

# AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

EDMC #: 0070637

SECTION: 1 OF 2

DOCUMENT #: N/A

TITLE: Draft 331-C Storage Unit Dangerous  
Waste Permit



STATE OF WASHINGTON  
 DEPARTMENT OF ECOLOGY  
 3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950

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 AUG 23 2006

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August 22, 2006

Mr. Keith A. Klein, Manager  
 Richland Operations Office  
 United States Department of Energy  
 P.O. Box 550, MSIN: A7-50  
 Richland, Washington 99352

Mr. Pete J. Garcia Jr., Director  
 Safety and Engineering Division.  
 United States Department of Energy  
 P.O. Box 550, MSIN: A5-17  
 Richland, Washington 99352

Ms. Lori Fritz, Director  
 Environmental Protection  
 Fluor Hanford  
 P.O. Box 1000, MSIN: H8-12  
 Richland, Washington 99352

Mr. Roby D. Enge, Director  
 Environment, Safety, Health and Quality  
 Pacific Northwest National Laboratory  
 P.O. Box 999, MSIN: K1-38  
 Richland, Washington 99352

Mr. Roy J. Schepens, Manager  
 Office of River Protection  
 United States Department of Energy  
 P.O. Box 450, MSIN: H6-60  
 Richland, Washington 99352

Mr. Patrick L. Pettiette, President  
 Washington Closure Hanford, LLC  
 3070 George Washington Way  
 MSIN: H0-21  
 Richland, Washington 99354

Mr. William S. Elkins, Project Director  
 Bechtel National, Inc.  
 2435 Stevens Center Place  
 Richland, Washington 99354

Mr. Moussa N. Jaraysi, Vice President  
 Environmental Programs  
 CH2M HILL Hanford Group, Inc.  
 P.O. Box 1500, MSIN: H6-03  
 Richland, Washington 99352

Re: Draft 331-C Storage Unit Dangerous Waste Permit

Dear Madam and Gentlemen:

This letter transmits the proposed draft permit for incorporation of the 331-C Storage Unit into the *Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit (Permit), WA7890008967*. This permit will be incorporated into the referenced permit as Part III, Operating Unit 15. Additional copies of the draft permit will be provided on CD-ROM, if requested.

Mr. Keith A. Klein et al  
August 22, 2006  
Page 2

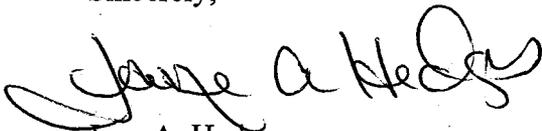
The draft permit is available for a 45-day public review period in accordance with Washington Administrative Code 173-303-840(3). The public review period begins August 28, 2006, and ends October 13, 2006. Currently there is no public hearing scheduled. A hearing will be held if it is determined that there is significant public interest.

The draft permit package consists of the Fact Sheet; Permit Conditions; and Part III, Operating Unit 15.

Copies of the draft permit modification are available at the Hanford Public Information Repositories in Richland, Spokane, and Seattle, Washington, and Portland, Oregon for public review.

If you have any questions, contact Rick Bond at 509-372-7885, or Jeanne Wallace at 509-372-7931.

Sincerely,



Jane A. Hedges  
Program Manager  
Nuclear Waste Program

GPD:pll  
Enclosure

cc w/enc: Nick Ceto, EPA  
USEPA, Region X  
USDOE Reading Room  
Environmental Portal  
Administrative Record  
HF OR Gen File

cc w/CD enc:  
Woody Russell, USDOE  
Stuart Harris, CTUIR  
Gabriel Bohnee, NPT  
Russell Jim, YN  
Todd Martin, HAB  
Ken Niles, ODOE

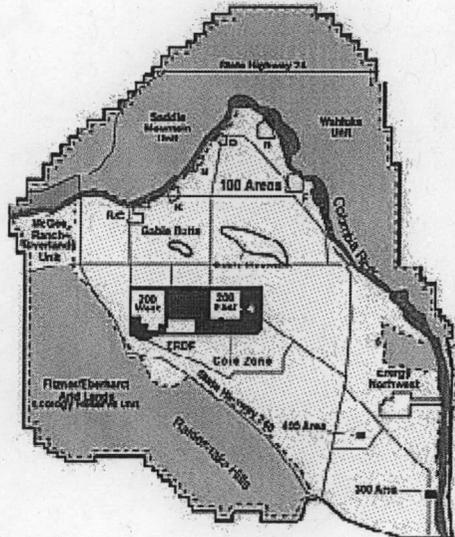
Permit Number: WA7890008967

Revision Number: 8B



# Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion Revision 8B

For the Treatment, Storage, and Disposal of Dangerous Waste



Washington State Department of Ecology  
Nuclear Waste Program

August 2006

Permit Number: WA7890008967

Revision Number: 8B

For additional copies of this permit contact:

Department of Ecology  
3100 Port of Benton Blvd.  
Richland, WA 99354-1670  
(509) 372-7950

*The Department of Ecology is an equal-opportunity agency and does not discriminate on the basis of race, creed, color disability, age, religion, national origin, sex, marital status, disabled-veteran's status, Vietnam-era veteran's status or sexual orientation.*

*For more information or if you have special accommodation needs, please contact the Nuclear Waste Program at (509) 372-7950.*

*Department of Ecology Headquarters telecommunications device for the deaf (TDD) number is:  
(360) 407-6006*

Permit Number: WA7890008967  
 Revision Number: 8B

Expiration Date: September 27, 2004

1

**UNIT STATUS TABLE**

PERMIT REVISION	REVISION DATE	UNITS INCORPORATED
Permit Revision 0	8/29/94	616 NDWSF, 305-B Storage Facility, 183-H SEB, 300 ASE, 2727-S NRWSF.
Permit Revision 1	4/28/95	Simulated High-Level Waste Slurry T&S Unit, 218-E-9 Borrow Pit Demo Site, 200 W Area Ash Pit Demo Site, 2101-M Pond, 216-B-3 Expansion Ponds
Permit Revision 2	8/29/95	Hanford Patrol Academy Demolition Site, 105-DR Large Sodium Fire Facility, 304 Concretion Facility
Permit Revision 3	11/26/96	4843 Alkali Metal Storage Facility, 3718-F Alkali Metal Treatment & Storage Facility, 303-K Storage Facility, 300 APT
Permit Revision 4	1/28/98	PUREX Storage Tunnels, LERF & 200 Area ETF, 242-A Evaporator, 325 HWTUs
Permit Revision 5	5/18/99	100 D Ponds, 1301-N & 1325-N Liquid Waste Disposal Facilities, 1324-N Surface Impoundment, 1324-NA Percolation Pond
Permit Revision 6	3/28/00	Permit Condition II.Y, Corrective Action
Permit Revision 7	2/27/01	Waste Treatment and Immobilization Plant, 300 Area Waste Acid Treatment System
Permit Revision 8	9/23/04	No new units, modification updates
Permit Revision 8A	3/6/06	Integrated Disposal Facility
Permit Revision 8B		331-C Storage Unit, PFP Treatment Unit, 241-Z treatment & Storage Tanks

UNIT	Permit Revision		Comments/History
	Incorporated	Retired	
<b>PART III, OPERATING UNITS</b>			
616 NDWSF	Rev 0	Rev 7	Clean closed, 9/5/01
242-A Evaporator	Rev 4		
305-B Storage Facility	Rev 0		
325 HWTUs	Rev 4		RLWT procedural closure, 9/04
LERF/200 Area ETF	Rev 4		
PUREX Storage Tunnels	Rev 3		
Waste Treatment and Immobilization Plant	Rev 7		Permitted unit under construction
Integrated Disposal Facility	Rev. 8A		
331-C Storage Unit	Rev. 8B		
<b>PART V, UNDERGOING CLOSURE UNITS</b>			
100-D Ponds	Rev 5	Rev 6	Clean Closed, 8/9/99
105 DR Large Sodium Fire Facility	Rev 2	Rev 6	Clean Closed, 7/1/04
1301-N Liquid Waste Disposal Facility	Rev 5		
1324-N Surface Impoundment	Rev 5		
1324-NA Percolation Pond	Rev 5		
1325-N Liquid Waste Disposal Facility	Rev 5		
200 West Area Ash Pit Demo Site	Rev 1	Rev 6	Clean Closed, 11/28/95
2101-M Pond	Rev 1	Rev 6	Clean Closed, 11/28/95
216-B-3 Expansion Ponds	Rev 1	Rev 6	Clean Closed, 7/31/95
218-E-8 Borrow Demolition Site	Rev 1	Rev 6	Clean Closed, 11/28/95
2727-S Storage Facility	Rev 0	Rev 6	Clean Closed, 7/31/95
300 Area Solvent Evaporator	Rev 0	Rev 6	Clean Closed, 7/31/95
300 Area WATS	Rev 6	Rev 7	Modified Closed, 1/21/05.
303-K Storage Facility	Rev 4	Rev 6	Clean Closed, 7/22/02
304 Concretion Facility	Rev 2	Rev 6	Clean Closed, 1/21/96
311 Tanks	Rev 6	Rev 7	Clean Closed, 5/20/02. 300 Area WATS Part A
3718-F Alkali Metal Treatment /Storage	Rev 3	Rev 6	Clean Closed, 8/4/98
4843 Alkali Metal Storage Facility	Rev 3	Rev 6	Clean Closed, 4/14/97
Hanford Patrol Academy Demo Site	Rev 2	Rev 6	Clean Closed, 11/28/95
Simulated High Level Waste Slurry	Rev 1	Rev 6	Clean Closed, 9/6/95
PFP Treatment Unit (HA-20MB)	Rev. 8B		Clean Closed, 2/8/05.
241-Z Treatment and Storage Tanks	Rev. 8B		
<b>PART VI, POSTCLOSURE UNITS</b>			
183-H Solar Evaporation Basin	Rev 4		
300 Area Process Trenches	Rev 3		
<b>PROCEDURALLY CLOSED</b>			

Permit Number: WA7890008967  
 Revision Number: 8B

Expiration Date: September 27, 2004

216-U-12 Crib	N/A	N/A	Closed
221-T Test Facility	N/A	N/A	Closed, 2/22/99
2727-WA SRE Sodium Storage Bldg	N/A	N/A	Closed, 2/22/99
324 Pilot Plant	N/A	N/A	Closed, 6/9/97
332 Storage Facility	N/A	N/A	Closed, 4/21/97
437 MASF	N/A	N/A	Closed, 9/11/03
Biological Treatment Test Facilities	N/A	N/A	Closed, 12/10/96
Physical & Chemical Treatment & Test	N/A	N/A	Closed, 5/13/96
Sodium Storage/Sodium Reaction	N/A	N/A	Closed, 9/17/03
Thermal Treatment Test Facilities	N/A	N/A	Closed, 5/13/96
<b>TO BE INCORPORATED</b>			
1706-KE Waste Treatment System			
207-A South Retention Basin			
216-A-10 Crib			
216-A-29 Ditch			
216-A-36B Crib			
216-A-37-1 Crib			
216-B-3 Main Pond			
216-B-63 Trench			
216-S-10 Pond & Ditch			
222-S Laboratory Complex			
224-T TRUSAF			
241-CX Tank System			
303-M Oxide Facility			
331-C Storage Unit			
600 Area Purgewater Storage and Treatment Facility (Modu Tanks)			
Central Waste Complex (CWC)			
Contact Handled Transuranic Mixed Waste Packaging and Interim Storage Facility			
DST System/204-AR Waste Unloading Station			
Grout Treatment Facility			
Hexone Storage & Treatment Facility			
IHLW Interim Storage/CSB			
LLBG			
NRDWL			
SST System			
T Plant Complex			
WESF			
WRAP Facility			
<b>TRANSITION UNDER TPA SECTION 8 (Will not be incorporated into Permit)</b>			
B Plant Complex			
PUREX Plant			

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The following listed documents are attached in their entirety. However, only those portions of the attachments specified in Parts I through VI are enforceable conditions of this Permit and subject to the permit modification requirements of Permit Condition I.C.3. Changes to portions of the attachments, which are not subject to the permit modification process, will be addressed in accordance with Permit Conditions I.E.8, I.E.11, I.E.13, I.E.15, through I.E.20, and I.E.22. Ecology has, as deemed necessary, modified specific language in these attachments. These modifications are described in the conditions (Parts I through VI), and thereby supersede the language of the attachment.

