



Department of Energy
 Richland Operations Office
 P.O. Box 550
 Richland, Washington 99352

14-ESQ-0029

JAN 10 2014

Ms. S. L. Dahl-Crumpler
 Nuclear Waste Program
 State of Washington
 Department of Ecology
 3100 Port of Benton Boulevard
 Richland, Washington 99354

Dear Ms. Dahl-Crumpler:

CLASS 1 MODIFICATIONS TO THE HANFORD FACILITY RESOURCE CONSERVATION AND RECOVERY ACT PERMIT (PERMIT), QUARTER ENDING DECEMBER 31, 2013

In accordance with Permit Condition I.C.3, enclosed for your notification are the Class 1 modifications for the quarter ending December 31, 2013.

These modifications update information in Part III of Permit Revision 8C. The modifications pertain to the 400 Area Waste Management Unit and the Waste Treatment and Immobilization Plant. The Class 1 modifications are being made to ensure that activities are conducted in compliance with the Permit. A record of the enclosed documentation is maintained in the Hanford Facility Operating Record.

If you have any questions, please contact me, or your staff may contact Stacy L. Charboneau, Assistant Manager for Safety and Environment, on (509) 373-3841.

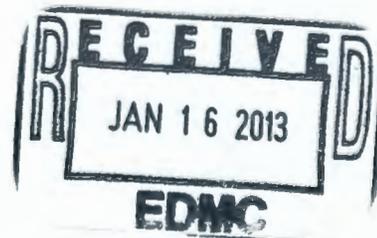
Sincerely,


 Matt McCormick
 Manager

ESQ:ACM

Enclosure

cc w/encl: See page 2



H.O.1 S.2.8
 H.O.8
 T.2.8
 S.4.2

43

Ms. S. L. Dahl-Crumpler
14-ESQ-0029

-2-

JAN 10 2014

cc w/encl:

P. G. Harrington, ORP (CD ROM)

Ecology NWP Library (Hardcopy)

Environmental Portal, LMSI, A3-95 (CD ROM)

Administrative Record, TSD: H-0-1, H-0-8, T-2-8, S-4-2, S-2-8, H6-08 (CD ROM)

HF Operating Record (J. K. Perry, MSA, H7-28) (CD ROM)

cc w/o encl:

F. W. Bond, Ecology

D. M. Busche, BNI

A. S. Carlson, Ecology

B. L. Curn, URS

L. L. Fritz, MSA

J. A. Hedges, Ecology

A. L. Hummer, WRPS

D. L. McDonald, Ecology

A. G. Miskho, WRPS

A. L. Prignano, Ecology

J. R. Seaver, CHPRC

E. R. Skinnarland, Ecology

ENCLOSURE

CLASS 1 MODIFICATIONS FOR QUARTER ENDING December 31, 2013
Ms. S. L. Dahl-Crumpler, Ecology

Consisting of 41 pages,
including this cover page

Hanford Facility RCRA Permit Modification Notification Forms

**Part III, Operating Unit 16
400 Area Waste Management Unit**

Index

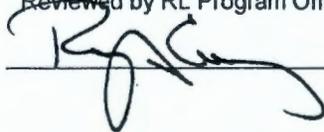
- Page 2 of 4 Hanford Facility RCRA Permit III.16 Conditions
- Page 3 of 4 Addendum J, (OUO markings each page)
- Page 4 of 4 Addendum J, Table J.1

Submitted by Co-Operator:



1/7/2014
Date

Reviewed by RL Program Office:



12/31/13
Date

Hanford Facility RCRA Permit Modification Notification Form					
Unit: 400 Area Waste Management Unit	Permit Part Part III, Operating Unit 16				
<u>Description of Modification:</u>					
PART III, OPERATING UNIT GROUP 16 PERMIT CONDITIONS 400 Area Waste Management Unit					
UNIT DESCRIPTION:					
<p>The 400 Area Waste Management Unit (WMU) is in the Property Protected Area (PPA) at the Fast Flux Test Facility (FFTF), in Hanford's 400 Area. The 400 Area WMU consists of two container storage units:</p> <ul style="list-style-type: none"> Fuel Storage Facility (FSF, Building 403). The FSF is a large steel-frame, metal-sided, high bay building. Its dimensions are 34 x 27 x 12 meters (112 x 90 x 40 feet). The container storage unit is on the ground-level floor. In it are two large steel boxes that store sodium-contaminated core component pots (CCPs). The Permittees do not plan to store more mixed waste than is currently stored in the facility; however, the FSF is physically capable of storing additional mixed waste. They will store any additional wastes at the 400 Area WMU in the Interim Storage Area. Interim Storage Area, 4718 (ISA). The ISA consists of 156 x 247 meters (513 x 247 feet) totally fenced area. This area is for aboveground dry cask storage of spent fuel. A concrete pad in the ISA, which measures 27 x 37 meters (90 x 120 feet), was used for dry cask storage, but will not necessarily be used for mixed waste management. The rest of the ISA surface is gravel. The ISA is generally flat. However, it is graded to drain in accordance with the general drainage plan for the FFTF PPA. Inside the ISA, there is also one building along the west fence line, and open on the side. This building, Building 432A, is not authorized for mixed waste management. <p>The scale map in Addendum A shows the location of each storage unit. The only mixed waste stored in these two container storage units is elemental sodium, and sodium potassium (D001, D003, and WSC2), sodium hydroxide (D002), and potassium hydroxide (D002) and debris (e.g., piping, equipment, and components) contaminated with elemental sodium, sodium potassium, sodium hydroxide, and potassium hydroxide. The 400 Area WMU will not store, treat, or dispose of bulk metallic sodium or bulk sodium hydroxide.</p>					
LIST OF ADDENDA SPECIFIC TO OPERATING UNIT GROUP 16					
Addendum A	Part A Form, dated June 30, 2012				
Addendum B	Waste Analysis Plan, dated June 30, 2012				
Addendum C	Process Information, dated December 31, 2012				
Addendum D	Groundwater Monitoring -- Reserved				
Addendum E	Security Requirements, dated June 30, 2009				
Addendum F	Preparedness and Prevention, dated September 30, 2012				
Addendum G	Personnel Training, dated June 30 2013				
Addendum H	Closure Plan, dated June 30, 2009				
Addendum I	Inspection Requirements, dated September 30, 2009				
Addendum J	Contingency Plan, dated December 31, 2013 December 31, 2011				
WAC 173-303-830 Modification Class ^{1 2}		Class 1	Class '1	Class 2	Class 3
Please mark the Modification Class:		X			
Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1					
Enter wording of WAC 173-303-830, Appendix I Modification citation: Administrative and informational changes.					
Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial)		Reviewed by Ecology:			
<u>Reason for denial:</u>		<i>S.L. Dahl-Crumpler</i> 12/30/13 S. L. Dahl-Crumpler Date			

¹ Class 1 modifications requiring prior Agency approval.

² If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to a Class '1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form					
Unit: 400 Area Waste Management Unit	Permit Part Part III, Operating Unit 16				
Description of Modification: Addendum J Delete "OFFICIAL USE ONLY" markings at the bottom of each page of Addendum J					
J	CONTINGENCY PLAN			J.1	
J.1	BUILDING EVACUATION ROUTING (BUILDING LAYOUT)			J.3	
J.2	BUILDING EMERGENCY DIRECTOR			J.3	
J.3	IMPLEMENTATION OF THE PLAN			J.3	
J.3.1	Protective Action Responses			J.4	
J.3.2	Response to Facility Operations Emergencies			J.5	
J.3.3	Prevention of Recurrence or Spread of Fires, Explosions, or Releases			J.6	
J.3.4	Incident Recovery and Restart of Operations			J.7	
J.3.5	Incompatible Waste			J.7	
J.3.6	Post Emergency Equipment Maintenance and Decontamination			J.7	
J.4	EMERGENCY EQUIPMENT			J.7	
J.4.1	Fixed Emergency Equipment			J.8	
J.4.2	Portable Emergency Equipment			J.8	
J.4.3	Communications Equipment/Warning Systems			J.8	
J.4.4	Personal Protective Equipment			J.9	
J.4.5	Spill Control and Containment Supplies			J.9	
J.4.6	Incident Command Post			J.9	
J.5	REQUIRED REPORTS			J.9	
J.6	PLAN LOCATION AND AMENDMENTS			J.9	
J.7	BUILDING EMERGENCY ORGANIZATION BUILDING EMERGENCY DIRECTOR			J.10	
Figures					
Figure J.1.				FFTF Primary Staging Area	
Figure J.2.				FFTF Alternate Staging Area	
Tables					
Table J.1. Hanford Facility Documents Containing Contingency Plan Requirements of WAC 173 303-350(3)					
<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;"> <p style="text-align: center; margin: 0;">OFFICIAL USE ONLY</p> <p style="text-align: center; margin: 0; font-size: small;">May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552) (Exemption number(s) and category: <u>Exemption 2</u>) <u>Law Enforcement</u> Department of Energy review required before public release</p> </div>					
WAC 173-303-830 Modification Class ^{1,2}		Class 1	Class ¹	Class 2	Class 3
Please mark the Modification Class:		X			
Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1					
Enter wording of WAC 173-303-830, Appendix I Modification citation: Administrative and information changes. Current "Official Use Only" review criteria no longer classified the content of this Addendum as "Official Use Only."					
Modification Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (state reason for denial)			Reviewed by Ecology: <i>S. L. Dahl-Crumpler</i> by <i>P. Schmidt</i> 12/30/13 S. L. Dahl-Crumpler Date		
Reason for denial:					

¹ Class 1 modifications requiring prior Agency approval

² If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to a Class 1, if appropriate

Hanford Facility RCRA Permit Modification Notification Form

Unit:
400 Area Waste Management Unit

Permit Part
Part III, Operating Unit 16

Description of Modification:
Addendum J,

Table 0.1. Hanford Facility Documents Containing Contingency Plan Requirements of WAC 173 303-350(3)

Requirement	Permit Attachment 4 <i>Hanford Emergency Management Plan</i> (DOE/RL-94-02)	Building Emergency Plan ¹ (HNF-IP-0263-FFTF)	Addendum J
-350(3)(a) - A description of the actions	X ² Section 1.3.4	X ² Sections 7.1, 7.2 through 7.2.5, and 7.3 ³ Sections 4.0, 8.2, 8.3, 8.4, and 11.0	X ² Sections J.3.1, J.3.2 through J.3.2.5, and J.3.3 ³ Sections J.3, J.3.4, J.3.5, J.3.6, and J.5
-350(3)(b) - A description of the actions	X ² Section 1.3.4	X ^{2,4} Section 7.2.5.1	X ^{2,4} Section J.3.2.5.1
-350(3)(c) - A description of the	X Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1		
-350(3)(d) - A current list of		X ⁵ Sections 3.1 and 13.0	X ⁵ Sections J.2 and J.7
-350(3)(e) - A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.	X Hanford Fire Department Appendix C	X Section 9.0	X Section J.4
-350(3)(f) - An evacuation plan	X ⁶ Figure 7-3 and Table 5-1	X ⁷ Section 1.5	X ⁷ Section J.1

WAC 173-303-830 Modification Class ^{1 2}

Please mark the Modification Class:

Class 1	Class 1 ¹	Class 2	Class 3
X			

Enter relevant WAC 173-303-830, Appendix I Modification citation number: A.1

Enter wording of WAC 173-303-830, Appendix I Modification citation: Administrative and information changes. In the 6/30/2010 modification package, reference to Appendix C was removed from Appendix A of Permit Attachment 4. As noted in permit condition II.A.1, Appendix A of Permit Attachment 4 identifies the sections of Permit Attachment 4 enforceable under the permit. Therefore, removing reference to Appendix C, rendered Appendix C no longer enforceable. Emergency response equipment remains enforceable as stated in Attachment A to Permit Attachment 4 for WAC 173-303-350(3)(e) by identifying Section 11.2.8 of Permit Attachment 4. No requirements are being removed. Portions of Permit Attachment 4 are enforceable under Permit Condition II.A.1.

