

**Attachment 1**

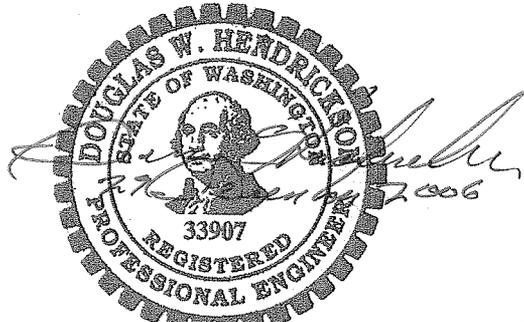
Number: 00-05-006 (Hanford AOP 2006 Renewal)

State of Washington Department of Ecology (Ecology)  
Nuclear Waste Program  
3100 Port of Benton Blvd.  
Richland, Washington 99354

The permittee is authorized to operate the air emission units identified in this Air Operating Permit Number 00-05-006 and all insignificant emission units not specifically identified in this permit.

Dated at Richland, Washington this 29th day of December 2006.

Reviewed by:



EXPIRES 06/10/2007

29 December 2006  
Date

Doug Hendrickson, P.E.  
Professional Engineer Reviewer  
State of Washington Department of Ecology

Approved by:

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12/29/06  
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## **1.0 EMISSION STANDARDS AND LIMITATIONS**

Emission standards and limitations for non-radioactive air pollutants are included in the following sections.

### **1.1 Insignificant Emission Units**

A list of insignificant emission units (IEUs) is listed in the Statement of Basis for this attachment. All IEUs shall maintain compliance with the general requirements in Table 1.2. Compliance with General Standards for Maximum Emissions (Section 1.3) is required. However, the periodic monitoring, testing, recordkeeping, or reporting requirements listed in Table 1.2 are not required. Also the compliance certification is not required for IEUs.

All emission units not identified in Table 1.1 (List of Significant Emission Units) that are subject to 40 CFR 61, Subpart H in Attachment 2, Health License, have been determined to represent insignificant sources of non-radioactive regulated air pollutants. For these emission units no additional monitoring, reporting, or recordkeeping is necessary to determine compliance with the requirements in Table 1.2. All requirements identified in Attachment 2, Health License, for this category of emission unit continue to apply, as well as the requirement to annually certify compliance to any applicable requirements identified in Attachment 2, Health License.

These insignificant emission units need not be listed individually in the annual compliance certification unless there were observed, documented, or known instances of non-compliance during the certification period. Ecology has authority to establish case-by-case monitoring requirements as set forth in WAC 173-400-105 or other provisions of law.

[WAC 173-401-530(2)(b) and (2)(c)]

### **1.2 Emission Units and Activities subject to Monitoring, Reporting, Recordkeeping, and Compliance Certification**

Table 1.1 identifies those emission units on the Hanford Site subject to the requirement to annually certify compliance with the terms and conditions of this Permit. The emission units listed in Table 1.1 are subject to the generally applicable requirements in Table 1.2, General Standards for Maximum Emissions (Section 1.3) unless replaced by another requirement in Tables 1.3, 1.4, 1.5, 1.6 or 1.7. Emission unit-specific requirements for these emission units are found in Tables 1.3, Emission Limits and Periodic Monitoring Requirements for Steam Generating Units; Table 1.4, Internal Combustion Engines: 500 Horsepower and Greater; Table 1.5, Processes and Emission Units Exceeding IEU Thresholds, Excluding Combustion Processes; Table 1.6, Emission Limits and Periodic Monitoring Requirements for Emission Units with NOC Approval Conditions; or Table 1.7, Miscellaneous Emission Units.

**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).
272-W, Boiler 1	Table 1.3	250 HP fuel oil boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
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).
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	Table 1.3	200 HP natural gas boiler, not subject to 40 CFR 60 Subpart Dc (WAC 173-400-115).
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).
200E E-225BC 001	Table 1.4	500 HP or greater internal combustion engine.

**Table 1.1 List of Significant Emission Units.**

Emission unit	Requirements	Description
200E E-225BG 001	Table 1.4	500 HP or greater internal combustion engine.
200E E-282ED 001, Engine E	Table 1.6	500 HP or greater internal combustion engine. <b>NOC: NWP-96-1</b>
200W E-282WD 001, Engine W	Table 1.6	500 HP or greater internal combustion engine. <b>NOC: NWP-96-1</b>
300 E-900 001	Table 1.4	500 HP or greater internal combustion engine.
300 E-900 002	Table 1.4	500 HP or greater internal combustion engine.
300 E-900 003	Table 1.4	500 HP or greater internal combustion engine.
300 E-1000 001	Table 1.4	500 HP or greater internal combustion engine.
300 E-1450 001	Table 1.4	500 HP or greater internal combustion engine.
300 Emergency Diesel Generators, 325, 3709A, and 331	Table 1.6	Subject to NOC approval. 325 and 331 are greater than 500 HP internal combustion engines. <b>NOC: DE02NWP-001</b>
400 E-4250 001, G-3	Table 1.4	500 HP or greater internal combustion engine.
600 E WSCF 001	Table 1.4	500 HP or greater internal combustion engine.
200W P-296SY 001 (Exhauster)	Table 1.5	Exceeds insignificant emission unit threshold(s).
200E P-296AN 001 (Tank Exhauster)	Table 1.5	Exceeds insignificant emission unit threshold(s).
200E P-296AP 001 (Tank Exhauster)	Table 1.5	Exceeds insignificant emission unit threshold(s).
200E P-296AW 001 (Tank Exhauster)	Table 1.5	Exceeds insignificant emission unit threshold(s).
200E P-296A042 001 (Tank Exhauster)	Table 1.5 & 1.6	Exceeds insignificant emission unit threshold(s) and NOC approval for 241-AZ-101 Tank Waste Retrieval and 241-AY/241-AZ Tank Farms ventilation upgrades, Project W-151 and project W-030. <b>NOC: 94-07-01</b>
100K P-296K142 001	Table 1.6	NOC approval for Cold Vacuum Drying - phase II. <b>NOC: 97NM-022</b>
100K N-1724K 001	<b>Removed from Table 1.6 (Revision C)</b>	NOC approval for 1724K Building Maintenance Shop. <b>NOC: 97NM-551 [Per WAC 173-400-110(9), this approval order voided in December 2007.]</b>
Integrated Disposal Facility (200E)	Table 1.6	NOC approval for 200E Integrated Disposal Facility (IDF). <b>NOC: DE05NWP-004</b>
Ventilation Systems for 241-AN and 241-AW Tank Farms (200E)	Table 1.6	NOC approval for 200E Ventilation Systems for 241-AN and 241-AW Tank Farms. <b>NOC: DE05NWP-001</b>
Bulk Vitrification Demonstration Facility (200 Area)	<b>Removed from Table 1.6 (Revision B)</b>	NOC approval for 200 Area Bulk Vitrification Demonstration Facility. <b>NOC: DE04NWP-002 [Per WAC 173-400-110(9), this approval order rendered invalid in May 2007.]</b>
200 Area SST Categorical Waste Retrieval	Table 1.6	NOC approval for 200 Area SST Categorical Waste Retrieval. <b>NOC: DE05NWP-002</b>
200 Area Diffuse/Fugitive – Tank Farms	Table 1.6	NOC for 200 Area Tank Farms Mixer Pumps. <b>NOC: DE00NWP-001</b>

**Table 1.1 List of Significant Emission Units.**

Emission unit	Requirements	Description
200W P-241U107-001 200W P-241S102-001 200W P-241S112-001	Table 1.6	NOC approval for construction and operation of the 241-U-107, 241-S-102, 241-S-112 waste retrieval system. <b>NOC: DE03NWP-001</b>
200E C-106 Sluicing	Table 1.6	NOC approval for 241-C-106 Tank Sluicing, phase II. <b>NOC: 97NM-001</b>
200E P-2025E ETF	Table 1.6	NOC approval for 200 Area Effluent Treatment Facility (ETF). <b>NOC: DE07NWP-003</b>
200E P-WTP-001	Table 1.6	NOC approval for Waste Treatment and Immobilization Plant. <b>NOC: DE02NWP-002</b>
200E Concrete Batch Plant	Table 1.6	NOC approval for Waste Treatment and Immobilization Plant concrete and aggregate production. <b>NOC: DE01NWP-003</b>
200W P-2706T-001	Table 1.6	NOC approval for T Plant Complex. <b>NOC: DE01NWP-002</b>
200W P-291Z001-001	Table 1.6	NOC approval for Plutonium Finishing Plant. <b>NOC: DE04NWP-001</b>
200W J-CWC 001 (CWC)	Table 1.6	NOC approval for storage of vented waste containers at Central Waste Complex. <b>NOC: DE00NWP-002</b>
200W P-296W 004	Table 1.6	NOC approval for Waste Receiving and Processing Facility (WRAP1). <b>NOC: DE03NWP-002</b>
300 EP-331C 01-V	Table 1.6	NOC approval for 331-C Building gas cylinder management process. <b>NOC: DE98NWP-003</b>
300 EP-325-01-S	Table 1.6	NOC approval for 325 Building Hazardous Waste Treatment Unit (HWTU). <b>NOC: DE98NWP-004</b>
300 EP-329-01-S	Table 1.6	NOC approval for Chemical Sciences Laboratory, 329 Building modification and ventilation upgrades. <b>NOC: NWP95-329/300A</b>
300 EP-331-01-V	Table 1.6	NOC approval for Life Sciences Laboratory I (Building 331) modifications. <b>NOC: 97NM-147</b>
300 P-340NTEX-001	Table 1.6	NOC approval for 340-A Building tank solids removal. <b>NOC: 97NM-137</b>
<b>200E E-85 Fuel Station</b>	<b>Table 1.6</b>	<b>200 E Area E-85 Automotive Fuel Tank and Dispensing Facility. NOC: DE06NWP-001</b>
<b>300 336 Building Diesel Engines</b>	<b>Table 1.6</b>	<b>300 Area 2 Diesel Engines supporting 336 High Bay Testing Facility. NOC: DE06NWP-002</b>
<b>100B-181B/182B Diesel Engines</b>	<b>Table 1.6</b>	<b>100 Area Emergency Diesel Engines. NOC: DE07NWP-002</b>
<b>HAMMER Facility</b>	<b>Table 1.6</b>	<b>Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Training and Education Facility. NOC: DE07NWP-001</b>
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.

### **1.3 General Standards for Maximum Emissions**

The following general regulatory requirements, emission limits, or work practice standards apply to all emission units [refer to definition of emission units in WAC 173-401-200(12)] on the Hanford Site.

The general standards in Table 1.2 are the applicable requirement, emission limit, or work practice standard unless replaced by another requirement in Tables 1.3, 1.4, 1.5, 1.6 or 1.7.

**Table 1.2. General Standards For Maximum Emissions.**

Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit, or work practice standard	State-Only enforceable	Periodic monitoring	Periodic monitoring provisions	Test method <sup>1</sup>
WAC 173-400-040(1)	20% Opacity. Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (Section 2.8)	Visible emission surveys	2.1	EPA Method 9.
WAC 173-400-040(2)	Fallout. Prohibits emissions of particulate matter from any source to be deposited beyond the facility boundaries in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material was deposited.	Y	Recordkeeping of complaint investigation.	2.2	
WAC 173-400-040(3)(a)	Fugitive emissions. The Permittee shall take reasonable precautions to prevent the release of air contaminants from any emissions unit engaging in materials handling, construction, demolition, or any other operation that is a source of fugitive emissions.	N	Pre-job planning to determine reasonable control measures <sup>2</sup> .	2.3	

**Table 1.2. General Standards For Maximum Emissions.**

Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit, or work practice standard	State-Only enforceable	Periodic monitoring	Periodic monitoring provisions	Test method <sup>1</sup>
WAC 173-400-040(4)	Odor. Requires any facility causing an odor that unreasonably interferes with another person's use and enjoyment of their property to use recognized good practices and procedures to reduce odors to a reasonable minimum.	Y	Recordkeeping of complaint investigations.	2.2	
WAC 173-400-040(5)	Emissions detrimental to persons or property. Prohibits emissions of any air contaminant from any source that is detrimental to the health, safety, or welfare of any person, or causes damage to property or business	N	Recordkeeping of complaint investigation.	2.2	
WAC 173-400-040(6)	1,000 ppm SO <sub>2</sub> @ 7% O <sub>2</sub> on a dry basis. Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1,000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (Section 2.9)	For fossil-fuel combustion units: recordkeeping or certification.	2.7	EPA Method 6 or 6C of 40 CFR 60, App. A.

**Table 1.2. General Standards For Maximum Emissions.**

Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit, or work practice standard	State-Only enforceable	Periodic monitoring	Periodic monitoring provisions	Test method <sup>1</sup>
WAC 173-400-040(7)	Concealment and masking. Prohibits the installation or use of any device or use of any means that conceals or masks an emission of an air contaminant that would otherwise violate any provision of WAC 173-400.	N	Recordkeeping of complaint investigation.	2.2	
WAC 173-400-040(8)(a)	Fugitive dust. Requires reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize dust generation.	N	Pre-job planning to determine reasonable control measures <sup>2</sup> .	2.3	
WAC 173-400-040 1 <sup>st</sup> Paragraph	Reasonably available control technology (RACT).	N	Permit terms considered RACT <sup>3</sup> .	2.4	

<sup>1</sup> The test methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

<sup>2</sup> These requirements do not apply to emissions that pass through a stack, chimney, vent, or other functionally equivalent opening.

<sup>3</sup> Applies only to regulatory order approval conditions determined to be less than RACT (RCW 70.194.154).

## 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.		
272-W	Boiler 1	Yes	fuel oil
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
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
	Boiler 2	Yes	natural gas

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

Boiler Annex	Unit	>5mmBTU/hr input	Fuel
325	Boiler 1	Yes	natural gas
	Boiler 2	Yes	natural gas
326	Boiler 1	No	natural gas
	Boiler 2	No	natural gas
327	Boiler 1	Yes	natural gas
328	Boiler 1 permanently deactivated in May 2007.		
329	Boiler 1	No	natural gas
	Boiler 2	No	natural gas
	Boiler 3	No	natural gas
	Boiler 4	No	natural gas
331	Boiler 1	Yes	natural gas
	Boiler 2	Yes	natural gas
337-B	Boilers 1 & 2 permanently deactivated in May 2007.		
382-A-D	Boiler 1	Yes	natural gas
3709A	Boiler 1	No	natural gas

**Table 1.3. Emission Limits and Periodic Monitoring Requirements for Steam Generating Units (cont).**

Description	Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit or work practice standard	State-Only enforceable	Periodic monitoring	Test method <sup>1</sup>
Steam generating units <5mmBTU/hr listed previously	WAC 173-400-040(1)	20% Opacity. Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (Section 2.8)	Fuel-oil fired boilers Method: Visible emission surveys, Section 2.1, Tier 1 Frequency: At least once per calendar year quarter  Natural gas-fired boilers Method: Visible emission surveys, Section 2.1, Tier 2 Frequency: At least once per quarter	Method: EPA 9 Frequency: not applicable.
Fossil-fuel fired steam generating units less than 5 mmBTU/hr	WAC 173-400-040(6)	1,000 ppm SO <sub>2</sub> @ 7% O <sub>2</sub> on a dry basis. Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (Section 2.9)	Fuel-oil fired units: Method: Section 2.7, Tier 1. Frequency: At least annually.	EPA Method 6 or 6C of 40 CFR 60, App. A.
	WAC 173-400-050(1) & (3)	Particulate matter 0.23 gram per dry cubic meter at standard conditions (0.1 grain/dscf) adjusted for volumes, corrected to 7% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	EPA Method 5 or approved procedure in "Source Test Manual - Procedures for Compliance Testing," 7/12/90.