- Attachment 1 Hanford Federal Facility Agreement and Consent Order, (as amended)  
<http://www.hanford.gov/tpa/coverpg.htm>
- Attachment 2 Hanford Facility Legal Description, from Class 1<sup>1</sup> modification, dated January 7, 1999
- Attachment 3 Permit Applicability Matrix, dated March 2006
- Attachment 4 *Hanford Emergency Management Plan*, DOE/RL-94-02 Revision 2, as amended and approved modifications
- Attachment 5 Purgewater Management Plan, July 1990
- Attachment 6 Hanford Well Maintenance and Inspection Plan, BHI-01265, Revision 0, May 1999
- Attachment 7 Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990
- Attachment 8 616 Nonradioactive Dangerous Waste Storage Facility, retired during Revision 6 of the RCRA Permit
- Attachment 9 616 Nonradioactive Dangerous Waste Shipping Lists, retired during Revision 6 of the RCRA Permit
- Attachment 10 616 Nonradioactive Dangerous Waste Facility Description of Procedures, retired during Revision 5 of the RCRA Permit
- Attachment 11 183-H Solar Evaporation Basins Closure/Post-Closure Plan, retired during Revision 6 of the RCRA Permit
- Attachment 12 Decommissioning Work Plan *Concrete Sampling - 183-H Solar Evaporation Basins*, retired during Revision 6 of the RCRA Permit
- Attachment 13 Decommissioning Work Plan *Core Drill Sampling - 183-H Solar Evaporation Basins (Phase I)*, retired during Revision 6 of the RCRA Permit
- Attachment 14 183-H Solar Evaporation Basins Vadose Zone Sampling Plan, retired during Revision 6 of the RCRA Permit
- Attachment 15 Decommissioning Work Plan *Berm Removal for 183-H Solar Evaporation Basins*, retired during Revision 6 of the RCRA Permit
- Attachment 16 300 Area Solvent Evaporator Closure Plan, retired during Revision 6 of the RCRA Permit

1	Attachment 17	2727-S Nonradioactive Dangerous Waste Storage Facility Closure Plan, retired
2		during Revision 6 of the RCRA Permit
3	Attachment 18	305-B Storage Facility, and approved modifications
4	Attachment 19	Simulated High-Level Waste Slurry TSD Closure Plan, retired during Revision 6 of
5		the RCRA Permit
6	Attachment 20	218-E-8 Borrow Pit Demolition Site Closure Plan, retired during Revision 6 of the
7		RCRA Permit
8	Attachment 21	200 West Ash Pit Demolition Site Closure Plan, retired during Revision 6 of the
9		RCRA Permit
10	Attachment 22	2101-M Pond Closure Plan, retired during Revision 6 of the RCRA Permit
11	Attachment 23	216-B-3 Expansion Ponds Closure Plans, retired during Revision 6 of the RCRA
12		Permit
13	Attachment 24	Hanford Patrol Academy Demolition Sites Closure Plan, retired during Revision 6 of
14		the RCRA Permit
15	Attachment 25	105-DR Large Sodium Fire Facility Closure Plan, retired during Revision 6 of the
16		RCRA Permit
17	Attachment 26	304 Concretion Facility Closure Plan, retired during Revision 6 of the RCRA Permit
18	Attachment 27	Permit Modification Schedule, retired during Revision 6 of the Permit
19	Attachment 28	PUREX Storage Tunnels, and approved modifications
20	Attachment 29	4843 Alkali Metal Storage Facility Closure Plan, retired during Revision 6 of the
21		RCRA Permit
22	Attachment 30	3718-F Alkali Metal Treatment and Storage Facility Closure Plan, retired during
23		Revision 6 of the RCRA Permit
24	Attachment 31	300 Area Process Trenches, and approved modifications
25	Attachment 32	303-K Storage Facility Closure Plan, retired during Revision 6 of the RCRA Permit
26	Attachment 33	Hanford Facility Dangerous Waste Permit Application General Information Portion,
27		DOE/RL-91-28, Revision 7, and approved modifications
28	Attachment 34	Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility, and
29		approved modifications
30	Attachment 35	242-A Evaporator, and approved modifications
31	Attachment 36	325 Hazardous Waste Treatment Units, and approved modifications
32	Attachment 37	183-H Solar Evaporation Basins, and approved modifications

- |    |               |   |
|----|---------------|---|
| 1  | Attachment 38 | 303-K Storage Facility Sampling and Analysis Plan, retired during Revision 6 of the |
| 2  |               | RCRA  |
| 3  | Attachment 39 | Errata Sheet for the 303-K Storage Facility Sampling and Analysis Plan, retired     |
| 4  |               | during Revision 6 of the RCRA Permit  |
| 5  | Attachment 40 | 100-D Ponds, retired during Revision 6 of the RCRA Permit                           |
| 6  | Attachment 41 | 1301-N & 1325-N Liquid Waste Disposal Facilities, and approved modifications        |
| 7  | Attachment 42 | 1324-N Surface Impoundment & 1324-NAPercolation Pond, and approved                  |
| 8  |               | modifications   |
| 9  | Attachment 43 | Reserved.   |
| 10 | Attachment 44 | Reserved.   |
| 11 | Attachment 45 | Reserved.   |
| 12 | Attachment 46 | 300 Area Waste Acid Treatment System, retired during Revision 6 of the RCRA         |
| 13 |               | Permit  |
| 14 | Attachment 47 | 100-NR-1 and 100-NR-2 Operable Units, and approved modifications                    |
| 15 | Attachment 48 | Engineering Evaluation/Cost Analysis for the 100-N Area Ancillary Facilities and    |
| 16 |               | Integration Plan, and approved modifications  |
| 17 | Attachment 49 | Reserved.   |
| 18 | Attachment 50 | Reserved.   |
| 19 | Attachment 51 | Waste Treatment and Immobilization Plant, and approved modifications                |
| 20 | Attachment 52 | Integrated Disposal Facility, and approved modifications                            |

1 INTRODUCTION

2 Where information regarding treatment, management, and disposal of the radioactive source, byproduct  
3 material, special nuclear material (as defined by the Atomic Energy Act of 1954, as amended) and/or the  
4 radionuclide component of mixed waste has been incorporated into this permit, it is not incorporated for  
5 the purpose of regulating the radiation hazards of such components under the authority of this permit or  
6 chapter 70.105 RCW.

7 Pursuant to Chapter 70.105 Revised Code of Washington (RCW), the Hazardous Waste Management Act  
8 (HWMA) of 1976, as amended, Chapter 70.105D RCW, the Model Toxics Control Act (MTCA), and  
9 regulations promulgated there under by the Washington State Department of Ecology (hereafter called  
10 Ecology), codified in Chapter 173-303 Washington Administrative Code (WAC), Dangerous Waste  
11 Regulations, a Dangerous Waste Permit is issued to the United States Department of Energy (USDOE) -  
12 Richland Operations Office (RL) and Office of River Protection (ORP), [owner/operator], and its  
13 contractors, Fluor Hanford, Inc. (FH), [co-operator], Pacific Northwest National Laboratory (PNNL),  
14 [co-operator], CH2M HILL Hanford Group, Inc. (CHG), [co-operator], Washington Closure Hanford,  
15 LLC (WCH), [co-operator], and Bechtel National, Incorporated (BNI), [co-operator], hereafter called the  
16 Permittees, for the treatment, storage, and disposal of dangerous waste at the Hanford Facility.

17 This Dangerous Waste Permit, issued in conjunction with the United States Environmental Protection  
18 Agency's (hereafter called EPA) Hazardous and Solid Waste Amendments Portion of the Resource  
19 Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal (TSD) of  
20 Hazardous Waste (HSWA Permit), constitutes the RCRA Permit for the Hanford Facility. Use of the  
21 term "Permit" within the Dangerous Waste Permit will refer to the Dangerous Waste Permit, while use of  
22 the term "Permit" within the HSWA Permit, will refer to the HSWA Permit. Use of the same term in  
23 both the Dangerous Waste Permit and the HSWA Permit, will have the standard meaning associated with  
24 the activities addressed by the permit in which the term is used. Such meanings will prevail, except  
25 where specifically stated otherwise.

26 The Permittees will comply with all terms and conditions set forth in this Permit and those portions of the  
27 Attachments that have been specifically incorporated into this Permit. When the Permit and the  
28 Attachments (except Permit Attachment 1) conflict, the wording of the Permit will prevail. The Permit is  
29 intended to be consistent with the terms and conditions of the Hanford Federal Facility Agreement and  
30 Consent Order (HFFACO, Permit Attachment 1). The Permittees will also comply with all applicable  
31 state regulations, including Chapter 173-303 WAC.

32 Applicable state regulations are those which are in effect on the date of issuance, or as specified in  
33 subsequent modifications of this Permit. In addition, applicable state regulations include any self-  
34 implementing statutory provisions and related regulations which, according to the requirements of the  
35 HWMA, as amended, or other law(s), are automatically applicable to the Permittees' dangerous waste  
36 management activities, notwithstanding the conditions of this Permit.

37 This Permit is based upon the Administrative Record, as required by WAC 173-303-840. The  
38 Permittees' failure in the application, or during the Permit issuance process, to fully disclose all relevant  
39 facts, or the Permittees' misrepresentation of any relevant facts at any time, will be grounds for the  
40 termination or modification of this Permit and/or initiation of an enforcement action, including criminal  
41 proceedings. The Permittees will inform Ecology of any deviation from the Permit conditions, or  
42 changes in the information on which the application is based, which would affect either the Permittees'  
43 ability to comply, or actual compliance with the applicable regulations or the Permit conditions, or which  
44 alters any condition of this Permit in any way.

1 Ecology will enforce all conditions of this Permit for which the State of Washington is authorized, or  
2 which are "state-only" provisions (i.e., conditions broader in scope or more stringent than the federal  
3 RCRA program). Any challenges of any Permit condition may be appealed in accordance with  
4 WAC 173-303-845. In the event that any Permit condition is challenged by any Permittee under  
5 WAC 173-303-845, Ecology may stay any such Permit condition as it pertains to all Permittees, in  
6 accordance with the same terms of any stay it grants to the challenging Permittee. If such a stay is  
7 granted, it will constitute a "stay by the issuing agency" within the meaning of RCW 43.21B.320(1).

8 This Permit has been developed to allow a step-wise permitting process of the Hanford Facility to ensure  
9 the proper implementation of the HFFACO. In order to accomplish this, this Permit consists of six (6)  
10 parts.

11 **Part I, Standard Conditions**, contains conditions which are similar to those appearing in all dangerous  
12 waste permits.

13 **Part II, General Facility Conditions**, combines typical dangerous waste permit conditions with those  
14 conditions intended to address issues specific to the Hanford Facility. Where appropriate, the general  
15 facility conditions apply to all final status dangerous waste management activities at the Facility. Where  
16 appropriate, the general facility conditions also address dangerous waste management activities which  
17 may not be directly associated with distinct TSD units, or which may be associated with many TSD units  
18 (i.e., spill reporting, training, contingency planning, etc.). Part II also includes conditions that address  
19 corrective action at solid waste management units and areas of concern.

20 **Part III, Unit-Specific Conditions for Operating Units**, contains those Permit requirements that apply  
21 to each individual TSD unit operating under final status. Conditions for each TSD unit are found in a  
22 chapter dedicated to that TSD unit. These unit-specific chapters contain references to Standard  
23 Conditions (Part I) and General Conditions (Part II), as well as additional requirements which are  
24 intended to ensure that each TSD unit is operated in an efficient and environmentally protective manner.  
25 Additional requirements may also be added when an operating unit ceases operations and undergoes  
26 closure.

27 **Part IV, Unit-Specific Conditions for Corrective Action**, contains those permit requirements which  
28 apply to specific RPP units that are undergoing corrective action under the HFFACO. RPP units may  
29 include solid waste management units and other areas of concern (i.e., releases that are not at solid waste  
30 management units and do not constitute a solid waste management unit) that are undergoing corrective  
31 action. For The Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA)  
32 and RCRA past practice (RPP) units identified in the HFFACO, the corrective action conditions are  
33 structured around continued coordination with, and reliance on, the investigation and cleanup  
34 requirements established under the HFFACO. For TSD units identified in the HFFACO, the corrective  
35 action conditions contemplate use of closure and post-closure processes to satisfy corrective action.

36 **Part V, Unit-Specific Conditions for Units Undergoing Closure**, contains those requirements which  
37 apply to those specific TSD units, included in this part, that are undergoing closure. In accordance with  
38 Section 5.3 of the Action Plan of the HFFACO, all TSD units that undergo closure, irrespective of permit  
39 status, will be closed pursuant to the authorized State Dangerous Waste Program in accordance with  
40 WAC 173-303-610. Requirements for each TSD unit undergoing closure are found in a chapter  
41 dedicated to that TSD unit. These unit-specific chapters contain references to Standard Conditions  
42 (Part I) and General Conditions (Part II), as well as additional requirements which are intended to ensure  
43 that each TSD unit is closed in an efficient and environmentally protective manner.