Modification Approved: Yes No (state reason for denial)
Reason for denial:

Reviewed by Ecology:

S.L. Dahl-Crumpler
by: *[Signature]* 12/30/13.
S.L. Dahl-Crumpler Date

¹ Class 1 modifications requiring prior Agency approval.

² If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to a Class 1, if appropriate.

Remove and Replace the Following Sections:

Remove Part III Permit Conditions, dated June 30, 2013, and replace with Permit Conditions, dated December 31, 2013.

Remove Addendum J, dated September 4, 2012, and replace with Addendum J, dated December 31, 2013.

1 **PART III, OPERATING UNIT GROUP 16 PERMIT CONDITIONS**

2 **400 Area Waste Management Unit**

3 **UNIT DESCRIPTION:**

4 The 400 Area Waste Management Unit (WMU) is in the Property Protected Area (PPA) at the Fast Flux
5 Test Facility (FFTF), in Hanford's 400 Area. The 400 Area WMU consists of two container storage
6 units:

- 7 • Fuel Storage Facility (FSF, Building 403). The FSF is a large steel-frame, metal-sided, high bay
8 building. Its dimensions are 34 x 27 x 12 meters (112 x 90 x 40 feet). The container storage unit is
9 on the ground-level floor. In it are two large steel boxes that store sodium-contaminated core
10 component pots (CCPs). The Permittees do not plan to store more mixed waste than is currently
11 stored in the facility; however, the FSF is physically capable of storing additional mixed waste. They
12 will store any additional wastes at the 400 Area WMU in the Interim Storage Area.
- 13 • Interim Storage Area, 4718 (ISA). The ISA consists of 156 x 247 meters (513 x 247 feet) totally
14 fenced area. This area is for aboveground dry cask storage of spent fuel. A concrete pad in the ISA,
15 which measures 27 x 37 meters (90 x 120 feet), was used for dry cask storage, but will not necessarily
16 be used for mixed waste management. The rest of the ISA surface is gravel. The ISA is generally
17 flat. However, it is graded to drain in accordance with the general drainage plan for the FFTF PPA.
18 Inside the ISA, there is also one building along the west fence line, and open on the side. This
19 building, Building 432A, is not authorized for mixed waste management.

20 The scale map in Addendum A shows the location of each storage unit. The only mixed waste stored in
21 these two container storage units is elemental sodium, and sodium potassium (D001, D003, and WSC2),
22 sodium hydroxide (D002), and potassium hydroxide (D002) and debris (e.g., piping, equipment, and
23 components) contaminated with elemental sodium, sodium potassium, sodium hydroxide, and potassium
24 hydroxide. The 400 Area WMU will not store, treat, or dispose of bulk metallic sodium or bulk sodium
25 hydroxide.

26 **LIST OF ADDENDA SPECIFIC TO OPERATING UNIT GROUP 16**

- 27 Addendum A Part A Form, dated June 30, 2012
- 28 Addendum B Waste Analysis Plan, dated June 30, 2012
- 29 Addendum C Process Information, dated December 31, 2012
- 30 Addendum D Groundwater Monitoring – Reserved
- 31 Addendum E Security Requirements, dated June 30, 2009
- 32 Addendum F Preparedness and Prevention, dated September 30, 2012
- 33 Addendum G Personnel Training, dated June 30, 2013
- 34 Addendum H Closure Plan, dated June 30, 2009
- 35 Addendum I Inspection Requirements, dated September 30, 2009
- 36 Addendum J Contingency Plan, dated December 31, 2013

37 **DEFINITIONS**

38 The term "**CCP**" or **Core Component Pot** means one of 109 cylindrical containers, each containing
39 3.75 gallons of un-reacted sodium totaling 405 gallons, currently stored as mixed waste in the FFTF Fuel
40 Storage Facility. The CCPs were previously filled with sodium and used in the FFTF Interim Decay
41 Storage Vessel to store spent FFTF Driver Fuel Assemblies under inert gas.

1 **ACRONYMS**

2	FFTF	Fast Flux Test Facility
3	CCP	Core Component Pot
4	PPA	Property Protected Area
5	ISA	Interim Storage Area
6	FSF	Fuel Storage Facility
7	WMU	Waste Management Unit

8 **III.16.A COMPLIANCE WITH UNIT-SPECIFIC PERMIT CONDITIONS**

9 III.16.A.1 The Permittees will comply with all conditions in this Chapter and its addenda with
10 respect to dangerous waste management and dangerous waste management units in the
11 400 Area WMU, in addition to conditions in Permit Parts I and II.

12 **III.16.B GENERAL WASTE MANAGEMENT**

13 III.16.B.1 The Permittees are authorized to accept, according to the waste acceptance procedure
14 documented in Addendum B, Section B.2, mixed debris generated from demolition and
15 decommissioning of the Fast Flux Test Facility reactor system containing or
16 contaminated with residual elemental sodium and sodium hydroxide. The Permittee will
17 store these wastes in the ISA.

18 III.16.B.2 The Permittees are authorized to store core component pots generated prior to the
19 effective date of this permit in two large metal boxes in the 400 Area WMU, FSF.

20 III.16.B.3 The Permittees are authorized store mixed waste in the ISA up to a maximum capacity of
21 19,000 gallons.

22 III.16.B.4 The Permittees will maintain the physical structure of dangerous waste management units
23 in the 400 Area WMU as documented in the Unit Description above and Addendum C,
24 Figures C.1 and C.2.

25 III.16.B.5 The Permittees will maintain appropriate administrative controls and work practices to
26 ensure that only wastes specified in Permit Condition III.16.B.1, are received by the ISA
27 for storage, and that no co-mingling or cross-contamination of the waste stream specified
28 in Permit Condition III.16.B.1 with any other waste stream may occur.

29 **III.16.C WASTE ANALYSIS**

30 III.16.C.1 The Permittees will have an accurate and complete waste profile for the waste stream
31 identified in Permit Condition III.16.B.1. This waste profile will be signed and dated
32 upon approval by the 400 Area WMU authorized representative.

33 [WAC 173-303-380(1)(a)]

34 III.16.C.2 The Permittees will make a copy of the waste profile required by Permit
35 Condition III.16.C.1 available upon request. [WAC 173-303-815(2)(b)(ii)]

36 **III.16.D RECORDKEEPING AND REPORTING**

37 III.16.D.1 The Permittees will place the following into the Hanford Facility Operating Record,
38 400 Area WMU File required by Permit Condition II.I.2. [WAC 173-303-380]

39 III.16.D.2 Records required by WAC 173-303-380(1)(o), incorporated by reference;

40 **III.16.E SECURITY**

41 III.16.E.1 The Permittees will post warning signs at all entrances to the FSF and the ISA specified
42 in Addendum E, Section E.1.1. [WAC 173-303-310(2)(a)]

- 1 **III.16.F PREPAREDNESS AND PREVENTION**
- 2 III.16.F.1 The Permittees will comply with the Addendum F, Preparedness and Prevention
3 requirements specific to the 400 Area WMU. [WAC 173-303-340]
- 4 **III.16.G CONTINGENCY PLAN**
- 5 III.16.G.1 The Permittees will comply with Addendum J, Contingency Plan in addition to the
6 requirements of Permit Condition IIA when applicable. [WAC 173-303-350]
- 7 **III.16.H INSPECTIONS**
- 8 III.16.H.1 The Permittees will perform inspections of the 400 Area WMU according to
9 Addendum I, Inspection Plan for inspecting all monitoring equipment, safety and
10 emergency equipment, security devices, and operating and structural equipment that help
11 prevent, detect, or respond to hazards to the public health or the environment pursuant to
12 the requirements of WAC 173-303-320 [WAC 173-303-320(2)]
- 13 **III.16.I TRAINING PLAN**
- 14 III.16.I.1 The Permittees will include Addendum G unit-specific training requirements in the
15 written training plan required by Permit Condition II.C. [WAC 173-303-330]
- 16 **III.16.J OTHER GENERAL REQUIREMENTS**
- 17 III.16.J.1 The Permittees will comply with the requirements of WAC 173-303-395(1)(a)-(c),
18 incorporated by reference, for prevention of reaction of ignitable, reactive, or
19 incompatible wastes.
- 20 III.16.J.2 Land Disposal Restriction Requirements
- 21 III.16.J.2.a The Permittees will ensure a schedule of compliance and any applicable associated work
22 requirements are included in the land disposal restrictions report required by the
23 HFFACO Milestone M-26, incorporated by reference by Permit Condition II.O for
24 treatment and/or acquisition of treatment capacity for wastes which are or are expected to
25 be stored in the 400 Area WMU container storage units.
- 26 **III.16.K CLOSURE**
- 27 III.16.K.1 The Permittees will close the 400 Area WMU Container Storage Units in accordance
28 with Addendum H, Closure Plan. [WAC 173-303-610(4)]
- 29 **III.16.L POST CLOSURE**
- 30 Reserved
- 31 **III.16.M CRITICAL SYSTEMS**
- 32 Reserved
- 33 **III.16.N RESERVED**
- 34 **III.16.O CONTAINERS**
- 35 III.16.O.1 Container Management Standards
- 36 III.16.O.1.a The Permittees will ensure that all containers remain in good condition. If a container
37 holding mixed waste is not in good condition (e.g., severe rusting or corrosion, or
38 apparent structural defects), or if it begins to leak, the Permittee must transfer the waste
39 from the container to a container that is in good condition or place the leaking container
40 in an appropriate over-pack container. [WAC 173-303-630(2)]

- 1 III.16.O.1.b The Permittees shall ensure that all containers are constructed of carbon steel or stainless
2 steel, or other materials compatible with metallic sodium and sodium hydroxide.
3 [WAC 173-303-630(4)]
- 4 III.16.O.1.c The Permittees must remove spilled or leaked waste within secondary containment
5 pursuant to WAC 173-303-630(7)(a)(ii), incorporated by reference.
- 6 III.16.O.1.d Requirements for the Fuel Storage Facility
- 7 III.16.O.1.e The Permittee will maintain an inert gas (argon or nitrogen) cover within each large metal
8 box to prevent contact of the metallic sodium with the water vapor in the air and the
9 formation of free liquids.
- 10 III.16.O.1.f The Permittees will place large boxes stored in the FSF in drip pans to ensure a base free
11 of cracks or gaps, and ensure that the large boxes are elevated or otherwise protected
12 from contact with accumulated liquids.
- 13 III.16.O.1.g Requirements for the Interim Storage Area
- 14 III.16.O.1.h The Permittee may store wastes in the ISA in standard metal containers (e.g., 208-liter
15 drums), large metal boxes fabricated to accommodate the size and shape of a particular
16 component or debris, or unique components removed from FFTF that when closed in
17 accordance with WAC 173-303-630(5)(a) serve as a primary container.
- 18 III.16.O.1.i The Permittees will manage unique components stored in the ISA on the gravel surface
19 with sufficient open space between components and between components and the fence
20 line to accommodate inspections and movement of equipment.
- 21 III.16.O.1.j The Permittees will not place wastes in the open-sided structure (Building 432A) within
22 the ISA identified in the Unit Description above.
- 23

1	Addendum J	Contingency Plan
2	J	CONTINGENCY PLANJ.1
3	J.1	BUILDING EVACUATION ROUTING (BUILDING LAYOUT).....J.3
4	J.2	BUILDING EMERGENCY DIRECTOR (BED).....J.3
5	J.3	IMPLEMENTATION OF THE PLANJ.3
6	J.3.1	Protective Action Responses.....J.4
7	J.3.2	Response to Facility Operations Emergencies.....J.5
8	J.3.3	Prevention of Recurrence or Spread of Fires, Explosions, or ReleasesJ.6
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17	J.4.5	Spill Control and Containment Supplies.....J.9
18	J.4.6	Incident Command Post.....J.9
19	J.5	REQUIRED REPORTS.....J.9
20	J.6	PLAN LOCATION AND AMENDMENTS.....J.9
21	J.7	BUILDING EMERGENCY ORGANIZATION BUILDING EMERGENCY DIRECTOR.....J.10
22	Figures	
23	Figure J.1.	FFTF Primary Staging Area..... J.11
24	Figure J.2.	FFTF Alternate Staging Area..... J.12
25		
26		
27	Tables	
28	Table J.1.	Hanford Facility Documents Containing Contingency Plan Requirements of
29		WAC 173 303-350(3)..... J.1
30		

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J CONTINGENCY PLAN

The requirements for a contingency plan at the 400 Area WMU are satisfied in the following documents: Portions of the Hanford Facility RCRA Permit (Permit) Attachment 4 *Hanford Emergency Management Plan* (DOE/RL-94-02) and this section.