**Table 1.3. Emission Limits and Periodic Monitoring Requirements for Steam Generating Units (cont).**

Description	Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit or work practice standard	State-Only enforceable	Periodic monitoring	Test method <sup>1</sup>
Standards of performance for new sources. Small industrial-commercial-institutional steam generating units 234-5Z Boiler 1 234-5Z Boiler 2 234-5Z Boiler 3 242-A Boiler 2 242-A Boiler 3	40 CFR 60 Subpart Dc WAC 173-400-115	0.5 weight percent sulfur fuel (NOC 97NM-138 condition listed below).	N	Fuel supplier certifications and monthly records reported annually. Refer to Recordkeeping. Section 2.5	
No. 2 Distillate fuel-oil fired steam generating units greater than or equal to 5 mmBTU/hr.	97NM-138	0.05% sulfur distillate fuel oil will be used in the 200 Areas; natural gas will be used in the 300 Area.	N	Recordkeeping. Section 2.5	
		NO <sub>x</sub> shall not exceed 0.150 lb/mmBTU and 115 ppm @ 3% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 7E of 40 CFR 60, App. A.
		SO <sub>2</sub> shall not exceed 0.051 lb/mmBTU.	N	Recordkeeping. Section 2.5	
N	See Section 2.6		EPA Method 6 or 6C of 40 CFR 60, App. A.		

**Table 1.3. Emission Limits and Periodic Monitoring Requirements for Steam Generating Units (cont).**

Description	Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit or work practice standard	State-Only enforceable	Periodic monitoring	Test method <sup>1</sup>
No. 2 Distillate fuel-oil fired steam generating units greater than or equal to 5 mmBTU/hr. (cont.)	97NM-138 (cont.)	CO shall not exceed 0.071 lb/mmBTU and 90 ppm @ 3% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 10 of 40 CFR 60, App. A.
		Particulate matter (PM <sub>10</sub> ) shall not exceed 0.011 lb/mmBTU.	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 5 of 40 CFR 60, App. A.
		VOC shall not exceed 0.013 lb/mmBTU and 30 ppm @ 3% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 25 or 25A of 40 CFR 60, App. A.
Natural gas-fired greater than or equal to 5 mmBTU/hr	97NM-138	NO <sub>x</sub> shall not exceed 0.037 lb/mmBTU and 30 ppm @ 3% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 7E of 40 CFR 60, App. A.
		CO shall not exceed 0.225 lb/mmBTU and 300 ppm @ 3% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 10 of 40 CFR 60, App. A.
		Particulate matter (PM <sub>10</sub> ) shall not exceed 0.012 lb/mmBTU.	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 5 of 40 CFR 60, App. A.

**Table 1.3. Emission Limits and Periodic Monitoring Requirements for Steam Generating Units (cont).**

Description	Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit or work practice standard	State-Only enforceable	Periodic monitoring	Test method <sup>1</sup>
Natural gas-fired greater than or equal to 5 mmBTU/hr (cont.)	97NM-138 (cont.)	VOC shall not exceed 0.013 lb/mmBTU and 30 ppm @ 3% O <sub>2</sub> .	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 25 or 25A of 40 CFR 60, App. A.
		SO <sub>2</sub> shall not exceed 0.0006 lb/mmBTU	N	Recordkeeping. Section 2.5	
			N	See Section 2.6	EPA Method 6 or 6C of 40 CFR 60, App. A.

<b>General Conditions:</b>				
<ul style="list-style-type: none"> <li>• Operation and maintenance manuals will be obtained from the manufacturer(s) and made available for review by Ecology on request.</li> <li>• ‘Good combustion practices’ will be applied to all boilers. Good combustion practices include but are not limited to the following:</li> </ul>				
Daily	Monthly	Semi-annually	Annually	Every two years
Visually check combustion.	Inspect burner.	Visually inspect air supply system, and clean and repair if necessary.	Conduct boiler tuneups on large boilers (>5mmBTU/hr heat input) by manufacturer trained technicians or other qualified personnel. Section 2.5 Recordkeeping.	Conduct boiler tuneups on smaller boilers (<5 mmBTU/hr heat input) by manufacturer trained technicians or other qualified personnel. Section 2.5 Recordkeeping.
Record available operating data.	Inspect boiler exteriors	Clean and check fuel supply system (visually inspect and replace filters if necessary).	Clean fireside surfaces and breaching for power boilers.	Inspect refractory for low pressure boilers.
	Check combustion controls.			
	Check for leaks. Check for unusual noise, vibrations, etc.	Inspect refractory for power boilers.	Clean fireside surfaces and breaching for low pressure boilers.	

<sup>1</sup> The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

**1.4.2 Process: Internal Combustion Engines (without specific permit/approval conditions).**

**Table 1.4. Internal Combustion Engines: 500 Horsepower and Greater.**

Discharge point number	Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit or work practice standard	State-Only enforceable	Periodic monitoring	Test method <sup>1</sup>
200E E-225BC 001 200E E-225BG 001 300 E-900 001 300 E-1000 001 300 E-900 002 300 E-1450 001 300 E-900 003 400 E-4250 001, G-3 600 E WSCF 001	WAC 173-400-040(1)	20% Opacity. Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (Section 2.8)	Method: Section 2.1, Tier 1. Frequency: At least once per calendar quarter if operated.	EPA Method 9.
	WAC 173-400-040(6)	1,000 ppm SO <sub>2</sub> @ 7% O <sub>2</sub> on a dry basis. Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1,000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (Section 2.9)	Section 2.7, Tier 1.	EPA Method 6 or 6C of 40 CFR 60, App. A.

<sup>1</sup> The test methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

**1.4.3 Process: Emission Units Exceeding Insignificant Emission Unit Thresholds.**

**Table 1.5. Processes and Emission Units Exceeding Insignificant Emission Unit Threshold, Excluding Combustion Processes.**

Discharge point number	Requirement citation (WAC or Order Citation)	Regulatory requirement, emission limit or work practice standard	State-Only enforceable	Periodic monitoring	Test method <sup>1</sup>
Units with HEPA filtration 200W P-296SY 001 (Tank Exhauster) 200E P-296AN 001 (Tank Exhauster) 200E P-296AP 001 (Tank Exhauster) 200E P-296AW 001 (Tank Exhauster) 200E P-296A042 001 (Tank Exhauster)	WAC 173-400-040(1)	20% Opacity. Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (Section 2.8)	Units with HEPA filtration: Section 2.1, Tier 3.	EPA Method 9.
	WAC 173-400-040(6)	1,000 ppm SO <sub>2</sub> @ 7% O <sub>2</sub> on a dry basis. Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1,000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any 60 consecutive minutes.	N (Section 2.9)	Section 2.7, Tier 2.	EPA Method 6 or 6C of 40 CFR 60, App. A.

<sup>1</sup> The test methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

#### 1.4.4 Process: NOC Approval Order Conditions.

**Table 1.6. Emission Limits and Periodic Monitoring Requirements for Emission Units with NOC Approval Conditions.**

The emission units identified in this table are those emission units that have received an Ecology approval order to operate under WAC 173-400-110 New Source Review and/or WAC 173-460-040.

#### **Discharge Point**                      **All emission units identified in Table 1.6 below<sup>1</sup>**

General requirements where more stringent conditions do not exist  
Requirement Citation (WAC or Order Citation):    WAC 173-400-040(1)

#### **Condition Approval**

Condition:	20% opacity: Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.
Periodic Monitoring:	Section 2.1, unless an alternative visible emissions, opacity, or particulate matter emission limit is identified in Table 1.6 below.
Test Method:	EPA Method 9.
Test Frequency:	Not applicable.
Required Records:	As specified in Section 2.1.
State-Only Enforceable:	No.
Calculation Model ID:	Not applicable.

Requirement Citation (WAC or Order Citation):    WAC 173-400-040(6)

#### **Condition Approval**

Condition:	1000 ppm SO <sub>2</sub> @ 7% O <sub>2</sub> on a dry basis. Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.
Periodic Monitoring:	Section 2.7, Tier 2, unless an alternative SO <sub>2</sub> emission limit is identified in Table 1.6 below.
Test Method:	EPA Method 6 or 6C of 40 CFR 60, App. A.
Test Frequency:	Not applicable.
Required Records:	As specified in Section 2.7.
State-Only Enforceable:	No.
Calculation Model ID:	Not applicable.

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<sup>1</sup> The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

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(Permit conditions for Approval Order DE05NWP-001 and its revisions are consolidated in Pages starting ATT 1-77.)

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(Permit conditions for Approval Order DE05NWP-002 and its revisions are consolidated in Pages starting ATT 1-80.)



**Discharge Point**                      **200 Area Diffuse/fugitive-Tank Farms**

200 Area, Tank Farms - Mixer Pumps

Requirement Citation (WAC or Order Citation):    DE00NWP-001

**Condition Approval**              **2/15/2005 (Revision 1)**

Condition:	Tanks: A new Notice of Construction will be required, if total emissions of toxic air pollutants exceed the SQER, unless dispersion modeling demonstrates that emissions would continue to result in concentrations less than the ASILs. Results of any such dispersion modeling demonstrations/calculations will be maintained on file at the tank farms and made available upon inspection.
Periodic Monitoring:	Analyze each proposed change to determine if emissions would exceed an SQER or ASIL.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Results of analyses.
State-Only	Yes.
Calculation Model	Not applicable.

Requirement Citation (WAC or Order Citation):    DE00NWP-001

**Condition Approval**              **6/13/2000**

Condition:	An updated schedule of installation and operation activities will be made available upon request.
Periodic Monitoring:	Recordkeeping.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Copy of updated schedule.
State-Only	Yes.
Calculation Model	Not applicable.

**Discharge Point**                      **200 Area Diffuse/fugitive-Tank Farms**

200 Area, Tank Farms - Mixer Pumps

Requirement Citation (WAC or Order Citation):    DE00NWP-001

**Condition Approval**              **6/13/2000**

Condition:	Tanks: Notification will be made ten (10) days prior to initiating waste retrieval operations in each tank covered by this order.
Periodic Monitoring:	Recordkeeping.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Copy of notification.
State-Only	Yes.
Calculation Model	Not applicable.

**Discharge Point**                      **C-106 Sluicing**

200E Area, Tank Farms - Sluicing

Requirement Citation (WAC or Order Citation):    **NOC Approval Order 97NM-001 (10/24/1997)  
Revised 4/9/1999 and 2/24/2003**

**Condition Approval**                      **2/24/2003**

Condition:                                      VOC 500 ppm.  
Periodic Monitoring:                      Instruments used to detect fugitive organic emissions as part of Hanford's Industrial Hygiene (IH) worker monitoring program will be used to monitor for VOCs during sluicing pump operations.  
  
Test Method:                                      Hanford's IH monitoring program.  
Test Frequency:                                      VOC monitoring as part of the routine industrial hygiene sampling program during and after the sluicing operation.  
  
Required Records:                                      Records of VOC sample results.  
State-Only    No.  
Calculation Model                                      Not applicable.

**Condition Approval**                      **2/24/2003**

Condition:                                      Sluicing operations may only be conducted for up to 1800 hours per calendar year. Actions shall be taken prior to reaching 50 ppm to limit any excursions above that level. VOC readings may peak at restart of sluicing operations but then are expected to stabilize. A sluicing pump operations log shall show hours of operation.  
  
Periodic Monitoring:                                      Recordkeeping.  
Test Method:    Not specified.  
Test Frequency:    Not applicable.  
Required Records:    Operations log showing all hours of sluicing pump operation.  
State-Only    No.  
Calculation Model    Not applicable.

## Discharge Point

200E Area, Vitrification

Requirement Citation (WAC or Order Citation): DE01NWP-003 (8/21/2001), 9/24/2002 Revision, and 3/12/2003 Revision

## Concrete Batch Plant

### Condition Approval

8/21/2001

Condition:

Total Emission Limits

A. Particulate Matter - Particulates from the bag-house exhaust shall not exceed 0.01 grains per dry standard cubic foot, with no visible emissions. Engineering calculations or vendor information that the bag-house, when properly operated and maintained, will control emissions to less than 0.01 grains per dry standard cubic foot will be available at the facility. Periodic measurements shall consist of visible emission inspections per EPA Reference Method 22, Title 40 Part 60, Appendix A, July 1, 2000.

B. Fugitive Dust - Visible emissions from the sand and aggregate transfer points, truck loading station, the piles, or any other source shall not be allowed beyond 100 yards.

Periodic Monitoring:

A. Recordkeeping

Test Method:

B. EPA Method 22, Title 40 Part 60, App.A, July 1, 2000.

Test Frequency:

Not applicable.

Required Records:

A. Calculations, vendor information, baghouse maintenance logs, surveillance checklists.

B. Visible emission survey results.

State-Only Enforceable: No.

Calculation Model ID: Not applicable.

### Condition Approval

8/21/2001

Condition:

Fugitive Dust

All unpaved areas at the CBP and quarry will be controlled by watering or chemical stabilization, or both. Means of chemical stabilization include the application of petroleum resins (EPA 1998). A water spray additive, (such as, "soil cement") will also be considered for application on unpaved roads. Soil cement has been previously used on the Hanford Site with effective results.

Vehicle speed limit signs will be posted to control speeds. Paved roads between the quarry and CBP will be kept clear of heavy accumulations of dust and debris. Front-end loaders will be used to pick up any significant spill of sand or aggregate material on the paved roads between the quarry and CBP. The sand and aggregate stockpiles will be kept sprinkled with water to prevent the movement of materials that may migrate because of wind erosion. Transfer points at conveyors, crushers, and screens will also be sprayed with water.

Periodic Monitoring:

Recordkeeping

Test Method:

Not specified.

Test Frequency:

Not applicable.

Required Records:

Surveillance checklists.

State-Only Enforceable: No.

Calculation Model ID: Not applicable.

**Discharge Point**

200E Area, Vitrification

**Concrete Batch Plant**

Requirement Citation (WAC or Order Citation): DE01NWP-003 (8/21/2001), 9/24/2002 Revision, and 3/12/2003 Revision

**Condition Approval**

**8/21/2001**

Condition: Emission Control Monitors  
Emission equipment control monitors shall include but not be limited to the following:  
A. Bag house - None required if there are no visible emissions per section 1.A. of the APPROVAL CONDITIONS, and maintenance records indicate proper maintenance practices and schedules.

Periodic Monitoring: Recordkeeping  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: Surveillance checklists and bag house maintenance logs.  
State-Only Enforceable: No.  
Calculation Model ID: Not applicable.

**Condition Approval**

**8/21/2001**

Condition: General Conditions  
A. Visible Emissions: No visible emissions shall be allowed beyond 100 yards of source. During periods of high winds, an assessment shall be made to suspend operations or initiate a more comprehensive plant watering scheme.

Periodic Monitoring: Visible Emission Surveys.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: Results of visible emission surveys.  
State-Only Enforceable: No.  
Calculation Model ID: Not applicable.

**Discharge Point**

200E Area, Vitrification

**Concrete Batch Plant**

Requirement Citation (WAC or Order Citation): DE01NWP-003 (8/21/2001), 9/24/2002 Revision, and 3/12/2003 Revision

**Condition Approval**

**3/12/2003**

Condition:

Diesel Fuel Oil Boiler

1. A 4.4 MMBtu diesel fuel oil boiler will be operated
2. The diesel fuel sulfur content will be less then or equal to 0.05% S, by weight.
3. Operation of the boiler is limited to 2000 hours per year.
4. Good combustion engineering practices shall be followed, including adherence to the boiler manufacturer's specification for operation, maintenance, and combustion control.
5. Specific combustion feed gas ratios, including the fuel-air ratio, monitoring, startup and shutdown procedures shall be followed to maximize combustion efficiency and minimize discharge of pollutants into the atmosphere.

Periodic Monitoring:

Recordkeeping

Test Method:

Not specified.

Test Frequency:

Not applicable.

Required Records:

1. Manufacturer's specifications for operation, maintenance, and combustion control.
2. Records of operating hours.
3. Records of fuel specification (sulfur content).
4. Records of good combustion engineering practices and operating procedures.

State-Only Enforceable:

No.

Calculation Model ID:

Not applicable.

