foot tall stack exhausts emissions from a single fume hood. Particulate emissions are sampled. The building contains areas for calibrating radiation survey instruments and processing personnel dosimeters.

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

Project Title	Approval #	Date Approved	NOC_ID
Calibration and Development Activities in the Radiological Calibrations Laboratory (318 Building)	AIR 06-1037	10/5/2006	681

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 1.72E-05 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.

The 318 Building provides technical services such as internal dosimetry, external dosimetry, instrument calibration, repair, and testing in support of the Hanford and DOE missions. Research capabilities are also provided to support the development of radiation detection and measuring instruments.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 1.72E-05 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	1.70E-06	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Alpha release rate based on Am-241/Pu-239.			

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

Am - 241	Ba - 133	Co - 57	Co - 60	Cs - 137
Eu - 154	Eu - 155	H - 3	Hg - 203	Kr - 85
Mn - 54	Na - 22	Pu - 239	Ra - 226	Rn - 220
Rn - 222	Sb - 125	Sr - 90	Th - 228	U(Nat) - 0
Y - 88				

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) HEPA filters shall be individually tested, annually, to the requirements of ASME N510, and shall have a minimum efficiency of 99.95%.
- 5) The radionuclides with potential to emit are limited to the following physical forms:

Gas: H-3, Kr-85, Rn-220, Rn-222

Solid: Am-241, Ba-133, Co-57, Co-60, Cs-137, Eu-154, Eu-155, Hg-203, Mn-54, Na-22, Pu-239, Sb-125, Sr-90, U(Nat), Y-88,

Particulates: Ra-226, Th-228

Emission Unit ID: 193

200W P-296W004 001

296-W-4

This is a MAJOR, ACTIVELY ventilated emission unit.

Waste Receiving and Processing Facility (WRAP)

Emission Unit Information

Stack Height 47.00 ft. 14.33 m. Stack Diameter 2.63 ft. 0.80 m.

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

Average Stack Exhaust Velocity: 44.30 ft/second. 13.50 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	2	Redundant systems in parallel consisting of two banks each
	HEPA	2	Redundant systems in parallel consisting of two banks each
	Prefilter	1	Prefilter for each HEPA housing
	Fan	2	2 parallel paths (1-in use, 1 in backup)

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(2)	40 CFR 60 Appendix A, Method 2; 40 CFR 61, Appendix B, Method 114; 61.93(b)(2)(ii) ANSI N13.1	Each radionuclide that could contribute greater than 10% of the potential TEDE	Continuous, Collect samples biweekly at a minimum

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status Operations at the WRAP Facility involve storage, treatment, and disposal of waste containers at the Hanford Site.

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

Project Title	Approval #	Date Approved	NOC_ID
Construction and operation of the Waste Receiving and Processing (WRAP) Facility	AIR 08-802	8/5/2008	638

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 5.63E-02 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.

The mission of the WRAP Facility includes examining, assaying, characterizing, treating, verifying, and repackaging solid radioactive material and mixed waste to enable treatment, storage, or disposal. The WRAP Facility manages many categories of radioactive materials such as; low-level waste (LLW), transuranic (TRU) waste, TRU mixed waste, and low-level mixed waste (LLMW) in contact handled (CH) containers where the external surface dose rate does not exceed 200 millirem per hour. CH containers are defined as packages having

surface dose rates of less than 200 millirem per hour. Remote-handled (RH) containers (i.e. containers where the external surface dose rate is equal to or greater than 200 millirem per hour) also may be processed and stored at WRAP in accordance with the approved safety analysis.

The physical, chemical, and radiological attributes of the newly generated waste are expected to be well known before receipt at the WRAP Facility, while retrieved drums could contain less than fully characterized waste. Whether newly generated or retrieved, the radioactive material might not have been sampled before coming to the WRAP Facility. In every case, however, sufficient knowledge of the radioactive material is obtained by sampling or process knowledge to ensure proper management of the radioactive material.

SHIPPING AND RECEIVING

Containers delivered to and transferred/shipped from the shipping and receiving area by truck or forklift. In the shipping and receiving area, incoming boxes and drums are unloaded, visually inspected, labeled, and radiologically surveyed. The resulting information pertaining to each container is entered into the data management system.

Following visual inspection, containers are transferred to the lag storage area. From the lag storage area, incoming drums transferred to a weigh station and on to the NDE/NDA area for further characterization.

Once characterized, verified, and/or certified, the certified TRU waste must be loaded into a transuranic package transporter (TRUPACT-II) shipping cask for shipment to the Waste Isolation Pilot Plant (WIPP) in New Mexico. Verified LLW is transferred for disposal onsite. Mixed waste is moved to an offsite treatment or permitted storage facility, or to an onsite treatment, disposal, and/or storage unit. Radioactive material that fails verification shall be returned to the generator, processed to correct the problem, or sent to another facility for further reprocessing.

NONDESTRUCTIVE EXAMINATION/NONDESTRUCTIVE ASSAY SYSTEMS

The NDE/NDA shall used to examine and to certify LLW, LLMW, TRU, and TRU mixed waste container contents without opening the containers.

The primary function of NDE is to examine the physical contents of containers entering and leaving the WRAP Facility to determine whether there are unacceptable conditions in the containers. This examination of the containers is accomplished by the use of the real-time radiography (RTR) system. The RTR system consists of an x-ray imagine system used to identify noncompliant items, such as free or containerized liquids, compressed gas containers including aerosol cans, and other suspected dangerous waste/materials. Data from the x-ray examination are entered into the data management system for each container.

PROCESS AREA

The process area consists of four glovebox lines: a TRU waste process glovebox, a TRU waste restricted waste management (RWM) glovebox, a LLW/TRU process glovebox, and a LLW RWM glovebox.

The airborne radiological contaminants produced at the WRAP Facility are expected to be generated in these gloveboxes. Incoming drums generally are opened in gloveboxes. However, it might be necessary to loosen a lid or replace a damaged lid outside of a glovebox. For example, an 85-gallon drum lid is removed by placing the drum in an air exhauster canister, which vents to the process area through a high-efficiency particulate air (HEPA)-like filter. No credit is taken for this HEPA-like filter. Emissions from the process area will exhaust through the 296-W-4 stack emission system.

TRANSURANIC WASTE PROCESS LINE

The TRU waste process glovebox line consists of stainless steel modular gloveboxes that are bolted together in a linear configuration. Glovebox ventilation is of the once-through type. Air is drawn from the process room, through a nontestable high-efficiency process filter, and into the glovebox. The air is exhausted from the

glovebox through another nontestable high-efficiency process filter to the combined glovebox exhaust system.

Process operations are performed inside of the gloveboxes by using the gloves and/or remote controlled manipulators. Drums are loaded into the glovebox through airlock systems. Noncompliant items are labeled and transferred to the TRU RWM glovebox using a reusable transfer system. Compliant waste is repackaged into new containers.

TRANSURANIC WASTE RESTRICTED WASTE MANAGEMENT LINE

The TRU waste RWM glovebox line consists of a single stainless steel module. Glovebox ventilation is of the once-through type. Air is drawn from the process room, through a nontestable high-efficiency process filter, and into the glovebox. The air is exhausted from the glovebox through another nontestable high-efficiency process filter to the combined glovebox exhaust system. Noncompliant waste is received from the TRU waste process line in a reusable transfer system.

The treatment and repackaging operations that occur in the TRU waste RWM glovebox could include; deactivation (neutralization, cementing, absorption, and stabilization of metals), stabilization of non metals (cementing, adsorption, and encapsulation), sulfur reaction of liquid mercury (amalgamation) and repackaging of waste.

LOW-LEVEL WASTE PROCESS LINE

The LLW process glovebox line consists of stainless steel modular gloveboxes that are bolted together in a linear configuration. Glovebox ventilation is of the once-through type. Air is drawn from the process room, through a nontestable high-efficiency process filter, and into the glovebox. The air is exhausted from the glovebox through another nontestable high-efficiency process filter to the combined glovebox exhaust system.

Drums enter the glovebox through an airlock entry system. Noncompliant items are bar code labeled and transferred to the LLW RWM or TRU/RWM glovebox using a reusable transfer system. Compliant waste is compacted and repackaged into new drums.

LOW-LEVEL WASTE RESTRICTED WASTE MANAGEMENT PROCESS LINE

The operations in the LLW RWM process line are identical to the operations to the operations in the TRU waste RWM line.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is $1.13E+02$ mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0 1.00E+01 Liquid/Particulate Solid WAC 246-247-030(21)(a)

License PTE limit bounds $1.00E+01$ Ci/yr ^{241}Am and release fraction of 0.001. Any radionuclide on the chart of the nuclides could be encountered during WRAP Process Area activities. The radionuclides specifically listed in the NOC application were chosen to conservatively represent all radionuclide emissions that may occur in particulate form. A small contribution from the gaseous radionuclides may be encountered. Although any radionuclide could be present, for conservatism all alpha is assumed to be ^{241}Am and all beta/gamma is assumed to be ^{90}Sr for dose calculation estimates. Other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta/gamma constituents.

B/G - 0 1.50E+02 Liquid/Particulate Solid WAC 246-247-030(21)(a)

License PTE limit bounds $1.50E+02$ Ci/yr ^{90}Sr and release fraction of 0.001. Any radionuclide on the chart of the nuclides could be encountered during the WRAP Process Area activities. The radionuclides specifically listed in the NOC application were chosen to conservatively represent all radionuclide emissions that may occur in particulate form. A small contribution from the gaseous radionuclides may be encountered. Although any radionuclide could be present, for conservatism all alpha is assumed to be ^{241}Am and all beta/gamma is assumed to be ^{90}Sr for dose calculation estimates. Other radionuclides may be encountered and are approved so long as they are conservatively represented by the total alpha and total beta/gamma constituents.