1 **Part VI, Unit-Specific Conditions for Units in Post-Closure**, contains those requirements which apply  
2 to those specific units in this part that have completed modified or landfill closure requirements, and now  
3 only need to meet Post-Closure Standards. As set forth in Section 5.3 of the Action Plan of the  
4 HFFACO, certain TSD units will be permitted for post-closure care pursuant to the authorized State  
5 Dangerous Waste Program (173-303 WAC) and the Hazardous and Solid Waste Amendments.  
6 Requirements for each unit undergoing post-closure care are found in a chapter, within this part,  
7 dedicated to that unit. These unit specific chapters may contain references to Standard Conditions  
8 (Part I) and General Conditions (Part II), as well as the unit specific conditions, all of which are intended  
9 to ensure the unit is managed in an efficient, environmentally protective manner.



- 1 g. The term "**Director**" means the Director of the Washington State Department of Ecology, or a  
2 designated representative. The Program Manager of the Nuclear Waste Program (with the address as  
3 specified on page one [1] of this Permit) is a duly authorized and designated representative of the  
4 Director for purposes of this Permit.
- 5 h. The term "**Ecology**" means the Washington State Department of Ecology (with the address as  
6 specified on page one [1] of this Permit).
- 7 i. The term "**Facility**" means all contiguous land, structures, other appurtenances, and improvements on  
8 the land used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of  
9 dangerous waste. The legal and physical description of the Facility is set forth in Permit  
10 Attachment 2.
- 11 j. The term "**Facility**" for the purposes of corrective action under Permit Condition II.Y, means all  
12 contiguous property under the control of the Permittees and all property within the meaning of  
13 "facility" at RCW 70.105D.020(3) as set forth in Permit Attachment 2.
- 14 k. The term "**HFFACO**" means the Hanford Federal Facility Agreement and Consent Order, as  
15 amended (Commonly referred to as Tri-Party Agreement [TPA]).
- 16 l. The term "**Permittees**" means the United States Department of Energy (owner/operator), Fluor  
17 Hanford Inc.(Co-operator), Washington Closure Hanford LLC (Co-operator), Bechtel National, Inc.  
18 (Co-operator), CH2M HILL Hanford Group, Inc. (Co-operator), and Pacific Northwest National  
19 Laboratory (Co-operator).
- 20 m. The term "**Permittees**" for purposes of corrective action under Permit Condition II.Y means only the  
21 United States Department of Energy (owner/operator).
- 22 n. The term "**Raw Data**" means the initial value of analog or digital instrument output, and/or manually  
23 recorded values obtained from measurement tools or personal observation. These values are  
24 converted into reportable data (e.g., concentration, percent moisture) via automated procedures  
25 and/or manual calculations.
- 26 o. The term "**RCRA Permit**" means the Dangerous Waste Portion of the RCRA Permit for the  
27 Treatment, Storage, and Disposal of Dangerous Waste (Dangerous Waste Permit) issued by the  
28 Washington State Department of Ecology, pursuant to Chapter 70.105 RCW and Chapter 173-303  
29 WAC, coupled with the HSWA Portion of the RCRA Permit for the Treatment, Storage, and  
30 Disposal of Hazardous Waste (HSWA Permit) issued by EPA, Region 10, pursuant to 42 U.S.C.  
31 6901 et seq. and 40 CFR Parts 124 and 270.
- 32 p. The term "**Reasonable Times**" means normal business hours; hours during which production,  
33 treatment, storage, construction, disposal, or discharge occurs, or times when Ecology suspects a  
34 violation requiring immediate inspection.
- 35 q. The term "**Release**" means any intentional or unintentional spilling, leaking, pouring, emitting,  
36 emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous  
37 constituents into the environment and includes the abandonment or discarding of barrels, containers,  
38 and other receptacles containing dangerous waste or dangerous constituents, and includes any  
39 releases within the meaning of release at RCW 70.105D.020(20).

- 1 r. The term "**Significant Discrepancy**" in regard to a manifest or shipping paper, means a discrepancy  
2 between the quantity or type of dangerous waste designated on the manifest, or shipping paper, and  
3 the quantity or type of dangerous waste a TSD unit actually receives. A significant discrepancy in  
4 quantity is a variation greater than ten (10) percent in weight for bulk quantities (e.g., tanker trucks,  
5 railroad tank cars, etc.), or any variation in piece count for nonbulk quantities (i.e., any missing  
6 container or package would be a significant discrepancy). A significant discrepancy in type is an  
7 obvious physical or chemical difference which can be discovered by inspection or waste analysis  
8 (e.g., waste solvent substituted for waste acid).
- 9 s. The term "**Solid Waste Management Unit (SWMU)**" means any discernible location at the Facility  
10 where solid wastes have been placed at any time, irrespective of whether the location was intended  
11 for the management of solid or dangerous waste, and includes any area at the Facility at which solid  
12 wastes have been routinely and systematically released (for example through spills), and includes  
13 dangerous waste treatment, storage, and disposal units.
- 14 t. The term "**Unit**" or "**TSD unit**", as used in Parts I through VI of this Permit, means the contiguous  
15 area of land on or in which dangerous waste is placed, or the largest area in which there is a  
16 significant likelihood of mixing dangerous waste constituents in the same area. A TSD unit, for  
17 purposes of this Permit, is a subgroup of the Facility which has been identified in a Hanford Facility  
18 Dangerous Waste Part A Form.

## ACRONYMS

1		
2	ALARA	As Low As Reasonably Achievable
3	AMSF	Alkali Metal Storage Facility
4	APDS	Ash Pit Demolition Site
5	APP	Used to Denote Appendix Page Numbers
6	APT	Area Process Trenches
7	ARAR	Applicable, Relevant, and Appropriate Requirements
8	BNI	Bechtel National, Inc
9	BPDS	Borrow Pit Demolition Site
10	CD/RR	Chemical Disposal/Recycle Request
11	CERCLA	Comprehensive Environmental Response Compensation and Liability
12		Act of 1980 (as Amended by the Superfund Reauthorization Act of
13		1986)
14	CFR	Code of Federal Regulations
15	CHG	CH2M HILL Hanford Group, Inc.
16	CIP	Construction Inspection Plan
17	CLARC	Cleanup Levels and Risk Calculations
18	CLP	Contract Laboratory Program
19	COC	Chemical Contaminants of Concern
20	CPP	CERCLA Past Practice
21	USDOE-RL	U.S. Department of Energy, Richland Operations Office
22	USDOE-ORP	U.S. Department of Energy, Office of River Protection
23	DQO	Data Quality Objective
24	DSC	Differential Scanning Colorimetry
25	EC	Emergency Coordinator
26	Ecology	Washington State Department of Ecology
27	EPA	U.S. Environmental Protection Agency
28	ERA	Expedited Response Action
29	ETF	200 Area Effluent Treatment Facility
30	HFFACO	Hanford Federal Facility Agreement and Consent Order
31	FH	Fluor Hanford, Inc.
32	GW	Ground Water
33	HPADS	Hanford Patrol Academy Demolition Site
34	HSWA	Hazardous and Solid Waste Amendments of 1984
35	HWMA	Hazardous Waste Management Act
36	ID	Identification
37	IRM	Interim Remedial Measure
38	LDR	Land Disposal Restrictions
39	LERF	Liquid Effluent Retention Facility
40	LSFF	105-DR Large Sodium Fire Facility
41	MTCA	Model Toxics Control Act

1	OSWER	Office of Solid Waste and Emergency Response
2	PNNL	Pacific Northwest National Laboratory
3	QA	Quality Assurance
4	QAPP	Quality Assurance Project Plan
5	QC	Quality Control
6	RCRA	Resource Conservation and Recovery Act of 1976
7	RCW	Revised Code of Washington
8	ROD	Record of Decision
9	RPD	Relative Percent Difference
10	RPP	RCRA Past Practice
11	SAP	Sampling and Analysis Plan
12	SARA	Superfund Amendments and Reauthorization Act of 1986
13	SCD	Security Control Devices
14	SHLWS	Simulated High Level Waste Slurry
15	SOP	Standard Operating Procedure
16	SWMU	Solid Waste Management Unit
17	TCLP	Toxicity Characteristic Leaching Procedure
18	TSD	Treatment, Storage, and/or Disposal
19	USDOE	United States Department of Energy
20	U.S.C.	United States Code
21	WAC	Washington Administrative Code
22	WAP	Waste Analysis Plan
23	WCH	Washington Closure Hanford
24	WTP	Waste Treatment and Immobilization Plant
25	183-H	183-H Solar Evaporation Basins
26	242-A	242-A Evaporator
27	300 APT	300 Area Process Trenches
28	300 ASE	300 Area Solar Evaporator
29	303-K	303-K Storage Facility
30	305-B	305-B Storage Facility
31	325 HWTUs	325 Hazardous Waste Treatment Units
32	616-NRDWSF	616 Nonradioactive Dangerous Waste Storage Facility

**PART I - STANDARD CONDITIONS**

**I.A EFFECT OF PERMIT**

**I.A.1** The Permittees are authorized to treat, store, and dispose of dangerous waste in accordance with the Conditions of this Permit and in accordance with the applicable provisions of Chapter 173-303 WAC (including provisions of the Chapter as they have been applied in the HFFACO). Any treatment, storage, or disposal of dangerous waste by the Permittees at the Facility that is not authorized by this Permit, or by WAC 173-303-400 (including provisions of this regulation as they have been applied in the HFFACO), for those TSD units not subject to this Permit, and for which a Permit is required by Chapter 173-303 WAC, is prohibited.

TSD units operating or closing under interim status will maintain interim status until that TSD unit is incorporated into Part III, V, and/or VI of this Permit, or until interim status is terminated under WAC 173-303-805(8). Interim status units will be incorporated into this Permit through the Permit modification process.

**I.A.2** The Conditions of this Permit will be applied to the Facility as defined by the Permit Applicability Matrix (Permit Attachment 3).

**I.A.3** USDOE is responsible for activities which include, but are not limited to, the overall management and operation of the Facility.

FH is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

PNNL is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

WCH is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

CHG is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

BNI is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

**I.A.4** Coordination with the HFFACO

Each TSD unit will have an application for a final status Permit or closure/post-closure plan submitted to Ecology in accordance with the schedules identified in the HFFACO Milestone M-20-00 or in accordance with WAC 173-303-830. After completion of the Permit application or closure/post-closure plan review, a final Permit decision will be made pursuant to WAC 173-303-840. Specific Conditions for each TSD unit will be incorporated into this Permit in accordance with the Class 3 Permit modification procedure identified in Permit Condition I.C.3.

1 **I.B PERSONAL AND PROPERTY RIGHTS**

2 This Permit does not convey property rights of any sort, or any exclusive privilege; nor  
3 does it authorize any injury to persons or property, or any invasion of other private rights,  
4 or any violation of federal, state, or local laws or regulations.

5 **I.C PERMIT ACTIONS**

6 **I.C.1 Modification, Revocation, Reissuance, or Termination**

7 This Permit may be modified, revoked and reissued, or terminated by Ecology for cause  
8 per WAC 173-303-810(7) as specified in WAC 173-303-830(3), (4), and (5).

9 **I.C.2 Filing of a Request**

10 The filing of a request for a Permit modification, or revocation and reissuance, or  
11 termination, or a notification of planned changes, or anticipated noncompliance on the part  
12 of the Permittees, will not stay any Permit condition [WAC 173-303-810(7)]except as  
13 provided in WAC 173-303-810(2) under an emergency permit.

14 **I.C.3 Modifications**

15 Except as provided otherwise by specific language in this Permit, the Permit modification  
16 procedures of WAC 173-303-830(2), (3), and (4) will apply to modifications or changes in  
17 design or operation of the Facility, or any modification or change in dangerous waste  
18 management practices covered by this Permit. As an exception, the Permittees will  
19 provide notifications to Ecology required by WAC 173-303-830(4)(a)(i)(A) on a quarterly  
20 basis. Each quarterly notification will be submitted within ten (10) days of the end of the  
21 quarter, and provide the required information for all such modifications put into effect  
22 during that reporting period. Quarterly reporting periods will be based upon the state  
23 Fiscal Year. For notifications required by the Permittees to persons on the facility mailing  
24 list described in WAC 173-303-830(4)(a)(i)(B), -830(4)(b)(ii), -830(4)(c)(ii), and  
25 -830(4)(e)(ii)(C), use of appropriate HFFACO Community Relations Plan publications  
26 and/or list servers for public involvement satisfy the notification requirements.

27 **I.D SEVERABILITY**

28 **I.D.1 Effect of Invalidation**

29 The provisions of this Permit are severable, and if any provision of this Permit, or the  
30 application of any provision of this Permit to any circumstance is contested and/or held  
31 invalid, the application of such provision to other circumstances and the remainder of this  
32 Permit will not be affected thereby. Invalidation of any state statutory or regulatory  
33 provision which forms the basis for any Condition of this Permit does not affect the  
34 validity of any other state statutory or regulatory basis for said Condition.