**Discharge Point**                      **CWC**

200W Area, Central Waste Complex

Requirement Citation (WAC or Order Citation):    DE00NWP-002 Revision 1

**Condition Approval**                      **6/29/2006**

Condition:                      Visible emissions shall not exceed limits specified in WAC 173-400-040(1).  
Periodic Monitoring:            Tier 3 survey/observation.  
Frequency:                      Not applicable (assessment of cause of visible emissions).  
Test Method:                    EPA Method 9 or Tier 3 Visible Emissions Survey of this AOP.  
Test Frequency:                Routine observation.  
Required Records:              Log book.  
State-Only                      No.  
Calculation Model              Not applicable.

**Condition Approval**                      **6/29/2006**

Condition:                      VOC emissions shall not exceed 3.5 tons per year.  
Periodic Monitoring:            Emission estimation (Condition 3.0 of this NOC).  
Frequency:                      Annually.  
Test Method:                    Material assessment, inventory, and calculation as identified in the NOC Approval Condition 3.0.  
Test Frequency:                Annually.  
Required Records:              Results of analyses.  
State-Only                      No.  
Calculation Model              Not applicable.

**Condition Approval**                      **6/29/2006**

Condition:                      All TAPs, as submitted in the Permittee's Notice of Construction Application, shall be below their respective ASIL.  
Periodic Monitoring:            Emission estimation (Condition 3.0 of this NOC).  
Frequency:                      Annually.  
Test Method:                    Material assessment, inventory, and calculation as identified in the NOC Approval Condition 3.0.  
Test Frequency:                Annually.  
Required Records:              Results of analyses.  
State-Only                      No.  
Calculation Model              Not applicable.

**Discharge Point E-282ED 001**

200E Area, Emergency Fire Pump Generators

Requirement Citation (WAC or Order Citation): NWP-96-1

**Condition Approval 4/30/1996**

Condition: Engine E shall operate no more than 350 hours per year.  
Periodic Monitoring: Recordkeeping.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: Maintain records showing all hours of operation.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 4/30/1996**

Condition: NO<sub>x</sub> 75.5 pounds per hour NO<sub>x</sub>.  
Periodic Monitoring: Recordkeeping & average fuel consumption rate determination shall be performed at least once per 12 months.  
Test Method: EPA Method 7A of 40 CFR 60, App. A.  
Test Frequency: Not applicable.  
Required Records: 1. Monthly fuel burned (this calculation is based on fuel added to supply tank).  
2. Hours of operation logged.  
State-Only: No.  
Calculation Model: 2B.

**Condition Approval 4/30/1996**

Condition: Engine E shall burn only No. 2 fuel oil with sulfur content no more than 0.05 weight percent.  
Periodic Monitoring: Recordkeeping for compliance with condition.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: Vendor documentation of fuel purchase from retail outlet (i.e., for use in motor vehicles, see 40 CFR 80), or fuel analysis once per year showing ≤0.05wt% sulfur.  
State-Only: No.  
Calculation Model: Not applicable.

**Discharge Point**                      **E-282ED 001**

200E Area, Emergency Fire Pump Generators

Requirement Citation (WAC or Order Citation):    NWP-96-1

**Condition Approval**                      **4/30/1996**

Condition:	Opacity 10 %.
Periodic Monitoring:	See Section 2.1, Tier 1.
Frequency:	At least once per quarter, if operates.
Test Method:	EPA Method 9 of 40 CFR 60, App. A.
Test Frequency:	Not applicable.
Required Records:	Results of visible emissions survey or records of visual determination of the opacity.
State-Only	No.
Calculation Model	Not applicable.

**Discharge Point**

**E-282WD 001**

200W Area, Generators

Requirement Citation (WAC or Order Citation): NWP-96-1

**Condition Approval 4/30/1996**

Condition: 10 % Opacity.  
Periodic Monitoring: See Section 2.1, Tier 1  
Frequency: At least once per quarter, if operates  
  
Test Method: EPA Method 9 of 40 CFR 60, App. A.  
Test Frequency: Not applicable.  
Required Records: Results of visible emissions survey or records of visual determination of the opacity.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 4/30/1996**

Condition: NO<sub>x</sub> 42 pounds per hour.  
Periodic Monitoring: Recordkeeping & average fuel consumption rate determination shall be performed at least once per 12 months.  
Test Method: EPA Method 7A of 40 CFR 60, App. A.  
Test Frequency: Not applicable.  
Required Records: 1. Monthly fuel burned (this calculation is based on fuel added to supply tank).  
2. Hours of operation logged.  
State-Only: No.  
Calculation Model: 2B.

**Condition Approval 4/30/1996**

Condition: Engine W shall burn only No. 2 fuel oil with sulfur content no more than 0.05 weight percent.  
Periodic Monitoring: Recordkeeping for compliance with condition.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: Vendor documentation of fuel purchase from retail outlet (i.e., for use in motor vehicles, see 40 CFR 80), or fuel analysis once per year showing ≤0.05 wt% sulfur.  
State-Only: No.  
Calculation Model: Not applicable.

**Discharge Point**

**E-282WD 001**

200W Area, Generators

Requirement Citation (WAC or Order Citation): NWP-96-1

**Condition Approval 4/30/1996**

Condition:	Engine W shall operate no more than 350 hours per year.
Periodic Monitoring:	Recordkeeping.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Maintain records showing all hours of operation.
State-Only	No.
Calculation Model	Not applicable.

**Discharge Point**

300 Area, Generators

Requirement Citation (WAC or Order Citation): DE02NWP-001

**Condition Approval**

**1/15/2002**

Condition:

Total Emission Limits

A. The activities described in the Notice of Construction application will be permitted without additional control technologies required, provided that the total emissions from all activities will not result in exceedance of WAC 173-460 ASILs.

B. A new Notice of Construction will be required, if total emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless dispersion modeling demonstrates that emissions would continue to result in concentrations less than the ASILs. Results of any such dispersion modeling demonstrations/calculations will be maintained on file and made available upon inspection.

C. A new NOC also is required if total emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.

Periodic Monitoring:

Analyze each proposed change to determine if emissions would exceed an ASIL or NSR threshold.

Test Method:

Not specified.

Test Frequency:

Not applicable.

Required Records:

Results of analyses.

State-Only

NSR thresholds - No;  
ASILs - Yes.

Calculation Model

Not applicable.

**Condition Approval**

**1/15/2002**

Condition:

Emissions Control

SO<sub>x</sub> emissions will be controlled through use of #2 Diesel Fuel with a sulfur content within the range of 0.2% to 0.5%.

Periodic Monitoring:

Recordkeeping.

Test Method:

Not specified.

Test Frequency:

Per fuel shipment.

Required Records:

Vendor documentation or fuel analysis showing sulfur content < 0.5%.

State-Only

No.

Calculation Model

Not applicable.

**Discharge Point**

300 Area, Generators

Requirement Citation (WAC or Order Citation): DE02NWP-001

**Emergency Diesel Generators**

**Condition Approval**

**1/15/2002**

Condition:

Monitoring and Recordkeeping

Specific records shall be kept on-site by the Permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent sixty (60) month period. The records to be kept shall include the following:

A. Maintain records of the hours of operation.

Periodic Monitoring:

Recordkeeping.

Test Method:

Not specified.

Test Frequency:

Not applicable.

Required Records:

1. Hours of operation

2. Fuel consumption.

State-Only

Calculation Model

Not applicable.

**Discharge Point**                      **EP-331C-01-V Gas Cylinder Management Process**

300 Area, Gas Cylinder Management Process

Requirement Citation (WAC or Order Citation):    DE 98NWP-003 Amendment 1

**Condition Approval**                      **1/19/2006**

Condition:	General Conditions: Visible emissions - No visible emissions shall be allowed beyond the property line, as determined by opacity readings when warranted.
Periodic Monitoring:	Section 2.1, Tier 2.
Test Method:	EPA Method 9.
Test Frequency:	Frequency: At least once per quarter, or as prescribed for Tier2.
Required Records:	Operating log.
State-Only	No.
Calculation Model	Not applicable.

**Condition Approval**                      **9/1/1998**

Condition:	GCMP Release Limits: The maximum total quantity of residuals that are allowed to be released under this Order per calendar year will not exceed two (2) tons/year. This shall include no more than one (1) ton/year of Class I and Class II ozone-depleting substances.
Periodic Monitoring:	Operator recording of release information. Frequency: for each release.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Daily volumes and concentrations emitted from each cylinder and operator signature.
State-Only	Yes.
Calculation Model	6.

**Condition Approval**                      **9/1/1998**

Condition:	GCMP Release Limits:  The above release limits and the ASILs shall not be exceeded until a revised NOC application is submitted to Ecology and approved by Ecology.
Periodic Monitoring:	Applicable if triggered.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	1. Chemical inventory if use rates are unavailable. 2. Volumes and concentrations in each cylinder. 3. Waste handling rates. 4. Chemical use rate. 5. Chemical inventory if use rates are unavailable.
State-Only	No.
Calculation Model	6.

**Discharge Point**                      **EP-331-C-01-V Gas Cylinder Management Process**

300 Area, Gas Cylinder Management Process

Requirement Citation (WAC or Order Citation):    DE 98NWP-003, Amendment 1

**Condition Approval**                      **1/19/2006**

Condition:                      Total Building Emission Limits:  
GCMP process and emission controls, building research and waste handling projects and supporting operations, and building equipment additions and changes, including emission control systems, can be made to accommodate changing research and support requirements without filing a new Notice of Construction, providing the total emissions meet the ASILs and WAC 173-400-110 NSR thresholds.

Periodic Monitoring:                      Recordkeeping  
Frequency: For each release.

Test Method:                      Not specified.

Test Frequency:                      Not applicable.

Required Records:                      Results of analyses.

State-Only                      NSR thresholds - No;  
ASILs - Yes.

Calculation Model                      7A and 7B.

**Condition Approval**                      **1/19/2006**

Condition:                      Total Building Emission Limits:  
A new NOC will be required if total building emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless a T-Screen analysis is run that shows that emissions would result in concentrations less than ASILs. Results of these analyses will be maintained on file at PNNL for inspection.

Periodic Monitoring:                      Applicable if triggered.

Test Method:                      Not specified.

Test Frequency:                      Not applicable.

Required Records:                      1. Chemical inventory if use rates are unavailable  
2. Volumes and concentrations in each cylinder  
3. Waste handling rates  
4. Chemical use rate  
5. Chemical inventory if use rates are unavailable.

State-Only                      Yes.

Calculation Model                      6, 7A & 7B.

**Discharge Point**                      **EP-331-C-01-V Gas Cylinder Management Process**

300 Area, Gas Cylinder Management Process

Requirement Citation (WAC or Order Citation):    DE 98NWP-003, Amendment 1

**Condition Approval**                      **1/19/2006**

Condition:                                      Total Building Emission Limits:

A new NOC will be required if total building emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.

Periodic Monitoring:                      Applicable if triggered.

Test Method:                                      Not specified.

Test Frequency:                                      Not applicable.

Required Records:                                      1. Chemical inventory if use rates are unavailable  
2. Volumes and concentrations in each cylinder  
3. Waste handling rates  
4. Chemical use rate  
5. Chemical inventory if use rates are unavailable.

State-Only    No.

Calculation Model                                      6, & 7A.

**Condition Approval**                      **1/19/2006**

Condition:                                      Monitoring and Recordkeeping:  
Specific records shall be kept on-site by the permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period.

Periodic Monitoring:                      Recordkeeping.

Test Method:                                      Not specified.

Test Frequency:                                      Not applicable.

Required Records:                                      1. Logbook identifying individual cylinders.  
2. Logbook identifying contents of the cylinders  
3. The amount of residuals  
4. The date and rate of release  
5. Any other information pertaining to said release.

State-Only    No.

Calculation Model                                      Not applicable.

**Discharge Point**                      **EP-331-C-01-V Gas Cylinder Management Process**

300 Area, Gas Cylinder Management Process

Requirement Citation (WAC or Order Citation):    DE 98NWP-003, Amendment 1

**Condition Approval**              **1/19/2006**

Condition:                      Should any of the emissions become subject to 40 Code of Federal Regulations (CFR) 264/265 Subparts AA, those emissions would be regulated under those parts and are then exempt from WAC 173-460. In that event, those exempted emissions would be excluded from ASIL and threshold evaluations.

Periodic Monitoring:              Applicable if triggered.

Test Method:                      Not specified.

Test Frequency:                      Not applicable.

Required Records:

State-Only                              Yes.

Calculation Model                      Not applicable.

**Discharge Point**                      **EP-325-01-S Hazardous Waste Treatment Unit**

300 Area, Hazardous Waste Treatment Unit

Requirement Citation (WAC or Order Citation):    DE 98NWP-004

**Condition Approval**                      **9/1/1998**

Condition:                      A new Notice of Construction will be required if total building emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless a T-Screen analysis is run that shows the emissions would result in concentrations less than the ASILs.

Periodic Monitoring:                      Recordkeeping and emission calculations.

Frequency:                      Each proposed change.

Test Method:                      Not specified.

Test Frequency:                      Not applicable.

Required Records:                      Results of analyses.

State-Only                      Yes.

Calculation Model                      7A and 7B.

**Condition Approval**                      **9/1/1998**

Condition:                      Total Building Emission Limits:  
HWTU process and emission controls, building research and waste handling projects and supporting operations, and building equipment additions and changes, including control systems, can be made to accommodate changing research and support requirements without filing a new Notice of Construction, providing the total emissions meet the ASILs and WAC 173-400-110 NSR thresholds.

Periodic Monitoring:                      Recordkeeping and emission calculations.

Frequency:                      Each treatment process and proposed change.

Test Method:                      Not specified.

Test Frequency:                      Not applicable.

Required Records:                      Results of analyses.

State-Only                      NSR thresholds - No;  
ASILs - Yes.

Calculation Model                      7A and 7B.

**Condition Approval**                      **9/1/1998**

Condition:                      A new Notice of Construction also is required if total building emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.

Periodic Monitoring:                      Applicable if triggered.

Test Method:                      Not specified.

Test Frequency:                      Not applicable.

Required Records:                      Results of analyses.

State-Only                      No.

Calculation Model                      Not applicable.

**Discharge Point**

**EP-325-01-S Hazardous Waste Treatment Unit**

300 Area, Hazardous Waste Treatment Unit

Requirement Citation (WAC or Order Citation): DE 98NWP-004

**Condition Approval 9/1/1998**

Condition:	Monitoring and Recordkeeping: Specific records shall be kept on-site by the permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period.
Periodic Monitoring:	Recordkeeping and emission calculations.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	1. HWTU unit feed rates for TAPS and NSR threshold listed criteria pollutants. 2. HWTU treatment process destruction efficiency data or engineering estimates. 3. Engineering estimates of the maximum emissions of reaction products of the HWTU treatment process. 4. Evaluations of each bench-scale treatment process or additions or changes not otherwise exempt.
State-Only	No.
Calculation Model	Not applicable.

**Condition Approval 9/1/1998**

Condition:	General Conditions: Visible Emissions - No visible emissions shall be allowed beyond the property line, as determined by opacity readings when warranted.
Periodic Monitoring:	See Section 2.1, Tier 3.
Test Method:	EPA Method 9.
Test Frequency:	Not applicable.
Required Records:	Operating log.
State-Only	No.
Calculation Model	Not applicable.

**Discharge Point**                      **EP-325-01-S Hazardous Waste Treatment Unit**

300 Area, Hazardous Waste Treatment Unit

Requirement Citation (WAC or Order Citation):    DE 98NWP-004

**Condition Approval**              **9/1/1998**

Condition:	HWTU Feed Rate: The process feed rate shall be limited to a rate that will control the WAC 173-460 listed Toxic Air Pollutants (TAPs) to meet the Acceptable Source Impact Level (ASIL), and in any case, not to exceed 8,000 kg of waste per calendar year total for the HWTU the permittee is proposing under this NOC application approval Order.
Periodic Monitoring:	Recordkeeping.
Frequency:	Daily when operating.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	HWTU daily feed rate (Total and WAC 173-460 TAPs).
State-Only	Yes.
Calculation Model	Not applicable.