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.

Emission Unit ID: 200

200W P-241SX115-001

241-SX-115

This is a MINOR, PASSIVELY ventilated emission unit.

241-SX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 201

200W P-241SX113-001

241-SX-113

This is a MINOR, PASSIVELY ventilated emission unit.

241-SX TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 202

200W P-241S111-001

241-S-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 203

200W P-241S-001

241-S-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-S TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 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	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows the SST to vent to the atmosphere under tank farm storage, maintenance, and operations. The tanks stores the radioactive waste awaiting retrieval , treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

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

Project Title	Approval #	Date Approved	NOC_ID
Installation and Operation of Waste Retrieval Systems in Single-Shell Tank (SST) 241-S-112	AIR 08-1103	11/10/2008	686

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-02 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 7.51E+01 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The Salt Cake Dissolution Retrieval Demonstration Project in SST 241-S-112 uses water that is introduced in a controlled fashion to dissolve and mobilize solids in the tank. The resulting solution is then pumped and transferred to the Double-Shell Tank (DST) system. A portable exhauster will provide active ventilation for some dissolution activities and all waste transfer activities until structural safety considerations force shutdown, at which time passive ventilation shall be used.

The following activities will be performed :

Pit

- a. Opening the 241-S-112 Condenser Pit to remove the old cover plate and install a new cover plate to allow for the connection of a HEPA filter to the exhauster trunk for a portable exhauster.
- b. Enter 241-S-C Valve Pit to disconnect the existing 241-S-112 HIHTL.
- c. Enter the 241-S-109 Valve Pit to remove the existing HIHTL that is no longer needed.
- d. Accessing the 241-S-112A Central Pump Pit to:
 - Install an instrument manifold,
 - Install a transfer pump, and
 - Replacement of the existing HIHTL that is not needed for this project with a new HIHTL.
- e. Enter the 241-S-A Valve Pit to:
 - Connect the hose-in-hose transfer line (HIHTL) from the 241-S-112 Tank to the DST receiver tank, and
 - Install the leak detection hardware.

Pit work shall be performed in accordance with ALARACT 6 "TWRS ALARACT Demonstration for Pit Access" and ALARACT 14 "TWRS ALARACT Demonstration for Pit Work".

Soil Excavation

- a. Excavation of soil inside the tank farm for the installation of an electrical and instrumentation conduit to monitor transfer progress.
- b. Excavation of soil outside the tank farm for conduit and transformer installation.
- c. Excavation of soil inside the tank farm for installation of a new raw water header installed between the 241-SY Tank Farm and the 241-S Tank Farm to the 241-S-112 Tank.
- d. Installation of a HIHTL to convey waste from Tank 241-S-112 to the DST transfer system.

Soil excavation shall be performed in accordance with ALARACT 5 "TWRS ALARACT Demonstration for Soil Excavation (using hand tools)".

In-Tank Equipment

- a: Installation of various motor controlled spray devices into (3) risers near the outside perimeter of the tank and an automatic indexing spray device will be installed on a centrally located riser.
- b. Remove Liquid Observation Well (LOW).
- c. Installation of Stilwell (Level Monitoring Device protection).

Work shall be performed in accordance with ALARACT 1 "TWRS ALARACT Demonstration for Riser Preparation/Opening" and ALARACT 13 "TWRS ALARACT Demonstration for Installation, Operation and Removal of Tank Equipment".

Water Addition/ Dilution

- Installation of a new heat traced and insulated raw water line installed between the 241-S Tank Farm and the 241-SY Tank Farm to the water distribution skid on top of Tank 241-S-112.

Water addition and dilution for salt-cake dissolution shall use portable exhausters for active ventilation when water addition flow rate is above 80 gallons per minute, at less than 80 gallons per minute salt cake dissolution shall use either a breather HEPA filter for passive ventilation, or active ventilation.

Waste Transfer

- Installation of a progressive cavity pump and supporting equipment to recover and transport waste from Tank 241-S-112 to the DST System.

Waste transfer activities shall use portable exhausters for active ventilation until structural safety considerations force shutdown, at which time passive ventilation shall be used.

The major components of the exhauster are; stack, glycol heaters, 1 pre-filter, 2 HEPA filters, 1 exhaust fan, sampling system and a demister which is determined to be optional.

Other

- Removal of the Standard Hydrogen Monitoring Probe.

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydrolaser. The system will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure water skid, operating controls, cables and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle, high pressure nozzle(s).

The high pressure water skid will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 6 to 15 gpm. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect the hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle end submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

The in-tank vehicle, with umbilical, will be deployed through a 12 inch riser in tank 241-S-112 and will weigh on the order of 1,000 pounds plus the weight of the umbilical. A crane will be used to lower the vehicle and the full length of umbilical down into the tank. After the in-tank vehicle and umbilical are in the tank, a cover, with gasket, will be bolted to the riser flange to seal the riser opening. The equipment will be operated outside the tank farm fence.

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Ac - 227	6.12E-03	Am - 241	7.24E+01	Am - 243	7.60E+01
Ba - 137 m	2.14E+05	C - 14	3.59E+01	Cd - 113 m	2.26E+02
Cm - 242	1.14E-02	Cm - 243	5.63E-01	Cm - 244	1.35E+01
Co - 60	6.47E+01	Cs - 134	5.68E-01	Cs - 137	2.26E+05
Eu - 152	1.02E+01	Eu - 154	2.05E+02	Eu - 155	1.96E+02
H - 3	3.08E+02	I - 129	8.43E-01	Nb - 93 m	5.09E+01
Ni - 59	1.08E+01	Ni - 63	9.97E+02	Np - 237	1.56E+00
Pa - 231	1.59E-02	Pu - 238	8.10E+00	Pu - 239	6.08E+01
Pu - 240	9.36E+00	Pu - 241	5.78E+01	Pu - 242	4.16E-04
Ra - 226	5.98E-04	Ra - 228	8.46E-02	Ru - 106	1.84E-04
Sb - 125	1.01E+02				

		Se - 79	1.73E+00	Sm - 151	4.27E+04
Sn - 126	7.73E+00	Sr - 90	1.07E+05	Tc - 99	2.47E+02
Th - 229	4.50E-03	Th - 232	1.35E-03	U - 232	2.78E-01
U - 233	7.11E+00	U - 234	4.65E+00	U - 235	2.01E-02
U - 236	2.51E-02	U - 238	4.52E-01	Y - 90	1.07E+05
Zr - 93	6.26E+01				

- 4) Pre and post-job surveys shall be made in accordance with ALARACT(s) 5, 6 and 13 during pit work activities, soil excavation activities, and for equipment removal and/or installation.
- 5) Radiological monitoring shall be performed in accordance with the latest revision of HNF-5183, Tank Farms Radiological Control Manual.
- 6) The Annual Possession Quantity and potential-to-emit to the MEI shall be tracked on a WDOH approved log.
- 7) The radionuclides listed in the Annual Possession Quantity are limited to the physical forms of liquid or particulate solid.
- 8) When the portable exhauster is not in use the tank shall be ventilated through the passive breather filter consisting of a single HEPA filter.
- 9) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%.

Emission Unit ID: 204

200E P-296AP-001

296-A-40

This is a MINOR, ACTIVELY ventilated emission unit.

241-AP TANK FARM

Emission Unit Information

Stack Height: 20.58 ft. 6.27 m. Stack Diameter 0.50 ft. 0.15 m.

Average Stack Effluent Temperature: 110 degrees Fahrenheit. 43 degrees Celsius.

Average Stack Exhaust Velocity: 84.88 ft/second. 25.87 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
	Deentrainer	1	2 parallel flow paths
	Heater	1	2 parallel flow paths
	Prefilter	1	2 parallel flow paths
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Fan	1	2 parallel flow paths, 1 in operation at a time

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	2 week sample/quarter

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241 AP Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit operates intermittently.

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

Project Title	Approval #	Date Approved	NOC_ID
Installation and operation of Waste Retrieval System in Tanks 241-AP-102 and 241-AP-104	AIR 06-1027	10/5/2006	666

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 2.17E-05 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 4.50E-02 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

Install and operate a waste retrieval system (one mixer pump and other required equipment) in the 241-AP-102 and the 241-AP-104 tanks. The pumps will operate in a batch mode as needed. The waste capacity of the tanks will not be altered, nor will the ventilation system.

The 241-AP-102 and 241-AP-104 tanks are 75-foot diameter double-shell tanks (DST) constructed from the latest generation of tank designs, with a reinforced concrete shell and dome, and an insulating concrete base. A heat-treated, stress relieved, primary steel liner and a non-stress-relieved, outer steel liner are separated by a 2.5 foot annulus and contained inside the concrete shell. The tanks have a flat bottom with a usable waste depth of approximately 35 feet (1,160,000 gallons).

Current design calls for modifications to the AP-102 and AP-105 tanks and associated equipment to allow installation and removal of waste retrieval system equipment, and shall be limited to the following major components.

New In-Tank Equipment:

Installation of one mixer pump in each tank for mobilizing the settled solids. The pumps will be equipped with an approximate 300-horse power motor with a variable speed drive to allow operation from approximately 60 percent speed to 100 percent speed. The pump will be capable of pumping waste at a flow rate of approximately 5,200 gallons per minute through each of two, horizontally opposed, discharge nozzles, located approximately 18 inches above the bottom of the tank.