The unit-specific building emergency plan also serves to satisfy a broad range of other requirements [e.g., Occupational Safety and Health Administration standards (29 CFR 1910), *Toxic Substances Control Act of 1976* (40 CFR 761), and U.S. Department of Energy Orders]. Therefore, revisions made to portions of this unit-specific building emergency plan that are not governed by the requirements of WAC 173-303 will not be considered as a modification subject to WAC 173-303-830 or Permit Condition I.C.3.

Table J.1 identifies the sections of the unit-specific building emergency plan written to meet WAC 173-303-350(3) contingency plan requirements identified in this application. In addition, Section 12.0 of the unit-specific 400 Area WMU building emergency plan is written to meet WAC 173-303 requirements identifying where copies of Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) and the building emergency plan are located and maintained on the Hanford Facility. Therefore, revisions to Addendum E require a permit modification subject to WAC 173-303-830 and/or Permit Condition I.C.3.

Table J.1. Hanford Facility Documents Containing Contingency Plan Requirements of WAC 173 303-350(3)

Requirement	Permit Attachment 4 <i>Hanford Emergency Management Plan</i> (DOE/RL-94-02)	Building Emergency Plan ¹ (HNF-IP-0263-FFTF)	Addendum J
<u>-350(3)(a)</u> - A description of the actions which facility personnel must take to comply with this section and <u>WAC 173-303-360</u>	X ² Section 1.3.4	X ² Sections 7.1, 7.2 through 7.2.5, and 7.3 ³ Sections 4.0, 8.2, 8.3, 8.4, and 11.0	X ² Sections J.3.1, J.3.2 through J.3.2.5, and J.3.3 ³ Sections J.3, J.3.4, J.3.5, J.3.6, and J.5
<u>-350(3)(b)</u> - A description of the actions which shall be taken in the event that a dangerous waste shipment, which is damaged or otherwise presents a hazard to the public health and the environment, arrives at the facility, and is not acceptable to the owner or operator, but cannot be transported pursuant to the requirements of <u>WAC 173-303-370(5)</u> , Manifest system, reasons for not accepting dangerous waste shipments	X ² Section 1.3.4	X ^{2,4} Section 7.2.5.1	X ^{2,4} Section J.3.2.5.1
<u>-350(3)(c)</u> - A description of the arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services as required in <u>WAC 173-303-340(4)</u> .	X Sections 3.2.3, 3.3.1, 3.3.2, 3.4, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.7, and Table 3-1		

Requirement	Permit Attachment 4 <i>Hanford Emergency Management Plan</i> (DOE/RL-94-02)	Building Emergency Plan ¹ (HNF-IP-0263-FFTF)	Addendum J
-350(3)(d) - A current list of names, addresses, and phone numbers (office and home) of all persons qualified to act as the emergency coordinator required under <u>WAC 173-303-360(1)</u> . Where more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates. For new facilities only, this list may be provided to the department at the time of facility certification (as required by <u>WAC 173-303-810 (14)(a)(I)</u>), rather than as part of the permit application.		X ⁵ Sections 3.1 and 13.0	X ⁵ Sections J.2 and J.7
-350(3)(e) - A list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.		X Section 9.0	X Section J.4
-350(3)(f) - An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe the signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.	X ⁶ Figure 7-3 and Table 5-1	X ⁷ Section 1.5	X ⁷ Section J.1

1 An 'X' indicates requirement applies.

2 ¹ Portions of Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) not enforceable through Appendix A
3 of that document are not made enforceable by reference in the building emergency plan.

4 ² Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) contains descriptions of actions relating to the
5 Hanford Site Emergency Preparedness System. No additional descriptions of actions are required at the site level. If other
6 credible scenarios exist or if emergency procedures at the unit are different, the description of actions contained in the building
7 emergency plan will be used during an event by a building emergency director.

8 ³ Sections 7.1, 7.2 through 7.2.5, and 7.3 of the building emergency plan are those sections subject to the Class 2 "Changes in
9 emergency procedures (i.e., spill or release response procedures)" described in WAC 173-303-830, Appendix I, Section B.6.a.

10 ⁴ This requirement only applies to TSD units that receive shipment of dangerous or mixed waste defined as offsite shipments in
11 accordance with WAC 173-303.

12 ⁵ Emergency Coordinator names and home telephone numbers are maintained separate from any contingency plan document
13 on file in accordance with Permit Condition II.A.4 and is updated, at a minimum, monthly.

14 ⁶ The Hanford Facility (site wide) signals are provided in this document. No unit/building signal information is required unless
15 unique devices are used at the unit/building.

16 ⁷ An evacuation route for the TSD unit must be provided. Evacuation routes for occupied buildings surrounding the TSD unit are
17 provided through information boards posted within buildings.

1 **J.1 BUILDING EVACUATION ROUTING (BUILDING LAYOUT)**

2 Figures J.1 and J.2 provide identification of the primary and secondary staging areas and a general layout
3 of the 400 Area WMU. Alternate evacuation routes will be used on a case-by-case basis based on
4 meteorological conditions at the time of the event.

5 **J.2 BUILDING EMERGENCY DIRECTOR (BED)**

6 Emergency response will be directed by the BED until the Incident Commander (IC) arrives. The
7 incident command system (ICS) and staff, with supporting on-call personnel, fulfill the responsibilities of
8 the Emergency Coordinator as discussed in WAC 173-303-360. During events, WMU personnel perform
9 response duties under the direction of the BED. The Incident Command Post (ICP) is managed by either,
10 the senior Hanford Fire Department member present or senior Hanford Patrol member present on the
11 scene (security events only). These individuals are designated as the IC and as such, have the authority to
12 request and obtain any resources necessary for protecting people and the environment.

13 The BED becomes a member of the ICP and functions under the direction of the IC. In this role, the BED
14 continues to manage and direct 400 Area WMU operations.

15 A listing of the BEDs by title, work location, and work telephone number is contained in Section J.7. The
16 BED is on the premises or is available through an "on-call" list 24-hours-a-day. Names and home
17 telephone numbers of the BEDs are available from the Patrol Operations Center (POC) in accordance
18 with Permit Condition II.A.4.

19 **J.3 IMPLEMENTATION OF THE PLAN**

20 In accordance with WAC 173-303-360(2)(b), the BED ensures that trained personnel identify the
21 character, source, amount, and areal extent of the release, fire, or explosion to the extent possible.
22 Identification of waste can be made by activities that can include, but are not limited to, visual inspection
23 of involved containers, sampling activities in the field, reference to inventory records, or by consulting
24 with facility personnel. Samples of materials involved in an emergency might be taken by qualified
25 personnel and analyzed as appropriate. These activities must be performed with a sense of immediacy
26 and shall include available information.

27 The BED shall use the following guidelines to determine if an event has met the requirements of
28 WAC 173-303-360(2)(d):

- 29 1. The event involved an unplanned spill, release, fire, or explosion,
30 AND
31 2.a The unplanned spill or release involved a dangerous waste, or the material involved became a
32 dangerous waste as a result of the event (e.g., product that is not recoverable),
33 OR
34 2.b The unplanned fire or explosion occurred at the 400 Area WMU or transportation activity subject to
35 RCRA contingency planning requirements,
36 AND
37 3. Time-urgent response from an emergency services organization was required to mitigate the event,
38 or a threat to human health or the environment exists.

39 As soon as possible after stabilizing event conditions, the BED shall determine, in consultation with the
40 site contractor environmental single-point-of-contact, if notification to the Washington State Department
41 of Ecology (Ecology) is needed to meet WAC 173-303-360 (2)(d) reporting requirements. If all of the
42 conditions under 1, 2, and 3 are met, notifications are to be made to Ecology. Additional information is
43 found in Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 4.2.

44 If review of all available information does not yield a definitive assessment of the danger posed by the
45 incident, a worst-case condition will be presumed and appropriate protective actions and notifications will

1 be initiated. The BED is responsible for initiating any protective actions based on their best judgment of
2 the incident.

3 The BED must assess each incident to determine the response necessary to protect the personnel, facility,
4 and the environment. If assistance from Hanford Patrol, Hanford Fire Department, or ambulance units is
5 required, the Hanford Emergency Response Number (911 from site office phones/373-0911 from cellular
6 phones) must be used to contact the POC and request the desired assistance. To request other resources
7 or assistance from outside the 400 Area WMU, the POC business number is used (373-3800).

8 **J.3.1 Protective Action Responses**

9 Protective action responses are discussed in the following sections. The steps identified in the following
10 description of actions do not have to be performed in sequence because of the unanticipated sequence of
11 incident events.

12 **J.3.1.1 Evacuation**

13 When a Fast Flux Test Facility (FFTF) evacuation is ordered or the evacuation siren sounds, non-essential
14 employees will turn off office equipment, obtain car keys and proceed to the staging area. Essential
15 personnel are those who have been previously designated as having an emergency response role, are
16 assigned to the on-shift Operations crew, or are utilized by the Emergency Response Organization during
17 the event (e.g., RCTs, Stationary Operating Engineers). Once at the staging area, personnel will report to
18 their prescribed location to allow for accountability. Personnel with physical handicaps should have
19 monitors assigned as necessary to assist them during an evacuation.

20 Personnel in protective clothing when an evacuation alarm sounds should make an effort to undress at the
21 normal undress area if safe to do so. These personnel must remain separated from others, and report to
22 the Contaminated Personnel staging sign located outside at the north end of 4713-B, next to the Tool Crib
23 door. An RCT will be dispatched to that location to survey personnel. If directed to the alternate staging
24 area, it is recommended that personnel remove and leave protective clothing in the parking lot prior to
25 entering their vehicle and upon arrival at the alternate staging area remain segregated from others and
26 notify staging area personnel of the situation.

27 Personnel performing significant plant operations when an evacuation is initiated shall place the
28 equipment in a stable configuration if safe to do so and then respond as appropriate to the evacuation.

29 The locations of the staging areas are shown on the illustrations in Section J.1. Within each occupied
30 building the exits are clearly marked and evacuation routes to the staging area are maintained clear of
31 obstacles. The supervisor (or delegate) is responsible for ensuring accountability of personnel at the ISA
32 or FSF.

33 The BED will normally contact the POC to inform them of the event and ensure that necessary onsite and
34 offsite protective actions are initiated. If additional transportation is needed for personnel, the BED may
35 coordinate for additional transportation through RL-EOC.

36 **J.3.1.2 Take Cover**

37 The site area siren will sound to notify personnel of the need to take cover. Personnel shall respond to the
38 first take cover signal sounded. The BED will normally contact the POC to inform them of the event and
39 ensure that necessary onsite and offsite protective actions are initiated.

40 When the "Take Cover" Alarm is activated, personnel shall take cover in the nearest suitable (consider
41 water supply, bathroom facilities, size, etc.) building or trailer, halt work, and if able place equipment in a
42 safe condition. Close windows, exterior doors, interior doors, and/or window blinds for offices with
43 windows, and secure heating, ventilation, and air conditioning (HVAC). If possible, personnel should
44 move to interior hallways, and follow normal exit procedures from radiologically controlled areas in
45 preparation for evacuation.

1 **J.3.2 Response to Facility Operations Emergencies**

2 Depending on the severity of the event, the BED reviews the site-wide and FFTF emergency response
3 procedure(s) and, as required, categorizes and/or classifies the event. If necessary, the BED initiates area
4 protective actions and Hanford Site Emergency Response Organization activation. The steps identified in
5 the following description of actions do not have to be performed in sequence because of the unanticipated
6 sequence of incident events.