**Discharge Point**

**EP-329-01-S Chemical Sciences Laboratory**

300 Area, 329 Building Activities

Requirement Citation (WAC or Order Citation): NWP95-329/300A

**Condition Approval 9/18/1996**

Condition: Opacity 5 %.  
Periodic Monitoring: See Section 2.1, Tier 3.  
Test Method: EPA Method 9 of 40 CFR Part 60, Appendix A.  
Test Frequency: Not applicable.  
Required Records:  
State-Only No.  
Calculation Model Not applicable.

**Condition Approval 9/18/1996**

Condition: VOC 0.8 lb/hr.  
Periodic Monitoring: Chemical inventory and usage records and emission calculations for each change.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: Results of analyses.  
State-Only Yes.  
Calculation Model 4B.

**Discharge Point**                      **EP-331-01-V Life Sciences Laboratory I**

300 Area, Life Sciences Laboratory Activities

Requirement Citation (WAC or Order Citation):    97NM-147

**Condition Approval**                      **11/10/1997**

Condition:                      A new Notice of Construction shall be filed if emissions of toxic air pollutants exceed the pounds per year Small Quantity Emissions Rates (SQER) of WAC 173-460-080(2)(e), or it shall be on file at the 331 Building that T-SCREEN was run and that emissions were less than the Acceptable Source Impact Level (ASIL), in accordance with 173-460-080(2) and (3). Results shall be on file at PNNL for inspection.

A new Notice of Construction shall be filed if emissions of criteria pollutants exceed the following thresholds:

- Carbon Monoxide - 20 tons/year
- Nitrogen Oxides - 8 tons/year
- Sulfur dioxide - 8 tons/year
- Volatile Organic Compounds - 8 tons/year
- Particulate matter - 5 tons/year
- PM-10 - 3 tons/year
- Lead - 0.12 tons/year.

Periodic Monitoring:	Recordkeeping
Frequency:	For each change.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Results of analyses.
State-Only	Yes.
Calculation Model	7A and 7B.

**Discharge Point**

**N-1724K 001**

100K Area, 1724K Building Maintenance Shop Work Activities

Requirement Citation (WAC or Order Citation): 97NM-551 (1/29/1998)

**The approval order was withdrawn by Ecology on 12/4/2007 due to failure to install or operate processes in the maintenance shop (letter from Ecology to DOE).**

**Discharge Point**

200E Area, Effluent Treatment

**P-2025E ETF**

Requirement Citation (WAC or Order Citation): WAC 173-460-070, DE07NWP-003 (6/6/2007),  
Amendment 1 (8/7/2007) and Amendment 2 (9/27/2007)

**Condition Approval**      **6/6/2007 (DE07NWP-003)**  
Condition: Visible emissions from the ETF stack and the ETF STU stack (Figures 1 and 2, respectively, of Order DE07NWP-003) shall not exceed five percent (5%).  
Periodic Monitoring: Tier 3 Visible Emission Survey, Section 2.1 of AOP ATT 1.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: As required in AOP Attachment 2 for maintaining abatement control technology.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval**      **6/6/2007 (DE07NWP-003)**  
Condition: Visible emission from the ETF STU dry material storage bins (Figure 2 of Order DE07NWP-003) shall not exceed 20 percent (20%). [WAC 173-400-040(1)]  
Periodic Monitoring: Tier 2 Visible Emission Survey, Section 2.1 of AOP ATT 1.  
Test Method: Record-keeping and EPA Method 9.  
Test Frequency: Once a year.  
Required Records: Annual surveillance records and/or EPA Method 9 test results.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval**      **6/6/2007 (DE07NWP-003)**  
Condition: Volatile Organic Compound (VOC) emissions from the ETF (Figure 1 of Order DE07NWP-003) shall not exceed 0.50 gram per minute (g/min).  
Condition: Volatile Organic Compound (VOC) emissions from the ETF (Figure 1 of Order DE07NWP-003) shall not exceed 0.55 gram per cubic meter (g/m<sup>3</sup>) at standard conditions.  
Periodic Monitoring: Initial compliance verified by EPA Method 18 in 1996 (NOC-93-3).  
Test Method: EPA Method 18 or 25A.  
Test Frequency: Not applicable (initial test condition for construction).  
Required Records: Testing Results of 1996 EPA Method.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval**      **6/6/2007 (DE07NWP-003)**  
Condition: Volatile Organic Compound (VOC) emissions from ETF and ETF STU operations shall not exceed 4,000 lb/yr. [WAC 173-400-110(5)(d)]  
Periodic Monitoring: Material emission estimates.  
Test Method: Calculations and record-keeping.  
Test Frequency: Annual.  
Required Records: Records of data and calculations for the VOC emissions from ETF and ETF STU operations.  
State-Only: No.  
Calculation Model: Not applicable.

**Discharge Point**

200E Area, Effluent Treatment

**P-2025E ETF**

Requirement Citation (WAC or Order Citation): DE07NWP-003 (6/6/2007), Amendment 1 (8/7/2007) and Amendment 2 (9/27/2007)

**Condition Approval**

**6/6/2007 (DE07NWP-003)**

Condition: Particulate matter emissions shall not exceed 1,500 lb/yr. [WAC 173-400-110(5)(d)]

Periodic Monitoring: (1) HEPA filtration of ETF stack gases,  
(2) HEPA filtration of offgases from the Feed Hopper, Grout Mixer, and Discharge Chute, and  
(3) Industrial filtration of dry material storage bins.

Test Method: See Required Records.

Test Frequency: Not applicable.

Required Records: Maintenance and operating records of all filtration systems.

State-Only: No.

Calculation Model: Not applicable.

**Condition Approval**

**6/6/2007 (DE07NWP-003) and 9/27/2007 (Amendment 2)**

Condition: All TAPs in the NOC applications and identified in Table 1 of DE07NWP-003 Amendment 2 (9/27/2007) and Table 2 of DE07NWP-003 (6/6/2007), shall not exceed ASILs. [WAC 173-460-070]

Periodic Monitoring: Waste analysis records (see Required Records).

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: (1) Laboratory or waste analysis results for TAPs identified in Table 1 of DE07NWP-003 Amendment 2 (9/27/2007) and Table 2 of DE07NWP-003 (6/6/2007), and  
(2) waste stream influent volumetric records.

State-Only: **Yes.**

Calculation Model: Not applicable.

**Condition Approval**

**6/6/2007 (DE07NWP-003)**

Condition: All newly identified TAPs shall not exceed ASILs (with assessment of ASIL compliance). [WAC 173-460-070]

Periodic Monitoring: Assessment of ASIL compliance (see Required Records).

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: (1) Report laboratory or waste analysis result of newly identified TAPs within 90 days of completion of analysis, and  
(2) waste stream influent volumetric records.

State-Only: **Yes.**

Calculation Model: Not applicable.

**Discharge Point**

200E Area, Effluent Treatment

**P-2025E ETF**

Requirement Citation (WAC or Order Citation): DE07NWP-003 (6/6/2007), Amendment 1 (8/7/2007) and Amendment 2 (9/27/2007)

**Condition Approval**

**6/6/2007 (DE07NWP-003)**

Condition:	Emissions of ammonia from the ETF STU stack shall not exceed two pounds per hour. [WAC 173-460-080(2)(e)]
Periodic Monitoring:	Ammonia emission calculations based on Grouted waste production records and material emission estimates (see Required Records).
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Supporting data, calculation, and procedures to demonstrate grouted waste production administrative control of ammonia content (an emission factor of 5.2% shall be applied to determine ammonia emissions based upon STU brine feed concentrations of ammonium sulfate and ammonium nitrate).
State-Only Calculation Model	Yes. Not applicable.

**Discharge Point**

**P-241U107-001, P-241S102-001, P-241S112-001**

200W Area, Tank Farms - Waste Retrieval System

Requirement Citation (WAC or Order Citation): DE03NWP-001R1

**Condition Approval**

**11/3/2004**

Condition:

EMISSION CONTROL MONITORS

Although all contaminant emissions are estimated below their respective small quantity emission rates (SQERS) or below their acceptable source impact levels (ASILs), during waste retrieval, the following sampling and monitoring will take place to verify emissions estimates and to ensure emission limits are not exceeded:

Additional SUMA sampling will be performed in accordance with the IH sampling plan to obtain a representative sample of standard target compounds. However, any spikes detected during analysis that are not on the target compound list will be noted and analyzed for if warranted. This sampling and analysis shall be functionally equivalent with standard EPA method 15A, including all Quality Assurance and Quality Control (QA/QC) protocols.

Periodic Monitoring:

Recordkeeping.

Test Method:

EPA Method 15A or functionally equivalent method.

Test Frequency:

Not applicable.

Required Records:

1. SUMA sampling results.
2. IH sampling and analysis plan.

State-Only

Yes.

Calculation Model

Not applicable.







**Discharge Point**                      **P-241U107-001, P-241S102-001, P-241S112-001**

200W Area, Tank Farms - Waste Retrieval System

Requirement Citation (WAC or Order Citation):    DE03NWP-001<sup>7</sup>

**Condition Approval**                      **3/17/2003**

Condition:                      GENERAL REQUIREMENTS  
Notification will be made ten (10) days prior to initiating waste retrieval operations covered by this Order.

Periodic Monitoring:              Recordkeeping.  
Test Method:                      Not specified.  
Test Frequency:                      Not applicable.  
Required Records:                      Notification documentation.  
State-Only                              Yes.  
Calculation Model                      Not applicable.

Requirement Citation (WAC or Order Citation):    DE03NWP-001<sup>1</sup>

**Condition Approval**                      **3/17/2003**

Condition:                      TOTAL EMISSION LIMITS  
A new NOC also is required if total emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.

Periodic Monitoring:              Recordkeeping and calculations.  
Test Method:                      Not specified.  
Test Frequency:                      At least once per calendar year, if NOC is used.  
Required Records:                      Calculations of criteria pollutants.  
State-Only                              Yes.  
Calculation Model                      Not applicable.

Requirement Citation (WAC or Order Citation):    DE03NWP-001<sup>1</sup>

**Condition Approval**                      **3/17/2003**

Condition:                      EMISSION CONTROLS  
The portable exhausters may be used to control emissions. If the exhauster is in use, exhaust will be monitored for VOCs and ammonia until levels rise and fall off, or until the dome space VOC and ammonia concentrations are reduced to minimum levels (at which point the levels stop changing).

Periodic Monitoring:              Recordkeeping.  
Test Method:                      Not specified.  
Test Frequency:                      Not applicable.  
Required Records:                      Portable exhauster exhaust monitoring records for ammonia and VOCs.  
State-Only                              Yes.  
Calculation Model                      Not applicable.

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<sup>7</sup> Condition found in DE03NWP-001R1 dated 11/3/2004.

**Discharge Point**

**P-2706T 001**

200W Area, T Plant Complex

Requirement Citation (WAC or Order Citation): DE01NWP-002 (9/17/2001) and Revision 1  
(6/29/2006)

**The 9/17/2001 approval conditions are replaced by 6/29/2006 Revision 1 (see next page).**

**Discharge Point**

**P-2706T 001**

200W Area, T Plant Complex

Requirement Citation (WAC or Order Citation): DE01NWP-002 Revision 1 (6/29/2006)

**Condition Approval 6/29/2006**

Condition: **Visible Emissions**  
A. Visible emissions from any T-Plant Complex stack will not exceed limits specified in WAC 173-400-040(1).

Periodic Monitoring: Section 2, Tier 3.  
Test Method: 40CFR60, Appendix A, Method 9  
Test Frequency: Not applicable (when visible emissions are observed).  
Required Records: Maintenance records.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 6/29/2006**

Condition: Emission Limits  
A. VOC emission will not exceed 3.5 tons per year.

B. All TAPs, as submitted in the Permittee's Notice of Construction Application, will be below their respective ASIL.

Periodic Monitoring: Analyze each proposed changed to determine if emissions would exceed Emission limits.

Test Method: Section 3.0 of the Approval Order DE01NWP-002 Revision 1  
Test Frequency: Section 3.0 of the Approval Order DE01NWP-002 Revision 1  
Required Records: Results of analyses.  
State-Only: No.  
Calculation Model: Not applicable.

**Discharge Point P-291Z001-001**

200W Area, Plutonium Stabilization and Handling

Requirement Citation (WAC or Order Citation): DE01NWP-001 (7/17/2001), DE04NWP-001 (3/30/04) and Amendment 1 (5/18/2006)

**Condition Approval 7/17/2001 (DE01NWP-001)**

Condition:

Total Emission Limits:

A. The activities described in the NOC application will be permitted without additional control technologies required, provided that the total emissions from all activities will not exceed the Small Quantity Emission Rates (SQERs) for constituents where a SQER is listed. Constituents without a listed SQER cannot result in exceedance of WAC 173-460 ASILs.

B. A new NOC will be required, if total emissions of toxic air pollutants exceed the SQERs, unless dispersion modeling demonstrates that emissions would continue to result in concentrations less than the ASILs. Results of any such dispersion modeling demonstrations/calculations will be maintained on file at the facility and made available upon inspection.

C. A new NOC also is required if total emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.

Periodic Monitoring:

Analyze each proposed change to determine if emissions would exceed an ASIL or NSR threshold.

Test Method:

Not specified.

Test Frequency:

Not applicable.

Required Records:

Results of analyses.

State-Only

NSR thresholds - No;  
ASILs - Yes.

Calculation Model

Not applicable.

**Condition Approval 7/17/2001 (DE01NWP-001)**

Condition:

General Requirements:

In accordance with the method(s) identified in Section 6 of this Order, an annual assessment shall be conducted to document compliance that no monitoring and/or sampling systems are needed. This assessment will be reported annually beginning as part of the Calendar Year 2001 nonradioactive inventory of airborne emissions report as specified in WAC 173-400-105.

Periodic Monitoring:

Recordkeeping.

Test Method:

Not specified.

Test Frequency:

Annually.

Required Records:

WAC 173-400-105 Report.

State-Only

Yes.

Calculation Model

Not applicable.

**Discharge Point**

**P-291Z001-001**

200W Area, Plutonium Stabilization and Handling

Requirement Citation (WAC or Order Citation): DE01NWP-001 (7/17/2001), DE04NWP-001 (3/30/04) and Amendment 1 (5/18/2006)

**Condition Approval 7/17/2001 (DE01NWP-001)**

Condition: Monitoring and Recordkeeping:  
Facility operating records will be maintained on file to verify the low emission estimates stated in the notice of construction application have not been exceeded. Each batch of material from the total polycube inventory entering the furnaces will also be recorded (i.e., grams of polycube material per unit time) on the facility operating records, which are classified. The classified records shall be kept on-site by the Permittee and made available to cleared Ecology personnel, upon request. The records will cover a minimum of the most recent sixty- (60-) month period.

Periodic Monitoring: Emissions from the polycube thermal stabilization process will be reported in the annual Hanford report, pursuant to WAC 173-400-105.  
Recordkeeping.  
Test Method: Not specified.  
Test Frequency: Per batch.  
Required Records: 1. Emission estimates/calculations.  
2. Operating log showing number of batches processed.

State-Only No.  
Calculation Model Not applicable.

**Condition Approval 5/18/2006 (DE04NWP-001, Amendment 1)**

Condition: Monitoring and Recordkeeping:  
PROCESS ACTIONS resulting in the emissions of polychlorinated biphenyl from paint sources will not exceed the SQER.

Periodic Monitoring: Recordkeeping.  
Test Method: Not specified.  
Test Frequency: Per process action  
Required Records: 1. Emission estimates/calculations.  
2. Operating log showing the process action.

State-Only No.  
Calculation Model Not applicable.

**Condition Approval 5/18/2006 (DE04NWP-001, Amendment 1)**

Condition: Application of Rad Pro 100 decontamination solution:  
Process use of Rad Pro 100 decontamination solution (identified as decontamination solution #1 of Table 2, Section 5, of the NOC application) is enjoined and may not be applied without petition and approval of specific acceptable emission standards for ethylene glycol monobutyl ether.