35 **I.D.2 Final Resolution**

36 In the event that a Condition of this Permit is stayed for any reason, the Permittees will  
37 continue to comply with the related applicable and relevant interim status standards in  
38 WAC 173-303-400 until final resolution of the stayed Condition, unless Ecology  
39 determines compliance with the related applicable and relevant interim status standards  
40 would be technologically incompatible with compliance with other Conditions of this

1 Permit, which have not been stayed, or unless the HFFACO authorizes an alternative  
2 action, in which case the Permittees will comply with the HFFACO.

3 **I.E DUTIES AND REQUIREMENTS**

4 I.E.1 Duty to Comply

5 The Permittees will comply with all Conditions of this Permit, except to the extent and for  
6 the duration such noncompliance is authorized by an emergency Permit issued under  
7 WAC 173-303-804. Any Permit noncompliance other than noncompliance authorized by  
8 an emergency Permit constitutes a violation of Chapter 70.105 RCW, as amended, and is  
9 grounds for enforcement action, Permit termination, modification or revocation and  
10 reissuance of the Permit, and/or denial of a Permit renewal application.

11 I.E.2 Compliance Not Constituting Defense

12 Compliance with the terms of this Permit does not constitute a defense to any order issued  
13 or any action brought under Section 3007, 3008, 3013, or 7003 of RCRA (42 U.S.C.  
14 Sections 6927, 6928, 6934, and 6973), Section 104, 106(a) or 107 of the Comprehensive  
15 Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) [42 U.S.C.  
16 Sections 9604, 9606(a), and 9607], as amended by the Superfund Amendments and  
17 Reauthorization Act of 1986 (42 U.S.C. 9601 *et seq.*), or any other federal, state, or local  
18 law governing protection of public health, or the environment; provided, however, that  
19 compliance with this Permit during its term constitutes compliance at those areas subject  
20 to this Permit for the purpose of enforcement with WAC 173-303-140, WAC 173-303-180,  
21 WAC 173-303-280 through -395, WAC 173-303-600 through -680, WAC 173-303-810,  
22 and WAC 173-303-830, except for Permit modifications and those requirements not  
23 included in the Permit that become effective by statute, or that are promulgated under 40  
24 CFR Part 268 restricting the placement of dangerous waste in or on the land.

25 I.E.3 Duty to Reapply

26 If the Permittees wish to continue an activity regulated by this Permit after the expiration  
27 date of this Permit, the Permittees must apply for, and obtain a new Permit, in accordance  
28 with WAC 173-303-806(6).

29 I.E.4 Permit Expiration and Continuation

30 This Permit, and all Conditions herein, will remain in effect beyond the Permit's  
31 expiration date until the effective date of the new Permit, if the Permittees have submitted  
32 a timely, complete application for renewal per WAC 173-303-806 and, through no fault of  
33 the Permittees, Ecology has not made a final Permit determination as set forth in  
34 WAC 173-303-840.

35 I.E.5 Need to Halt or Reduce Activity Not a Defense

36 It will not be a defense in the case of an enforcement action that it would have been  
37 necessary to halt or reduce the permitted activity in order to maintain compliance with the  
38 Conditions of this Permit.

39 I.E.6 Duty to Mitigate

40 In the event of noncompliance with the Permit, the Permittees will take all reasonable  
41 steps to minimize releases to the environment, and will carry out such measures as are  
42 reasonable to minimize or correct adverse impacts on human health and the environment.

- 1 I.E.7 Proper Operation and Maintenance  
2 The Permittees will at all times properly operate and maintain all facilities and systems of  
3 treatment and control, which are installed or used by the Permittees, to achieve compliance  
4 with the Conditions of this Permit. Proper operation and maintenance includes effective  
5 performance, adequate funding, adequate operator staffing and training, and adequate  
6 laboratory and process controls, including appropriate quality assurance/quality control  
7 procedures. This provision requires the operation of backup or auxiliary facilities, or  
8 similar systems only when necessary to achieve compliance with the Conditions of the  
9 Permit.
- 10 I.E.8 Duty to Provide Information  
11 The Permittees will furnish to Ecology, within a reasonable time, any relevant information  
12 which Ecology may request to determine whether cause exists for modifying, revoking and  
13 reissuing, or terminating this Permit, or to determine compliance with this Permit. The  
14 Permittees will also furnish to Ecology, upon request, copies of records required to be kept  
15 by this Permit.
- 16 I.E.9 Inspection and Entry  
17 The Permittees will allow Ecology, or authorized representatives, upon the presentation of  
18 Ecology credentials, to:
- 19 I.E.9.a During operating hours, and at all other reasonable times, enter and inspect the Facility or  
20 any unit or area within the Facility, where regulated activities are located or conducted, or  
21 where records must be kept under the Conditions of this Permit;
- 22 I.E.9.b Have access to, and copy, at reasonable times, any records that must be kept under the  
23 Conditions of this Permit;
- 24 I.E.9.c Inspect at reasonable times any portion of the Facility, equipment (including monitoring  
25 and control equipment), practices, or operations regulated or required under this Permit;  
26 and,
- 27 I.E.9.d Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance, or  
28 as otherwise authorized by state law, as amended, for substances or parameters at any  
29 location.
- 30 I.E.10 Monitoring and Records
- 31 I.E.10.a Samples and measurements taken by the Permittees for the purpose of monitoring required  
32 by this Permit will be representative of the monitored activity. Sampling methods will be  
33 in accordance with WAC 173-303-110 or 40 CFR 261, unless otherwise specified in this  
34 Permit, or agreed to in writing by Ecology. Analytical methods will be as specified in the  
35 most recently published test procedure of the documents cited in WAC 173-303-110(3)(a)  
36 through (h), unless otherwise specified in this Permit, or agreed to in writing by Ecology.
- 37 I.E.10.b The Permittees will retain at the TSD unit(s), or other locations approved by Ecology, as  
38 specified in Parts III, V, and/or VI of this Permit, records of monitoring information  
39 required for compliance with this Permit, including calibration and maintenance records  
40 and all original strip chart recordings for continuous monitoring instrumentation, copies of  
41 reports and records required by this Permit, and records of data used to complete the  
42 application for this Permit for a period of at least ten (10) years from the date of the  
43 sample, measurement, report, or application, unless otherwise required for certain

- 1 information by other Conditions of this Permit. This information may be retained on  
2 electronic media.
- 3 I.E.10.c The Permittees will retain at the Facility, or other approved location, records of all  
4 monitoring and maintenance records, copies of all reports and records required by this  
5 Permit, and records of all data used to complete the application for this Permit, which are  
6 not associated with a particular TSD unit, for a period of at least ten (10) years from the  
7 date of certification of completion of post-closure care, or corrective action for the  
8 Facility, whichever is later. This information may be retained on electronic media.
- 9 I.E.10.d The record retention period may be extended by request of Ecology at any time by  
10 notification, in writing, to the Permittees, and is automatically extended during the course  
11 of any unresolved enforcement action regarding this Facility to ten (10) years beyond the  
12 conclusion of the enforcement action.
- 13 I.E.10.e Records of monitoring information shall include:
- 14 I.E.10.e.i The date, exact place and time of sampling or measurements;
- 15 I.E.10.e.ii The individual who performed the sampling or measurements and their affiliation;
- 16 I.E.10.e.iii The dates the analyses were performed;
- 17 I.E.10.e.iv The individual(s) who performed the analyses and their affiliation;
- 18 I.E.10.e.v The analytical techniques or methods used; and,
- 19 I.E.10.e.vi The results of such analyses.
- 20 I.E.11 Reporting Planned Changes
- 21 The Permittees will give notice to Ecology, as soon as possible, of any planned physical  
22 alterations, or additions to the Facility subject to this Permit. Such notice does not  
23 authorize any noncompliance with, or modification of, this Permit.
- 24 I.E.12 Certification of Construction or Modification
- 25 I.E.12.a The Permittees may not commence treatment, storage, or disposal of dangerous wastes in a  
26 new or modified portion of TSD units subject to this Permit until:
- 27 I.E.12.b The Permittees have submitted to Ecology, by certified mail, overnight express mail, or  
28 hand delivery, a letter signed by the Permittees, and a registered professional engineer,  
29 stating that the TSD unit has been constructed or modified in compliance with the  
30 Conditions of this Permit; and,
- 31 I.E.12.c Ecology has inspected the modified or newly constructed TSD unit, and finds that it is in  
32 compliance with the Conditions of this Permit; or
- 33 I.E.12.d Within fifteen (15) days of the date of receipt of the Permittees' letter, the Permittees have  
34 not received notice from Ecology of its intent to inspect, prior inspection is waived, and  
35 the Permittees may commence treatment, storage, and disposal of dangerous waste.
- 36 I.E.13 Anticipated Noncompliance
- 37 The Permittees will give at least thirty (30) days advance notice to Ecology of any planned  
38 changes in the Facility subject to this Permit, or planned activity which might result in  
39 noncompliance with Permit requirements.

- 1 If thirty (30) days advance notice is not possible, then the Permittees will give notice  
2 immediately after the Permittees become aware of the anticipated noncompliance. Such  
3 notice does not authorize any noncompliance with, or modification of, this Permit.
- 4 I.E.14 Transfer of Permits
- 5 I.E.14.a This Permit may be transferred to a new owner/operator only if it is modified, or revoked  
6 and reissued, pursuant to WAC 173-303-830(3)(b). Unit-specific portion may be  
7 transferred to a new Co-operator as a Class <sup>1</sup> modification with prior approval of the  
8 Department's director.
- 9 I.E.14.b Before transferring ownership or operation of the Facility during its operating life, the  
10 owner/operator will notify the new owner/operator in writing, of the requirements of  
11 WAC 173-303-290(2), -600 and -806, and this Permit.
- 12 I.E.15 Immediate Reporting
- 13 I.E.15.a The Permittees will verbally report to Ecology any release of dangerous waste or  
14 hazardous substances, or any noncompliance with the Permit which may endanger human  
15 health or the environment. Any such information will be reported immediately after the  
16 Permittees become aware of the circumstances.
- 17 I.E.15.b The immediate verbal report will contain all the information needed to determine the  
18 nature and extent of any threat to human health and the environment, including the  
19 following:
- 20 I.E.15.b.i Name, address, and telephone number of the Permittee responsible for the release or  
21 noncompliant activity;
- 22 I.E.15.b.ii Name, location, and telephone number of the unit at which the release occurred;
- 23 I.E.15.b.iii Date, time, and type of incident;
- 24 I.E.15.b.iv Name and quantity of material(s) involved;
- 25 I.E.15.b.v The extent of injuries, if any;
- 26 I.E.15.b.vi An assessment of actual or potential hazard to the environment and human health, where  
27 this is applicable;
- 28 I.E.15.b.vii Estimated quantity of released material that resulted from the incident; and,
- 29 I.E.15.b.viii Actions which have been undertaken to mitigate the occurrence.
- 30 I.E.15.c The Permittees will report, in accordance with Permit Conditions I.E.15.a. and I.E.15.b.,  
31 any information concerning the release, or unpermitted discharge, of any dangerous waste  
32 or hazardous substances that may cause an endangerment to drinking water supplies, or  
33 ground or surface waters, or of a release, or discharge of dangerous waste, or hazardous  
34 substances, or of a fire or explosion at the Facility, which may threaten human health or  
35 the environment. The description of the occurrence and its cause will include all  
36 information necessary to fully evaluate the situation and to develop an appropriate course  
37 of action.
- 38 I.E.15.d For any release or noncompliance not required to be reported to Ecology immediately, a  
39 brief account must be entered within two (2) working days, into the TSD Operating  
40 Record, for a TSD unit, or into the Facility Operating Record, inspection log, or separate  
41 spill log, for non-TSD units. This account must include: the time and date of the release,

- 1 the location and cause of the release, the type and quantity of material released, and a brief  
2 description of any response actions taken or planned.
- 3 I.E.15.e All releases, regardless of location of release, or quantity of release, will be controlled and  
4 mitigated, if necessary, as required by WAC 173-303-145(3).
- 5 I.E.16 Written Reporting
- 6 Within fifteen (15) days after the time the Permittees become aware of the circumstances  
7 of any noncompliance with this Permit, which may endanger human health or the  
8 environment, the Permittees will provide to Ecology a written report. The written report  
9 will contain a description of the noncompliance and its cause (including the information  
10 provided in the verbal notification); the period of noncompliance including exact dates and  
11 times; the anticipated time noncompliance is expected to continue, if the noncompliance  
12 has not been corrected; corrective measures being undertaken to mitigate the situation, and  
13 steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- 14 I.E.17 Manifest Discrepancy Report
- 15 I.E.17.a For dangerous waste received from outside the Facility, whenever a significant  
16 discrepancy in a manifest is discovered, the Permittees will attempt to reconcile the  
17 discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will  
18 submit a letter report in accordance with WAC 173-303-370(4), including a copy of the  
19 applicable manifest or shipping paper, to Ecology.
- 20 I.E.17.b For dangerous waste which is being transported within the Facility (i.e., shipment of on-  
21 site generated dangerous waste), whenever a significant discrepancy in the shipping papers  
22 (see Permit Condition II.Q.1.) is discovered, the Permittees will attempt to reconcile the  
23 discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will  
24 note the discrepancy in the receiving unit's Operating Record.
- 25 I.E.18 Unmanifested Waste Report
- 26 The Permittees will follow the provisions of WAC 173-303-370 for the receipt of any  
27 dangerous waste shipment from off-site. The Permittees will also submit a report in  
28 accordance with WAC 173-303-390(1) to Ecology within fifteen (15) days of receipt of  
29 any unmanifested dangerous waste shipment received from off-site sources.
- 30 I.E.19 Other Noncompliance
- 31 The Permittees will report to Ecology all instances of noncompliance, not otherwise  
32 required to be reported elsewhere in this Permit, at the time the Annual Dangerous Waste  
33 Report is submitted.
- 34 I.E.20 Other Information
- 35 Whenever the Permittees become aware that they have failed to submit any relevant facts  
36 in a Permit application, closure plan, or post-closure plan, or submitted incorrect  
37 information in a Permit application, closure plan, or post-closure plan, or in any report to  
38 Ecology, the Permittees will promptly submit such facts or corrected information.