Installation of a high-pressure spray wash system on top of each of the 42-inch risers used for the mixer pumps. The spray wash system will be used for future decontamination of the mixer pumps as they are removed from the tank.

Installation of one transfer pump in each tank for the transfer of waste. The pumps will be capable of maintaining a variable waste transfer at a top rate of up to 140 gallons per minute.

Installation of one closed circuit television for each tank.

New Ancillary Equipment and Buildings:

Construction of an annex to the existing 241-AP-271 Instrument Building to house retrieval instrumentation/electrical equipment and operator stations.

Installation of electrical power and instrument cables and other utility tie-ins and/or upgrades (e.g., sanitary and raw water, and telecommunications).

Upgrade of Existing Pits

Installation of new, double-contained waste transfer piping, water and diluent piping to and from the process pits, and 8-inch diameter annulus ventilation piping. A total of approximately 1,400 linear feet of piping will be installed approximately 5 feet underground.

Installation of jumpers inside existing AP02A, AP02D, and AP04A AP Farm pits.

Installation of three new sets of pit cover blocks for the AP02A, AP02D, AP04A pits.

Removal, Decontamination and Demolition of Existing Equipment:

Removal of one mixer pump from AP-102.

Removal of one transfer pump from AP-102 and one transfer pump from AP-104.

Removal of a slurry distributor from AP-104.

Removal of a drop-leg jumper from AP-102.

Relocation of a dip tube assembly to a different riser (AP-104).

Removal of jumpers from each of the three pits, central pump pit cover blocks, and pump pit cover blocks.

Removal of an existing 2-inch waste line, approximately 15 linear feet.

Use of equipment and containers for removal, cleaning, decontamination, transport, storage, and burial of in-tank components and soil.

Removal of existing 8-inch-diameter annulus ventilation piping, approximately 32 feet.

Construction Activities with the Potential to Emit are:

Construction activities with the potential to emit include soil excavation, work in pump pits, pipe cutting, removal of, and installation of in-tank equipment. Some of these activities are described in, and will be done in accordance with, an applicable Tank Farm ALARACT demonstration, HNF-4327 latest revision, Control of Airborne Radioactive Emissions for Frequently Performed TWRS Work Activities. The specific activities and corresponding ALARACT demonstration are called out as they apply in the following text.

If needed or chosen for use during these activities, the Regulated Guzzler, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (98-EAP-037, DOE/RL-96-75, and DOE/RL-97-50 respectively).

The AP Tank Farm is posted and maintained as a radiological buffer area, free of surface contamination (entrance is made in street clothes). There are no recorded spills or leaks. Therefore, encountering contamination is not expected during soil excavation activities. Because of the possibility of encountering previously undetected subsurface contamination, all work is performed in accordance with the Hanford Site Radiological Control Manual and the RPP As Low As Reasonably Achievable (ALARA) Program requirements. These requirements are carried out through the activity work packages and associated radiological work permit (RWP).

Soil Excavation:

Soil will be excavated inside and outside the AP Tank Farm to install new piping and construct a new pump pit. A total of approximately 1,000 cubic yards shall be excavated, which includes approximately 600 cubic yards inside the tank farm. Backfill shall be made with the original removed soil or controlled density fill (sand, water and a small amount of cement).

Soil excavation activities inside the tank farm fence will be performed in accordance with ALARACT Demonstration 5, TWRS ALARACT Demonstration for Soil Excavation (Using Hand Tools). Clean soil piles may be moved from one place to another within the tank farm with heavy equipment (backhoe, front-end loader, etc.). Soil excavation outside the tank farm fence also may be performed with heavy equipment. The Regulated Guzzler may also be used as described in its NOC for use in the A Tank Farm Complex (98-EAP-037).

Pipe Cutting:

One existing 2-inch diameter waste transfer line will be cut and replaced with a new 3-inch diameter waste transfer line. The cuts will be made, inside a glove bag, using appropriate equipment such as a sawzall or tri-tool. The tie-ins will be made at the new pit nozzles. If any welding is required, the glove bag will be removed and the weld made.

One 12-inch diameter tank riser will be cut to fit into the new pit being constructed. The riser will be opened and an expandable plug will be installed in the riser to maintain containment of the vapor space and prevent material from falling into the tank while the work takes place. In order to perform the cut without a glove bag, the riser will be surveyed/smear to verify removable contamination levels are equal to or less than 10,000 dpm/100 cm² beta gamma and 200 dpm/100 cm² alpha. The cut will be made above the plug with equipment

such as a tri-tool or sawzall. If a glove bag is used, it will be removed. The plug will be removed and a flange welded in place. Then the top of the riser flange will be sealed with a temporary shield plug.

Approximately thirty-two feet of 8-inch diameter annulus ventilation pipe will be cut and rerouted. The cuts will be made, inside a glove bag, using appropriate equipment such as a sawzall or tri-tool. The glove bag will be removed and the tie-ins will be made by welding.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

Pit Work:

Work to be performed in pump pits includes replacing three existing sets of cover blocks with newly designed cover blocks, core drilling (core drills will be performed as necessary), installing new nozzles, removing existing jumpers, and installing riser extensions (total of two, 42-inch diameter).

Pit access and work will be performed in accordance with ALARACT Demonstrations 6 and 14, TWRS ALARACT Demonstration for Pit Access, and TWRS ALARACT Demonstration for Pit Work. Activities not covered in these ALARACTs are described below.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

At the start of the pit work, the cover blocks will be lifted off and radiologically surveyed to determine appropriate disposal protocol and packaged for disposal. A new cover block will be installed when all work in the pit has been completed.

Core drilling will be performed below grade level, on the outside of the pit. The hole will be drilled from the outside to the inside, with the temporary pit cover in place. The drilling bit will be water-cooled. Nozzle installation will generally proceed immediately after the hole is completed. If immediate nozzle installation is not possible, the hole will be temporarily sealed with a plug, tape, or equivalent device, until the nozzle can be installed.

Installation of new nozzles in existing pits will take place in an open pit. All parts of the nozzle will be assembled ahead of time, and will be lowered into position as a single unit. The piping in the back of the nozzle will be threaded through the hole (from the inside of the pit to the outside) and pulled tight into place from the outside of the pit. Grout shall be used to secure and seal the nozzle into place. The front opening of the nozzle, inside the pit, will be fitted with a temporary cap/seal until a jumper is connected to it. Once the nozzle(s) is installed, the temporary pit cover will be replaced until other work inside the pit requires its removal.

Installation of the 42-inch diameter riser extensions will take place in an open pit. Only the risers that will house a mixer pump will have an extension installed. The depth-verification shield plug left in/on the riser from the previously removed mixer pump shall be removed and replaced with the riser extension that has a temporary shield plug inserted at the bottom end. The riser will be open during this step which takes approximately thirty minutes. The extension will be sealed to the cover block with metal bellows. The extensions shall be equipped with spray wash rings that will provide a means of decontamination for future mixer pump removals. They will also provide confinement between the pump and the inside of the pit during future pump removals, which will be possible without removing the pit cover blocks.

Removal of In-Tank Equipment

Various in-tank equipment will be removed from both tanks to make room for the water retrieval equipment, or to be replaced with equivalent equipment built to withstand the mixer pump jet forces. The existing flexible receiver equipment will be used to remove and decontaminate, to acceptable levels, a mixer pump (from a 42-

inch riser) and two transfer pumps (from 12-inch risers). The remaining equipment will be removed from 4-inch, 12-inch, and 42-inch risers using the general bag out process (sleeving equipment with plastic or piping as it is removed).

Equipment removal will be performed in accordance with ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment. Activities not covered in this ALARACT are described below.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

Decontamination of removed equipment is not anticipated, the fewer decontamination activities undertaken the less exposure possibilities there are to the worker and the environment. Contingency decontamination plans, however, are in place if needed. The most likely equipment to be decontaminated would be sections of the flexible receiver. If contingency decontamination is required a two-roomed decontamination tent will be set up within the tank farm fence. Decontamination work will take place in one room and the other will be maintained "clean".

Flexible Receiver Bagging Process

Use of the flexible receiver involves connecting to and disconnecting from a tank riser or pit; lifting/removing the equipment; washing down/decontaminating the equipment; and bagging the equipment. The flexible receiver can be used in a manual or a completely automated mode. Various flexible receiver equipment includes a washer assembly, a radiation monitoring and camera assembly, a bag cinch and cut assembly, a secondary bag seal assembly, and an appropriately sized receiving bag.

The connection process to risers in a concrete pit is different than that to risers outside at, or below, grade level. For risers in pits, the cover block is removed and replaced with the flex receiver platform. The gap between the pit and the platform is sealed with plastic and tape. There is one opening in the platform that is directly above the equipment/riser. The equipment is lifted off the riser, to slightly above the platform, long enough to position the split plates that will support the equipment when it is lowered back down the platform. Generally this step takes less than fifteen minutes and during this time the riser is open around the equipment as it is raised. The equipment is lowered to rest/seal on the split plates. In some instances a gasket may be used between the split plates and the equipment to enhance the seal. At this point confinement is considered restored and work can take place on the upper portion of the piece of equipment, if needed, to prepare it for removal. Once the preparatory work is complete, the equipment is raised slightly to remove the split plates and then lowered back down to rest/seal on the riser. An adapter spool piece assembly (includes the spool piece, the spray wash unit, and alignment bellows) is placed over and around the riser, and the equipment setting on top of the riser. The adapter spool piece is equipped with a rubber seal on the bottom, which provides a seal against the floor of the pit, and the alignment bellows are bolted to the platform providing a seal against the platform. An impact limiter is installed on top of the platform, around the opening, as a precaution if the equipment free falls during the remote bagging process. The piece of equipment is again raised to rest/seal on the impact limiter. Subsequent confinement is provided by the gaskets between equipment/assembly pieces and the rubber seal on the bottom of the adapter spool piece. The remainder of the flex receiver equipment is bolted into place above the impact liner.