Periodic Monitoring: Recordkeeping.  
Test Method: Not specified.  
Test Frequency: Per application  
Required Records: 1. Petition and approval.  
2. Operating log showing the application.

State-Only No.  
Calculation Model Not applicable.

**Discharge Point P-296A042-001**

200E Area, Tank Farms - Ventilation Upgrades

Requirement Citation (WAC or Order Citation): NOC 94-07-01

**Condition Approval 12/22/1997**

Condition: VOC max emission limit, 50 ppm, measured as Total Organic Carbon.  
Periodic Monitoring: Recordkeeping and emission calculations.  
Test Method: EPA Method 25A or approved alternative.  
Test Frequency: Annually.  
Required Records: Organic vapor sampling data.  
State-Only: No.  
Calculation Model: 4A.

Requirement Citation (WAC or Order Citation): NOC 94-07

**Condition Approval 8/29/1994**

Condition: Ammonia, 0.05 lbs/hr.  
Periodic Monitoring: Recordkeeping and emission calculations.  
Test Method: Field instruments, which may include Draeger Tubes.  
Test Frequency: Annually.  
Required Records: 1. Stack flow measurements.  
2. Record field instrument or Draeger Tube ammonia concentrations.  
State-Only: No.  
Calculation Model: 5.

**Discharge Point**                      **P-296K142 001**

100K Area, Cold Vacuum Drying

Requirement Citation (WAC or Order Citation):    97NM-022

**Condition Approval**              **3/7/1997**

Condition:	Approval to construct and install process equipment.
Periodic Monitoring:	None.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	None.
State-Only	No.
Calculation Model	Not applicable.

**Discharge Point**                      **P-296W004 001**

200W Area, Waste Receiving and Processing

Requirement Citation (WAC or Order Citation):    DE03NWP-002

**Condition Approval**              **5/21/2003**

Condition:	Emission Controls Monitors: Source data from an Organic Vapor Analyzer using a Photoionization detector (PID) with at least an 11.7eV lamp, or other device capable of detecting TAPs, was conducted by the facility in providing verification of de minimus ( i.e., parts per million levels) fugitive emissions in the drum storage and NDE/NDA areas. The results of source test information, conducted on or at the source(s) locations in lieu of downstream at the stack, have been provided to the permit writer under separate cover. This information had been determined to satisfy the previous approval order condition for this source in performing one-time monitoring to demonstrate TAP emissions are below the estimates provided in the NOC application and T-BACT analysis for the drum storage and DNE/NDA areas. As such, no additional sampling or monitoring will be required under this approval order. The facility will continue to perform at least once every two years, and make available upon request or inspection, results from any Industrial Hygiene program measurements to further demonstrate compliance with limits contained herein. The test plan for conducting these measurements shall also be maintained on file and made available upon request and/or inspection by Ecology.
Periodic Monitoring:	IH Program measurements as specified in NOC, including alternative methods.
Test Method:	Not specified.
Test Frequency:	Once every two years.
Required Records:	Test plan. Measurement results.
State-Only Calculation Model	Yes. Not applicable.

**Discharge Point P-296W004 001**

200W Area, Waste Receiving and Processing

Requirement Citation (WAC or Order Citation): DE03NWP-002 (5/21/2003),  
DE03NWP-002, Amendment 1 (6/29/2006) Supplement Approval Condition

**Condition Approval 5/21/2003**

Condition: Total Emission Limits:  
For toxic compounds not included in the T-BACT analysis, the emission limits shall be the Small Quantity Emission Rate (SQER). A modification submittal of a Notice of Construction (NOC) application will be required if the SQER limit would be exceeded for compounds not addressed under the T-BACT assessment. The calculation/measurement methods described in section 4 of the NOC Approval Order DE03NWP-002, or other method as approved by Ecology, may be used to document compliance with the SQER limit.

Periodic Monitoring: PID or other device capable of detecting TAPs measurements.  
Test Method: Not specified.  
Test Frequency: Once every 2 years.  
Required Records: 1. IH Test Plan.  
2. Results of measurements.

State-Only: Yes.  
Calculation Model: Not applicable.

**Condition Approval 5/21/2003**

Condition: An internal annual assessment of the facility container tracking system, such as SWITS of the data management system (DMS), shall be conducted by the facility to document/verify de minimus emissions from the source. This assessment will be maintained on file, made available for Ecology inspector requests, and compiled into emission estimates that will be reported annually beginning as part of the Calendar Year 2003 nonradioactive inventory of airborne emissions.

Periodic Monitoring: Recordkeeping; Comparison to threshold.  
Test Method: Not specified.  
Test Frequency: Annually.  
Required Records: 1. Throughput records, SWITs query evaluation if > 1,000 drums.  
2. Nonradioactive air emissions inventory report required by WAC 173-400-105.

State-Only: Yes.  
Calculation Model: Not applicable.

**Discharge Point**                      **P-296W004 001**

200W Area, Waste Receiving and Processing

Requirement Citation (WAC or Order Citation):    DE03NWP-002

**Condition Approval**                      **5/21/2003**

Condition:	Total Emission Limits: The processing and repackaging activities described in the Notice of Construction application will be permitted without requiring additional emission controls, provided that the emissions from the stack, venting the 100 and 300 Series Waste Process Lines, the 200 and 400 Restricted Waste process Lines, the process area, and the storage areas are maintained below the level described in and meeting T-BACT (according to WRAP Module 1 Best Available Control Technology Assessment, WHC-SD-W026-TI-005, January 1993, Westinghouse Hanford Company, Richland, Washington).
Periodic Monitoring:	Recordkeeping.
Test Method:	Not specified.
Test Frequency:	Not applicable.
Required Records:	Documentation implementing T-BACT.
State-Only	Yes.
Calculation Model	Not applicable.

**Discharge Point**                      **P-340NTEX-001**

300 Area, Tank Sludge Cleanout

Requirement Citation (WAC or Order Citation):    97NM-137

**Condition Approval**                      **5/5/1997**

Condition:                      Maintain negative pressure of tanks during solids removal.  
Periodic Monitoring:        Not applicable.  
Test Method:                Not specified.  
Test Frequency:             Not applicable.  
Required Records:         Operations log showing negative air pressure was maintained during solids removal from tank.  
  
State-Only                      No.  
Calculation Model         Not applicable.

**Condition Approval**                      **5/5/1997**

Condition:                      Implement temporary pollution controls during removal of solids and equipment from tanks. Temporary pollution controls implemented during solids removal will consist of temporary barriers installed between the tank access port and the surrounding area. Temporary pollution controls implemented during removal of equipment will consist of plastic sleeving to provide a barrier between the equipment and the surrounding work area and the environment.  
  
Periodic Monitoring:        Not applicable.  
Test Method:                Not specified.  
Test Frequency:             Not applicable.  
Required Records:         Operations log showing appropriate temporary pollution control was in place during solids removal and equipment removal.  
  
State-Only                      No.  
Calculation Model         Not applicable.

**Condition Approval**                      **5/5/1997**

Condition:                      Control particulates with a prefilter and two banks of HEPAs. HEPAs are to be in-place tested to demonstrate removal efficiency of 99.95% for particulates with a 0.3 micron median diameter.  
  
Periodic Monitoring:        Not applicable.  
Test Method:                Not specified.  
Test Frequency:             Not applicable.  
Required Records:         1. Inspection records.  
                                      2. HEPA test results.  
  
State-Only                      No.  
Calculation Model         Not applicable.

**Discharge Point**

200E Area, Vitrification

Requirement Citation

WAC or Order Citation):

**P-WTP-001**

WAC 173-400-040(8)(a), DE02NWP-002, Amendments 1, 2, 3 and 4

**Condition Approval:** 11/13/2006

Condition:

FUGITIVE DUST CONTROL

Construction Phase Fugitive Dust Control Plan(s), prepared using EPA and Ecology guidelines, shall be developed and implemented. The plan(s) shall address fugitive dust control at the WTP construction site adjacent to the Hanford 200 Area and the Marshalling Yard established upon property leased from the Port of Benton. A copy of this plan(s) shall be maintained on-site at all times in a place known to facility employees that are responsible for complying with the requirements contained therein and shall be retrievable by those employees at all times when activities regulated by the documents are occurring. These documents shall be made available to Ecology upon request

Periodic Monitoring:

Not applicable. The owner or operator shall take reasonable precautions (such as pre-job planning) to prevent fugitive dust from becoming airborne.

Test Method:

Construction Phase Fugitive Dust Control Plan

Test Frequency:

During construction or routine/*ad hoc* dust suppression

Required Records:

Fugitive Dust Control Plan and records of actions taken to minimize fugitive dust

State-Only:

No.

Calculation Model:

Not applicable.

**Discharge Point**

200E Area, Vitrification

**P-WTP-001**

Requirement Citation (WAC or Order Citation): DE02NWP-002, Amendment 1 and Amendment 2

**Condition Approval**

**11/24/2003**

Condition: 1.1 Opacity from each exhaust stack from process facilities (Pretreatment, HLW, and LAW) shall not exceed 5%, other facility stacks shall not exceed 10 percent, over a 6 minute average as measured by EPA Reference Method 9, or an equivalent method approved in advance by Ecology. A certified opacity reader shall read and record the opacity concurrent with any source testing.

Periodic Monitoring: For Pretreatment, HLW, and LAW  
See Section 2.1, Tier 3.

Test Method: EPA Reference Method 9.

Test Frequency: Initial test.

Required Records: Test Records.

State-Only: No.

Calculation Model: Not applicable.

**Condition Approval**

**11/24/2003**

Condition: 1.1 Opacity from each exhaust stack from process facilities (Pretreatment, HLW, and LAW) shall not exceed 5%, other facility stacks shall not exceed 10 percent, over a 6 minute average as measured by EPA Reference Method 9, or an equivalent method approved in advance by Ecology. A certified opacity reader shall read and record the opacity concurrent with any source testing.

Periodic Monitoring: For boilers, generators, and fire pumps  
See Section 2.1, Tier 1.

Test Method: EPA Reference Method 9.

Test Frequency: At least once per calendar quarter.

Required Records: Test records.

State-Only: No.

Calculation Model: Not applicable.

**Condition Approval**

**11/24/2003**

Condition: 1.1 Opacity from each exhaust stack from process facilities (Pretreatment, HLW, and LAW) shall not exceed 5%, other facility stacks shall not exceed 10 percent, over a 6 minute average as measured by EPA Reference Method 9, or an equivalent method approved in advance by Ecology. A certified opacity reader shall read and record the opacity concurrent with any source testing.

Periodic Monitoring: For other facility stacks  
See Section 2.1, Tier 3.

Test Method: EPA Reference Method 9.

Test Frequency: Initial test.

Required Records: Test records.

State-Only: No.

Calculation Model: Not applicable.

**Discharge Point**

**P-WTP-001**

200E Area, Vitrification

Requirement Citation (WAC or Order Citation): DE02NWP-002, Amendment 1 and Amendment 2

**Condition Approval 11/24/2003**

Condition: 1.2 All boilers, generators and the diesel fire pump shall be fired on Ultra-Low Sulfur Fuel (ULSF). ULSF means natural gas, propane, or fuel oil with a sulfur content of 0.0030% or less. Compliance shall be monitored by maintaining and submitting records of fuel purchases.

Periodic Monitoring: Recordkeeping.  
Test Method: Not Specified.  
Test Frequency: Not Applicable.  
Required Records: Records of monthly fuel purchases and use and an annual certification, from the fuel distributor, stating the sulfur content of the fuel that was supplied.

State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 11/10/2005**

Condition: 1.3 The operation of the six steam generating boilers shall not exceed an annual aggregated fuel consumption limit of 13,400,000 gallons per year summed daily for the previous 365 days.

Periodic Monitoring: Recordkeeping.  
Test Method: Not Specified.  
Test Frequency: Daily.  
Required Records: Maintain fuel purchase records.

State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 7/8/2002**

Condition: 1.4 Each of the 3 emergency generators shall not operate for more than 164 hours per year on a 12 month rolling summation calculated once per month. Compliance shall be monitored by installing and operating non-resettable totalizers on each generator.

Periodic Monitoring: Recordkeeping.  
Test Method: Not Specified.  
Test Frequency: Monthly.  
Required Records: Records showing all hours of operation.

State-Only: No.  
Calculation Model: Not applicable.

**Discharge Point**

200E Area, Vitrification

**P-WTP-001**

Requirement Citation (WAC or Order Citation): DE02NWP-002, Amendment 1 and Amendment 2

**Condition Approval**

**11/24/2003**

Condition: 1.5 Each of the diesel fire pumps shall not operate for more than 110 hours per year on a 12 month rolling summation calculated once per month. Compliance shall be monitored by installing and operating a non-resettable totalizer on the fire pump.

Periodic Monitoring: Recordkeeping.  
Test Method: Not Specified.  
Test Frequency: Not Applicable.  
Required Records: Monthly.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval**

**11/24/2003**

Condition: 2.2 A new NOC will be required, if total emissions of toxic air pollutants exceed the values specified in the tables in Attachment 1. These values shall be confirmed by emission calculations, for indicator constituents, derived from waste characterization data obtained through implementation of the Ecology approved Regulatory Data Objectives Supporting Tank Waste Remediation System Privatization Project (PNNL-12040). The mass feed rates for the indicator constituents will be verified to be less than or equal to the mass feed rates used in the Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-PO-03-008, Rev. 0). Results of any such calculations will be maintained on file and made available upon inspection/request.

Periodic Monitoring: Recordkeeping  
Test Method: Not Specified.  
Test Frequency: At least once per calendar year.  
Required Records: 1. Calculations of TAPs emissions derived from waste feed characterization.  
2. Calculations of ammonia emissions from LAW and HLW.

State-Only: Yes.  
Calculation Model: Not applicable.

**Condition Approval**

**7/8/2002**

Condition: 2.3 A new NOC also is required if total emissions of any criteria pollutants, derived from calculations/monitoring, would exceed the estimates listed under the Emissions section of this order.

Periodic Monitoring: Recordkeeping  
Test Method: Not Specified.  
Test Frequency: At least once per calendar year.  
Required Records: Calculations of criteria pollutants.  
State-Only: Yes.  
Calculation Model: Not applicable.

**Discharge Point**

200E Area, Vitrification

**P-WTP-001**

Requirement Citation (WAC or Order Citation): DE02NWP-002, Amendment 1 and Amendment 2

**Condition Approval**

**11/24/2003**

Condition: 3.1 Within 180-days of achieving the optimized feed rate of simulant at which the facilities will be operated, the permittee shall demonstrate initial compliance through a performance demonstration conducted per an Ecology approved Performance Demonstration Plan. The permittee shall utilize the Performance Demonstration Plan requirements identified in the Dangerous Waste Portion of the Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste Hanford Tank Waste Treatment and Immobilization Plant (DWP), condition III.10.H.5.f (LAW) and III.10.J.5.f (HLW). Ecology shall be notified at least 30 days prior to the test and invited to participate in the test activities at least one week prior to testing.

Periodic Monitoring: Recordkeeping.  
Test Method: Not specified.  
Test Frequency: Not applicable.  
Required Records: 1. Notification Documentation.  
2. Performance Demonstration Plan.

State-Only: Yes.  
Calculation Model: Not applicable.

**Condition Approval**

**11/24/2003**

Condition: 3.2 Testing per the initial compliance testing identified in 3.1 shall be conducted in accordance with the frequency identified in the DWP, condition III.10.I.1.h (LAW) and II.10.K.1.h (HLW).

Periodic Monitoring: Recordkeeping, measurements, and emission calculations.  
Test Method: As stated in DWP conditions III.10.I.1.h (LAW) and III.10.K.1.h (HLW).  
Test Frequency: At startup and at least once every 5 years thereafter.  
Required Records: Test records.  
State-Only: Yes.  
Calculation Model: Not applicable.