- 1 I.E.21 Reports, Notifications, and Submissions
- 2 All written reports, notifications or other submissions, which are required by this Permit to  
3 be sent, or given to the Director or Ecology, should be sent certified mail, overnight  
4 express mail, or hand delivered, to the current address and telephone number shown  
5 below. This address and telephone number may be subject to change.
- 6 Washington State Department of Ecology  
7 Nuclear Waste Program  
8 3100 Port of Benton Blvd  
9 Richland, Washington 99352  
10 Telephone: (509) 372-7950
- 11 Telephonic and oral reports/notifications also need to be provided to Ecology's Richland  
12 Office.
- 13 Ecology will give the Permittees written notice of a change in address or telephone  
14 number. It is the responsibility of the Permittees to ensure any required reports,  
15 notifications, or other submissions are transmitted to the addressee listed in this Condition.  
16 However, the Permittees will not be responsible for ensuring verbal and written  
17 correspondence reaches a new address or telephone number until after their receipt of  
18 Ecology's written notification.
- 19 I.E.22 Annual Report
- 20 The Permittees will comply with the annual reporting requirements of  
21 WAC 173-303-390(2)(a) through (e), and (g).
- 22 **I.F SIGNATORY REQUIREMENT**
- 23 All applications, reports, or information submitted to Ecology, which require certification,  
24 will be signed and certified in accordance with WAC 173-303-810(12) and (13). All other  
25 reports required by this Permit and other information requested by Ecology will be signed  
26 in accordance with WAC 173-303-810(12).
- 27 **I.G CONFIDENTIAL INFORMATION**
- 28 The Permittees may declare as confidential any information required to be submitted by  
29 this Permit, at the time of submission, in accordance with WAC 173-303-810(15).
- 30 **I.H DOCUMENTS TO BE MAINTAINED AT FACILITY SITE**
- 31 The Permittees will maintain at the Facility, or some other location approved by Ecology,  
32 the following documents and amendments, revisions, and modifications to these  
33 documents: (1) This Permit and all Attachments; and (2) The Hanford Facility Operating  
34 Record.
- 35 All dangerous waste Part B permit applications, post closure permit applications, and  
36 closure plan applications are maintained in the Administrative Record located at  
37 2440 Stevens, Room 1101, Richland, WA.

1 Other approved locations: (1) 700 Area, (2) Locations within the City of Richland under  
2 control of one or more of the Permittees, (3) Administrative Record locations within the  
3 Stevens Center complex, (4) Consolidated Information Center at Washington State  
4 University, Tri-Cities. (5) Archived records at the National Archives and Records  
5 Administration (NARA), Pacific Alaska Region, 6125 Sand Point Way NE, Seattle,  
6 Washington, 98115-7999.

7 These documents will be maintained for ten (10) years after post-closure care or corrective  
8 action for the Facility, whichever is later, has been completed and certified as complete.

**PART II - GENERAL FACILITY CONDITIONS**

**II.A FACILITY CONTINGENCY PLAN**

II.A.1 The Permittees will immediately carry out applicable provisions of the *Hanford Emergency Management Plan* as provided in Permit Attachment 4, pursuant to WAC 173-303-360(2), whenever there is an incident meeting the criteria of Permit Attachment 4, Section 4.2. Enforceable portions of Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) are identified in Permit Attachment 4, Appendix A.

II.A.2 The Permittees will comply with the requirements of WAC 173-303-350(4), as provided in the *Hanford Emergency Management Plan* (Permit Attachment 4). The *Hanford Emergency Management Plan* provides reference to the need for unit-specific contingency documentation. Unit-specific contingency documentation for Part III TSD units is included in Part III of this Permit. Unit-specific contingency documentation for Part V and VI TSD units required by this Permit condition is maintained in the Hanford Facility Operating Record, Unit-Specific files.

II.A.3 The Permittees will review and amend, if necessary, the applicable portions of the *Hanford Emergency Management Plan*, as provided in Permit Attachment 4, pursuant to WAC 173-303-350(5), and in accordance with the provisions of WAC 173-303-830(4). The Permittees will be able to demonstrate how Amendments to the applicable portions are controlled. The plan will be amended within a period of time agreed upon by Ecology.

II.A.4 The Permittees will comply with the requirements of WAC 173-303-350(3) and -360(1) concerning the emergency coordinator, except the names and home telephone numbers will be on file with the single point-of-contact, phone number (509) 373-3800 or 375-2400 (for PNNL units) as described in the *Hanford Emergency Management Plan*.

**II.B PREPAREDNESS AND PREVENTION**

II.B.1 The Permittees will equip the Facility with the equipment specified in WAC 173-303-340(1) as specified in the *Hanford Emergency Management Plan* (Permit Attachment 4). Unit-specific preparedness and prevention provisions are included in Parts III, V, and/or VI of this Permit.

II.B.2 The Permittees will test and maintain the equipment specified in the previous Condition as necessary to assure proper operation in the event of emergency.

II.B.3 The Permittees will maintain access to communications or alarms pursuant to WAC 173-303-340(2), as provided in the *Hanford Emergency Management Plan* (Permit Attachment 4) and unit-specific contingency plans.

II.B.4 The Permittees will comply with WAC 173-303-340(4) and WAC 173-303-355(1) pertaining to arrangements with local authorities.

II.B.5 Based on the arrangements with local authorities required by WAC 173-303-340(4) documented in Permit Attachment 4, Table 3-1, the Permittees will maintain the Memorandums of Understanding to comply with WAC 173-303-350(4)(b). The Hanford Facility Memorandums of Understanding with local authorities provides emergency planning and coordination equivalent to submittal of the contingency plan to local authorities

1 **II.C PERSONNEL TRAINING**

2 II.C.1 The Permittees will conduct personnel training as required by WAC 173-303-330. The  
3 Permittees will maintain documents in accordance with WAC 173-303-330(2) and (3).  
4 Training records may be maintained in the Hanford Facility Operating Record, or on  
5 electronic data storage.

6 II.C.2 All Hanford Facility personnel will receive general Facility training within six (6) months  
7 of hire. This training will provide personnel with orientation of dangerous waste  
8 management activities being conducted at the Hanford Facility. This training will include:

9 II.C.2.a Description of emergency signals and appropriate personnel response;

10 II.C.2.b Identification of contacts for information regarding dangerous waste management  
11 activities;

12 II.C.2.c Introduction to waste minimization concepts;

13 II.C.2.d Identification of contact(s) for emergencies involving dangerous waste; and

14 II.C.2.e Familiarization with the applicable portions of the *Hanford Emergency Management Plan*.

15 II.C.3 Description of training plans for personnel assigned to TSD units subject to this Permit are  
16 delineated in the unit-specific Chapters in Parts III, V, and/or VI of this Permit.

17 II.C.4 The Permittees will provide the necessary training to non-Facility personnel (i.e., visitors,  
18 sub-contractors), as appropriate, for the locations of such personnel, and the activities that  
19 will be undertaken. At a minimum, this training will describe dangerous waste  
20 management hazards at the Facility.

21 **II.D WASTE ANALYSIS**

22 II.D.1 All waste analyses required by this Permit will be conducted in accordance with a written  
23 waste analysis plan (WAP), or sampling and analysis plan (SAP). Operating TSD units  
24 will have a WAP, which will be approved through incorporation of the TSD unit into Part  
25 III of this Permit. Closing TSD units, and units in post-closure, should have a SAP and, if  
26 necessary, a WAP, which will be approved through incorporation of the TSD unit into  
27 Part V and/or VI of this Permit.

28 II.D.2 Until a WAP is implemented in accordance with Permit Condition II.D.1., any unit(s)  
29 identified in Parts III, V, and/or VI of this Permit, without a unit-specific WAP approved  
30 by Ecology, will not treat, store, or dispose of dangerous waste, unless specified otherwise  
31 by Ecology in writing.

32 II.D.3 Each TSD unit WAP will include:

33 II.D.3.a.i The parameters for which each dangerous waste will be analyzed, and the rationale for  
34 selecting these parameters; (i.e., how analysis for these parameters will provide sufficient  
35 information on the waste properties to comply with WAC 173-303-300(1), (2), (3), and  
36 (4);

37 II.D.3.a.ii The methods of obtaining or testing for these parameters;

38 II.D.3.a.iii The methods for obtaining representative samples of wastes for analysis (representative  
39 sampling methods are discussed in WAC 173-303-110(2);

40 II.D.3.a.iv The frequency with which analysis of a waste will be reviewed, or repeated, to ensure that  
41 the analysis is accurate and current;

- 1 II.D.3.a.v The waste analyses which generators have agreed to supply;
- 2 II.D.3.a.vi Where applicable, the methods for meeting the additional waste analysis requirements for  
3 specific waste management methods, as specified in WAC 173-303-140(4)(b),  
4 173-303-395(1), 173-303-630 through 173-303-670, and 40 CFR 264.1034, 264.1063,  
5 284(a), and 268.7, for final status facilities;
- 6 II.D.3.a.vii For off-site facilities, the procedures for confirming that each dangerous waste received  
7 matches the identity of the waste specified on the accompanying manifest, or shipping  
8 paper. This includes at least:
- 9 A. The procedure for identifying each waste movement at the Facility; and,  
10 B. The method for obtaining a representative sample of the waste to be identified, if the  
11 identification method includes sampling.
- 12 II.D.3.a.viii For surface impoundments exempted from Land Disposal Restrictions (LDR) under  
13 40 CFR 268.4(a), incorporated by reference in WAC 173-303-140(2), the procedures and  
14 schedules for:
- 15 II.D.3.a.viii.a The sampling of impoundment contents;
- 16 II.D.3.a.viii.b The analysis of test data; and
- 17 II.D.3.a.viii.c The annual removal of residues that are not delisted under 40 CFR 260.22, or which  
18 exhibit a characteristic of hazardous waste and either;
- 19 1. Do not meet applicable treatment standards of 40 CFR Part 268, Subpart D; or  
20 2. Where no treatment standards have been established:  
21 i) Such residues are prohibited from land disposal under 40 CFR 268.32, or RCRA  
22 section 3004(d); or  
23 ii) Such residues are prohibited from land disposal under 40 CFR 268.33(f); and
- 24 II.D.3.a.ix For off-site facilities, the procedures for confirming that each dangerous waste received  
25 matches the identity of the waste specified on the accompanying manifest, or shipping  
26 paper. This includes, at least:
- 27 II.D.3.a.ix.a The procedure for identifying each waste movement at the Facility; and
- 28 II.D.3.a.ix.b The method for obtaining a representative sample of the waste to be identified, if the  
29 identification method includes sampling.
- 30 II.D.4 Should waste analysis be required by this Permit at a location on the Facility, other than at  
31 a TSD unit, a SAP will be maintained by the Permittees, and made available upon request  
32 from Ecology. Any SAP required by this Permit, not associated with a particular TSD  
33 unit, will include the elements of Permit Conditions II.D.3.a.i through II.D.3.a.iv.

1 **II.E QUALITY ASSURANCE/QUALITY CONTROL**

2 II.E.1 All WAPs and SAPs required by this Permit will include a quality assurance/quality  
3 control (QA/QC) plan, or equivalent, to document all monitoring procedures to ensure that  
4 all information, data, and resulting decisions are technically sound, statistically valid, and  
5 properly documented in accordance with HFFACO Action Plan §6.5, Quality Assurance,  
6 and reported/made available in accordance with HFFACO Action Plan §9.6, Data Access  
7 and Delivery Requirements.