For risers that cannot accommodate an adapter spool piece (outside risers), a split spool piece is used to bolt the flex receiver equipment to the riser flange. In this instance, a seal against a floor cannot be made, so a glove bag is used to confine contamination. A glove bag, with the spool piece in it, is sealed around the riser, the riser is opened, the equipment is raised slightly to allow installation of the split spool piece onto the riser flange. Generally this step takes less than fifteen minutes and during this time the riser is open (within the glove bag) around the equipment as it's raised. The equipment is lowered back down to rest/seal on the split spool piece and the spray wash unit is bolted to the split spool piece. The remainder of the flex receiver equipment, in its entirety, is swung into position, the bottom component is slipped into the glove bag and then bolted to the spray wash unit within the glove bag.

After the riser connection process has been completed, the equipment is slowly lifted through the riser (approximately 1 foot per minute). The washing process takes place concurrently with lifting and uses preheated water pressurized up to 3,000 pounds per square inch. Washing takes place outside of the vapor space and the run-off is returned to the tank through the riser.

After a section of the equipment has been washed it is pulled through the radiation monitoring assembly. Here, spectrum analysis is performed on the equipment and it is viewed via the camera to determine if the washing process needs to be repeated. This process will be repeated until the equipment shows no visual signs of waste residue.

Once washed and dripped dry, the equipment is pulled into the flex receiver bag (herculite-type), which expands as the equipment is hoisted up into it. Once the equipment is completely in the bag, an absorbent mat is attached inside the bag. The mat can absorb up to 8 gallons of liquid, if needed. Next, a mechanical sealing device cinches the bag closed with wire rope and crimps the bottom of the bag in two places, one below the other. The bag is then cut between the two crimps, leaving a sealed top section containing the equipment, and a sealed bottom section sealing the riser opening. The bag is then hoisted into position for secondary bagging of the first seal. Secondary bagging involves lowering the bagged equipment, sealed end first, into another bag that fits around the bottom of the first bag. The secondary bag is also cinched closed with wire rope. The portion of the first bag that was cinched at the riser is then removed and disposed of and the riser is closed. From here the equipment is ready for waste packaging for storage and/or burial.

LLCE Waste Packaging Process

The waste packaging process takes place immediately after the equipment bagging process. It is called the Long Length Contaminated Equipment (LLCE) Disposal System and was designed specifically for application at Hanford Tank Farms. It packages non-contact, remote handled, radioactive waste, for storage or burial. In general, the process involves pushing the LLCE into a storage/burial container (polyethylene piping, various diameters and lengths) and filling the container with lightweight grout (perlite concrete) to attain a greater than or equal to 90 percent filled container. Cold testing has shown that it takes approximately two hours to fill the largest container and dissection of the container has demonstrated that the voids around the bagged LLCE are filled 100 percent.

The previously bagged equipment is placed into the skid assembly of the tilt trailer (vertical position). The skid assembly is lowered to the horizontal position and the equipment is slowly pushed into the container already in place on the transport trailer. The endcap is welded closed, using electrical current to fuse the polyethylene together, and leak tested in place. A vent penetration is installed at the top of the end cap for venting displaced air while filling. Another penetration is also put into the endcap for installation of the "trimmie tube" (distributes grout evenly into the container). The vent penetration is fitted with, or piped to, a high-efficiency particulate air (HEPA) filter to satisfy ALARA requirements. At the storage/burial area, the container is removed from the transport trailer and placed for storage or burial.

In-Tank Equipment Installation

Equipment installation will be performed in accordance with TWRS ALARACT Demonstration 13, Installation, Operation, and Removal of Tank Equipment.

Waste Staging and Retrieval Process Overview

The retrieval process at the AP-102 and AP-104 tanks will provide feed stock to a waste treatment facility. The low activity waste received from the source tanks may be conditioned and/or diluted to deliver compliant waste. Mixing and dilution may also take place at the source tanks to meet the waste specifications of AP-102 and -104, i.e., solids content must be within a predetermined amount. In-coming waste will be staged in the tank(s) until enough has been accumulated to send, and the treatment facility is ready to receive, a batch. The mixer pump will then be operated to maintain waste uniformity during staging and to mix the waste for a short period of time before transferring it. The mixer pump will be operated at full speed until waste samples verify that

adequate mixing has been achieved. Waste samples will be collected in accordance with TWRS ALARACT Demonstration 7, Tank Waste Grab Sampling. If dilution/conditioning is needed, the pH and temperature of the diluent will be adjusted. Once the waste is verified acceptable, the transfer lines will be preheated/flushed with diluent, and a transfer to the treatment facility will follow. After the transfer, the lines will be flushed again with diluent.

3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Ac - 227	5.65E-03	Am - 241	2.48E+04	Am - 243	3.11E-02
Ba - 137 m	2.20E+06	C - 14	2.04E+02	Cd - 113 m	5.65E+02
Cm - 242	9.87E-01	Cm - 243	4.85E+00	Cm - 244	1.54E+01
Co - 60	7.59E+02	Cs - 134	2.65E+02	Cs - 137	2.32E+06
Eu - 152	4.07E+01	Eu - 154	3.73E+03	Eu - 155	4.73E+03
H - 3	1.41E+03	I - 129	1.10E+01	Nb - 93 m	7.76E+01
Ni - 59	1.30E+01	Ni - 63	1.28E+03	Np - 237	3.10E+01
Pa - 231	2.50E-02	Pu - 238	3.48E+02	Pu - 239	8.17E+02
Pu - 240	2.25E+02	Pu - 241	8.33E+03	Pu - 242	3.19E-02
Ra - 226	4.81E+00	Ra - 228	2.05E+00	Ru - 106	1.39E+01
Sb - 125	1.33E+03	Se - 79	2.19E+01	Sm - 151	7.72E+04
Sn - 126	3.32E+01	Sr - 90	5.54E+05	Tc - 99	1.46E+04
Th - 229	4.74E-02	Th - 232	2.32E-01	U - 232	6.32E+00
U - 233	2.42E+01	U - 234	1.01E+01	U - 235	3.90E-01
U - 236	7.00E-01	U - 238	8.79E+00	Y - 90	5.54E+05
Zr - 93	1.06E+02				

- 4) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%.
- 5) All pit work must be performed in accordance with TWRS ALARACT Demonstrations 6 and 14 for Pit Access and, ALARACT Demonstrations for Pit Work.
- 6) If the wind speeds exceed 30 miles per hour the work in the glove bags will stop. If sustained wind speed exceeds 25 miles per hour pit work must stop. Records of wind speeds reading must be kept and made available to DOH, if requested.
- 7) Pipe cuts will be made using a sawzall or tri-tool. If removable contamination on only cutting surface is greater than or equal to 10,000 dpm/100cm² beta/gamma and 200 dpm/100cm² alpha it must be cut and prepared in a glove bag for welding. If contamination levels are below these levels cutting maybe done outside of a glove bag. Expandable foam and fixatives are approved to fix smearable contamination.
- 8) Prior to cutting an expandable plug must be in place when a riser is opened in order to maintain constant vapor space and prevent material from falling into the tank during cutting.
- 9) Sample collection flow rate shall be approximately 120 +/- 12 cubic feet per hour.
- 10) The use of the regulated Guzzler, Portable/Temporary Radioactive Air Emission Unit and HEPA filtered vacuum radioactive emission units may be used as needed as prescribed by DOH in their latest approved revision.

Emission Unit ID: 205

200E P-296A041-001

296-A-41

This is a MINOR, ACTIVELY ventilated emission unit.

241-AP TANK FARM

Emission Unit Information

Stack Height: 30.88 ft. 9.41 m. Stack Diameter 2.33 ft. 0.71 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 35.05 ft/second. 10.68 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Heater	1	2 parallel flow paths with 1 heater
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Fan	1	2 parallel flow paths, minimum of 1 in operation at a time; annulus exhauster

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations and ventilates the annuli of DSTs 241-AP Tank Farm. The tanks store radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

Emission Unit ID: 210

200E P-296P031-001

296-P-31

This is a MAJOR, ACTIVELY ventilated emission unit.

209 E CRITICALITY LAB

Emission Unit Information

Stack Height 33.00 ft. 10.06 m. Stack Diameter 2.00 ft. 0.61 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 6.00 ft/second. 1.83 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Prefilter	4	1 bank (No Abatement Credit Taken)
	HEPA	8	2 banks of 4 HEPAs each (A 2 X 99.95% abatement credit taken for combined banks of HEPAs)
	Fan	1	

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(2)	40 CFR 61, Appendix B Method 114. (Frequency of inspection/cleaning of the sample system is extended to 5 years) See Alternative Approval Letter AIR 07-1205.	All radionuclides which could contribute greater than 0.1 mrem/yr to the MEI, or represent greater than 10% of the unabated PTE or represent greater than 25% of the abated dose.	Continuous

Sampling Requirements Record Sample

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 at the 209-E Facility involve surveillance and maintenance activities at the Hanford Site.