**Discharge Point**

200E Area, Vitrification

**P-WTP-001**

Requirement Citation (WAC or Order Citation): DE02NWP-002, Amendment 1 and Amendment 2

**Condition Approval 11/24/2003**

Condition: 3.5 Within 180 days of initial startup, boiler source testing shall be conducted according to the following methods, unless an alternate method has been proposed in writing by the permittee and approved by Ecology in writing in advance of the testing.

Carbon Monoxide - EPA Reference Method 10, 40 CFR 60, Appendix A, 7/1/00 Volatile Organic Compounds (VOC) - EPA Reference Method 18, 40 CFR 60, Appendix A, 7/1/00 Sulfur Dioxide - EPA Reference Method 6C, 40 CFR 60, Appendix A, 7/1/00.

Periodic Monitoring: Recordkeeping, measurements, and emission calculations.  
Test Method: As stated in condition.  
Test Frequency: Initial startup.  
Required Records: Test Records.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 11/24/2003**

Condition: 3.6 During the boiler source testing, a direct-reading measurement device for carbon monoxide with a minimum measurement accuracy of five percent or less shall take readings according to methods proposed by the permittee and approved by Ecology in writing in advance of the testing. The direct-reading instrument shall be calibrated for future use, using the results of the source testing.

Periodic Monitoring: Recordkeeping, measurements, and emission calculations.  
Test Method: Portable emissions analyzer calibrated during most recent source test.  
Test Frequency: Initial startup.  
Required Records: Logs of boiler tune-ups and significant boiler maintenance activities will be maintained.  
State-Only: Yes.  
Calculation Model: Not applicable.

**Condition Approval 11/24/2003**

Condition: 4. Emissions from boilers and generators shall be monitored for CO, and Oxygen by means of a portable emissions analyzer (direct-reading measurement device) at initial startup and after routinely scheduled maintenance activities and burner/control adjustments such as fuel/air metering ratio control and oxygen trim control.

Periodic Monitoring: Recordkeeping, measurements, and emission calculations.  
Test Method: Portable emissions analyzer calibrated during most recent source test.  
**Test Frequency:** Initial startup and after routinely scheduled maintenance activities and burner/control adjustments such as fuel/air metering ratio control and oxygen trim control.  
Required Records: Logs of boiler tune-ups and significant boiler maintenance activities will be maintained.  
State-Only: Yes.  
Calculation Model: Not applicable.

**Discharge Point: Integrated Disposal Facility (IDF)**

200E, General Standards

Requirement Citation

(WAC or Order Citation): WAC 173-400-040(8)(a), DE05NWP-004

**Condition Approval: 05/31/2005**

Condition: FUGITIVE DUST

Requires reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize dust generation.

Periodic Monitoring: Pre-job planning to determine reasonable control measures.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: None listed.

State-Only: No.

Calculation Model: Not applicable.

Requirement Citation

(WAC or Order Citation): WAC 173-400-040(5)(a), DE05NWP-004

**Condition Approval: 05/31/2005**

Condition: FUGITIVE EMISSIONS

The permittee shall take reasonable precautions to prevent the release of air contaminants from any emissions unit engaging in materials handling, construction, demolition, or any other operation that is a source of fugitive emissions.

Periodic Monitoring: Pre-job planning to determine reasonable control measures.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: None listed.

State-Only: No.

Calculation Model: Not applicable.

**Discharge Point: Integrated Disposal Facility**

200E, Tank Farms - Integrated Disposal Facility (IDF)

Requirement Citation  
(WAC or Order Citation): DE05NWP-004

**Condition Approval: 05/31/2005**

Condition: EMISSION LIMITS FOR WASTE COVERING OPERATIONS  
During waste covering operations, aggregate will be used to cover the waste package at the IDF. Dust control for covering the waste package will consist of watering and/or chemical wetting agents. Waste covering operations will be curtailed during high winds in accordance with abnormal operating procedures for high winds. Prior to long periods of inactivity, an assessment shall be made to implement more comprehensive dust control methods, such as chemical stabilization, on disturbed areas. A reassessment will be made once per week.

Periodic Monitoring: Recordkeeping.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Daily activity reports, logs, pre-job reviews, management assessments, surveillances or similar documents.

State-Only: Yes.

Calculation Model: Not applicable.

**Condition Approval: 05/31/2005**

Condition: EMISSION LIMITS FOR TRAVEL ON UNPAVED ROADS  
Surface treatment for dust control will consist of watering and/or chemical stabilization. Minimize vehicle use on unpaved road. Perform regular maintenance of road surface. Reduce vehicle speed limit on unpaved roads.

Periodic Monitoring: Recordkeeping

Test Method: Not specified

Test Frequency: Not applicable.

Required Records: Daily activity reports, logs, pre-job reviews, management assessments, surveillances or similar documents.

State-Only: Yes

Calculation Model: Not applicable

**Discharge Point: Integrated Disposal Facility**

200E, Tank Farms - Integrated Disposal Facility (IDF)

Requirement Citation  
(WAC or Order Citation): DE05NWP-004

**Condition Approval: 05/31/2005**

Condition: EMISSION LIMITS FOR AGGREGATE COVER COMPACTING  
ACTIVITIES

A water truck will be provided, and operated as needed to spray water for compaction. Waste covering operations will be curtailed during high winds in accordance with abnormal operating procedures for high winds. Prior to long periods of inactivity an assessment shall be made to implement more comprehensive dust control methods, such as chemical stabilization, on disturbed areas. A reassessment will be made once per week.

Periodic Monitoring: Recordkeeping.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Daily activity reports, logs, pre-job reviews, management assessments, surveillances or similar documents.

State-Only: Yes.

Calculation Model: Not applicable.

**Condition Approval: 05/31/2005**

Condition: EMISSION LIMITS FOR AGGREGATE STORAGE PILE

Watering will be utilized to minimize wind erosion during storage pile operation. Storage pile work will be curtailed during high winds in accordance with abnormal operating procedures for high winds. Prior to long periods of inactivity, an assessment shall be made to implement more comprehensive dust control methods, such as chemical stabilization, on disturbed areas. A reassessment will be made once per week. Minimize vehicle traffic. Minimize areas of disturbance.

Periodic Monitoring: Recordkeeping.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Daily activity reports, logs, pre-job reviews, management assessments, surveillances or similar documents.

State-Only: Yes

Calculation Model: Not applicable

Pages 1-73 to -76 intentionally left blank

(By 5/9/2007 letter from ECY to USDOE-ORP, Order DE04NWP-002 was removed following void of NOC due to discontinuity of construction over 18 months.)

Pages 1-73 to -76 intentionally left blank

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**Discharge Point: Ventilation Systems for 241-AN and 241 AW Tank Farms**

200E, Tank Farms – Ventilation Systems for 241-AN and 241 AW Tank Farms

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-001 (2/18/2005 \*) and Rev 1 (7/31/2007)

**Condition Approval: 2/18/2005 (DE05NWP-001)**

Condition: EMISSION LIMITS

Visible emissions from each stack shall not exceed five (5) percent.

Periodic Monitoring: Compliance and monitoring shall be met by Tier 3 Visible Emissions Survey requirements of the Hanford AOP, Section 2.1. Should visible emissions be observed which are not solely attributable to water condensation, compliance shall be met by performing an opacity determination utilizing 40 CFR 60, Appendix A, Method 9, providing that such determination shall not place the visible emission observer in hazard greater than that identified for the general worker.

Test Method: 40 Code of Federal Regulations (CFR) Part 60, Appendix A, Method 9, as applicable.

Test Frequency: None Specified (as needed for monitoring and compliance)

Required Records: Visible emission surveys records in which a visible emission was observed, which are not solely attributable to water condensation; and Method 9 results if conducted.

State-Only: No.

Calculation Model: Not applicable.

**Condition Approval: 2/18/2005 (DE05NWP-001)**

Condition: EMISSION LIMITS

Primary tank ventilation exhauster systems shall not exceed 4,000 ft<sup>3</sup>/min (at standard temperature and pressure).

Periodic Monitoring: Compliance and monitoring of this condition shall be demonstrated by stack gas flow and temperature measurement.

Test Method: Not specified.

Test Frequency: None Specified (as needed for monitoring and compliance).

Required Records: (1) Records of exhauster system stack flow rates and temperature records.  
(2) Records of calibration of stack gas flow rate and temperature measurement devices.

State-Only: No.

Calculation Model: Not applicable.

\* Per Ecology letter from Jane Hedges, Program Manager, Nuclear Waste Program, to Roy Schepend, Manager, DOE Office of River Protection, on August 17, 2006, NOC Order No. DE05NWP-001 issued on 2/18/2005 was extended through December 31, 2010, provided the approved construction of the new 241-AN Tank Farm ventilation system is complete and operating by January 1, 2011. Ecology reviewed and agreed that the treatment technology selected to be installed in the order does continue to represent T-BACT.

**Discharge Point: Ventilation Systems for 241-AN and 241 AW Tank Farms**

200E, Tank Farms – Ventilation Systems for 241-AN and 241 AW Tank Farms

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-001 (2/18/2005) and Rev 1 (7/31/2007)

**Condition Approval: 7/31/2007 (DE05NWP-001 Rev 1)**

Condition: EMISSION LIMITS

All TAPs, as shown in Table 2 of Approval Order DE05NWP-001, Rev 1, shall be below their respective ASIL or Screening Level of Table 1 of Approval Order DE05NWP-001 Rev 1.

Periodic Monitoring: Compliance and monitoring shall be met by operating the exhauster systems only when in accord with T-BACT emission controls for the project. T-BACT for this project has been determined to be operation of the primary tank ventilation exhauster systems not exceeding 4,000 cubic feet per minute with moisture de-entrainment, pre-heater, and HEPA filtration in service in the treatment train.

Test Method: Not specified.

Test Frequency: None Specified (as needed for monitoring and compliance).

Required Records: Documentation and record-keeping of T-BACT compliance of emission control found for this project (operation of the primary tank ventilation exhauster system not exceeding 4,000 ft<sup>3</sup>/min with moisture de-entrainment, pre-heater, and HEPA filtration in service in the treatment train).

State-Only: Yes.

Calculation Model: Not applicable.

**Discharge Point: Ventilation Systems for 241-AN and 241 AW Tank Farms**

200E, Tank Farms – Ventilation Systems for 241-AN and 241 AW Tank Farms

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-001 (2/18/2005) and Rev 1 (7/31/2007)

**Condition Approval: 2/18/2005 (DE05NWP-001)**

Condition: EMISSIONS LIMITS

Emissions of ammonia shall not exceed 0.22 pounds per hour (2.77E-02 gram/second) from either primary tank ventilation exhauster system. The term 'either exhauster system' shall mean each individual primary tank ventilation exhauster system within the 241-AN and 241-AW Tank Farms, where an exhauster system may be operated in single-train or dual-train modes.

Periodic Monitoring: Conduct of ammonia concentration readings as described in Sections 3.1 and 3.2 of NOC approval order DE05NWP-001 (2/18/2005), and applying these concentration readings with contemporaneous stack flow rate and temperatures to determine instantaneous mass release rate of ammonia.

Test Method: Ammonia sampling and analysis will be in accord with approved alternative sampling procedures including the use of Draeger tubes to measure stack gas concentration of ammonia providing such devices are spanned to appropriately measure the stack gas ammonia concentration. Stack flow rate and temperature will be applied with the ammonia stack gas concentration to report ammonia emission in terms of grams per second.

Test Frequency: In order to assess baseline emission concentrations from each exhauster system, emission levels of ammonia will be assessed between 12 and 24 hours after initiation of exhauster operation (single train or dual train). Ammonia stack concentrations shall be sampled a minimum of three times.

Baseline Assessments

Baseline assessments shall be conducted within ninety (90) days of commencement of operations. Should dual exhauster train operation not be required by the Permittee during this ninety (90) day period, assessment of dual train operation emissions shall be conducted on the first occasion of dual train operation which is anticipated to exceed 24 hours duration.

Bi-Annual Emission Assessment

In order to maintain reasonable assurance of continued compliance with emission limitations from these exhauster systems, bi-annual assessment of ammonia stack emissions will be conducted beginning the second calendar year following completion of single train exhauster operation assessment under Section 3.1 of NOC approval order DE05NWP-001. A minimum of three samples shall be used to assess these emissions.

Required Records: Results of emission assessments, baseline and bi-annual emission monitoring results, supporting data and calculations to demonstrate compliance with ammonia limits.

State-Only: Yes.

Calculation Model: Not applicable.

**Discharge Point: Ventilation Systems for 241-AN and 241 AW Tank Farms**

200E, Tank Farms – Ventilation Systems for 241-AN and 241 AW Tank Farms

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-001 (2/18/2005 \*) and Rev 1 (7/31/2007)

**Condition Approval: 2/18/2005 (DE05NWP-001)**

Condition: REPORTING

Visible emission surveys conducted and a report of the maintenance conducted to maintain the subject exhaust system's T-BACT operations shall be submitted to Ecology within 30 days of completion of the survey with an assessment of the cause of visible emissions.

Periodic Monitoring: Compliance of this condition is met by submitting to Ecology within thirty (30) days of completion of the survey with an assessment of the cause of visible emissions.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Visible emission surveys conducted and a report of the maintenance.

State-Only: No.

Calculation Model: Not applicable

**Condition Approval: 2/18/2005 (DE05NWP-001)**

Condition: REPORTING

Identification of any TAP not previously identified within the Notice of Construction Application or Supplement emissions estimates shall be submitted to Ecology within ninety (90) days of completion of laboratory analyses which verify emissions of that toxic air pollutant from the project.

Periodic Monitoring: Compliance of this condition is met by submitting to Ecology within ninety (90) days of completion of laboratory analyses which verify emissions of that toxic air pollutant from the project.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Laboratory analysis.

State-Only: No.

Calculation Model: Not applicable

**Condition Approval: 2/18/2005 (DE05NWP-001)**

Condition: REPORTING

Results of emission assessments conducted shall be submitted to Ecology within 90 days of completion of the assessment.

Periodic Monitoring: Compliance of this condition is met by submitting to Ecology within ninety (90) days of completion of such assessment.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Emission assessment results.

State-Only: No.

Calculation Model: Not applicable

**Discharge Point: 200 Area SST Categorical Waste Retrieval**

200 Area SST Categorical Waste Retrieval

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-002 (2/18/2005), Rev. 1 (10/12/2005), and Rev 2 (7/31/2007).

**Condition Approval: 2/18/2005 (DE05NWP-002)**

**EMISSION LIMITS**

Visible emissions from each tank ventilation exhauster stack or aggregated exhauster stack shall not exceed five percent.

Periodic Monitoring: Compliance and monitoring shall be met by Tier 3 Visible Emissions Survey requirements of the Hanford AOP, Section 2.1. Should visible emissions be observed which are not solely attributable to water condensation, compliance shall be met by performing an opacity determination utilizing 40 CFR 60, Appendix A, Method 9, providing that such determination shall not place the visible emission observer in hazard greater than that identified for the general worker.

Test Method: 40 CFR 60, Appendix A, Method 9, as applicable.

Test Frequency: None Specified (as needed for monitoring and compliance)

Required Records: Visible emission surveys records in which a visible emission was observed, which are not solely attributable to water condensation; and Method 9 results if conducted.

State-Only: **No.**

Calculation Model: Not applicable.

**Condition Approval: 2/18/2005 (DE05NWP-002)**

**Condition: EMISSION LIMITS**

Tank ventilation exhauster systems for the 241-C SST farm 100 series tank (241-C-101 through 241-C-112) shall not exceed cumulative flow rates of 7,000 ft<sup>3</sup>/min (at standard temperature and pressure) for three exhausters individually limited to 1,000 ft<sup>3</sup>/min, 3,000 ft<sup>3</sup>/min, and 3,000 ft<sup>3</sup>/min, respectively (at standard temperature and pressure).

Periodic Monitoring: Compliance and monitoring of this condition shall be demonstrated by stack gas flow and temperature measurement.

Test Method: Not specified.

Test Frequency: None Specified (as needed for monitoring and compliance).