8 II.E.2 The level of QA/QC for the collection, preservation, transportation, and analysis of each  
9 sample required for implementation of this Permit may be based upon an Ecology-  
10 approved DQO for the sample. These DQOs will be approved by Ecology in writing or  
11 through incorporation of unit plans and Permits into Parts III, V, and/or VI of this Permit.

12 **II.F GROUND WATER AND VADOSE ZONE MONITORING**

13 The Permittees will comply with the ground water monitoring requirements of  
14 WAC 173-303-645. This Condition will apply only to those wells the Permittees use for  
15 the ground water monitoring programs applicable to the TSD units incorporated into  
16 Parts III, V, and/or VI of this Permit. Where releases from TSD units subject to this  
17 Permit have been documented or confirmed by investigation, or where vadose zone  
18 monitoring is proposed for integration with ground water monitoring, the Permittees will  
19 evaluate the applicability of vadose zone monitoring. The Permittees will consult with  
20 Ecology regarding the implementation of these requirements. If agreed to by Ecology,  
21 integration of ground water and vadose zone monitoring, for reasons other than this  
22 Permit, may be accommodated by this Permit. Results from other investigation activities  
23 will be used whenever possible to supplement and/or replace sampling required by this  
24 Permit.

25 II.F.1 Purgewater Management  
26 Purgewater will be handled in accordance with the requirements set forth in Permit  
27 Attachment 5, *Purgewater Management Plan*.

28 II.F.2 Well Remediation and Abandonment

29 II.F.2.a The Permittees will inspect the integrity of active resource protection wells as defined by  
30 WAC 173-160-030, subject to this Permit, at least once every five (5) years. These  
31 inspections will be recorded in the Operating Record. The Permittees will prepare and  
32 maintain a plan and schedule by January 26, 1995, specifying the schedule and technical  
33 standards for this program. The Permittees will provide a copy of this plan upon the  
34 request of Ecology.

35 II.F.2.b The Permittees will evaluate resource protection wells subject to this Permit according to  
36 Sections 4.0 and 5.0 of the *Hanford Well Maintenance Inspection Plan* (Permit  
37 Attachment 6) and the *Policy on Remediation of Existing Wells and Acceptance Criteria*  
38 *for RCRA and CERCLA*, June 1990 (Permit Attachment 7), to determine if a well has a  
39 potential use as a qualified well. The Permittees will abandon or remediate unusable wells  
40 according to the requirements of Chapter 18.104 RCW, Chapter 173-160 WAC, and  
41 Chapter 173-162 WAC to ensure that the integrity of wells subject to this Permit is  
42 maintained. The time for this remediation will be specified in Parts III, V, and/or VI of  
43 this Permit.

- 1 II.F.2.c Ecology will receive notice in writing at least seventy-two (72) hours before the Permittees  
2 remediate (excluding maintenance activities), or abandon any well subject to this Permit.
- 3 II.F.2.d For wells subject to this Permit, the Permittees will achieve full compliance with  
4 Chapter 173-160 WAC and Chapter 18.104 RCW consistent with a rolling five (5) year  
5 schedule agreed to by Ecology and the Permittees. This process will be completed by the  
6 year 2012.
- 7 II.F.3 Well Construction
- 8 All wells constructed pursuant to this Permit will be constructed in compliance with  
9 Chapter 173-160 WAC.
- 10 **II.G SITING CRITERIA**
- 11 The Permittees will comply with the applicable notice of intent and siting criteria of  
12 WAC 173-303-281 and WAC 173-303-282, respectively.
- 13 **II.H RECORDKEEPING AND REPORTING**
- 14 The provisions of WAC 173-303-620 are not applicable to the Hanford Facility because  
15 the USDOE is both owner and operator of the Hanford Facility. WAC 173-303-620(1)(c).
- 16 **II.I FACILITY OPERATING RECORD**
- 17 II.I.1 The Permittees will maintain a written Facility Operating Record until ten (10) years after  
18 post-closure, or corrective action is complete and certified for the Facility, whichever is  
19 later. Except as specifically provided otherwise in this Permit, the Permittees will also  
20 record all information referenced in this Permit in the Facility Operating Record within  
21 seven (7) working days after the information becomes available. A TSD unit-specific  
22 Operating Record will be maintained for each TSD unit at a location identified in Parts III,  
23 V, and VI of this Permit. This information may be maintained on electronic media. Each  
24 TSD unit-specific Operating Record will be included by reference in the Facility  
25 Operating Record. Information required in each TSD unit-specific Operating Record is  
26 identified on a unit-by-unit basis in Part III, V, or VI of this Permit. The Facility  
27 Operating Record will include, but not be limited to, the following information.
- 28 II.I.1.a A description of the system(s) currently utilized to identify and map solid waste  
29 management units and their locations. The description of the system(s) is required to  
30 include an identification of on-site access to the system's data, and an on-site contact name  
31 and telephone number. In addition to, or as part of, this system(s), the Permittees will also  
32 maintain a list identifying active ninety (90)-day waste storage areas, and dangerous waste  
33 satellite accumulation areas and their locations. The list will identify the location, the  
34 predominant waste types managed at the area, and a date identifying when the list was  
35 compiled. Maps will be provided by the Permittees upon request by Ecology;
- 36 II.I.1.b Records and results of waste analyses required by WAC 173-303-300;
- 37 II.I.1.c An identification of the system(s) currently utilized to generate Occurrence Reports. The  
38 identification of the system(s) is required to include a description, an identification of an  
39 on-site location of hard-copy Occurrence Reports, an identification of on-site access to the  
40 system's data, and an on-site contact name and telephone number;
- 41 II.I.1.d Copies of all unmanifested waste reports;

- 1 II.I.1.e The *Hanford Emergency Management Plan*, as well as summary reports, and details of all  
2 incidents that require implementing the contingency plan, as specified in  
3 WAC 173-303-360(2)(k);
- 4 II.I.1.f An identification of the system(s) currently utilized and being developed to record  
5 personnel training records and to develop training plans. The identification of the  
6 system(s) is required to include a description, an identification of on-site access to the  
7 system's data, and an on-site contact name and telephone number;
- 8 II.I.1.g Preparedness and prevention arrangements made pursuant to WAC 173-303-340(4) and  
9 documentation of refusal by state or local authorities that have declined to enter into  
10 agreements in accordance with WAC 173-303-340(5);
- 11 II.I.1.h Reserved Condition;
- 12 II.I.1.i An identification and description of the report containing closure and post-closure cost  
13 estimates required by Permit Conditions II.H.1. and II.H.2. The identification will provide  
14 the on-site location and document number of the report;
- 15 II.I.1.j Documentation (e.g., waste profile sheets) of all dangerous waste transported to or from  
16 any TSD unit subject to this Permit. This documentation will be maintained in the  
17 receiving unit's Operating Record from the time the waste is received;
- 18 II.I.1.k An identification of the system(s) currently utilized to cross-reference waste locations to  
19 specific manifest document numbers. The identification of the system(s) is required to  
20 include a thorough description, an identification of an on-site location of a hard-copy data  
21 report, an identification of on-site access to the system's data, and an on-site contact name  
22 and telephone number;
- 23 II.I.1.l Reserved Permit Condition;
- 24 II.I.1.m Annual Reports required by this Permit;
- 25 II.I.1.n An identification of all systems currently utilized to record monitoring information,  
26 including all calibration and maintenance records, and all original strip chart recordings  
27 for continuous monitoring instrumentation. The identification of systems will include a  
28 description of the systems. The descriptions will include a confirmation that the criteria of  
29 Permit Condition I.E.10.e. is provided by the utilization of the system. The identification  
30 of the systems will also include an identification of on-site access to the system's data, an  
31 on-site contact name and telephone number;
- 32 II.I.1.o Reserved Permit Condition;
- 33 II.I.1.p Summaries of all records of ground water corrective action required by  
34 WAC 173-303-645;
- 35 II.I.1.q An identification of the system(s) currently being utilized and being developed to evaluate  
36 compliance with the Conditions of this Permit and with Chapter 173-303 WAC. The  
37 identification of the system(s) will include a description of the system(s), an identification  
38 of on-site access to the system's data, and an on-site contact name and telephone number.  
39 The description of the system(s) will also include a definition of which portion(s) of the  
40 system(s) is accessible to Ecology;
- 41 II.I.1.r All deed notifications required by this Permit (to be included by reference);

- 1 II.I.1.s All inspection reports required by this Permit; and
- 2 II.I.1.t All other reports as required by this Permit, including design change documentation and  
3 nonconformance documentation.
- 4 **II.J FACILITY CLOSURE**
- 5 II.J.1 Final closure of the Hanford Facility will be achieved when closure activities for all TSD  
6 units have been completed, as specified in Parts III, IV, V, or VI of this Permit.  
7 Completion of these activities will be documented using either certifications of closure, in  
8 accordance with WAC 173-303-610(6), or certifications of completion of post-closure  
9 care, in accordance with WAC 173-303-610(11).
- 10 II.J.2 The Permittees will close all TSD units as specified in Parts III, V, and/or VI of this  
11 Permit.
- 12 II.J.3 The Permittees will submit a written notification of, or request for, a Permit modification in  
13 accordance with the provisions of WAC 173-303-610(3)(b), whenever there is a change in  
14 operating plans, facility design, or the approved closure plan. The written notification or  
15 request must include a copy of the amended closure plan for review, or approval, by  
16 Ecology.
- 17 II.J.4 The Permittees will close the Facility in a manner that:
- 18 II.J.4.a Minimizes the need for further maintenance;
- 19 II.J.4.b Controls, minimizes or eliminates, to the extent necessary to protect human health and the  
20 environment, post-closure escape of dangerous waste, dangerous constituents, leachate,  
21 contaminated run-off, or dangerous waste decomposition products, to the ground, surface  
22 water, ground water, or the atmosphere; and
- 23 II.J.4.c Returns the land to the appearance and use of surrounding land areas to the degree  
24 possible, given the nature of the previous dangerous waste activity.
- 25 II.J.4.d Meets the requirements of WAC 173-303-610(2)(b).
- 26 **II.K SOIL/GROUND WATER CLOSURE PERFORMANCE STANDARDS**
- 27 II.K.1 For purposes of Permit Condition II.K, the term "clean closure" shall mean the status of a  
28 TSD unit at the Facility which has been closed to the cleanup levels prescribed by  
29 WAC 173-303-610(2)(b), provided certification of such closure has been accepted by  
30 Ecology.
- 31 II.K.2 The Permittees may close a TSD unit to background levels as defined in Ecology approved  
32 Hanford Site Background Documents, if background concentrations exceed the levels  
33 prescribed by Permit Condition II.K.1. Closure to these levels, provided the Permittees  
34 comply with all other closure requirements for a TSD unit as identified in Parts III, V,  
35 and/or VI of this Permit, shall be deemed as "clean closure".
- 36 II.K.3 Except for those TSD units identified in Permit Conditions II.K.1, II.K.2, or II.K.4, the  
37 Permittees may close a TSD unit to a cleanup level specified under Method C of  
38 Chapter 173-340 WAC. Closure of a TSD unit to these levels, provided the Permittees  
39 comply with all other closure requirements for the TSD unit as specified in Parts III, V,  
40 and/or VI of the Permit, and provided the Permittees comply with Permit  
41 Conditions II.K.3.a. through II.K.3.c, shall be deemed as a "modified closure".