7 **J.3.2.1 Loss of Utilities**

8 A loss of utilities is not expected to lead to an emergency condition or require implementation of
9 protective actions.

10 A case-by-case evaluation is required for each event to determine loss of utility impacts. When a BED
11 determines a loss of utility impact, actions are taken to ensure dangerous and/or mixed waste is being
12 properly managed, to the extent possible given event circumstances. As necessary, the BED will stop
13 operations and take appropriate actions until the utility is restored.

14 **J.3.2.2 Major Process Disruption/Loss of Plant Control**

15 There are no process upsets or losses of plant control that can have any effect at FFTF (including the 400
16 Area WMU). The FFTF facility has been deactivated and is currently being operated in accordance with
17 the approved Surveillance & Maintenance Plan

18 **J.3.2.3 Pressure Release**

19 There are no pressure containing systems at FFTF that would result in a potential emergency condition.

20 **J.3.2.4 Fire and/or Explosion**

21 In the event of a fire, the discoverer activates a fire alarm (pull box); calls 911 from site office
22 phones/373-0911 from cellar phones or verifies that the Hanford Emergency Response Number (911 or
23 373-0911) has been called. Automatic initiation of a fire alarm (through the smoke detectors) is also
24 possible.

- 25 • Unless otherwise instructed, personnel shall evacuate the area/building by the nearest safe exit and
26 proceed to the designated staging area for accountability.
- 27 • On actuation of the fire alarm, ONLY if time permits, personnel should shut down equipment, and
28 secure waste. The alarm automatically signals the Hanford Fire Department.
- 29 • The BED proceeds directly to the ICP, obtains all necessary information pertaining to the incident,
30 and sends a representative to meet Hanford Fire Department.
- 31 • The BED provides a formal turnover to the IC, when the IC arrives at the ICP.
- 32 • The BED informs the Hanford Site Emergency Response Organization as to the extent of the
33 emergency (including estimates of dangerous waste, mixed waste or radioactive material quantities
34 released to the environment).
- 35 • If operations are stopped in response to the fire, the BED ensures that systems are monitored for
36 leaks, pressure buildup, gas generation, and ruptures.
- 37 • Hanford Fire Department firefighters extinguish the fire as necessary.

38 **J.3.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spill**

39 Spills can result from many sources including container spills or leaks, damaged packages or shipments,
40 or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazards
41 posed by the presence of radioactive materials.

- 1 • The discoverer notifies the BED and initiates SWIMS response:
 - 2 – Stops work
 - 3 – Warns others in the vicinity
 - 4 – Isolates the area
 - 5 – Minimizes exposures to the hazards
 - 6 – Requests the BED Secure ventilation
- 7 • The BED determines if emergency conditions exist, requiring response from the Hanford Fire
- 8 Department based on classification of the spill and injured personnel, and evaluates the need to
- 9 perform additional protective actions.
- 10 • If the Hanford Fire Department resources are not needed, the spill is mitigated with resources
- 11 identified in Section J.4 and proper notifications are made.
- 12 • If the Hanford Fire Department resources are needed, the BED calls 911 from the site phones/373-
- 13 0911 from cellular phones.
- 14 • The BED sends a representative to meet the Hanford Fire Department.
- 15 • The BED provides a formal turnover to the IC when the IC arrives at the ICP.
- 16 • The BED informs the Hanford Site Emergency Response Organization as to the extent of the
- 17 emergency (including estimates of dangerous waste, mixed waste, or radioactive material quantities
- 18 released to the environment).
- 19 • If operations are stopped in response to the spill, the BED ensures that systems are monitored for
- 20 leaks, pressure buildup, gas generation, and ruptures.
- 21 • Hanford Fire Department stabilizes the spill.

22 **J.3.2.6 Damaged or Unacceptable Shipments**

23 During the course of receiving an onsite transfer of mixed waste at the 400 Area WMU, an unanticipated
24 event could be discovered resulting in a conformance issue concerning the waste. Damaged or
25 unacceptable shipments resulting from onsite transfers are not subject to WAC 173-303-370; however,
26 conformance issues must be resolved in order to maintain proper records.

27 The following actions are taken to resolve the conformance issue:

- 28 • Operations management is notified of the damaged or unacceptable waste to be received.
- 29 • If the conformance issue results in a spill or release, actions described in Section J.3.2.5 are taken
- 30 • The generating organization is notified of the conformance issue
- 31 • An operations representative, in conjunction with the generating organization, determines the course
- 32 of action to resolve the conformance issue.

33 **J.3.3 Prevention of Recurrence or Spread of Fires, Explosions, or Releases**

34 The BED, as part of the ICP, takes the steps necessary to ensure that a secondary release, fire, or
35 explosion does not occur. The BED will take measures, where applicable, to stop processes and
36 operations; collect and contain released wastes and remove or isolate containers. The BED shall also
37 monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment,
38 whenever this is appropriate.

1 **J.3.4 Incident Recovery and Restart of Operations**

2 A recovery plan is developed when necessary in accordance with Permit Attachment 4, *Hanford*
3 *Emergency Management Plan* (DOE/RL-94-02), Section 9.2. A recovery plan is needed following an
4 event where further risk could be introduced to personnel, the FFTF (including the 400
5 Area WMU), or the environment through recovery action and/or to maximize the preservation of
6 evidence.

7 If this plan was implemented according to Section J.3, Ecology must be notified before operations can
8 resume. Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 5.1
9 discusses different reports to outside agencies. This notification is in addition to those required reports
10 and must include the following statements:

- 11 • There are no incompatibility issues with the waste and released materials from the incident.
- 12 • All the equipment has been cleaned, fit for its intended use, and placed back into service.

13 The notification required by WAC 173-303-360(2)(j) may be made via telephone conference. Additional
14 information that Ecology requests regarding these restart conditions will be included in the required
15 15-day report identified in Section J.5.

16 For emergencies not involving activation of the Hanford-EOC, the BED ensures that conditions are
17 restored to normal before operations are resumed. If the Hanford Site Emergency Response Organization
18 was activated and the emergency phase is complete, a special recovery organization could be appointed at
19 the discretion of DOE to restore conditions to normal. This process is detailed in DOE and contractor
20 emergency procedures. The makeup of this organization depends on the extent of the damage and its
21 effects. The onsite recovery organization will be appointed by the appropriate contractor's management.

22 **J.3.5 Incompatible Waste**

23 After an event, the BED or the onsite recovery organization ensures that no waste that might be
24 incompatible with the released material is treated, stored, and/or disposed of until cleanup is completed.
25 Clean up actions are taken by 400 Area WMU personnel or other assigned personnel. Permit
26 Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 9.2.3, describes actions
27 to be taken.

28 Waste from cleanup activities is designated and managed as newly generated waste. A field check for
29 compatibility before storage is preformed, as necessary. Incompatible wastes are not placed in the same
30 container. Containers of waste are placed in approved storage areas appropriate for their compatibility
31 class.

32 If incompatibility of waste was a factor in the incident, the BED or the onsite recovery organization
33 ensures that the cause is corrected.

34 **J.3.6 Post Emergency Equipment Maintenance and Decontamination**

35 All equipment used during an incident is decontaminated (if practicable) or disposed of as spill debris.
36 Decontaminated equipment is checked for proper operation before storage for subsequent use.
37 Consumables and disposed materials are restocked. Fire extinguishers are replaced.

38 The BED ensures that all equipment is cleaned and fit for its intended use before operations are resumed.
39 Depleted stocks of neutralizing and absorbing materials are replenished; protective clothing is cleaned or
40 disposed of and restocked, etc.

41 **J.4 EMERGENCY EQUIPMENT**

42 Emergency resources and equipment for the FFTF (including the 400 Area WMU) are presented in this
43 section.

1 **J.4.1 Fixed Emergency Equipment**

2 None refer to Section J.4.2.

3 **J.4.2 Portable Emergency Equipment**

PORTABLE EMERGENCY EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire Extinguisher	A fire extinguisher is available at the ISA pad (inside the locked fenced area on the fence near the gate) and at the FSF building (adjacent to the entrance).	Portable Class D fire extinguishers are available for use to respond to fires at the FSF and the ISA.
Emergency Response Kit	An emergency response kit is maintained at the facility. All personnel entering the noted areas, regardless of the type of work being performed, must be made aware of the emergency kit location prior to entering the areas.	Boundary control, PPE for response, first aid kit, and emergency lights.

4 **J.4.3 Communications Equipment/Warning Systems**

COMMUNICATIONS EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Fire Alarm Continuously Ringing Bell Or Electronic Gong And Strobe or Area Siren	Fire alarm – at or near building exits in buildings 405; 491E, S, & W; 4621E & W; and 4703. Siren alert – The siren can be clearly heard by personnel at the ISA and by support personnel at the FSF when staff are in the building. When appropriate, personnel at the FSF and ISA will be notified of fire alarms at the 400 Area.	Alerts personnel of a potential fire or other emergency notifications in their area.
2-Way Radio/Cell Phone	At least one with personnel while in the TSD unit location.	Notify personnel to summon emergency assistance.
Argon pressure monitoring system	FFTF argon dewar pad located on a pad west of the main FFTF Plant.	Notify personnel of over or under pressure in the inert cover gas for piping and components containing sodium residuals.

5 Note: Site wide communications and warning systems are identified in Permit Attachment 4, *Hanford*
6 *Emergency Management Plan* (DOE/RL-94-02), Table 5.1.

1 **J.4.4 Personal Protective Equipment**

PERSONAL PROTECTIVE EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Personal Protective Equipment	Personal Protective Equipment is available and will be staged when work is performed at the 400 Area WMU location.	Protection from various hazards (e.g. smoke, fumes, oxygen deficient atmosphere, chemicals, high airborne radioactivity, radiological contamination, insufficient lighting). PPE clothing can be based on specific job requirements.

2 **J.4.5 Spill Control and Containment Supplies**

SPILL KITS AND SPILL CONTROL EQUIPMENT		
TYPE	LOCATION	CAPABILITY
Spill Control Materials <ul style="list-style-type: none"> • Absorbent materials • Bags • Step-off pads • Barrier tape • Rags • Scissors 	<p>One spill kit will be located at the 400 Area WMU and will be clearly identified.</p> <p>All personnel entering either the ISA or FSF will be made aware of the location of the spill kit.</p>	Control and mitigation of radioactive and chemical spills.

3 **J.4.6 Incident Command Post**

4 The ICPs can be identified in a fixed location or the IC can determine a location appropriate for the event.
5 Emergency resource materials are stored at each location. The IC could activate the Hanford Fire
6 Department Mobile Command Unit if necessary.

7 **J.5 REQUIRED REPORTS**

8 Post-incident written reports are required for certain incidents on the Hanford Site. The reports are
9 described in Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 5.1.

10 Facility management must note in the TSD-unit operating record, the time, date, and details of any
11 incident, which requires implementation of the contingency plan. Within 15 days after the incident, a
12 written report must be submitted to Ecology. The report must, at a minimum, include the elements
13 specified in WAC 173-303-360(2)(k).

14 **J.6 PLAN LOCATION AND AMENDMENTS**

15 Copies of this plan are maintained in following locations

- 16 • MO-294.

17 This plan will be reviewed and immediately amended as necessary, in accordance with Permit
18 Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02), Section 14.3.1.1.