Required Records: (1) Records of exhauster system stack flow rates and temperature records.  
(2) Records of calibration of stack gas flow rate and temperature measurement devices.

State-Only: **No.**

Calculation Model: Not applicable.

**Discharge Point: 200 Area SST Categorical Waste Retrieval**

200 Area SST Categorical Waste Retrieval

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-002 (2/18/2005), Rev. 1 (10/12/2005), and Rev 2 (7/31/2007).

**Condition Approval: 2/18/2005 (DE05NWP-002)**

Condition: EMISSION LIMITS

SST ventilation exhauster systems for the retrieval of wastes other than those of the 241-C tank farm 100 series tanks shall not exceed 1,000 ft<sup>3</sup>/min (at standard temperature and pressure).

Periodic Monitoring: Compliance and monitoring of this condition shall be demonstrated by stack gas flow and temperature measurement.

Test Method: Not specified.

Test Frequency: None Specified (as needed for monitoring and compliance).

Required Records: (1) Records of exhauster system stack flow rates and temperature records.  
(2) Records of calibration of stack gas flow rate and temperature measurement devices.

State-Only: **No.**

Calculation Model: Not applicable.

**Discharge Point: 200 Area SST Categorical Waste Retrieval**

200 Area SST Categorical Waste Retrieval

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-002 (2/18/2005), Rev. 1 (10/12/2005), and Rev 2 (7/31/2007).

**Condition Approval: 7/31/2007 (DE05NWP-002, Rev 2)**

Condition: EMISSION LIMITS

All TAPs, as submitted in the permittee's NOC Applications, shall be below their respective ASIL or Screening Level of Table 1 in Approval Order DE05NWP-002, Rev 2.

Periodic Monitoring: Compliance and monitoring with this condition shall be met by:

- (1) Operating the exhauster systems only when in accord with T-BACT emission controls found for this project (operation of the tank ventilation exhauster systems with moisture de-entrainment, pre-heater, and HEPA filtration in service in the treatment train).
- (2) Development and implementation of a sampling and analysis plan (SAP) for each tank retrieval. For each retrieval, the SAP shall address the emission of a minimum of the three TAPs with the higher potential ambient concentration relative to their ASILs of WAC 173-460-150 and WAC-173-460-160 or relative to their Screening Level of Table 1 of the Approval Order DE05NWP-002, Rev 2. The TAPs addressed in the SAP shall be identified from Table 2 of the Approval Order DE05NWP-002, Rev 2, and based upon best engineering judgment and most current tank content data. Analytical methods for the analysis shall be the United States EPA, OSHA, or NIOSH approved, or by approved equivalent method.

Test Method: Not specified.

Test Frequency: None specified (as needed for monitoring and compliance).

Required Records: (1) All monitoring and operations records required to operate and maintain the emission control equipment which implements T-BACT as required in Periodic Monitoring above.  
(2) SAPs developed for compliance demonstration as described in Periodic Monitoring above.  
(3) Laboratory analysis result summaries of any samples undertaken after the effective date of the Approval Order DE05NWP-002, Rev 2, from SST tank farm tank headspaces or SST ventilation system exhaust which are examined for organic species or other TAPs.

State-Only: Yes.

Calculation Model: Not applicable.

**Discharge Point: 200 Area SST Categorical Waste Retrieval**

200 Area SST Categorical Waste Retrieval

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-002 (2/18/2005), Rev. 1 (10/12/2005), and Rev 2 (7/31/2007).

**Condition Approval: 2/18/2005 (DE05NWP-002)**

Condition: REPORTING

Visible emission surveys, conducted pursuant to Compliance Demonstration requirement 1.3.2, per NOC approval DE05NPW-002, and a report of the maintenance conducted to maintain the subject exhaust system's T-BACT operations.

Periodic Monitoring: The reporting condition shall be submitted to Ecology within thirty (30) days of completion of the survey with an assessment of the cause of visible emissions.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Visible emission surveys conducted and a report of the maintenance.

State-Only: No.

Calculation Model: Not applicable

**Condition Approval: 10/12/2005 (DE05NWP-002, Rev. 1)**

Condition: REPORTING

Identification of any TAP not previously identified within the Notice of Construction Application or Supplement emissions estimates as defined in Table 2, per NOC approval DE05NWP-002R1, shall be submitted to Ecology within ninety (90) days of completion of laboratory analyses which verify emissions of that toxic air pollutant from the project.

Periodic Monitoring: The reporting condition shall be submitted to Ecology within ninety (90) days of completion of laboratory analyses which verify emissions of that toxic air pollutant from the project.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Laboratory analysis.

State-Only: Yes.

Calculation Model: Not applicable

**Condition Approval: 2/18/2005 (DE05NWP-002)**

Condition: REPORTING

An annual schedule (Federal fiscal year basis) of anticipated operations and installations of exhaust systems.

Periodic Monitoring: The reporting condition shall be submitted by November first of each year.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Annual Schedule

State-Only: Yes.

Calculation Model: Not applicable

**Discharge Point: 200 Area SST Categorical Waste Retrieval**

200 Area SST Categorical Waste Retrieval

Requirement Citation (WAC or Order Citation): WAC 173-400-040(1), DE05NWP-002 (2/18/2005), Rev. 1 (10/12/2005), and Rev 2 (7/31/2007).

**Condition Approval: 2/18/2005 (DE05NWP-002)**

Condition: OPERATIONAL NOTICE

Notification shall be made at least ten (10) days prior to initial operation of any exhauster system covered by this ORDER DE05NWP-002 when installed to ventilate a tank not previously actively ventilated under this ORDER.

Periodic Monitoring: Not applicable.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Not applicable.

State-Only: Yes.

Calculation Model: Not applicable

**Discharge Point**

**E-85 Fuel Station**

200E Area, E-85 Automotive Fuel Tank and Dispensing Facility

Requirement Citation (WAC or Order Citation): DE06NWP-001 (4/17/2006)

**Condition Approval**

**4/17/2006**

Condition:

Emission Limits

- A. Emissions of Volatile Organic Compounds shall not exceed 40 tons per year.
- B. All TAPs, as submitted in the Permittee's NOC Application, shall be below their respective ASIL.

Periodic Monitoring:

Record fuel storage tank loading of the E-85 fuel and verify NOC Condition 1.6 requirements for each load received..

Test Method:

Compliance of the approval condition shall be demonstrated by installation of BACT and T-BACT emission controls including (1) submerged or bottom fill pipe such that the pipe inlet is fully submerged when the fluid level in the tank is six inches (15.2 cm) or greater, and (2) fitting to vapor balance gasoline vapors with the delivery transport tank.

Test Frequency:

Not applicable (maintenance records).

Required Records:

Retention of fuel storage tank loading records detailed in NOC (DE06NWP-001) Approval Condition 1.6.

State-Only

No;

Calculation Model

Not applicable.

**Discharge Point Diesel Engines – 336 Building**

300 Area, 2 Diesel Engines Supporting 336 High Bay Testing Facility

Requirement Citation (WAC or Order Citation): DE06NWP-002

**Condition Approval 7/20/2006**

Condition: Visible emissions will not exceed 10%.  
Periodic Monitoring: Recordkeeping.  
Test Method: Tier 1 Visible Emission Survey (AOP 2.1) and/or EPA Method 9.  
Test Frequency: Annual.  
Required Records: Operating record and log.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 7/20/2006**

Condition: Emissions of Nitrogen Oxides (NOx) and Non-methane Hydrocarbons (NMHC) will not exceed 6.35 tons per year.  
Periodic Monitoring: Recordkeeping.  
Test Method: Compliance demonstrated by Engine Limitation<sup>1</sup> and Operational Limitation<sup>2</sup> below.  
Test Frequency: Not applicable.  
Required Records: Compliance demonstration records, and operating record and log.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 7/20/2006**

Condition: Emissions of Carbon Monoxide (CO) will not exceed 3.47 tons per year.  
Periodic Monitoring: Recordkeeping.  
Test Method: Compliance demonstrated by Engine Limitation<sup>1</sup> and Operational Limitation<sup>2</sup> below.  
Test Frequency: Not applicable.  
Required Records: Compliance demonstration records, and operating record and log.  
State-Only: No.  
Calculation Model: Not applicable.

**Condition Approval 7/20/2006**

Condition: Emissions of particulate matter (PM) will not exceed 0.20 tons per year.  
Periodic Monitoring: Recordkeeping.  
Test Method: Compliance demonstrated by Engine Limitation<sup>1</sup> and Operational Limitation<sup>2</sup> below.  
Test Frequency: Not applicable.  
Required Records: Compliance demonstration records, and operating record and log.  
State-Only: No.  
Calculation Model: Not applicable.

<b>Condition Approval</b>	<b>7/20/2006</b>
Condition:	Emissions of Toxic Air Pollutants (TAPs) identified within the Notice of Construction for which SQERs are defined, are not to exceed SQERs of WAC 173-460-080(2)(e).
Periodic Monitoring:	Recordkeeping.
Test Method:	Compliance demonstrated by: <ul style="list-style-type: none"><li>• Engine Limitation<sup>1</sup> Conditions 1.1 and 1.3, and Operational Limitation<sup>2</sup> Condition 2.3, OR</li><li>• Calculation of Toxic Air Pollutant emissions, employing air pollutant emission factors of AP 42<sup>3</sup>, Table 3.3-2.</li></ul>
Test Frequency:	Not applicable.
Required Records:	Compliance demonstration records, and operating record and log.
State-Only	No.
Calculation Model	Not applicable.

<b>Condition Approval</b>	<b>7/20/2006</b>
Condition:	Emissions of Polyaromatic Hydrocarbons (PAHs) will not result in ambient concentrations exceeding 4.8E-03 µg/m <sup>3</sup> .
Periodic Monitoring:	Recordkeeping.
Test Method:	Compliance demonstrated by: <ul style="list-style-type: none"><li>• Engine Limitation<sup>1</sup> Conditions 1.1 and 1.3, and Operational Limitation<sup>2</sup> Condition 2.3, OR</li><li>• Calculation of Toxic Air Pollutant emissions, employing PAH air pollutant emission factors of AP 42<sup>3</sup>, Table 3.3-2, and dispersion analysis.</li></ul>
Test Frequency:	Not applicable.
Required Records:	Compliance demonstration records, and operating record and log.
State-Only	No.
Calculation Model	Not applicable.

<b>Condition Approval</b>	<b>7/20/2006</b>
Condition:	Emissions of sulfur dioxide (SO <sub>2</sub> ) is not to exceed 0.20 tons per year.
Periodic Monitoring:	Recordkeeping.
Test Method:	Compliance demonstrated by use of fuel containing no greater than 0.05 weight percent sulfur (500 parts per million by weight).
Test Frequency:	Not applicable.
Required Records:	Compliance demonstration records, and/or fuel analysis records.
State-Only	No.
Calculation Model	Not applicable.

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1. Engine Limitation:

- 1.1 Installation of engines certified to meet Tier 2 (or higher Tier) emission limitations of 40 CFR 89.
- 1.2 Installation of no more than two engines at any given time.
- 1.3 Installation of no engines rated above 450 kW.

2. Operational Limitation:

- 2.1 All recommended operation and equipment maintenance provisions supplied by the manufacturer(s) of the engine(s) will be current.
- 2.2 A non-resettable hour meter will be installed on each engine and operated.
- 2.3 Operational hours of use for all engines under this order will not result in a ratio exceeding 1.0 as calculated by the following equation.

$$\frac{\sum_{i=1}^n \frac{\text{Engine Rating (kW)}_i (\text{Engine Operating Hours})_i}{450 \text{ kW}}}{2000 \text{ hours}} \leq 1.0$$

- 3. **AP 42**, Fifth Edition, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, <http://www.epa.gov/ttn/chief/ap42/index.html>

**Discharge Point: HAMMER Training and Education Facility**

Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Training and Education Facility (2890 Horn Rapids Road, Richland, Washington)

Requirement Citation (WAC or Order Citation): DE07NWP-001

**Condition Approval: 4/19/2007**

Condition: Visible emissions from training operations shall not exceed twenty (20) percent opacity. [WAC 173-400-040(1)]

Periodic Monitoring: Tier 2 Visible Emissions Survey requirements of the Hanford Air Operating Permit if visible emissions from training operations materials, other than those from "fog machines," are exhibited outside training structures.

Test Method: Tier 2 Visible Emissions Survey requirements Section 2.1 of the Hanford AOP, Attachment 1 and/or EPA Method 9.

Test Frequency: Once per year, if visible emissions are observed (see Periodic Monitoring).

Required Records: Records of Tier 2 visible emission event surveys including EPA Method 9 results.

State-Only: No.

Calculation Model: Not applicable.

**Condition Approval: 4/19/2007**

Condition: Fugitive emissions from training operations shall be minimized. [WAC 173-400-040(3)(a)]

Periodic Monitoring: Use of operating procedures: (1) keep containers closed when not in use, and (2) ensure proper handling and storage to minimize unintentional losses.

Test Method: Not specified.

Test Frequency: Not applicable.

Required Records: Records of (1) fugitive release control procedure training, and (2) events which detail non-compliance with fugitive release control procedures or unintentional releases and response to such events.

State-Only: No

Calculation Model: Not applicable

**Condition Approval: 4/19/2007**

Condition: Particulate Matter emissions from training materials shall not exceed 1,500 pounds per year (lb/yr). [WAC 173-400-110(5)(d)]

Periodic Monitoring: Material record-keeping.

Test Method: Not applicable.

Test Frequency: Not applicable.

Required Records: Material balance records which detail materials receipt and disposal, with a summary assessment of losses calculated each calendar quarter.

State-Only: No.

Calculation Model: Not applicable.

**Discharge Point: HAMMER Training and Education Facility**

Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Training and Education Facility (2890 Horn Rapids Road, Richland, Washington)

Requirement Citation (WAC or Order Citation): DE07NWP-001 (4/19/2007) and **Amendment 1 (7/31/2007)**

**Condition Approval: 4/19/2007 (DE07NWP-001)**

Condition: Volatile Organic Compound (VOC) emissions from training materials shall not exceed 4,000 pounds per year (lb/yr). [WAC 173-400-110(5)(d)]

Periodic Monitoring: Materials record-keeping.

Test Method: Not applicable.

Test Frequency: Not applicable.

Required Records: Material balance records which detail materials receipt and disposal with a summary assessment of losses, calculated each calendar quarter.

State-Only: No.

Calculation Model: Not applicable.

**Condition Approval: 4/19/2007 (DE07NWP-001) and 7/31/2007 (Amendment 1)**

Condition: Emissions of all TAPs, as identified in Table 1 of NOC Order DE07NWP-001 (4/19/2007) and **Amendment 1 (7/31/2007)**, or newly identified, shall be below their respective SQERs. [WAC 173-460-080(2)(e)]

Periodic Monitoring: Materials record-keeping.

Test Method: Not applicable.

Test Frequency: Not applicable.

Required Records: Material balance records which detail materials receipt and disposal with a summary assessment of losses, calculated each calendar quarter. Emission of any TAP exceeding SQERs detailed in Table 1 of Order DE07NWP-001 shall be reported to Ecology in accord with WAC 173-400-107. Identification of any TAP not previously identified within Order DE07NWP-001, shall be submitted to Ecology within 90 days of initiation of use in training with an estimate of annual emissions.

State-Only: **Yes.**

Calculation Model: Not applicable.