- 1 II.K.3.a For "modified closures", the Permittees shall provide institutional controls in accordance  
2 with WAC 173-340-440 which restricts access to the TSD unit for a minimum of  
3 five (5) years following completion of closure. The specific details and duration of  
4 institutional controls shall be specified in Parts III, V, and/or VI of this Permit for a  
5 particular TSD unit.
- 6 II.K.3.b For "modified closures", the Permittees shall provide periodic assessments of the TSD unit  
7 to determine the effectiveness of the closure. The specific details of the periodic  
8 assessments shall be specified in Parts III, V, and/or VI of this Permit. The periodic  
9 assessments shall include, as a minimum, a compliance monitoring plan in accordance  
10 with WAC 173-340-410 that will address the assessment requirements on a unit-by-unit  
11 basis. At least one (1) assessment activity shall take place after a period of five (5) years  
12 from the completion of closure, which will demonstrate whether the soils and ground  
13 water have been maintained at or below the allowed concentrations as specified in  
14 Parts III, V, or VI of this Permit. Should the required assessment activities identify  
15 contamination above the allowable limits as specified in Parts III, V, and/or VI, the TSD  
16 unit must be further remediated, or the requirements of II.K.4. must be followed. Should  
17 the required assessment activities demonstrate that contamination has diminished, or  
18 remained the same, the Permittees may request that Ecology reduce, or eliminate the  
19 assessment activities and/or institutional controls.
- 20 II.K.3.c For "modified closures", the Permittees shall specify the particular activities required by  
21 this Condition in a Post-Closure Permit application.
- 22 II.K.4 Any TSD unit for which Permit Conditions II.K.1, II.K.2, or II.K.3, are not chosen as the  
23 closure option, closing the TSD unit as a landfill may be selected. Closure and post-  
24 closure of the TSD unit as a landfill, must follow the procedures and requirements  
25 specified in WAC 173-303-610.
- 26 II.K.5 The cleanup option selected shall be specified in Parts III, V, and/or VI of this Permit, and  
27 shall be chosen with consideration of the potential future site use for that TSD unit/area.  
28 Definitions contained within Chapter 173-340 WAC shall apply to Permit Condition II.K.  
29 Where definitions are not otherwise provided by this Permit, the HFFACO, or  
30 Chapter 173-303 WAC.
- 31 II.K.6 Deviations from a TSD unit closure plan required by unforeseen circumstances  
32 encountered during closure activities, which do not impact the overall closure strategy, but  
33 provide equivalent results, shall be documented in the TSD unit-specific Operating Record  
34 and made available to Ecology upon request, or during the course of an inspection.
- 35 II.K.7 Where agreed to by Ecology, integration of other statutorily or regulatory mandated  
36 cleanups may be accommodated by this Permit. Results from other cleanup investigation  
37 activities shall be used whenever possible to supplement and/or replace TSD unit closure  
38 investigation activities. All, or appropriate parts of, multipurpose cleanup and closure  
39 documents can be incorporated into this Permit through the Permit modification process.  
40 Cleanup and closures conducted under any statutory authority, with oversight by either  
41 Ecology or the EPA, which meet the equivalent of the technical requirements of Permit  
42 Conditions II.K.1. through II.K.4., may be considered as satisfying the requirements of this  
43 Permit.
- 44 **II.L DESIGN AND OPERATION OF THE FACILITY**
- 45 II.L.1 Proper Design and Construction

- 1           The Permittees will design, construct, maintain, and operate the Facility to minimize the  
2           possibility of a fire, explosion, or any unplanned sudden or non-sudden release of  
3           hazardous substances to air, soil, ground water, or surface water, which could threaten  
4           human health, or the environment.
- 5    II.L.2       Design Changes, Nonconformance, and As-Built Drawings
- 6    II.L.2.a     After completing the Permit modification process in Permit Condition I.C.3, the Permittees  
7           will conduct all construction subject to this Permit in accordance with the approved  
8           designs, plans and specifications that are required by this Permit, unless authorized  
9           otherwise in Permit Conditions II.L.2.b or II.L.2.c. For purposes of Permit  
10           Conditions II.L.2.b and II.L.2.c, an Ecology construction inspector, or TSD unit manager,  
11           are designated representatives of Ecology.
- 12   II.L.2.b     During construction of a project subject to this Permit, changes to the approved designs,  
13           plans and specifications will be formally documented. All design change documentation  
14           will be maintained in the TSD unit-specific Operating Record and will be made available  
15           to Ecology upon request or during the course of an inspection. The Permittees will  
16           provide copies of design change documentation affecting any critical system to Ecology  
17           within five (5) working days of initiating the design change documentation. Identification  
18           of critical systems will be included by the Permittees in each TSD unit-specific dangerous  
19           waste Permit application, closure plan or Permit modification, as appropriate. Ecology  
20           will review an design change documentation modifying a critical system, and inform the  
21           Permittees in writing within two (2) working days, whether the proposed design change  
22           documentation , when issued, will require a Class 1, 2, or 3 Permit modification. If after  
23           two (2) working days Ecology has not responded, it will be deemed as acceptance of the  
24           design change documentation by Ecology.
- 25   II.L.2.c     During construction of a project subject to this Permit, any work completed which does  
26           not meet or exceed the standards of the approved design, plans and specifications will be  
27           formally documented with nonconformance documentation. All nonconformance  
28           documentation will be maintained in the TSD unit-specific Operating Record and will be  
29           made available to Ecology upon request, or during the course of an inspection. The  
30           Permittees will provide copies of nonconformance documentation affecting any critical  
31           system to Ecology within five (5) working days after identification of the  
32           nonconformance. Ecology will review nonconformance documentation affecting a critical  
33           system and inform the Permittees in writing, within two (2) working days, whether a  
34           Permit modification is required for any nonconformance, and whether prior approval is  
35           required from Ecology before work proceeds, which affects the nonconforming item. If  
36           Ecology does not respond within two (2) working days, it will be deemed as acceptance  
37           and no Permit modification will be required.
- 38   II.L.2.d     Upon completion of a construction project subject to this Permit, the Permittees will  
39           produce as-built drawings of the project which incorporate the design and construction  
40           modifications resulting from all project design change documentation and  
41           nonconformance documentation, as well as modifications made pursuant to  
42           WAC 173-303-830. The Permittees will place the drawings into the Operating Record  
43           within twelve (12) months of completing construction, or within an alternate period of  
44           time specified in a unit-specific Permit Condition in Part III or V of this Permit.
- 45   II.L.2.e     Facility Compliance

1 The Permittees in receiving, storing, transferring, handling, treating, processing, and  
2 disposing of dangerous waste, will design, operate, and/or maintain the Facility in  
3 compliance with all applicable federal, state, and local laws and regulations.

4 **II.M SECURITY**

5 The Permittees will comply with the security provisions of WAC 173-303-310. The  
6 Permittees may comply with the requirements of WAC 173-303-310(2) on a unit-by-unit  
7 basis.

8 **II.N RECEIPT OF DANGEROUS WASTES GENERATED OFF-SITE**

9 **II.N.1 Receipt of Off-Site Waste**

10 The Permittees will comply with Permit Conditions II.N.2 and II.N.3 for any dangerous  
11 wastes which are received from sources outside the United States, or from off-site  
12 generators.

13 **II.N.2 Waste from Sources Outside the United States**

14 The Permittees will meet the requirements of WAC 173-303-290(1) for waste received  
15 from outside the United States.

16 **II.N.3 Notice to Generator**

17 For waste received from off-site sources (except where the owner/operator is also the  
18 generator), the Permittees will inform the generator in writing that they have the  
19 appropriate Permits for, and will accept, the waste the generator is shipping, as required by  
20 WAC 173-303-290(3). The Permittees will keep a copy of this written notice as part of  
21 the TSD unit-specific Operating Record.

22 **II.O GENERAL INSPECTION REQUIREMENTS**

23 **II.O.1** The Permittees will inspect the Facility to prevent malfunctions and deterioration, operator  
24 errors, and discharges, which may cause or lead to the release of dangerous waste  
25 constituents to the environment, or threaten human health. Inspections must be conducted  
26 in accordance with the provisions of WAC 173-303-320(2). In addition to the TSD unit  
27 inspections specified in Parts III, V, and/or VI, the following inspections will also be  
28 conducted:

29 **II.O.1.a** The 100, 200 East, 200 West, 300, and 400 areas will be inspected annually.

30 **II.O.1.b** The Permittees will inspect the banks of the Columbia River, contained within the Facility  
31 boundary, once a year. The inspection will be performed from the river, by boat, and the  
32 inspectors will follow the criteria in Permit Condition II.O.1.c.

33 **II.O.1.c** The Permittees will visually inspect the areas identified in Permit Conditions II.O.1.a and  
34 II.O.1.b for malfunctions, deterioration, operator errors, and discharges which may cause  
35 or lead to the release of dangerous waste constituents to the environment, or that threaten  
36 human health. Specific items to be noted are as follows:

37 **II.O.1.c.i** Remains of waste containers, labels, or other waste management equipment;

38 **II.O.1.c.ii** Solid waste disposal sites not previously identified for remedial action;

39 **II.O.1.c.iii** Uncontrolled waste containers (e.g., orphan drums);

- 1 II.O.1.c.iv Temporary or permanent activities that could generate an uncontrolled waste form; and  
2 II.O.1.c.v Unpermitted waste discharges.
- 3 II.O.1.d The Permittees will notify Ecology at least seven (7) days prior to conducting these  
4 inspections in order to allow representatives of Ecology to be present during the  
5 inspections.
- 6 II.O.2 If the inspection by the Permittees, conducted pursuant to Permit Condition II.O.1., reveals  
7 any problems, the Permittees will take remedial action on a schedule agreed to by Ecology.
- 8 II.O.3 The inspection of high radiation areas will be addressed on a case-by-case basis in either  
9 Part III of this Permit, or prior to the inspections required in Permit Condition II.O.1.
- 10 **II.P MANIFEST SYSTEM**
- 11 II.P.1 The Permittees will comply with the manifest requirements of WAC 173-303-370 for  
12 waste received from off-site and WAC 173-303-180 for waste shipped off-site.
- 13 II.P.2 Transportation of dangerous wastes along roadways, if such routes are not closed to  
14 general public access at the time of transport, can be manifested pursuant to an alternate  
15 tracking system as allowed by WAC 173-303-180(6). The alternate tracking system can  
16 be a paper system or an electronic system. The roadways addressed by this condition are a  
17 public or private right-of-way within or along the border of contiguous property where the  
18 movement is under control of the USDOE. The alternate tracking system will consist of  
19 documentation between the offering Hanford Facility location and the receiving Hanford  
20 Facility location containing the following information:
- 21 II.P.2.a Hanford Facility offeror name, location, and telephone number;
- 22 II.P.2.b Hanford Facility receiver name, location, and telephone number;
- 23 II.P.2.c Description of waste;
- 24 II.P.2.d Number and type of containers;
- 25 II.P.2.e Total quantity of waste;
- 26 II.P.2.f Unit volume/weight;
- 27 II.P.2.g Dangerous waste number(s) or U.S. Department of Transportation hazard class; and
- 28 II.P.2.h Special handling instructions including emergency contacts.
- 29 II.P.3 The Hanford Facility offeror and receiver will resolve any discrepancies of information  
30 found related to Permit Conditions II.P.2.a through II.P.2.h.
- 31 II.P.4 If the discrepancies cannot be resolved at the Hanford Facility receiving location, a new  
32 Hanford Facility receiver location will be agreed upon, or the dangerous waste will be  
33 returned to the offeror location. The documentation accompanying the movement of  
34 dangerous waste will be updated to reflect the new receiving location.
- 35 **II.Q ON-SITE TRANSPORTATION**
- 36 II.Q.1 Documentation must accompany any on-site dangerous waste which is transported to or  
37 from any TSD unit subject to this Permit, through or within the 600 Area, unless the  
38 roadway is closed to general public access at the time of shipment. Waste transported by

- 1 rail or by pipeline is exempt from this Condition. This documentation will include the  
2 following information, unless other unit-specified provisions are designated in Part III or  
3 V of this Permit:
- 4 II.Q.1.a Generator's name, location, and telephone number;
  - 5 II.Q.1.b Receiving TSD unit's name, location, and telephone number;
  - 6 II.Q.1.c Description of waste;
  - 7 II.Q.1.d Number and type of containers;
  - 8 II.Q.1.e Total quantity of waste;
  - 9 II.Q.1.f Unit volume/weight;
  - 10 II.Q.1.g Dangerous waste number(s); and
  - 11 II.Q.1.h Any special handling instructions.

12 II.Q.2 All non-containerized solid, dangerous waste transported to or from TSD units, subject to  
13 this Permit, will be covered to minimize the potential for material to escape during  
14 transport.

15 **II.R EQUIVALENT MATERIALS**

16 II.R.1 The Permittees may substitute an equivalent or superior product for any equipment or  
17 materials specified in this Permit. Use of equivalent or superior products will not be  
18 considered a modification of this Permit. A substitution will not be considered equivalent  
19 unless it is at least as effective as the original equipment or materials in protecting human  
20 health and the environment.

21 II.R.2 The Permittees will place in the Operating Record (within seven [7] days after the change  
22 is put into effect) the substitution documentation, accompanied by a narrative explanation,  
23 and the date the substitution became effective. Ecology may judge the soundness of the  
24 substitution.

25 II.R.3 If Ecology determines that a substitution was not equivalent to the original, it will notify  
26 the Permittees that the Permittees' claim of equivalency has been denied, of the reasons  
27 for the denial, and that the original material or equipment must be used. If the product  
28 substitution is denied, the Permittees will comply with the original approved product  
29 specification, or find an acceptable substitution.

30 **II.S LAND DISPOSAL RESTRICTIONS (LDR)**

31 Unless specifically identified otherwise in the HFFACO, the Permittees will comply with  
32 all LDR requirements as set forth in WAC 173-303-140.

33 **II.T ACCESS AND INFORMATION**

34 To the extent that work required by this Permit must be done on property not owned or  
35 controlled by the Permittees, the Permittees must utilize their best efforts to obtain access  
36 and information at these locations.