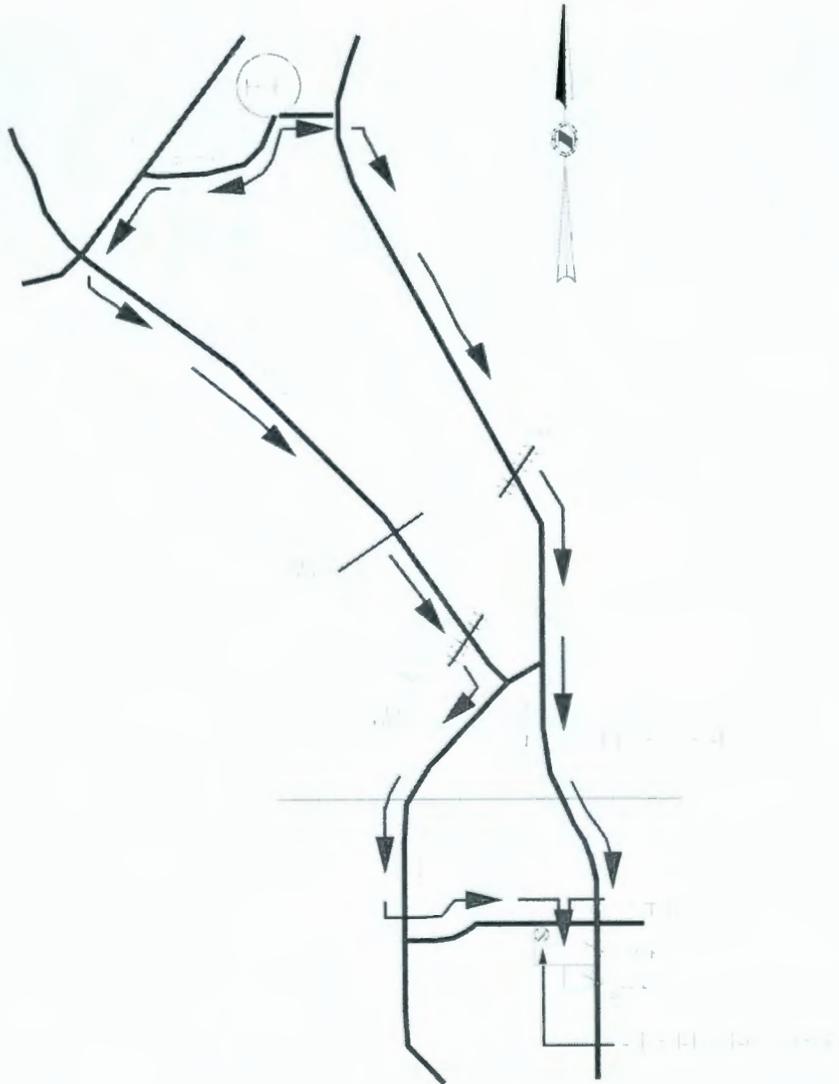
1 **J.7 BUILDING EMERGENCY ORGANIZATION BUILDING EMERGENCY DIRECTOR**

FFTF BEDs		
TITLE	WORK LOCATION	WORK PHONE
Facility Operations	MO 294	373-1355

2 Names and home telephone numbers of the BEDs are available from the POC (373-3800) in accordance with Permit
3 Condition II.A.4.

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Figure J.2. FFTF Alternate Staging Area



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Quarter Ending 9/30/2013

24590-LAW-PCN-ENV-13-003

Hanford Facility RCRA Permit Modification Notification Form
Part III, Operating Unit 10
Waste Treatment and Immobilization Plant

Index

Page 2 of 3: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant
Update the LAW Vitrification Building Piping and Instrumentation Diagrams (P&ID) for the LAW Secondary
Offgas/Vessel Vent Process System SCO/SCR Skid in Appendix 9.2 of the Dangerous Waste Permit.

Submitted by Co-Operator:

Donna Busche 9/4/13
D. M. Busche Date

Reviewed by ORP Program Office:

[Signature] 10/3/13
D. L. Noyes Date

Quarter Ending 9/30/2013

24590-LAW-PCN-ENV-13-003

Hanford Facility RCRA Permit Modification Notification Form															
Unit:		Permit Part:													
Waste Treatment and Immobilization Plant		Part III, Operating Unit 10													
<u>Description of Modification:</u>															
<p>The purpose of this Class 1 prime modification is to update the following Piping and Instrumentation Diagrams (P&ID) for the LAW Secondary Offgas/Vessel Vent Process System SCO/SCR SKID. The following P&ID is submitted to replace the P&ID currently in Appendix 9.2. This Class 1 prime modification also requests the removal of P&ID 24590-LAW-M6-LVP-00005001 from Appendix 9.2.</p>															
<table border="1"> <thead> <tr> <th colspan="4" style="text-align: left;">Appendix 9.2</th> </tr> </thead> <tbody> <tr> <td>Replace:</td> <td>24590-LAW-M6-LVP-00005002, Rev. 0</td> <td>With:</td> <td>24590-LAW-M6-LVP-00005002, Rev. 1</td> </tr> <tr> <td>Delete:</td> <td>24590-LAW-M6-LVP-00005001, Rev. 0</td> <td>With:</td> <td>N/A</td> </tr> </tbody> </table>				Appendix 9.2				Replace:	24590-LAW-M6-LVP-00005002, Rev. 0	With:	24590-LAW-M6-LVP-00005002, Rev. 1	Delete:	24590-LAW-M6-LVP-00005001, Rev. 0	With:	N/A
Appendix 9.2															
Replace:	24590-LAW-M6-LVP-00005002, Rev. 0	With:	24590-LAW-M6-LVP-00005002, Rev. 1												
Delete:	24590-LAW-M6-LVP-00005001, Rev. 0	With:	N/A												
<p>The referenced P&ID for the LAW Selective Catalytic Oxidizer/Reducer (SCO/SCR) has been revised. It incorporates changes provided on applicable document change forms (e.g., DCN, SCN, SDDR, FCN, FCR, etc.) and changes associated with the resolution to comments on change documents since the issuance of the last revision of the drawing. This modification requests Ecology approval and incorporation into the permit, the specific changes to this P&ID that are indicated by note 11, and change clouds. Revisions are the result of ongoing design changes. The following identifies the significant types of changes on the attached drawings.</p>															
<u>24590-LAW-M6-LVP-00005002</u>															
<ul style="list-style-type: none"> • Enhanced Instrumentation and Control information to define and clarify the functional requirements of the system controls • Modified symbol for LVP-FT-0506 to reflect a remote thermal flow transmitter • Added alarm symbols to align P&ID and instrument logic diagrams • Added valves between SCO/SCR SKID-00002 and instrument assemblies as noted in change clouds on drawing at coords. (D4-D8) • Added notation for nozzle 2 at coord. (D4) • Moved the location of LVP-BLWS-00056 to coord. (E8) • Revised Note 8 to provide additional information that defined the vendor procurement package relating to the purchase of safety and non-safety electrical junction boxes. This note modified the vendor's scope so that safety instruments TE-0509 and TE-0516 and the associated safety junction boxes will now be supplied by the WTP project. • Added Note 10 to incorporate 24590-WTP-SDDR-MS-11-00054. (Sent to Ecology with CCN 233562) • Revised pictorial representation of SCO/SCR at coords. (E6-E8) 															
<u>24590-LAW-M6-LVP-00005001</u>															
<p>This Class1 prime modification also requests the removal of the P&ID 24590-LAW-M6-LVP-00005001 from Appendix 9.2. The SCO/SCR (LVP SKID-00002) is a regulated Miscellaneous Unit (MU), but the ammonia dilutions skid (LVP-SKID-00003) is a product addition system and is not a regulated MU. When 24590-LAW-M6-LVP-00005 was converted to multiple drawings, 24590-LAW-M6-LVP-00005001 was included in the group of daughter or "enhanced" drawings incorporated into the permit. There are no DWP lines or equipment on 24590-LAW-M6-LVP-00005001. This P&ID is not included on the list of P&IDs in Permit Table III.10.H.A associated with LVP-SKID-00002.</p>															

Quarter Ending 9/30/2013

24590-LAW-PCN-ENV-13-003

This PCN updates information in Appendix 9.2 to reflect current design. This DWP component may be re-evaluated to confirm design adequacy. If the re-evaluation results in future design changes, the changes will be reviewed by Ecology in subsequent permit modifications.

The following outstanding change documents have been submitted to Ecology pursuant to permit condition III.10.C.9.h, and are maintained in the WTP Operating Record.

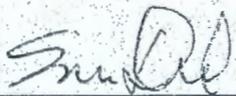
24590-LAW-M6N-LVP-00074 (CCN 257037)

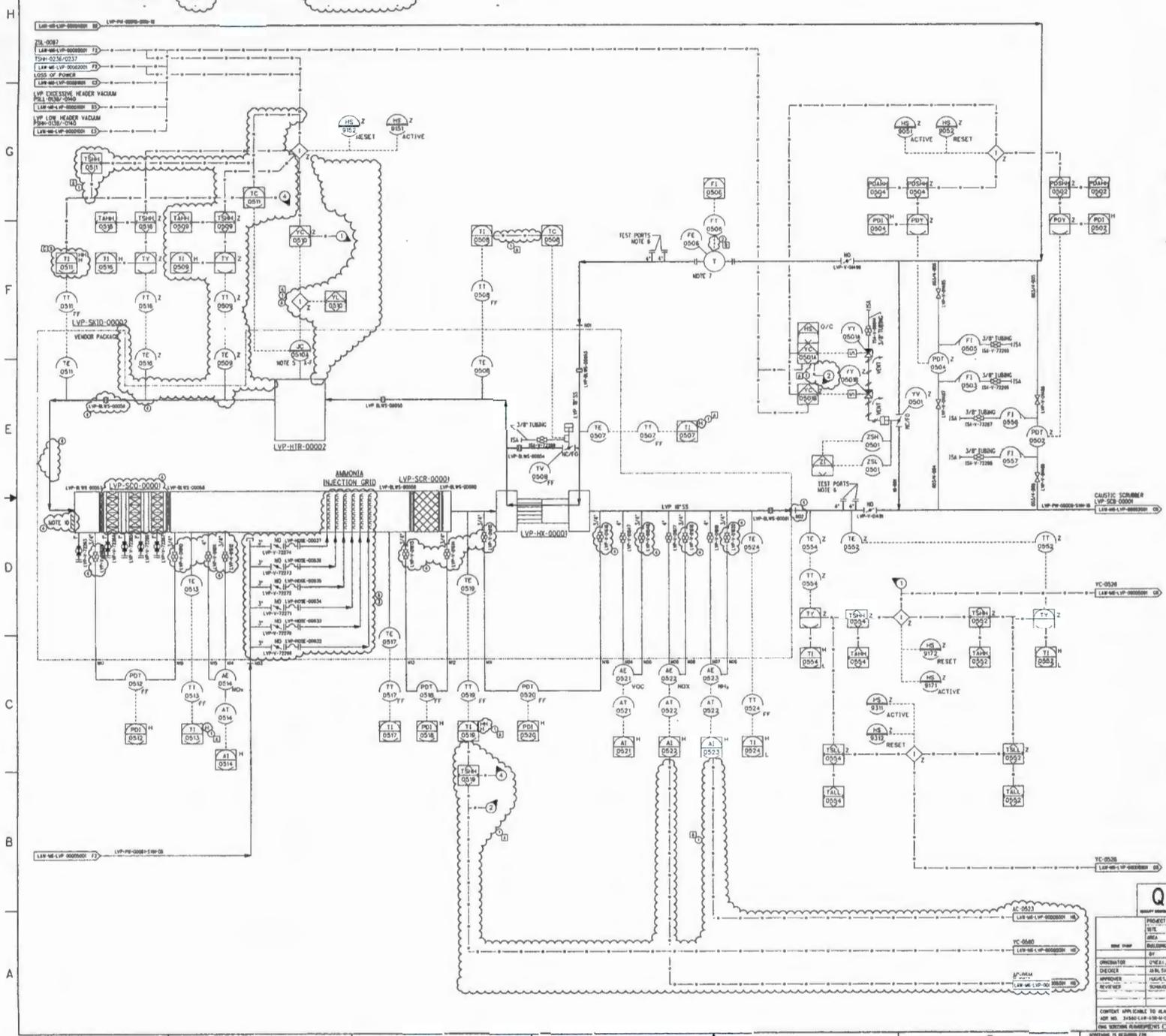
In accordance with Permit Condition III.10.C.2.e, this permit modification sent to Ecology may include page changes to the Permit, attachments, and permit application supporting documentation.