**Discharge Point**                      **100B-181B/182B**

100 Area, Emergency Diesel Engines

Requirement Citation (WAC or Order Citation):    DE07NWP-002

**Condition Approval**              **6/27/2007**

Condition:	Visible emissions will not exceed 20 % during acceleration mode [described in 40 CFR §86.884-7(a)(2)]. [WAC 173-400-040(1), 40 CFR §60.4205(b), and 40 CFR §89.113(a)(1)]. Visible emissions will not exceed 15 % during lugging mode [described in 40 CFR §86.884-7(a)(3)]. [40 CFR §60.4205(b), and 40 CFR §89.113(a)(2)]. Visible emissions will not exceed 50 % during peak in either acceleration or lugging mode. [WAC 173-400-040(1)(a), 40 CFR §60.4205(b), and 40 CFR §89.113(a)(3)].
Periodic Monitoring:	Use Tier 1 Visible Emission Survey (Section 2.1 of AOP Attachment 1), unless otherwise specified (see Test Frequency below).
Test Method:	Tier 1 Visible Emissions Survey and EPA Method 9 (40 CFR §60, App. A).
Test Frequency:	Each engine authorized by this order shall be surveyed for visible emissions during maintenance and readiness testing and emergency-use based upon the following frequency or events: (1) During maintenance and readiness testing, a visible emission survey shall be conducted with each readiness test startup, (2) During emergency-use operations exceeding, or anticipated to exceed, eight hours duration, a visible emissions survey shall be conducted daily, (3) Visible emissions of each engine shall be determined by procedures detailed in 40 CFR 86 Subpart I (40 CFR §86.884 et seq.) within 90 days of initial startup and as required by Ecology.
Required Records:	Results of visible emissions survey and EPA Method 9 tests conducted pursuant to periodic monitoring.
State-Only	No.
Calculation Model	Not applicable.





**Discharge Point**                      **100B-181B/182B**

100 Area, Emergency Diesel Engines

Requirement Citation (WAC or Order Citation):    DE07NWP-002

**Condition Approval**              **6/27/2007**

Condition:	Emissions of sulfur dioxide will not exceed two tons per year [WAC 173-400-110(5)(d)].
Periodic Monitoring:	Compliance will be demonstrated by use of fuel containing (1) no greater than 0.05 weight percent sulfur (500 parts per million by weight) from installation to May 30, 2010 [40 CFR §60.4207(a), 40 CFR §80.510(a)], and (2) no greater than 0.0015 weight percent sulfur (15 parts per million by weight) on and after June 1, 2010 [40 CFR §60.4207(b), 40 CFR §80.510(b)].
Test Method:	Not applicable.
Test Frequency:	Not applicable.
Required Records:	Diesel fuel quality shall be documented by annual fuel analysis or vendor documentation of fuel purchases from retail outlet(s) that demonstrate compliance with diesel fuel quality standards of 40 CFR §80.510 for all purchases.
State-Only	No.
Calculation Model	Not applicable.



**Discharge Point**

**WTP Heaters and Dehumidifiers**

200 Area, Hanford Tank Waste Treatment and Immobilization Plant (WTP)

Requirement Citation (WAC or Order Citation): WAC 173-400-110, WAC 173-460-070, and DE07NWP-004 (11/21/2007)

**Condition Approval**

**11/21/2007**

Condition:

Emission Limits

- (1) Total Suspended Particulates emission shall not exceed 1.25 tons per year [WAC 173-400-110(5)(d)].
- (2) PM-10 particulate emission shall not exceed 0.75 tons per year [WAC 173-400-110(5)(d)].

Periodic Monitoring:

Compliance shall be monitored by:

- (1) Emission of visible emissions of no more than five percent opacity during normal operation of diesel-fired heaters.
- (2) Diesel-fired heaters exceeding five percent opacity shall be removed from operation until maintenance of the unit results in visible emissions in compliance (no more than 5%).
- (3) Compliance with visible emissions survey requirements of Approval Condition 3.0 of the Approval Order DE07NWP-004. Visible emissions (VE) from diesel-fired heaters in normal operation (not start-up or shut-down) will be monitored through a VE survey described herein. A minimum representation of 20 percent of active diesel-fired heaters under this ORDER shall be subject to VE survey. If VEs from one of these emission units are observed for more than 10 consecutive minutes, an attempt to identify the cause(s) of the VEs will be made and those results recorded. The recorded entry also will identify any corrective actions taken and the likely frequency of a future reoccurrence. If the event is likely to be re-occurring, and can not be demonstrated to consist of water vapor, a determination of opacity will be made using EPA Method 9. A VE survey shall be conducted weekly for a period of three months. If weekly VE surveys do not demonstrate emissions in excess of Approval Condition 1.3.1, the VE survey frequency will reduce to once every three months for a period of six months. After nine months of no excess visible emissions, visible emission surveys will be performed for any diesel-fired heater subject to this ORDER only when visible emissions are observed during normal operation.

Test Method:

VE Surveys and/or EPA Method 9 (if needed).

Test Frequency:

Not specified.

Required Records:

- (1) VE Surveys and/or EPA Method 9 results.
- (2) Maintenance records for any diesel-fired heater removed from service.

State-Only

No.

Calculation Model

Not applicable.

**Discharge Point**

**WTP Heaters and Dehumidifiers**

200 Area, Hanford Tank Waste Treatment and Immobilization Plant (WTP)

Requirement Citation (WAC or Order Citation): WAC 173-400-110, WAC 173-460-070, and DE07NWP-004 (11/21/2007)

**Condition Approval**

**11/21/2007**

Condition:

Emission Limits

Sulfur Oxides (SO<sub>x</sub>) emission shall not exceed 2.0 tons per year [WAC 173-400-110(5)(d)].

Periodic Monitoring: Compliance shall be monitored by:

(1) Combustion of distillate fuel oil No. 2 with a sulfur content no greater than 0.0015 wt percent (15 ppm) for diesel heaters.

(2) Combustion of no greater than 933,100 gallons of distillate fuel oil per year, based upon a daily rolling summation.

Test Method:

Record-keeping.

Test Frequency:

Per daily rolling summation and/or fuel shipment.

Required Records:

Fuel analysis data and consumption rates, including supporting data and calculations.

State-Only

No.

Calculation Model

Not specified.

**Condition Approval**

**11/21/2007**

Condition:

Emission Limits

(1) Nitrogen Oxides (NO<sub>x</sub>) emission shall not exceed 16.2 tons per year [WAC 173-400-110(2)(a)].

(2) Total Volatile Organic Compounds emission shall not exceed 2.0 tons per year [WAC 173-400-110(5)(d)].

(3) Carbon Monoxide emissions shall not exceed 5.0 tons per year [WAC 173-400-110(5)(d)].

(4) Toxic Air Pollutant (TAP) emissions as specified in Table 1 of Approval Order DE07NWP-004 [WAC 173-460-070].

Periodic Monitoring: Compliance shall be monitored by:

(1) Operation in compliance with BACT/T-BACT (implementation of vendor-recommended combustion and maintenance practices).

(2) Fuel Limitation: (a) combustion of no greater than 933,100 gallons of distillate fuel oil per year, based upon a daily rolling summation, and (b) combustion of no greater than 1,109,500 gallons of propane per year, based upon a daily rolling summation.

Test Method:

Record-keeping.

Test Frequency:

Per daily rolling summation and/or fuel shipment.

Required Records:

Fuel analysis data and consumption rates, including supporting data and calculations.

State-Only

No.

Calculation Model

Not specified.

1.4.5 Miscellaneous Emission Units

**Table 1.7. Miscellaneous Emission Units.**

Discharge point number	Requirement citation	Regulatory requirement, emission limit, or work practice standard
Hanford Site Asbestos Landfill	40 CFR 61.151(a)	(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or (2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or (3) Cover asbestos-containing waste with at least 60 centimeter of compacted nonasbestos-containing material, and maintain to prevent exposure.
	40 CFR 61.151(d)	Notify in writing at least 45 days prior to excavation. If construction will begin on a date other than the one in the original notice, notice of the new date must be provided at least 10 working days in advance. (1) Notice shall contain starting and completion dates. (2) Notice shall contain reason for disturbing the waste. (3) Notice shall contain procedures to be used to control emissions (4) Notice shall contain a location for any temporary storage site and the final disposal site.
	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.
600 Area Gas Distribution	WAC 173-491-040(4)(b)	All gasoline storage tanks shall be equipped with submerged or bottom fill lines and fittings to vapor balance gasoline vapors with the delivery transport tank.
	WAC 173-491-040(4)(d)	The owner or operator shall not permit the loading of gasoline into a storage tank equipped with vapor balance fittings from a transport tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated satisfactorily.
	WAC 173-491-040(6)(d)	Recordkeeping.
	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.

**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)	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 stationery 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.

## **2.0 COMPLIANCE AND PERIODIC MONITORING PROVISIONS**

Compliance and periodic monitoring provisions are provided in the following sections.

### **2.1 Visible Emission Surveys**

Visible emission surveys must be conducted during daylight hours and during periods when the emission unit is operating.

#### Tier 1

This method applies primarily to fossil-fuel combustion units and other emission units that might be a source of visible emissions. The method consists of operating personnel observing visible emissions from the emission unit according to the frequency identified in the table. If the operator observes visible emissions for more than 10 consecutive minutes during the observation period, the cause(s) of the visible emissions will be determined and corrective actions taken as necessary, or a visible determination of opacity will be performed using EPA Method 9. Records of corrective actions taken to reduce opacity shall be maintained and available for Ecology inspection. Visible emission surveys are to be conducted during daylight hours, after the unit has reached normal operating temperature and revolutions per minute, or 15 minutes after startup.

Provided the emissions observed during the Method 9 test were representative of normal operations and the Method 9 test shows the emission unit is compliant, no further observations are required until the next required periodic monitoring. Records of corrective actions taken to reduce opacity shall be maintained and available for Ecology inspection.

If after corrective actions have been taken and results from the Method 9 indicate visible emissions in excess of the limit, a deviation report will be filed with Ecology as required by Section 4.5.

#### Tier 2

Some emission units are unlikely sources of visible emissions and are not expected to exceed applicable opacity limit based on past operating experience and/or expected process behavior. These emission units include research and development laboratories, analytical laboratories, and small natural gas-fired boilers. For these emission units, a surveillance will be conducted and the results recorded. If visible emissions from one of these emission units are observed for more than 10 consecutive minutes, an attempt to identify the cause(s) of the visible emissions will be made and those results recorded. The recorded entry also will identify any corrective actions taken and the likely frequency of a future reoccurrence. If the event is likely to be re-occurring, and can not be demonstrated to consist of water vapor, a determination of opacity will be made using EPA Method 9. The frequency of the visible emission surveys shall be as required in the table unless the following procedure has been completed satisfactorily. Where no frequency is specified, visible emission surveys will be performed once per year.

The procedure for reducing visible emission survey frequencies is as follows.

If weekly visible emission surveys for 3 months are negative, quarterly measurements will be taken for the next 6 months. After 9 months of no visible emissions, visible emission surveys will be performed only when visible emissions are observed or expected (e.g., during startup, shutdown, or periods of malfunction). Visible emission surveys during these periods will be conducted for non-radionuclide-emitting stacks according to the process described in Tier 2.

### Tier 3

Maintain abatement control technology as required in Attachment 2 for that particular emission unit.

## **2.2 General Standards Complaint Investigations**

Complaints forwarded by Ecology shall be addressed promptly and assessed for corrective action. An initial informal response shall be made to Ecology within 30 working days of the Permittee receiving the complaint. This initial response shall document preliminary investigation results and any planned or completed corrective actions. Follow-up report(s) shall be provided as directed by Ecology. The Permittee shall maintain records of complaints forwarded by Ecology.

## **2.3 Measures to Control Fugitive Emissions and Fugitive Dust**

Construction projects with a potential to generate particulates will address fugitive emissions and fugitive dust control during pre-job planning and job safety analysis. Measures to control fugitive emissions and fugitive dust may include but are not limited to:

1. Watering
2. Use of chemical stabilizers
3. Use of physical barriers and/or physical stabilization
4. Use of vegetative stabilization
5. Clearing only limited areas to reduce dust generation
6. Covering haul vehicles
7. Minimizing track-out
8. Controlling site traffic to decrease disturbance of soil and vegetation to decrease dust generated from unnecessary vehicular travel.

## **2.4 RACT**

Emission standards and other requirements contained in rules or regulatory orders in effect at the effective date of this permit or subsequent renewals shall be considered RACT for purposes of permit issuance or renewal. RACT determinations made subsequent to the effective date of permit issuance or renewal shall be incorporated into this permit as provided by WAC 173-401-730. [WAC 173-401-605(3)].

## **2.5 Recordkeeping for Boilers**

DOE and the contractor shall maintain appropriate monthly records of the fuel use on each individual boiler. These data, along with the emission factors presented in Ecology Regulatory

Order 97NM-138, will be used to determine monthly emission levels for individual boilers, and collectively for the 200 East, 200 West, and 300 Area. If Ecology or the Permittee determines that emission factors different than the factors specified in Regulatory Order 97NM-138 are appropriate, the public will be provided with an opportunity for review. WAC 173-400-115 compliance with the standard may be determine based on a certification from the fuel supplier containing the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41b. An annual report including records of fuel supplier certifications and a certification by the owner or operator that the records of fuel supplier certifications submitted represent all of the fuel combusted during the year. Logs of boiler tuneups and significant boiler maintenance activities will be kept.

## 2.6 Steam Generating Units Source Tests

All source tests for the boilers regulated by Notice of Construction 97NM-138 have been conducted using EPA and Ecology approved procedures with the test boilers operating at full capacity. Tests were conducted on a maximum of five boilers selected on the basis of boiler capacity and fuel type. The procedure for selecting the test boilers were agreed to by Ecology and DOE before conducting the tests. A procedure for selecting a representative subset of boilers for testing once every 5 years were developed before the initial 5 year follow-up test. The public were provided an opportunity for review of the procedure as part of an AOP modification.

The following list is an inventory of the larger boilers that are subject to testing (maximum of 5 boilers):

Distillate oil-fired boilers	Number of units
200 BHP	5
350 BHP	3
700 BHP	2
Natural gas-fired boilers	Number of units
200 BHP	2
300 BHP	4

In 2005 the U.S. Department of Energy Richland Office (DOE-RL) requested the removal of Air Operating Permit compliance testing for the energy-saving fossil fuel fired boilers operated by the Johnson Control, Inc (JCI) since 1998 at the Hanford Site. JCI conducted the initial air compliance test in 1998, and the first 5-year follow-up test in 2003. Both tests demonstrated that the emissions were within the limits stated in the Notice of Construction (NOC) and Air Operating Permit (AOP). It is obvious that the same compliance can be maintained by continuously using low sulfur fuel and implementing good combustion practices. Ecology approved the request of eliminating future 5-year compliance tests on June 15, 2005. The emissions will be within the NOC and AOP limits as long as JCI continues to use low sulfur fuel and maintain good combustion practice and maximum achievable control technology (MACT) standards.

## 2.7 SO<sub>2</sub> Emissions Compliance

Tier 1: Fuel-Oil Fired Combustion Units:

Required records	Calculation Model (Statement of Basis Section 3.1.1)
1. Amount and type of fuel burned 2. Vendor documentation or fuel analysis once per year.	Model 1

Tier 2: Other Significant Emission Units:

Ecology has determined, based on process knowledge, that these emission units do not emit significant levels of SO<sub>2</sub>. The Permittee annually shall certify that the processes have not been modified to increase SO<sub>2</sub> emissions and no SO<sub>2</sub> monitoring is required.

## 2.8 Visible Emissions Enforceability

WAC 173-400-040(1)(a) and (1)(b) are federally enforceable sections. Soot blowing and grate cleaning are allowed if the operator can demonstrate that the emissions will not exceed 20% opacity for more than 15 minutes in any 8 consecutive hours.

## 2.9 SO<sub>2</sub> Enforceability

WAC 173-400-040(6) is federally enforceable.

### **3.0 RECORDKEEPING**

The Permittee shall maintain records of all required monitoring data and support information. These records shall be maintained for 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original continuous monitoring records (such as strip charts or equivalent), and required reports. Most of these records are retained on-site in electronic format. Regulatory agencies accept electronic records as supporting information.  
[WAC 173-401-615(2)(a), WAC 173-401-615(2)(c)]

#### **3.1 Emission Calculations**

Emission calculations for SO<sub>2</sub>, nitrogen oxides, volatile organic compounds, ammonia, gas cylinders, chemical inventory, air concentrations, and TAPs can be found in Section 3.1 of the Statement of Basis for Attachment 1.