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

Project Title	Approval #	Date Approved	NOC_ID
Surveillance and Maintenance of the 209-E Criticality Laboratory	AIR 08-1022	10/31/2008	707

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 3.08E-04 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. The approved activities are limited to:

The 209-E Criticality Laboratory is currently under Surveillance and Maintenance mode which includes the following:

- Enter into and inspect the facility

- Maintain/repair equipment and the facility structure
- Surveil, decontaminate and/or stabilize contaminated areas using passive (wiping, cleaning, high-efficiency particulate air (HEPA) vacuuming, applying fixatives) techniques
- Conduct inspections and tours; take videos and photos
- Remove, package, repack waste and treat as necessary to render it less hazardous or to reduce volumes. Such activities will not increase the potential release rates provided in this NOC
- Support S&M for equipment and the facility using non-destructive methods [nondestructive assay (NDA), surveys and swipes, sampling]
- Wastes generated during S&M would be packaged appropriately and transported in closed containers which meet established waste acceptance criteria to approved onsite locations/facilities pending final disposition
- Install temporary systems to support S&M activities such as lighting, air recirculation systems, closed loop air conditioning systems, environmental monitoring or surveillance equipment, safety systems (containment, fences)
- Erect and remove greenhouses (containment tents/structures) and associated equipment inside the 209-E Building.

3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 1.23E+00 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Am - 241	4.73E-02	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Uranium and Fission Products resulting from decay may be present.			
Pu - 238	8.96E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Uranium and Fission Products resulting from decay may be present.			
Pu - 239	2.71E-02	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Uranium and Fission Products resulting from decay may be present.			
Pu - 240	1.48E-02	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Uranium and Fission Products resulting from decay may be present.			
Pu - 241	3.12E-01	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Uranium and Fission Products resulting from decay may be present.			
Pu - 242	5.23E-06	Liquid/Particulate Solid	WAC 246-247-030(21)(a)
Uranium and Fission Products resulting from decay may be present.			

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

Am - 241 Pu - 238 Pu - 239 Pu - 240 Pu - 241
 Pu - 242

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) Alternative Approval for Stack Flow Measurement Method

1. The stack flow measurement at the sample location cannot meet 40 CFR 60, Method 2 or 2A of Appendix A as required by 40 CFR 61.93(b)(1)) because the sample location is not at least 8 duct diameters downstream from any flow disturbance. Because the flow measurement method at the sample location cannot reasonably be met, the

alternative method of using the design capacity of the exhaust fan (5500 cfm) to report the effluent flow rate is approved. This approval to use the maximum design capacity as an alternative to flow measurement based on the following:

a. The fan capacity of the 296-P-31 stack exhaust fan is 5500 cfm. The HEPA filter design capacity is 5200 cfm. Flow measurements taken over the last 6 years show an average flow rate of 1100 cfm. This measured average flow rate is 70% less than the design based effluent flow rate of 5500 cfm, meeting the intent of 40 CFR 61.93 (b)(3)(ii) requirement to not significantly underestimate flow rate and thus emissions. (Note: the flow rate through the HEPAs cannot exceed the manufactures maximum designed flow rating.)

Request for Approval of Alternative Flow Measurement Method is approved in accordance with 40 CFR 61.93(b)(3) and its adoption by reference in WAC 246 247 035(1)(a)(ii) and WAC 246 247 075(1) and (4).

5) Alternative Approval for Alternative Sample Extraction System

1. Use of this procedure will result in a very conservative volume release flow rate. Additionally, the over reporting of release flow rate would compensate for any sampling error associated with the existing sample extraction design and equipment location.

2. The proposed use of the current sample extraction equipment, if operated continuously, will not significantly underestimate actual emissions since the sample flow is near isokinetic (0.5 cfm).

3. For other than those particulars described above or in the referenced material, representative samples of the effluent stream will be withdrawn continuously from the sampling site following the guidance presented in ANSI N13.1 - 1969.

4. Effluent samples collected by the system will be retrieved on a monthly frequency, with those samples composited for calendar quarterly analysis.

Request for Approval of Alternative Sample Extraction System is approved in accordance with 40 CFR 61.93(b)(3) and its adoption by reference in WAC 246 247 035(1)(a)(ii) and WAC 246 247 075(1) and (4).

6) Alternative Approval for Quality Assurance Requirements Related to Sample System Inspections, Sample Handling, and Sample Analysis

1. The sample extraction, sample handling, and sample analyses will comply with the current revision of the Hanford Site's NESHAP quality assurance project plan for radioactive air emissions data. [note: this will include laboratory analysis/identification of radioisotopes which contribute 10% or more of the potential emissions]

2. The 296-P-31 sampling system was inspected per 40 CFR 61, Appendix B, Method 114, Table 2 annual requirements. Because this was the first inspection in more than 10 years of stack operation, and a clean system was found to be in place, rather than an annual inspection, a 5 year frequency for inspection is approved as an alternative. Approval of this recommendation has been requested and is approved, based on the S&M status of the facility and the recent inspection which found the system to be acceptable without cleaning. (Note: If status of the facility changes to another activity, a more frequent sample system inspection/cleaning will be required.)

This Request for Approval of Alternative Quality Assurance Method is approved in accordance with 40 CFR 61.93(b)(3) and its adoption by reference in WAC 246 247 035(1)(a)(ii) and WAC 246 247 075(1) and (4).

Emission Unit ID: 216

200E P-296A043-001

296-A-43

This is a MINOR, ACTIVELY ventilated emission unit.

241-AY/AZ TANK FARM

Emission Unit Information

Stack Height: 35.50 ft. 10.82 m. Stack Diameter 0.83 ft. 0.25 m.

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

Average Stack Exhaust Velocity: 30.56 ft/second. 9.31 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
	Prefilter	1	2 parallel flow paths; only 1 flow path normally operates at a time
	HEPA	1	2 parallel flow paths; only 1 flow path normally operates at a time
	Fan	1	2 parallel flow paths; only 1 flow path normally operates at a time
	Isolation Damper	1	Allows for operation of one flow path at a time

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a building/facility exhauster that is used to ventilate building and facility operations such as but not limited to process vessels, contaminated rooms, cells, glove boxes, hoods, abandoned facilities awaiting decommissioning, and vaults that support tank farm operations, maintenance, and surveillance activities for tank farms. The exhauster can be used to support current surveillance, maintenance activities, operations or decommissioning, decontamination, and cleanup activities within the building/facility. Many of the activities other than normal surveillance, maintenance, and operation support will be or are regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit is a building/facility exhauster ventilation system that operates intermittently.

Emission Unit ID: 217

200E P-296A018-001

296-A-18

This is a MINOR, ACTIVELY ventilated emission unit.

241-AY Tank Farm

Emission Unit Information

Stack Height: 12.50 ft. 3.81 m. Stack Diameter 1.33 ft. 0.41 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 47.75 ft/second. 14.55 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	2	In series
	Fan	1	Annulus exhauster AY-101, intermittent operations.
	Heater	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations and ventilates the annulus of DST 241-AY-101. The tank stores radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

Emission Unit ID: 218

200E P-296A019-001

296-A-19

This is a MINOR, ACTIVELY ventilated emission unit.

241-AY Tank Farm

Emission Unit Information

Stack Height: 12.90 ft. 3.93 m. Stack Diameter 1.33 ft. 0.41 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 47.75 ft/second. 14.55 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	2	In series
	Fan	1	Annulus exhauster
	Heater	1	

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations and ventilates the annulus of DST 241-AY-102. The tank stores radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

Emission Unit ID: 227

200E P-296AN-001

296-A-29

This is a MINOR, ACTIVELY ventilated emission unit.

241-AN TANK FARM

Emission Unit Information

Stack Height: 16.79 ft. 5.12 m. Stack Diameter 0.83 ft. 0.25 m.

Average Stack Effluent Temperature: 110 degrees Fahrenheit. 43 degrees Celsius.

Average Stack Exhaust Velocity: 30.56 ft/second. 9.31 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
	Deentrainer	1	Normally 1 unit is operated for each fan in operation. If both fans are in operation both deentrainers should be in operation. Either unit may support either train. Located upstream of the split in flow path to individual trains
	Heater	1	1/train, 2 trains
	HEPA	2	2 HEPA banks in Series/train, 2 trains
	Fan	1	1/train, 2 trains
	Prefilter	2	1/train, 2 trains

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)	40 CFR 61, Appendix B, Method 114(3)	Total Alpha Total Beta.	4 week sample/year.

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241 AN Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit operates intermittently.

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

Project Title	Approval #	Date Approved	NOC_ID
Installation and Operation of a Waste Retrieval System in Tanks 241-AN-101,102,103, 104, 105, 106 and 107.	AIR 06-1028	10/5/2006	668

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 2.06E-05 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 1.60E-01 mrem/year to the Maximally Exposed Individual (WAC 246-247-

030(21)).

- 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.

Install and operate a waste retrieval system (up to two mixer pumps per tank and other required equipment) in the 241-AN-101, -AN-102, -AN-103, -AN-104, -AN-105, -AN-106 and the -AN-107 tanks. The pumps will operate in a batch mode as needed. The waste capacity of the tanks will not be altered, nor will the ventilation system.

The 241-AN-101, -102, -103, -104, -105, -106 and -107 tanks are 75-foot diameter double-shell tanks (DST) constructed from the latest generation of tank designs, with a reinforced concrete shell and dome, and an insulating concrete base. A heat-treated, stress relieved, primary steel liner and a non-stress-relieved, outer steel liner are separated by a 2.5-foot annulus and contained inside the concrete shell. The tanks have a flat bottom with a usable waste depth of approximately 35 feet (1,160,000 gallons).

Current design calls for modifications to the 241-AN-101, -102, -103, -104, -105, -106 and -107 tanks and associated equipment to allow installation and removal of waste retrieval system equipment, and shall be limited to the following major components.

New In-Tank Equipment:

Installation of up to two mixer pumps in each tank for mobilizing the settled solids. The pump will be capable of pumping waste through each of two, horizontally opposed, discharge nozzles, located approximately 18 inches above the bottom of the tank.