WAC 173-303-830 Modification Class:	Class 1	Class ¹ 1	Class 2	Class 3
Please mark the Modification Class:		X		

Enter relevant WAC 173-303-830, Appendix I Modification citation number: NA
 Enter wording of WAC 173-303-830, Appendix I Modification citation:

In accordance with WAC 173-303-830(4)(d)(i), this modification notification is requested to be reviewed and approved as a Class ¹1 modification. WAC 173-303-830(4)(d)(ii)(A) states, "Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the director may require prior approval."

Modification Approved/Concur: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Denied (state reason below) Reason for denial:	Reviewed by Ecology:  S. Dahl	Date: 10/31/13
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- NOTES:**
- SEE DRAWINGS 24500-WTP-ME-SO-00001 THROUGH 24500-WTP-ME-SO-00008 FOR GENERAL NOTES, SYMBOLS AND LEGEND, AND GENERAL SLOPE REQUIREMENTS.
 - CONTENTS OF THIS DOCUMENT ARE DANGEROUS WASTE PERMIT AFFECTING.
 - THE PRESSURE BOUNDARY FOR ALL COMPONENTS ON THIS DRAWING IS QUALITY LEVEL D AND SEISMIC CATEGORY SC-III, UNLESS OTHERWISE NOTED.
 - ALL LINES SHOWN ON THIS DRAWING SHALL BE FREE DRAINING, UNLESS OTHERWISE NOTED.
 - SIX STAGE HEATER IS CONTROLLED FROM ION VIA VENDOR CONTROL PANEL LVP-PAL-00003 LOCATED IN ROOM L-0332.
 - TEST PORTS ARE TO BE INSTALLED AT THE SAME AXIAL POSITION ONE PORT SHOULD BE AS CLOSE TO VERTICAL (TOP) AS POSSIBLE. THE OTHER SHOULD BE 90° OPPOSED. TEST PORTS SHALL BE PLACED A MINIMUM OF 750 (2) INSEIDE PIPE DIAMETERS FROM UPSTREAM FLOW DISTURBANCES AND A MINIMUM OF ONE HALF (1/2) INSEIDE PIPE DIAMETERS FROM DOWNSTREAM DISTURBANCES WHERE PRACTICAL. THESE STRAIGHT RUN DISTANCES SHOULD BE DOUBLED.
 - FLOW ELEMENT SHALL BE LOCATED A MINIMUM OF TEN INSEIDE PIPE DIAMETERS FROM UPSTREAM AND DOWNSTREAM FLOW DISTURBANCES TO ENSURE STRAIGHT PIPE FLOW DISTRIBUTION THROUGH THE DEVICE. TEST PORTS ARE NOT REGARDDED TO CREATE FLOW DISTURBANCES.
 - SAFETY BOX LVP-MS-00002 (NON-SAFETY) TO BE INSTALLED ON TCD SAFETY BOX LVP-MS-00007 (NON-SAFETY) TO BE INSTALLED ON AMMONIA/AIR DILUTION SKID.
 - THIS DRAWING IS CONVERTED FROM A SINGLE SHEET TO MULTIPLE SHEET DRAWINGS AND IN PART SUPPLEMENTS 24500-LAW-ME-LVP-00005 REV 2. THIS DRAWING INCLUDES INFORMATION FROM 24500-LAW-ME-LVP-00001, 00002, 00006, 00009, AND 24500-OL-ME-ME-00007-10003.
 - INSULATION PER 24500-WTP-SDOR-MS-11-00004.
 - REVISION H INCORPORATED 24500-LAW-ME-LVP-00003, 00008, AND 00009 REVISED/ADDED VALVES, BELLOW, NOZZLES, NOTES, AND INSTRUMENTATION.

HOLD OPEN ITEMS:

NONE

REFERENCES:

- 24500-LAW-3VD-LVP-00000 SYSTEM DESCRIPTION FOR THE LAW PRIMARY OFFGAS (LPO) AND SECONDARY OFFGAS/VESSEL VENT (LVP) SYSTEMS.

Please note that certain special notices and legend material as defined in the Atomic Energy Act of 1954 (AEA) are regulated by the U.S. Department of Energy (DOE) facilities exclusively by DOE using permission to the AEA authority. DOE reserves the permission to AEA to have sole and exclusive responsibility and authority to regulate certain special notices and legend material at DOE owned nuclear facilities. Individuals contacted for DOE owned facilities is provided for person identification purposes only.

1 REVISION PER NOTE 2 2 DESIGN FOR CONSTRUCTION SEE NOTE 3		DATE: 11/11/03 BY: JLD CHECKED: JLD REVIEWED: JLD
REVISION HISTORY		
NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	11/11/03
PROJECT INFORMATION		
PROJECT NO.	24500-LAW-MB-LVP-00000002	
AREA	WASTE TREATMENT PLANT	
DESCRIPTION	2430 STEVENS CENTER PLACE RICHLAND, WA 99354	
CONTRACT INFORMATION		
CONTRACT NO.	SE-ACEET-08VH1430	
P&ID - LAW SECONDARY OFFGAS/VESSEL VENT PROCESS SYSTEM SCO/SCR SKID		
DATE	11/11/03	
SCALE	24500-LAW-MB-LVP-00000002	1

Table III.10.H.A - LAW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
<p><u>LAW Melter Process System</u></p> <p>LMP-MLTR-00001 (LAW Melter 1)</p> <p>LMP-MLTR-00002 (LAW Melter 2)</p>	LMP	<p><u>24590-LAW</u></p> <p>-M6-LMP-00001001, Rev 0</p> <p>-M6-LMP-00002001, Rev 0</p> <p>-M6-LMP-00002002, Rev 0</p> <p>-M6-LMP-00031001, Rev 0</p> <p>-M6-LMP-00032001, Rev 0</p> <p>-M6-LMP-00032002, Rev 0</p> <p>-P1-P01T-00002, Rev 6</p>	<p>Section 4.1.3.2, Table C-8, and Figures C1-1, C1-3 and C1-21 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Primary Offgas Process System</u></p> <p>LOP-FCLR-00001 (Melter 1 Primary Film Cooler)</p> <p>LOP-FCLR-00002 (Melter 1 Standby Film Cooler No. 2)</p> <p>LOP-FCLR-00003 (Melter 2 Primary Film Cooler)</p> <p>LOP-FCLR-00004 (Melter 2 Standby Film Cooler)</p>	LOP	<p><u>24590-LAW</u></p> <p>-P1-P01T-00002, Rev 6</p> <p>-M6-LOP-00004001, Rev 0</p> <p>-M6-LOP-00004002, Rev 0</p> <p>-M6-LOP-00005001, Rev 0</p> <p>-M6-LOP-00005002, Rev 0</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1, C1-3 and C1-21 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Primary Offgas Process System (Cont.)</u></p> <p>LOP-SCB-00001 (Melter 1 Submerged Bed Scrubber)</p> <p>LOP-SCB-00002 (Melter 2 Submerged Bed Scrubber)</p>	LOP	<p><u>24590-LAW</u></p> <p>-M5-V17T-P0007, Rev 0</p> <p>-M5-V17T-P0008, Rev 0</p> <p>-M6-LOP-00001001, Rev 0</p> <p>-M6-LOP-00002001, Rev 0</p> <p>-MK-LOP-P0001001, Rev 0</p> <p>-MK-LOP-P0001002, Rev 0</p> <p>-MK-LOP-P0001003, Rev 0</p> <p>-MKD-LOP-P0008, Rev 0</p> <p>-NID-LOP-P0001, Rev 1</p> <p>-P1-P01T-00002, Rev 6</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>

Table III.10.H.A - LAW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
<p><u>LAW Primary Offgas Process System (Cont.)</u></p> <p>LOP-WESP-00001 (Melter 1 Wet Electrostatic Precipitator - WESP)</p> <p>LOP-WESP-00002 (Melter 2 Wet Electrostatic Precipitator - WESP)</p>	LOP	<p><u>24590-LAW</u> -M5-V17T-P0007, Rev 0 -M5-V17T-P0008, Rev 0 -M6-LOP-00001004, Rev 0 -M6-LOP-00002004, Rev 0 -NID-LOP-00003, Rev 3 -P1-P01T-00002, Rev 6</p> <p><u>24590-WTP</u> -3PS-MKE0-T0001, Rev 5</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System</u></p> <p>LVP-HEPA-00001A (Melter Offgas HEPA Filter)</p> <p>LVP-HEPA-00001B (Melter Offgas HEPA Filter)</p> <p>LVP-HEPA-00002A (Melter Offgas HEPA Filter)</p> <p>LVP-HEPA-00002B (Melter Offgas HEPA Filter)</p> <p>LVP-HEPA-00003A (Melter Offgas HEPA Filter)</p>	LVP	<p><u>24590-LAW</u> -M5-V17T-P0010, Rev 2 -M6-LVP-00003001, Rev 0</p>	Section 4.1.3.3, Table C-8, Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p> <p>LVP-SCO-00001 (Thermal Catalytic Oxidizer – located on LVP-SKID-00002)</p>	LVP	<p><u>24590-LAW</u> -M6-LVP-00005002, Rev 10</p>	Section 4.1.3.3, Table C-8, Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.

Table III.10.H.A - LAW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p> <p>LVP-SCR-00001 (NOx Selective Catalytic Reduction Unit – located on LVP-SKID-00002)</p> <p>LVP-HX-00001 (Catalytic Oxidizer Heat Exchanger – located on LVP-SKID-00002)</p> <p>LVP-HTR-00002 (Catalytic Oxidizer Electric Heater – located on LVP-SKID-00002)</p>	LVP	<p><u>24590-LAW</u> -M6-LVP-00005002, Rev 10</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p> <p>LVP-ADBR-00001A (Offgas Mercury Adsorber – located on LVP-SKID-00001)</p> <p>LVP-ADBR-00001B (Offgas Mercury Adsorber – located on LVP-SKID-00001)</p>	LVP	<p><u>24590-LAW</u> -M6-LVP-00004003, Rev 0</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p> <p>LVP-SCB-00001 (Melter Offgas Caustic Scrubber)</p>	LVP	<p><u>24590-LAW</u> -P1-P01T-00004, Rev 4 -M6-LVP-00002002, Rev 0</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p> <p>LVP-HTR-00001A (Melter Offgas HEPA Preheater)</p>	LVP	<p><u>24590-LAW</u> -M5-V17T-P0010, Rev 2 -M6-LVP-00001001, Rev 0 -M6-LVP-00001002, Rev 0</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>

Table III.10.H.A - LAW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
LVP-HTR-00001B (Melter Offgas HEPA Preheater)			
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p> <p>LVP-EXHR-00001A (Melter Offgas Exhauster)</p> <p>LVP-EXHR-00001B (Melter Offgas Exhauster)</p> <p>LVP-EXHR-00001C (Melter Offgas Exhauster)</p>	LVP	<p><u>24590-LAW</u></p> <p>-M5-V17T-P0010, Rev 2</p> <p>-M6-LVP-00001004, Rev 0</p> <p>-M6-LVP-00001005, Rev 0</p> <p>-M6-LVP-00001006, Rev 0</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.

Quarter Ending December 31,
2013

24590-WTP-PCN-ENV-13-001

Hanford Facility RCRA Permit Modification Notification Form
Part III, Operating Unit 10
Waste Treatment and Immobilization Plant

Index

Page 2 of 3: Hanford Facility RCRA Permit, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant
Make editorial corrections to permit conditions III.10.H.1.b.x, III.10.I.1.b.x, III.10.J.1.b.x, III.10.K.1.b.x (Short-
and Long-Term Low-Activity Waste [LAW] and High-Level Waste [HLW] Facilities); III.10.C.9.f (Critical
Systems); Appendix 7.7 (Specifications); and Appendix 2 (Critical Systems for the WTP) of the Dangerous
Waste Permit.