Installation of a high-pressure spray wash system on top of each of the risers used for the mixer pumps. The spray wash system will be used for future decontamination of the mixer pumps as they are removed from the tank.

Installation of one transfer pump in each tank for the transfer of waste.

Installation of one closed circuit television for each tank.

Installation of one thermocouple tree for each tank, as required.

Installation of caustic addition distribution lines to allow the addition of caustic.

New Ancillary Equipment and Buildings:

Installation of electrical power and instrument cables and other utility tie-ins and/or upgrades (e.g., sanitary and raw water, and telecommunications).

Construction of a dilution system, the Caustic Supply System, to bring waste properties into compliance with the feed specifications, to flush and preheat transfer lines. It will be capable of providing approximately 140 gallons per minute of the pH-adjusted water. It will consist of a package boiler, a chemical injection pump, a diluent/flush pump, a diluent/flush tank (approximately 5,000 gallons), and a spill containment pad for caustic delivery trucks. The system will be located in an area central to and outside of the 241-AN, -AY, and -AZ tank farms.

New pit coverblocks for AN-01A, AN-02A, AN-03A, AN-04A, AN-05A, AN-06A and AN-07A.

Installation of new water and diluent piping to and from the process pits. A total of approximately 2,800 linear feet of piping will be installed at a dept of up to 5 feet underground.

Installation of new process jumpers inside existing central pits (AN01A, AN02A, AN03A, AN04A, AN05A,

AN06A and AN07A) and the 241-AN-A/B Valve Pits.

Installation of miscellaneous concrete pads for electrical and mechanical equipment.

Installation of chain-link fencing and gates.

Operation of Existing In-tank Equipment

Operation of existing transfer pumps, slurry distributors, and other in-tank equipment for the purpose of adding and mixing caustic to ensure wastes meet tank specifications.

Removal, Decontamination and Demolition of Existing Equipment:

Removal of mixer pumps.

Removal of transfer pumps.

Removal of thermocouple probes.

Removal of camera/multi-port riser from tanks AN-103, AN-104 and AN-105. (Camera will be reused in another riser on the tank).

Removal of a slurry distributors.

Removal of jumpers from each of the central pump pits, and central pump pit cover blocks.

Removal of multi-function instrument trees or multi-purpose probes from Tanks 241-AN-101, -102, -103, -104, -105 and -107.

Use of equipment and containers for removal, cleaning, decontamination, transport, storage, and burial of in-tank components and soil.

Performance of miscellaneous activities in support of construction and operation activities that will not increase emissions above those estimated in this NOC:

Repair of road crossings (asphalt paving).

Construction activities with the potential-to-emit include soil excavation, work in pump pits, pipe cutting, removal of, and installation of in-tank equipment. Some of these activities are described in, and will be done in accordance with, an applicable Tank Farm ALARACT demonstration, HNF-4327 latest revision, Control of Airborne Radioactive Emissions for Frequently Performed TWRS Work Activities. The specific activities and corresponding ALARACT demonstration are called out as they apply in the following text.

If needed or chosen for use during these activities, the Regulated Guzzler, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (98-EAP-037, DOE/RL-96-75, and DOE/RL-97-50 respectively).

The 241-AN Tank Farm is posted and maintained as a radiological buffer area, free of surface contamination (entrance is made in street clothes). There are no recorded spills or leaks. Therefore, encountering contamination is not expected during soil excavation activities. Because of the possibility of encountering previously undetected subsurface contamination, all work is performed in accordance with the Hanford Site Radiological Control Manual and the RPP As Low As Reasonably Achievable (ALARA) Program requirements. These requirements are carried out through the activity work packages and associated radiological work permit (RWP).

Soil Excavation:

Soil will be excavated inside and outside the 241-AN Tank Farm to install new piping and construct a new pump pit. A total of approximately 6,000 cubic yards will be excavated, which includes approximately 3,600 cubic yards inside the tank farm. Backfill will be made with the original removed soil or controlled density fill (sand, water and a small amount of cement).

Soil excavation activities inside the tank farm fence will be performed in accordance with ALARACT Demonstration 5, TWRS ALARACT Demonstration for Soil Excavation (using hand tools). Clean soil piles may be moved from one place to another within the tank farm with heavy equipment (backhoe, front-end loader, etc.). Soil excavation outside the tank farm fence also may be performed with heavy equipment. The Regulated Guzzler may also be used as described in its NOC for use in the A Tank Farm Complex (98-EAP-037).

Pipe Cutting:

Any required cut of contaminated piping will be made, inside a glove bag, using appropriate equipment such as a sawzall or tri-tool. In order to perform the cut without a glove bag, the riser will be surveyed/smear to verify removable contamination levels are equal to or less than 10,000 dpm/100cm² beta gamma and 200 dpm/100cm² alpha. The tie-ins will be made at the new pit nozzles. If any welding is required, the glove bag will be removed and the weld made.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

Pit Work:

Work to be performed in pump pits includes replacing three existing sets of cover blocks with newly designed cover blocks, core drilling (equivalent of one hundred, 14-inch diameter, holes), installing new nozzles, removing existing jumpers, and installing riser extensions (total of two, 42-inch diameter per pit).

Pit access and work will be performed in accordance with ALARACT Demonstrations 6 and 14, TWRS ALARACT Demonstration for Pit Access, and TWRS ALARACT Demonstration for Pit Work. Activities not covered in these ALARACTs are described below.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

At the start of the pit work, the cover blocks will be lifted off and radiologically surveyed to determine appropriate disposal protocol and packaged for disposal. A new cover block will be installed when all work in the pit has been completed.

Core drilling will be performed below grade level, on the outside of the pit. The hole will be drilled from the outside to the inside, with the temporary pit cover in place. The drilling bit will be water-cooled. Nozzle installation will generally proceed immediately after the hole is completed. If immediate nozzle installation is not possible, the hole will be temporarily sealed with a plug, tape, or equivalent device, until the nozzle can be installed.

Installation of new nozzles in existing pits will take place in an open pit. All parts of the nozzle will be assembled ahead of time, and will be lowered into position as a single unit. The piping in the back of the nozzle will be threaded through the hole (from the inside of the pit to the outside) and pulled tight into place from the outside of the pit. Grout will be used to secure and seal the nozzle into place. The front opening of the nozzle, inside the pit, will be fitted with a temporary cap/seal until a jumper is connected to it. Once the nozzle(s) is installed, the temporary pit cover will be replaced until other work inside the pit requires its removal.

Installation of the 42-inch diameter riser extensions will take place in an open pit. Only the risers that will

house a mixer pump will have an extension installed. The depth-verification shield plug left in/on the riser from the previously removed mixer pump will be removed and replaced with the riser extension that has a temporary shield plug inserted at the bottom end. The riser will be open during this step which takes approximately thirty minutes. The extension will be sealed to the cover block with metal bellows. The extensions will be equipped with spray wash rings that will provide a means of decontamination for future mixer pump removals. They will also provide confinement between the pump and the inside of the pit during future pump removals, which will be possible without removing the pit cover blocks.

Removal of In-Tank Equipment:

Various in-tank equipment will be removed from both tanks to make room for the water retrieval equipment, or to be replaced with equivalent equipment built to withstand the mixer pump jet forces. The existing flexible receiver equipment will be used to remove long-length components to acceptable levels risers).

Equipment removal will be performed in accordance with ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment, and TWRS ALARACT Demonstration 15, Size Reduction of Waste Equipment for Disposal. Activities not covered in this ALARACT are described below.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

Decontamination of removed equipment is not anticipated, the fewer decontamination activities undertaken the less exposure possibilities there are to the worker and the environment. Contingency decontamination plans, however, are in place if needed. The most likely equipment to be decontaminated would be sections of the flexible receiver. If contingency decontamination is required a two-roomed decontamination tent will be set up within the tank farm fence. Decontamination work will take place in one room and the other will be maintained clean.

Flexible Receiver Bagging Process:

Use of the flexible receiver involves connecting to and disconnecting from a tank riser or pit; lifting/removing the equipment; washing down/decontaminating the equipment; and bagging the equipment. The flexible receiver can be used in a manual or a completely automated mode. Various flexible receiver equipment includes a washer assembly, a radiation monitoring and camera assembly, a bag cinch and cut assembly, a secondary bag seal assembly, and an appropriately sized receiving bag.

The connection process to risers in a concrete pit is different than that to risers outside at, or below, grade level. For risers in pits, the cover block is removed and replaced with the flex receiver platform. The gap between the pit and the platform is sealed with plastic and tape. There is one opening in the platform that is directly above the equipment/riser. The equipment is lifted off the riser, to slightly above the platform, long enough to position the split plates that will support the equipment when it is lowered back down the platform. Generally this step takes less than fifteen minutes and during this time the riser is open around the equipment as it is raised. The equipment is lowered to rest/seal on the split plates. In some instances a gasket may be used between the split plates and the equipment to enhance the seal. At this point confinement is considered restored and work can take place on the upper portion of the piece of equipment, if needed, to prepare it for removal. Once the preparatory work is complete, the equipment is raised slightly to remove the split plates and then lowered back down to rest/seal on the riser. An adapter spool piece assembly (includes the spool piece, the spray wash unit, and alignment bellows) is placed over and around the riser, and the equipment setting on top of the riser. The adapter spool piece is equipped with a rubber seal on the bottom, which provides a seal against the floor of the pit, and the alignment bellows are bolted to the platform providing a seal against the platform. An impact limiter is installed on top of the platform, around the opening, as a precaution if the equipment free falls during the remote bagging process. The piece of equipment is again raised to rest/seal on the impact limiter. Subsequent confinement is provided by the gaskets between equipment/assembly pieces and the rubber seal on the bottom of the adapter spool piece. The remainder of the flex receiver equipment is bolted into place above

the impact liner.

For risers that cannot accommodate an adapter spool piece (outside risers), a split spool piece is used to bolt the flex receiver equipment to the riser flange. In this instance, a seal against a floor cannot be made, so a glove bag is used to confine contamination. A glove bag, with the spool piece in it, is sealed around the riser, the riser is opened, the equipment is raised slightly to allow installation of the split spool piece onto the riser flange. Generally this step takes less than fifteen minutes and during this time the riser is open (within the glove bag) around the equipment as it's raised. The equipment is lowered back down to rest/seal on the split spool piece and the spray wash unit is bolted to the split spool piece. The remainder of the flex receiver equipment, in its entirety, is swung into position, the bottom component is slipped into the glove bag and then bolted to the spray wash unit within the glove bag.

After the riser connection process has been completed, the equipment is slowly lifted through the riser (approximately one foot per minute). The washing process takes place concurrently with lifting and uses preheated water pressurized up to 3,000 pounds per square inch. Washing takes place outside of the vapor space and the run-off is returned to the tank through the riser.

After a section of the equipment has been washed it is pulled through the radiation monitoring assembly. Here, spectrum analysis is performed on the equipment and it is viewed via the camera to determine if the washing process needs to be repeated.

Once washed and dripped dry, the equipment is pulled into the flex receiver bag. Once the equipment is completely in the bag, an absorbent mat is attached inside the bag. The mat can absorb up to 8 gallons of liquid, if needed. Next, a mechanical sealing device cinches the bag closed with wire rope and crimps the bottom of the bag in two places, one below the other. The bag is then cut between the two crimps, leaving a sealed top section containing the equipment, and a sealed bottom section sealing the riser opening. The bag is then hoisted into position for secondary bagging of the first seal. Secondary bagging involves lowering the bagged equipment, sealed end first, into another bag that fits around the bottom of the first bag. The secondary bag is also cinched closed with wire rope. The portion of the first bag that was cinched at the riser is then removed and disposed of and the riser is closed. From here the equipment is ready for waste packaging for storage and/or burial.

LLCE Waste Packaging Process:

The waste packaging process takes place immediately after the equipment bagging process. It is called the Long Length Contaminated Equipment (LLCE) Disposal System and was designed specifically for application at Hanford Tank Farms. It packages non-contact, remote handled, radioactive waste, for storage or burial. In general, the process involves pushing the LLCE into a storage/burial container and filling the container with lightweight grout to attain a greater than or equal to 90 percent filled container.

The previously bagged equipment is placed into the skid assembly of the tilt trailer (vertical position). The skid assembly is lowered to the horizontal position and the equipment is slowly pushed into the container already in place on the transport trailer. The endcap is welded closed, using electrical current to fuse the polyethylene together, and leak tested in place. A vent penetration is installed at the top of the end cap for venting displaced air while filling. Another penetration is also put into the endcap for installation of the "trimmie tube" (distributes grout evenly into the container). The vent penetration is fitted with, or piped to, a high-efficiency particulate air (HEPA) filter to satisfy ALARA requirements. At the storage/burial area, the container is removed from the transport trailer and placed for storage or burial.

In-Tank Equipment Installation:

Equipment installation will be performed in accordance with TWRS ALARACT Demonstration 13, Installation, Operation, and Removal of Tank Equipment.

Waste Staging and Retrieval Process Overview:

The retrieval process at the 241-AN-101, -102, -103, -104, -105, -106 and -107 tanks will provide feed stock to a waste treatment facility. The low activity waste received from the source tanks may be conditioned and/or diluted to deliver compliant waste. Mixing and dilution may also take place at the source tanks to meet the waste specifications of 241-AN-101, -102, -103, -104, -105, -106 and -107, i.e., solids content must be within a predetermined amount. In-coming waste will be staged in the tank(s) until enough has been accumulated to send, and the treatment facility is ready to receive, a batch. The mixer pump will then be operated to maintain waste uniformity during staging and to mix the waste for a short period of time before transferring it. The mixer pump will be operated at full speed until waste samples verify that adequate mixing has been achieved. Waste samples will be collected in accordance with TWRS ALARACT Demonstration 7, Tank Waste Grab Sampling. If dilution/conditioning is needed, the pH and temperature of the diluent will be adjusted by means of the Caustic Supply System. Once the waste is verified acceptable, the transfer lines will be preheated/flushed with diluent, and a decant waste transfer to the treatment facility will follow. After the transfer, the lines will be flushed again with diluent.

3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Ac - 227	5.65E-03	Am - 241	3.65E+03	Am - 243	1.88E-02
C - 14	1.98E+03	Cd - 113 m	5.65E+02	Cm - 242	9.87E-01
Cm - 243	4.85E+00	Cm - 244	1.54E+01	Co - 60	7.59E+02
Cs - 134	2.08E+02	Cs - 137	2.32E+06	Eu - 152	4.07E+01
Eu - 154	3.03E+03	Eu - 155	4.73E+03	H - 3	1.41E+03
I - 129	1.10E+01	Nb - 93 m	7.76E+01	Ni - 59	1.15E+01
Ni - 63	1.14E+03	Np - 237	3.10E+01	Pa - 231	2.49E-02
Pu - 238	1.26E+01	Pu - 239	9.11E+00	Pu - 240	1.85E+00
Pu - 241	1.06E+03	Pu - 242	4.97E-03	Ra - 226	9.14E-04
Ra - 228	2.05E+00	Ru - 106	5.60E-02	Sb - 125	1.33E+03
Se - 79	2.19E+01	Sm - 151	7.72E+04	Sn - 126	3.32E+01
Sr - 90	5.54E+05	Tc - 99	1.17E+03	Th - 229	4.74E-02
Th - 232	2.32E-01	U - 232	6.32E+00	U - 233	2.42E+01
U - 234	5.50E+00	U - 235	2.16E-01	U - 236	2.85E-01
U - 238	6.53E+00	Y - 90	5.54E+05	Zr - 93	1.06E+02

- 4) When a Portable/Temporary Radioactive Air Emission Unit (DOE/RL-96-75), HEPA Filtered Vacuum (DOE/RL-97-50], or the regulated Guzzler are used all Conditions and Limitations associated with the latest approved revisions of those NOCs must be followed, all required logs must be maintained and emissions reported in the annual air emission report.
- 5) To ensure the potential-to-emit from these proposed activities remains less than 0.1 mrem/year, a non-destructive analysis (NDA) of the 296-A-29 HEPA filters will be performed annually during waste retrieval system operation. A baseline NDA will be performed prior to operation of the waste retrieval system.
- 6) Pipe cuts will be made with a sawzall/tri-tool or equivalent tool. If removable contamination levels are greater than 10,000 dpm/100 cm² beta-gamma and 200 dpm/100 cm² alpha, the cuts and welding preparation must be performed inside a glovebag.
- 7) Removal of in-tank equipment will be performed in accordance with ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment, and ALARACT 12 TWRS ALARACT Demonstration for Packaging and Transportation of Equipment and Vehicles.
- 8) The HEPA filter on the endcap of the Long Length Contaminated Equipment Disposal System shall be installed and maintained in accordance with manufacturer's recommendations.
- 9) The TEDE to the MEI from pit work including equipment installation and removal will not exceed the calculated annual dose of 2.85E-02 mrem/year. The pit work will be performed in accordance with TWRS ALARACT Demonstration for Pit Access (6) and TWRS ALARACT Demonstration for Pit Work (14). When contamination levels inside the pit exceed those identified in the ALARACT Demonstrations a notification shall be made to the WDOH, identifying the additional controls to be added in accordance with the containment matrix guide from HNF-

IP-0842. The APQ shall not exceed $5.77E+02$ curies. The annual dose to the MEI and the APQ will be tracked on a WDOH approved log.

- 10) The TEDE to the MEI from soil excavation by hand digging will not exceed the calculated annual dose of $1.61E-02$ mrem/year, and will be performed in accordance with ALARACT 5 TWRS ALARACT Demonstration for Soil Excavation (using hand tools). The APQ shall not exceed $2.65E+01$ curies. The annual dose to the MEI and the APQ will be tracked on a WDOH approved log.
- 11) The TEDE to the MEI from soil excavation by the Guzzler will not exceed $6.96E-02$ mrem/year, and will be performed in accordance with the regulated Guzzler approval identified in (98-EAP-037). The APQ shall not exceed $1.15E-01$ curies. The annual dose to the MEI and the APQ will be tracked on a WDOH approved log. Periodic confirmatory monitoring for soil excavation will consist of soil contamination surveys.
- 12) The TEDE to the MEI from transfer pipe cuts will not exceed $3.34E-02$ mrem/year. The annual possession quantity (APQ) shall not exceed $6.79E+02$ curies. The annual dose to the MEI and APQ will be tracked on a WDOH approved log.
- 13) To confirm low emissions during equipment removal and installation, periodic confirmatory monitoring will be as outlined in ALARACT 13; in addition, periodic confirmatory monitoring for the Flexible Receiver Bagging Process will consist of taking a smear survey of the cut bag. Documentation of the survey will be maintained in a WDOH approved log.
- 14) Total soil excavated during the project will not exceed 6,000 cubic yards, which includes approximately 3,600 cubic yards inside the tank farm.
- 15) Work in glovebags will not be performed if sustained wind speeds are greater than 30 miles per hour. This criterion applies to sustained wind speed as determined by the Hanford Meteorological Station.