Submitted by Co-Operator:

Donna Busche 10/17/13
D. M. Busche Date

Reviewed by DRP Program Office:

D. L. Noyes 11/7/13
D. L. Noyes Date

Quarter Ending December 31,
2013

24590-WTP-PCN-ENV-13-001

Hanford Facility RCRA Permit Modification Notification Form		
Unit:	Permit Part:	
Waste Treatment and Immobilization Plant	Part III, Operating Unit 10	
Description of Modification:		
The purpose of this Class 1 modification is to request Ecology to make editorial corrections to permit conditions III.10.H.1.b.x, III.10.I.1.b.x, III.10.J.1.b.x, III.10.K.1.b.x (Short- and Long-Term Low-Activity Waste [LAW] and High-Level Waste [HLW] Facilities); III.10.C.9.f (Critical Systems); Appendix 7.7 (Specifications); and Appendix 2 (Critical Systems for the WTP) of the Dangerous Waste Permit. The following corrections are submitted to replace those currently in the permit:		
Permit Condition	Replace	With
III.10.H.1.b.x.	The emission limits specified in Permit Conditions III.10.H.1.b.i. through III.10.H.1.b.x. above, will be met for the LAW Vitrification System by limiting feed-rates as specified in Permit Tables	The emission limits specified in Permit Conditions III.10.H.1.b.i. through III.10.H.1.b.ix., above, will be met for the LAW Vitrification System by limiting feed rates as specified in Permit Tables
III.10.I.1.b.x.	The emission limits specified in Permit Conditions III.10.I.1.b.i. through x. above, will be met for the LAW Vitrification System by limiting feed rates as specified in Permit Tables	The emission limits specified in Permit Conditions III.10.I.1.b.i. through III.10.I.1.b.ix., above, will be met for the LAW Vitrification System by limiting feed rates as specified in Permit Tables
III.10.J.1.b.x.	The emission limits specified in Permit Conditions III.10.J.1.b.i. through III.10.J.1.b.x. above, will be met for the HLW Vitrification System by limiting feed rates as specified in Permit Tables	The emission limits specified in Permit Conditions III.10.J.1.b.i. through III.10.J.1.b.ix., above, will be met for the HLW Vitrification System by limiting feed rates as specified in Permit Tables
III.10.K.1.b.x.	The emission limits specified in Permit Conditions III.10.K.1.b.i. through x. above, will be met for the HLW Vitrification System by limiting feed rates as specified in Permit Tables.....	The emission limits specified in Permit Conditions III.10.K.1.b.i. through III.10.K.1.b.ix., above, will be met for the HLW Vitrification System by limiting feed rates as specified in Permit Tables
III.10.C.9.f.	For each Critical System identified in Operating Unit Group 10, Appendix 2.0, the Permittees will submit to Ecology for review and approval, following the schedule in Operating Unit Group 10, Appendix 1.0, the information identified in Permit Conditions III.10.C.16., III.10.D.10., III.10.E.9., III.10.F.7., III.10.G.10., III.10.H.5., and III.10.J.5.	For each Critical System identified in Operating Unit Group 10, Appendix 2.0, the Permittees will submit to Ecology for review and approval, following the schedule in Operating Unit Group 10, Appendix 1.0, the information identified in Permit Conditions III.10.D.10., III.10.E.9., III.10.F.7., III.10.G.10., III.10.H.5., and III.10.J.5.
Appendix 7.7	Drawing/Document Number 24590-WTP-3PS-MPC0-TP001, Rev 0 (<i>Engineering Specification for Centrifugal Pumps to Meet Requirements of API Standard 610, Eighth Edition, and for Quality Levels QL-1 and QL-2</i>)	N/A Specification to be deleted from Appendix (see below)
Appendix 2.0	Balance of Facilities Systems CPE Cathodic Protection Electrical System RLD Radioactive Liquid Waste Disposal System	Balance of Facilities Systems CPE Cathodic Protection Electrical System
This modification requests Ecology approval and incorporation into the permit the editorial changes specified in the above table.		
Permit Conditions III.10.H.1.b.x through III.10.K.1.b.x		
Emission limits are specified in subsections III.10.(H, I, J, and K).1.b.i through III.10.(H, I, J, and K).1.b.ix only. Subsection III.10.(H, I, J, and K).1.b.x compares emission limits to feed rate tables and does not, in itself, contain an emission limit.		

Quarter Ending December 31,
2013

24590-WTP-PCN-ENV-13-001

Permit Condition III.10.C.9.f

Reference to Permit Condition III.10.C.16 should be deleted because Permit Condition III.10.C.16 does not exist in the permit.

Appendix 7.7

Specification 24590-WTP-3PS-MPC0-TP001, Rev 0 should be deleted from Appendix 7.7 per approved PCN 24590-WTP-PCN-ENV-08-002 (CCN 184911).

Appendix 2.0

The Balance of Facilities Systems does not include the RLD system. Reference to the RLD (*Radioactive Liquid Waste Disposal System*) should, therefore, be removed from the Appendix 2.0 Balance of Facilities table.

In accordance with Permit Condition III.10.C.2.e, this permit modification sent to Ecology may include page changes to the Permit, attachments, and permit application supporting documentation.

WAC 173-303-830 Modification Class:	Class 1	Class 1 ¹	Class 2	Class 3
Please mark the Modification Class:	X			
Enter relevant WAC 173-303-830, Appendix I Modification citation number: A1 and A2.				
Enter wording of WAC 173-303-830, Appendix I Modification citation:				
A1. Administrative and informational changes				
A2. Correction of typographical errors				
Modification Approved/Concur:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Denied (state reason below)	Reviewed by Ecology:	
Reason for denial:			 S. Dahl	
				11/22/13 Date

- 1 construction deficiency from the approved designs, plans, and specifications into the
2 construction of critical systems, as defined in the Hanford Site-wide Permit definition
3 section. Such minor nonconformance or construction deficiency will be defined, for the
4 purposes of this Permit Condition, as nonconformance or construction deficiency that is
5 necessary to accommodate proper construction and the substitution or the use of
6 equivalent or superior materials or equipment that do not substantially alter the Permit
7 conditions or reduce the capacity of the facility to protect human health or the
8 environment. Such minor nonconformance or construction deficiency will not be
9 considered a modification of this Permit. If Ecology determines that the nonconformance
10 or construction deficiency is not minor, it will notify the Permittees in writing that a
11 permit modification is required for the deviation and whether prior approval is required
12 from Ecology before work proceeds which affect the nonconforming or construction
13 deficiency item.
- 14 III.10.C.9.e. The Permittees will formally document, with a nonconformance report (NCR) or
15 construction deficiency report (CDR), as applicable, incorporation of minor
16 nonconformance or construction deficiency from the approved designs, plans, and
17 specifications into the construction of non-critical systems subject to this Permit. Such
18 minor nonconformance or construction deficiency will not be considered a modification
19 of this Permit. All NCR's and CDR's will be maintained in the WTP Unit Operating
20 Record and will be made available to Ecology upon request or during the course of an
21 inspection. If Ecology determines that the nonconformance or construction deficiency is
22 not minor, it will notify the Permittees in writing that a permit modification is required
23 for the deviation and whether prior approval is required from Ecology before work
24 proceeds which affect the nonconforming or construction deficiency item.
- 25 III.10.C.9.f. For each Critical System identified in Operating Unit Group 10, Appendix 2.0, the
26 Permittees will submit to Ecology for review and approval, following the schedule in
27 Operating Unit Group 10, Appendix 1.0, the information identified in Permit Conditions
28 III.10.C.16., III.10.D.10., III.10.E.9., III.10.F.7., III.10.G.10., III.10.H.5., and III.10.J.5.
29 Information Ecology determines to incorporate into the Permit will follow the Permit
30 Condition III.10.C.2.g. process, unless stated otherwise within the specific permit
31 condition. Information Ecology determines necessary to support design basis will be
32 incorporated into the Administrative Record.
- 33 III.10.C.9.g. Upon completion of the WTP Unit construction subject to this Permit, the Permittees
34 will produce as-built drawings of the project which incorporate the design and
35 construction modifications resulting from all change documentation as well as
36 modifications made pursuant to Permit Conditions III.10.C.2.e., III.10.C.2.f., and
37 III.10.C.2.g. The Permittees will place the as-built drawings into the operating record
38 within twelve (12) months of completing construction.
- 39 III.10.C.9.h. The Permittees will formally document changes to approved designs, plans, and
40 specifications with design change documentation [e.g., Design Change Notice (DCN),
41 Field Change Request (FCR), Field Change Notice (FCN), Specification Change Notice
42 (SCN), and Supplier Deviation Disposition Request (SDDR)]. All design change
43 documentation will be maintained in the WTP Unit-specific Operating Record and will
44 be made available to Ecology upon request or during the course of an inspection. For any
45 design change documentation affecting any critical systems, the Permittees will provide
46 copies to Ecology within seven (7) calendar days. Identification of critical systems will
47 be included by the Permittees in each WTP Unit-specific dangerous waste permit
48 application, closure plan, or permit modification, as appropriate. If Ecology determines

- 1 III.10.H.1.b.vii. Arsenic, beryllium, and chromium emissions from the LAW Vitrification System will not exceed 97
2 $\mu\text{g}/\text{dscm}$, combined [40 CFR §63.1203(b)(4), in accordance with WAC 173-303-680(2)].
- 3 III.10.H.1.b.viii. Carbon monoxide (CO) emission from the LAW Vitrification System will not exceed 100 parts per
4 million (ppm) by volume, over an hourly rolling average (as measured and recorded by the
5 continuous monitoring system), dry basis [40 CFR §63.1203(b)(5)(i), in accordance with WAC 173-
6 303-680(2)].
- 7 III.10.H.1.b.ix. Hydrocarbon emission from the LAW Vitrification System will not exceed 10 parts per million
8 (ppm) by volume, over an hourly rolling average (as measured and recorded by the continuous
9 monitoring system during demonstration testing required by this Permit), dry basis, and reported as
10 propane [40 CFR §63.1203(b)(5)(ii), in accordance with WAC 173-303-680(2)].
- 11 III.10.H.1.b.x. If the emissions from the LAW Vitrification System exceed the emission rates listed in Permit Table
12 III.10.H.E, as approved pursuant to Permit Condition III.10.C.11.b., the Permittees will notify
13 Ecology in accordance with Permit Condition III.10.H.3.d.vii. [WAC 173-303-680(2) and (3), and
14 WAC 173-303-815(2)(b)(ii)].
- 15 | The emission limits specified in Permit Conditions III.10.H.1.b.i. through III.10.H.1.b.ix. above,
16 will be met for the LAW Vitrification System by limiting feed-rates as specified in Permit Tables
17 III.10.H.D. and III.10.H.F., as approved/modified pursuant to Permit Condition III.10.H.5.,
18 compliance with operating conditions specified in Permit Condition III.10.H.1.c. (except as
19 specified in Permit Condition III.10.H.1.b.xii.), and compliance with Permit Condition
20 III.10.H.1.b.xi.
- 21 III.10.H.1.b.xi. Treatment effectiveness, feed-rates and operating rates for dangerous and mixed waste management
22 units contained in the LAW Building, but not included in Permit Table III.10.H.A., as
23 approved/modified pursuant to Permit Condition III.10.H.5., will be as specified in Permit Sections
24 III.10.D., III.10.E., III.10.F. and consistent with assumptions and basis which are reflected in
25 Operating Unit Group 10, Appendix 6.3.1 of this Permit, as approved pursuant to Permit Condition
26 III.10.C.11.b. For the purposes of this permit condition, Operating Unit Group 10, Appendix 6.3.1
27 will be superseded by Appendix 6.4.1 upon its approval pursuant to either Permit Conditions
28 III.10.C.11.c. or III.10.C.11.d. [WAC 173-303-680(2) and (3), and WAC 173-303-815(2)(b)(ii)].
- 29 III.10.H.1.b.xii. Except during periods of LAW Vitrification System startup and shutdown, compliance with the
30 operating conditions specified in Permit Condition III.10.H.1.c., will be regarded as compliance with
31 the required performance standards identified in Permit Conditions III.10.H.1.b.i. through x.
32 However, if it is determined that during the effective period of this Permit that compliance with the
33 operating conditions in Permit Condition III.10.H.1.c. is not sufficient to ensure compliance with the
34 performance standards specified in Permit Conditions III.10.H.1.b.i. through x., the Permit may be
35 modified, revoked, or reissued pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f., or
36 III.10.C.2.g.
- 37 III.10.H.1.c. Operating Conditions [WAC-303-670(6), in accordance with WAC 173-303-680(2) and (3)].
- 38 The Permittees will operate the LAW Vitrification System in accordance with Operating Unit Group
39 10, Addendum C of this Permit, as updated pursuant to Permit Condition III.10.H.5.e.vi., Operating
40 Unit Group 10, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition III.10.H.5.e.,

- 1 A. Verbally notify Ecology within twenty-four (24) hours of the discovery of exceeding the
2 emission rate(s) as specified in Permit Condition I.E.21.
- 3 B. Submit to Ecology additional risk information to indicate that the increased emissions impact is
4 offset by decreased emission impact from one or more constituents expected to be emitted at the
5 same time, and/or investigate the cause and impact of the exceedance of the emission rate(s) and
6 submit a report of the investigation findings to Ecology within fifteen (15) days of the discovery
7 of exceeding the emission rate(s); and
- 8 C. Based on the notification and any additional information, Ecology may provide, in writing,
9 direction to the Permittees to stop dangerous and/or mixed waste feed to the LAW Vitrification
10 System and/or to submit a revised Demonstration Test Plan as a permit modification pursuant to
11 Permit Conditions III.10.C.2.e. through g. The revised Demonstration Test Plan must include
12 substantive changes to prevent failure from reoccurring.

13 The emission limits specified in Permit Conditions III.10.I.1.b.i. through ix. above, will be met for
14 the LAW Vitrification System by limiting feed rates as specified in Permit Tables III.10.I.D and
15 III.10.I.F., as approved/modified pursuant to Permit Conditions III.10.H.5. and III.10.H.3.d.v.,
16 compliance with operating conditions specified in Permit Condition III.10.I.1.c. (except as specified
17 in Permit Condition III.10.I.1.b.xii.), and compliance with Permit Condition III.10.I.1.b.xi.;

18 III.10.I.1.b.xi. Treatment effectiveness, feed-rates and operating rates for dangerous and/or mixed waste
19 management units contained in the LAW Building, but not included in Permit Table III.10.I.A., as
20 approved/modified pursuant to Permit Condition III.10.H.5., will be as specified in Permit Sections
21 III.10.D through F and consistent with assumptions and basis which are reflected in Operating Unit
22 Group 10, Appendix 6.3.1 of this Permit, as approved pursuant to Permit Condition III.10.C.11.b.
23 For the purposes of this permit condition, Operating Unit Group 10, Appendix 6.3.1 will be
24 superseded by Appendix 6.4.1 upon its approval pursuant to either Permit Condition III.10.C.11.c or
25 III.10.C.11.d. [WAC 173-303-680(2) and (3), and WAC 173-303-815(2)(b)(ii)];

26 III.10.I.1.b.xii. Except during periods of LAW Vitrification System startup and shutdown, compliance with the
27 operating conditions specified in Permit Condition III.10.I.1.c., will be regarded as compliance with
28 the required performance standards identified in Permit Conditions III.10.I.1.b.i. through x.
29 However, if it is determined that during the effective period of this Permit that compliance with the
30 operating conditions in Permit Condition III.10.I.1.c. is not sufficient to ensure compliance with the
31 performance standards specified in Permit Conditions III.10.I.1.b.i. through x., the Permit may be
32 modified, revoked, or reissued pursuant to Permit Conditions III.10.C.2.e. and f., or III.10.C.2.g.

33 III.10.I.1.c. Operating Conditions [WAC-303-670(6), in accordance with WAC 173-303-680(2) and (3)]

34 The Permittees will operate the LAW Vitrification System in accordance with Operating Unit Group
35 10, Addendum C of this Permit, as updated pursuant to Permit Condition III.10.H.5.e.vi. and
36 Operating Unit Group 10, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
37 III.10.H.5.e., and Operating Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to
38 Permit Condition III.10.H.5.f., except as modified pursuant to Permit Conditions III.10.H.3.,
39 III.10.I.1.b.x., III.10.I.1.b.xii., III.10.I.1.h., and in accordance with and the following:

08/2012

WA7890008967, Part III, Operating Unit Group 10
Waste Treatment and Immobilization Plant

- 1 III.10.J.1.b.vi. Lead and cadmium emissions from the HLW Vitrification System will not exceed 120 µg/dscm,
2 combined [40 CFR §63.1203(b)(3), in accordance with WAC 173-303-680(2)].
- 3 III.10.J.1.b.vii. Arsenic, beryllium, and chromium emissions from the HLW Vitrification System will not exceed 97
4 µg/dscm, combined [40 CFR §63.1203(b)(4), in accordance with WAC 173-303-680(2)].
- 5 III.10.J.1.b.viii. Carbon monoxide (CO) emission from the HLW Vitrification System will not exceed 100 parts per
6 million (ppm) by volume, over an hourly rolling average (as measured and recorded by the
7 continuous monitoring system), dry [40 CFR §63.1203(b)(5)(i), in accordance with WAC 173-303-
8 680(2)].
- 9 III.10.J.1.b.ix. Hydrocarbon emission from the HLW Vitrification System will not exceed 10 parts per million
10 (ppm) by volume, over an hourly rolling average (as measured and recorded by the continuous
11 monitoring system during demonstration testing required by this Permit), dry basis, and reported as
12 propane [40 CFR §63.1203(b)(5)(ii), in accordance with WAC 173-303-680(2)]:
- 13 III.10.J.1.b.x. If the emissions from the HLW Vitrification System exceed the emission rates listed in Permit Table
14 III.10.J.E, as approved pursuant to Permit Condition III.10.C.11.b., the Permittees will notify
15 Ecology, in accordance with Permit Condition III.10.J.3.d.vii. [WAC 173-303-680(2) and (3), and
16 WAC 173-303-815(2)(b)(ii)].
- 17 The emission limits specified in Permit Conditions III.10.J.1.b.i. through III.10.J.1.b.ix. above, will
18 be met for the HLW Vitrification System by limiting feed rates as specified in Permit Tables
19 III.10.J.D and III.10.J.F, as approved/modified pursuant to Permit Condition III.10.J.5., compliance
20 with operating conditions specified in Permit Condition III.10.J.1.c. (except as specified in Permit
21 Condition III.10.J.1.b.xii.), and compliance with Permit Condition III.10.J.1.b.xi.
- 22 III.10.J.1.b.xi. Treatment effectiveness, feed-rates and operating rates for dangerous and mixed waste management
23 units contained in the HLW Building, but not included in Permit Table III.10.J.A, as
24 approved/modified pursuant to Permit Condition III.10.J.5., will be as specified in Permit Sections
25 III.10.D, III.10.E, III.10.F and consistent with assumptions and basis which are reflected in
26 Operating Unit Group 10, Appendix 6.3.1 of this Permit, as approved pursuant to Permit Condition
27 III.10.C.11.b. For the purposes of this permit condition, Operating Unit Group 10, Appendix 6.3.1
28 will be superseded by Appendix 6.4.1 upon its approval pursuant to either Permit Conditions
29 III.10.C.11.c. or III.10.C.11.d. [WAC 173-303-680(2) and (3), and WAC 173-303-815(2)(b)(ii)].
- 30 III.10.J.1.b.xii. Except during periods of HLW Vitrification System startup and shutdown, compliance with the
31 operating conditions specified in Permit Condition III.10.J.1.c., will be regarded as compliance with
32 the required performance standards identified in Permit Conditions III.10.J.1.b.i. through x.
33 However, if it is determined that during the effective period of this Permit that compliance with the
34 operating conditions in Permit Condition III.10.J.1.c. is not sufficient to ensure compliance with the
35 performance standards specified in Permit Conditions III.10.J.1.b.i. through x., the Permit may be
36 modified, revoked, or reissued pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f., or
37 III.10.C.2.g.
- 38 III.10.J.1.c. Operating Conditions [WAC-303-670(6), in accordance with WAC 173-303-680(2)and (3)].
- 39 The Permittees will operate the HLW Vitrification System in accordance with Operating Unit Group
40 10, Addendum C of this Permit, as updated pursuant to Permit Condition III.10.J.5.e.vi., and

- 1 B. Submit to Ecology additional risk information to indicate that the increased emissions impact is
2 off-set by decreased emission impact from one or more constituents expected to be emitted at the
3 same time, and/or investigate the cause and impact of the exceedance of the emission rate(s) and
4 submit a report of the investigation findings to Ecology within fifteen (15) days of the discovery
5 of exceeding the emission rate(s); and
- 6 C. Based on the notification and any additional information, Ecology may provide, in writing,
7 direction to the Permittees to stop dangerous and/or mixed waste feed to the HLW Vitrification
8 System and/or to submit a revised Demonstration Test Plan as a permit modification pursuant to
9 Permit Conditions III.10.C.2.e. and f., or III.10.C.2.g. The revised Demonstration Test Plan
10 must include substantive changes to prevent failure from reoccurring.

11 The emission limits specified in Permit Conditions III.10.K.1.b.i. through ix., above, will be met for
12 the HLW Vitrification System by limiting feed rates as specified in Permit Tables III.10.K.D and
13 III.10.K.F., as approved/modified pursuant to Permit Condition III.10.J.5 and III.10.J.3.d.v.,
14 compliance with operating conditions specified in Permit Condition III.10.K.1.c. (except as specified
15 in Permit Condition III.10.K.1.b.xii.), and compliance with Permit Condition III.10.K.1.b.xi.

16 III.10.K.1.b.xi. Treatment effectiveness, feed-rates, and operating rates for dangerous and/or mixed waste
17 management units contained in the HLW Building, but not included in Permit Table III.10.K.A., as
18 approved/modified pursuant to Permit Condition III.10.J.5, will be as specified in Permit Sections
19 III.10.D., III.10.E., III.10.F. and consistent with the assumptions and basis which are reflected in
20 Operating Unit Group 10, Appendix 6.3.1 of this Permit, as approved pursuant to Permit Condition
21 III.10.C.11.b. For the purposes of this permit condition, Operating Unit Group 10, Appendix 6.3.1
22 will be superseded by Appendix 6.4.1 upon its approval pursuant to either Permit Conditions
23 III.10.C.11.c. or d. [WAC 173-303-680(2) and (3), and WAC 173-303-815(2)(b)(ii)].

24 III.10.K.1.b.xii. Compliance with the operating conditions specified in Permit Condition III.10.K.1.c., will be
25 regarded as compliance with the required performance standards identified in Permit Conditions
26 III.10.K.1.b.i. through x. However, if it is determined that during the effective period of this Permit
27 that compliance with the operating conditions in Permit Condition III.10.K.1.c. is not sufficient to
28 ensure compliance with the performance standards specified in Permit Conditions III.10.K.1.b.i.
29 through x., the Permit may be modified, revoked, or reissued pursuant to Permit Conditions
30 III.10.C.2.e. and f., or III.10.C.2.g.

31 III.10.K.1.c. Operating Conditions [WAC-303-670(6), in accordance with WAC 173-303-680(2)and (3)]

32 The Permittees will operate the HLW Vitrification System in accordance with Operating Unit Group
33 10, Addendum C of this Permit, as updated pursuant to Permit Condition III.10.J.5.e.vi., Operating
34 Unit Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit Conditions
35 III.10.J.5.e. and f., and Operating Unit Group 10, Appendix 10.15 of this Permit, as approved
36 pursuant to Permit Condition III.10.J.5.f., except as modified pursuant to Permit Conditions
37 III.10.J.3., III.10.K.1.b.x., III.10.K.1.b.xii., III.10.K.1.h., and in accordance with and the following:

38 III.10.K.1.c.i. The Permittees will operate the HLW Vitrification System in order to maintain the systems and
39 process parameters listed in Permit Tables III.10.K.C and III.10.K.F., as approved/modified pursuant
40 to Permit Conditions III.10.J.5 and III.J.3.d.v., within the set-points specified in Permit Table
41 III.10.K.F.