Emission Unit ID: 228

200E P-296A030-001

296-A-30

This is a MINOR, ACTIVELY ventilated emission unit.

241-AN TANK FARM

Emission Unit Information

Stack Height: 23.40 ft. 7.13 m. Stack Diameter 2.00 ft. 0.61 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 32.49 ft/second. 9.90 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Decentriner	1	1 in each train
	Heater	1	1 in each train
	Fan	1	2 parallel flow paths; only 1 flow path normally operates at a time, however both trains may be operated at the same time
	HEPA	2	2 parallel flow paths; only 1 flow path normally operates at a time, however both trains may be operated at the same time

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)	40 CFR 61, Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a DST annulus exhauster used to support tank farm operations and ventilates the annuli of DSTs 241-AN Tank Farm. The tanks store radioactive waste until the waste is retrieved, treated, and properly disposed under the applicable federal and state regulations and/or permits. The annulus is the space between the inner wall and outer wall of the tank, and is used for leak detection. The emission unit operates continuously.

Emission Unit ID: 230

200E P-241C107-001

241-C-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 231

200E P-241C108-001

241-C-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 232

200E P-241C112-001

241-C-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 233

200E P-241C201-001

241-C-201

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 235

200E P-241C204-001

241-C-204

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 236

200E C-106 Sluicing

296-C-6

This is a MAJOR, ACTIVELY ventilated emission unit.

241-C TANK FARM

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
	Prefilter	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	Decentrainer	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	Heater	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	HEPA	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.
	Fan	Non-Operational	This emission unit is inactive and will require an NOC to resume operation or a report of closure to de-register.

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
	Non-Operational		

Sampling Requirements Non-Operational

Additional Requirements

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

Operational Status The emission unit is non-operational, removed from service and will not be utilized for future tank farm operations. If the emission unit is required for tank farm operations, the proper regulatory requirements and permits will be obtained prior to returning the emission unit to service. Closure is pending submittal of closure form and final inspection and approval by WDOH.

Emission Unit ID: 237

200E P-241C102-001

241-C-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 242

200E P-241C203-001

241-C-203

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 244

200E P-241C110-001

241-C-110

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 0.13 ft. 0.04 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 245

200E P-241C109-001

241-C-109

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 246

200E P-241C202-001

241-C-202

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 247

200E P-241C101-001

241-C-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-C TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 254

200W S-296S021-001

296-S-21

This is a MAJOR, ACTIVELY ventilated emission unit.

222-S LABORATORY

Emission Unit Information

Stack Height 68.00 ft. 20.73 m. Stack Diameter 5.50 ft. 1.68 m.

Average Stack Effluent Temperature: 78 degrees Fahrenheit. 26 degrees Celsius.

Average Stack Exhaust Velocity: 63.16 ft/second. 19.25 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	3	In series for both the primary and backup exhaust systems (222-S Lab Hot Cells)
	HEPA	1	For both primary and backup exhaust systems (222-S Lab Complex)
	Fan	3	Primary exhaust operated in parallel, serves both hot cell addition & main lab.
	Fan	1	Backup exhaust operates independently or in parallel with primary exhaust

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(2)	40 CFR 61, Appendix B Method 114	Each radionuclide that could contribute greater than 10% of the potential TEDE	Continuous

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a laboratory building/facility exhauster that is used to ventilate building and facility operations such as but not limited to contaminated rooms, hot cells, glove boxes, and hoods, that support tank farm waste characterization activities, research and development, environmental sample analysis, and Hanford operations and remediation projects. The exhauster can be used to support current surveillance, maintenance activities, operations, decontamination, and cleanup activities within the building/facility. The emission unit is a laboratory building/facility exhauster ventilation system that operates continuously.

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

Project Title	Approval #	Date Approved	NOC_ID
License to Operate the 222-S Laboratory	AIR 08-904	9/8/2008	716

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 1.02E-03 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 3.00E+00 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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.

The 222-S Laboratory was built in the early 1950's to provide analytical services, first for the reduction and oxidation (REDOX) process, and later for several programs and plant operations. In 1994 Project W-041H, Environmental Hot Cell Expansion, provided the hot cell facility, an addition at the east end of the 222-S Laboratory that includes the 11A hot cells and associated fume hoods. The increased hot cell capacity was required to support an increased demand for analytical services.

The 222-S Laboratory primarily receives, processes, and stores samples from various projects and packages samples for shipment to other onsite and offsite laboratories. The 222-S Laboratory is also used for sample analysis, testing, and process development. The majority of samples are from the single-shell tanks (SST) and double-shell tanks (DST) in the tank farm system with a few samples coming from other facilities such as the 242-A Evaporator, K Basins Project, Plutonium Finishing Plant (PFP), and the 219-S Waste Handling Facility. All SST and DST samples and most other samples are received through the 11A hot cell.

The 222-S Laboratory is also used for waste management activities, such as waste transfers to the 219-S Waste Handling Facility and other activities supporting laboratory and other Hanford Site operations. The 222-S Laboratory manages waste generated at 222-S Laboratory and small amounts of radioactive waste not generated at the 222-S Laboratory (i.e., for short-term storage or transfer to the 219-S Tank System).

The 222-S Laboratory undergoes operation and maintenance activities that occur in the radioactive portion of the facility and contribute to emissions through the 296-S-21 stack. Nonanalytical portions of the facility that exhaust through the 296-S-21 stack are the basement, tunnels, and other miscellaneous sources (e.g., vented storage cabinets).

3) The Annual Possession Quantity is limited to the following radionuclides (Curies/year):

Ac - 227

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ba - 137 m

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cm - 242

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Co - 60

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Eu - 152

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

H - 3

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ni - 59

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Am - 241

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.

C - 14

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cm - 243

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cs - 134

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Eu - 154

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

I - 129

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ni - 63

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

1.17E+01

Am - 243

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cd - 113 m

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cm - 244

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cs - 137 3.16E+03

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.

Eu - 155

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Nb - 93 m

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Np - 237

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pa - 231

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 240

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ra - 226

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sb - 125

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sn - 126

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Th - 229

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 233

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 236

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Zr - 93

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 238

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 241

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ra - 228

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Se - 79

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sr - 90

9.00E+03

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.

Th - 232

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 234

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 238

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 239

6.85E+01

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.

Pu - 242

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ru - 106

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sm - 151

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Tc - 99

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 232

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 235

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Y - 90

9.00E+03

Contributes less than 0.1 mrem/yr to the MEI and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

- 4) HEPA Filters for the S-21 exhauster will meet the requirements of HNF-S-0477 and/or HNF-S-0552 which assure equivalency to ASME AG-1: Code on Nuclear Air and Gas Treatment.
- 5) Air sampling will be conducted in accordance with ANSI/HPS N13.1-1999: Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities.
- 6) Quality Assurance program will meet the requirements of 40 CFR 61, Appendix B, Method 114.

Emission Unit ID: 255

200E P-241BX104-001

241-BX-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 15.00 ft. 4.57 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter on the outside of the screen covering the outlet vent.

Additional Requirements

Contamination surveys of breather filters with stack extensions will be performed on the downstream side of the filter or on the outside of the screen covering the outlet of vent (if one exists) or by removing the test port cap downstream of the HEPA filter, surveying the cap and inserting smear media (e.g. swab, masslin) in the opening and smearing the interior ducting surface on the opposite side of the test port cap opening.

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 256

200E P-241BX110-001

241-BX-110

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 257

200E P-241BX103-001

241-BX-103

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 258

200E P-241BX107-001

241-BX-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 259

200E P-241BX101-001

241-BX-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 260

200E P-241BX112-001

241-BX-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 261

200E P-241BX106-001

241-BX-106

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 262

200E P-241BX102-001

241-BX-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 263

200E P-241BX109-001

241-BX-109

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 264

200E P-241BX111-001

241-BX-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 265

200E P-241BX108-001

241-BX-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 266

200E P-241B105-001

241-B-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 267

200E P-241B201-001

241-B-201

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 268

200E P-241B108-001

241-B-108

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 269

200E P-241B101-001

241-B-101

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 270

200E P-241B102-001

241-B-102

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 271

200E P-241B204-001

241-B-204

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 272

200E P-241B104-001

241-B-104

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 273

200E P-241BX105-001

241-BX-105

This is a MINOR, PASSIVELY ventilated emission unit.

241-BX TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 274

200E P-241B112-001

241-B-112

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 275

200E P-241B107-001

241-B-107

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 1.00 ft. 0.30 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.17 ft/second. 0.05 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm ² beta/gamma and 200 dpm/100cm ² alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.

Emission Unit ID: 276

200E P-241B111-001

241-B-111

This is a MINOR, PASSIVELY ventilated emission unit.

241-B TANK FARM

Emission Unit Information

Stack Height 3.00 ft. 0.91 m. Stack Diameter 0.33 ft. 0.10 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 1.91 ft/second. 0.58 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	HEPA	1	Passive Breather 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)		Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	1 per year

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent

Additional Requirements

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

Operational Status This emission unit is a passive breather filter that allows a SST to vent to the atmosphere under tank farm storage, maintenance, and operation. The tank stores the radioactive waste awaiting retrieval, treatment, and proper disposal under the applicable federal and state regulations and/or permits. The SST scheduled activities of waste retrieval, decommissioning, and eventual closure will be completed under applicable federal and state regulations and/or permits. Any activity other than storage, maintenance, and normal operation conducted at the tank will obtain the appropriate permits for the activity and the emission units associated with the activity as required by the regulations applicable to the activity. The emission unit is a passive breather filter and is part of the tank's ventilation system that operates continuously.