37 **II.U MAPPING OF UNDERGROUND PIPING**

38 II.U.1 Reserved.

39 II.U.2 Reserved.

1 II.U.3 The Permittees will maintain piping maps for existing, newly identified, and/or new  
2 dangerous waste underground pipelines (including active, inactive, and abandoned  
3 pipelines, which contain or contained dangerous waste subject to the provisions of  
4 Chapter 173-303 WAC) at the Hanford Facility. The maps will identify the origin,  
5 destination, direction of flow, size, depth and type (i.e., reinforced concrete, stainless steel,  
6 cast iron, etc.), of each pipe, and the location of their diversion boxes, valve pits, seal pots,  
7 catch tanks, receiver tanks, and pumps, and utilize Washington State Plane Coordinates,  
8 NAD 83(91), meters. If the type of pipe material is not documented on existing drawings,  
9 the most probable material type will be provided. The maps will also identify whether the  
10 pipe is active, inactive, or abandoned. The age of all pipes requiring identification  
11 pursuant to this Condition will be documented in an Attachment to the submittal. If the  
12 age cannot be documented, an estimate of the age of the pipe will be provided based upon  
13 best engineering judgment. These maps need not include the pipes within a fenced tank  
14 farm or within a building/structure. These maps will be compiled using documented  
15 QA/QC control methods and procedures outlined in DOE/RL-96-50, Hanford Facility  
16 RCRA Permit Mapping and Marking of Dangerous Waste Underground Pipelines Report,  
17 September 1996. These maps and any Attachments will be maintained in the Facility  
18 Operating Record and be updated annually as required by Permit Condition II.U.4.

19 II.U.4 Permittees will maintain current all maps required by Permit Condition II.U.3. These  
20 maps will be updated to incorporate new or revised information available by March 30th  
21 of each year. By September 30th of each year, the Permittees will submit to Ecology a list  
22 of maps that have been updated. The updated maps (including any Attachments) and the  
23 annual list submitted to Ecology will be maintained in the Facility Operating Record.

24 **II.V MARKING OF UNDERGROUND PIPING**

25 The Permittees will maintain marking of underground pipelines located outside the  
26 200 East, 200 West, 300, 400, 100N, and 100K Areas. These pipelines will be marked at  
27 the point they pass beneath an area fence, at their origin and destination, at any point they  
28 cross an improved road, and every 100 meters along the pipeline corridor where  
29 practicable. The markers will be labeled with a sign that reads "Buried Dangerous Waste  
30 Pipe" and will be visible from a distance of fifteen (15) meters.

31 **II.W OTHER PERMITS AND/OR APPROVALS**

32 II.W.1 The Permittees will be responsible for obtaining all other applicable federal, state, and  
33 local permits authorizing the development and operation of the Facility. To the extent that  
34 work required by this Permit must be done under a permit and/or approval pursuant to  
35 other regulatory authority, the Permittees will use their best efforts to obtain such permits.

36 II.W.2 All other permits related to dangerous waste management activities are severable and  
37 enforceable through the permitting authority under which they are issued.

38 II.W.3 All air emissions from units subject to this Permit will comply with all applicable state and  
39 federal regulations pertaining to air emission controls, including but not limited to,  
40 Chapter 173-400 WAC, General Regulations for Air Pollution Sources; Chapter 173-460  
41 WAC, Controls for New Sources of Toxic Air Pollutants; and Chapter 173-480 WAC,  
42 Ambient Air Quality Standards and Emission Limits for Radionuclides.

1 **II.X SCHEDULE EXTENSIONS**

2 II.X.1 The Permittees will notify Ecology in writing, as soon as possible, of any deviations or  
3 expected deviations, from the schedules of this Permit. The Permittees will include with  
4 the notification all information supporting their claim that they have used best efforts to  
5 meet the required schedules. If Ecology determines that the Permittees have made best  
6 efforts to meet the schedules of this Permit, Ecology will notify the Permittees in writing  
7 by certified mail, that the Permittees have been granted an extension. Such an extension  
8 will not require a Permit modification under Permit Condition I.C.3. Should Ecology  
9 determine that the Permittees have not made best efforts to meet the schedules of this  
10 Permit, Ecology may take such action as deemed necessary.

11 Copies of all correspondence regarding schedule extensions will be kept in the Operating  
12 Record.

13 II.X.2 Any schedule extension granted through the approved change control process identified in  
14 the HFFACO will be incorporated into this Permit. Such a revision will not require a  
15 Permit modification under Permit Condition I.C.3.

16 **II.Y CORRECTIVE ACTION**

17 In accordance with WAC 173-303-646 and WAC 173-303-815(2)(b)(ii), the Permittee  
18 must conduct corrective action, as necessary to protect human health and the environment,  
19 for releases of dangerous waste and dangerous constituents from solid waste management  
20 units and areas of concern at the facility, including releases that have migrated beyond the  
21 facility boundary. The Permittee may be required to implement measures within the  
22 facility to address releases, which have migrated beyond the facility's boundary. As  
23 specified in Permit Conditions II.Y.1.g, II.Y.2.a.iii and II.Y.a.ii, the Permittee's right to  
24 challenge Ecology's authority to impose corrective action with respect to radionuclides,  
25 CERCLA Past Practice (CPP) Units (as identified under Permit Condition II.Y.2.a.) and  
26 selected solid waste management units not covered by the HFFACO at property currently  
27 subleased to US Ecology, Inc. (as identified under Permit Condition II.Y.3.a.i.), is reserved  
28 until such time as Ecology chooses to impose corrective action in accordance with the  
29 Permit modification procedures of WAC 173-303-830.

30 II.Y.1 Compliance with Chapter 173-340 WAC

31 In accordance with WAC 173-303-646, the Permittee must conduct corrective action "as  
32 necessary to protect human health and the environment". To ensure that corrective action  
33 will be conducted as necessary to protect human health and the environment, except as  
34 provided in Permit Condition II.Y.2, the Permittee must conduct corrective action in a  
35 manner that complies with the following provisions of Chapter 173-340 WAC:

36 II.Y.1.a As necessary to select a cleanup action in accordance with WAC 173-340-360 and  
37 WAC 173-340-350 State Remedial Investigation and Feasibility Study;

38 II.Y.1.b WAC 173-340-360 Selection of Cleanup Actions;

39 II.Y.1.c WAC 173-340-400 Cleanup Actions;

40 II.Y.1.d WAC 173-340-410 Compliance Monitoring Requirements;

41 II.Y.1.e WAC 173-340-420 Periodic Site Reviews;

42 II.Y.1.f WAC 173-340-440 Institutional Controls; and

- 1 II.Y.1.g WAC 173-340-700 through -760 Cleanup Standards, except that to the extent that Ecology  
2 seeks to impose corrective action with respect to radionuclides regulated under the  
3 provisions of the Atomic Energy Act, as amended, 42 U.S.C. § 2011 et seq (AEA), the  
4 Permittee may challenge Ecology's authority to impose such corrective action through a  
5 timely appeal of the permit modification issued by Ecology without argument from  
6 Ecology that such right has been waived by a failure to fully litigate that issue through an  
7 appeal taken within thirty (30) days of the issuance of this permit, and without argument  
8 from the Permittee that such requirement fails to satisfy a cause for Permit modification  
9 under WAC 173-303-830(3)(a).
- 10 II.Y.2 Acceptance of Work Under Other Authorities or Programs and Integration with the  
11 HFFACO.
- 12 Corrective action is necessary to protect human health and the environment for all units  
13 identified in Appendix B and Appendix C of the HFFACO. Notwithstanding Permit  
14 Condition II.Y.1, work under other cleanup authorities or programs, including work under  
15 the HFFACO, may be used to satisfy corrective action requirements, provided it protects  
16 human health and the environment.
- 17 II.Y.2.a For units identified in Appendix C of the FFAOC, as amended, as CERCLA Past Practice  
18 (CPP) Units, Ecology accepts work under the HFFACO, as amended, and under the  
19 CERCLA program, as satisfying corrective action requirements to the extent provided for  
20 in, and subject to the reservations and requirements of, Permit Conditions II.Y.2.a.i  
21 through II.Y.2.a.iv.
- 22 II.Y.2.a.i For any unit identified in Appendix C of the HFFACO as a CPP unit, the Permittee must  
23 comply with the requirements and schedules related to investigation and cleanup of the  
24 CPP unit(s) developed and approved under the HFFACO, as amended. The requirements  
25 and schedules related to investigation and cleanup of CPP units currently in place under  
26 the HFFACO, as amended, and in the future developed and approved under the FFAOC, as  
27 amended, are incorporated into this Permit by this reference and apply under this Permit as  
28 if they were fully set forth herein. If the Permittee is not in compliance with requirements  
29 of the HFFACO, as amended, that relate to investigation or cleanup of CPP unit(s),  
30 Ecology may take action to independently enforce the requirements as corrective action  
31 requirements under this Permit.
- 32 II.Y.2.a.ii For any unit identified in Appendix C of the HFFACO as a CPP unit, in the case of an  
33 interim ROD, a final decision about satisfaction of corrective action requirements will be  
34 made in the context of issuance of a final ROD.
- 35 II.Y.2.a.iii If EPA and Ecology, after exhausting the dispute resolution process under Section XXVI  
36 of the HFFACO, cannot agree on requirements related to investigation or cleanup of CPP  
37 unit(s), Ecology will notify the Permittee, in writing, of the disagreement and impose, in  
38 accordance with the Permit Modification Procedures of WAC 173-303-830, a requirement  
39 for the Permittee to conduct corrective action for the subject units(s) in accordance with  
40 Permit Condition II.Y.1. The Permittee may challenge Ecology's authority to impose such  
41 corrective action requirements through a timely appeal of such permit modification,  
42 without argument from Ecology that the Permittee's right to raise such challenge has been  
43 waived by a failure to fully litigate that issue through an appeal taken within thirty (30)  
44 days of the issuance of this permit, and without argument from the Permittee that such  
45 requirement fails to satisfy a cause for Permit modification under  
46 WAC 173-303-830(3)(a). Within sixty (60) days of receipt of the above permit

- 1 modification, or within some other reasonable period of time agreed to by Ecology and the  
2 Permittee, the Permittee must submit for Ecology review and approval, a plan to conduct  
3 corrective action in accordance with Permit Condition II.Y.1 for the subject unit(s). The  
4 Permittee's plan may include a request that Ecology evaluate work under another authority  
5 or program. Approved corrective action plans under this Condition will be incorporated  
6 into this Permit in accordance with the Permit Modification Procedures of  
7 WAC 173-303-830.
- 8 II.Y.2.a.iv The Permittee must maintain information on corrective action for CPP units covered by  
9 the HFFACO in accordance with Sections 9.0 and 10.0 of the HFFACO Action Plan. In  
10 addition, the Permittee must maintain all reports and other information developed in  
11 whole, or in part, to implement the requirements of Permit Condition II.Y.2.a, including  
12 reports of investigations and all raw data, in the Facility Operating Record in accordance  
13 with Permit Condition II.I. Information that is maintained in the Hanford Site  
14 Administrative Record may be incorporated by reference into the Facility Operating  
15 Record.
- 16 II.Y.2.b For units identified in Appendix C of the HFFACO, as amended, as RPP units, Ecology  
17 accepts work under the HFFACO, as amended, as satisfying corrective action  
18 requirements to the extent provided for, and subject to the reservations and requirements  
19 of, Permit Conditions II.Y.2.b.i through II.Y.2.b.iv.
- 20 II.Y.2.b.i For any unit identified in Appendix C of the HFFACO, as amended, as RPP unit, until a  
21 Permit modification is complete under Permit Condition II.Y.2.b.iii., the Permittee must  
22 comply with the requirements and schedules related to investigation and cleanup of RPP  
23 units developed and approved under the HFFACO, as amended. The requirements and  
24 schedules related to investigation and cleanup of RPP units currently in place under the  
25 HFFACO, as amended, and in the future developed and approved under the HFFACO, as  
26 amended, are incorporated into this Permit by this reference and apply under this Permit as  
27 if they were fully set forth herein. Until a permit modification is complete under Permit  
28 Condition II.Y.2.b.iii., if the Permittee is not in compliance with requirements and  
29 schedules related to investigation and cleanup of RPP units developed and approved under  
30 the HFFACO, as amended, Ecology may take action to independently enforce the  
31 requirements as corrective action requirements under this Permit.
- 32 II.Y.2.b.ii When the Permittee submits a corrective measures study for an individual RPP unit or a  
33 group of RPP units, the Permittee must, at the same time, recommend a remedy for the  
34 unit(s). The remedy recommendation must contain all the elements of a draft cleanup  
35 action plan under WAC 173-340-360(10).
- 36 II.Y.2.b.iii After considering the Permittees' corrective measures study and remedy recommendation,  
37 Ecology will make a tentative remedy selection decision and publish the decision for  
38 public review and comment. Public review and comment may be accomplished by  
39 publishing the tentative decision as a draft Permit under WAC 173-303-840(10), or by a  
40 method that provides an equivalent opportunity for public review and participation.  
41 Following public review and comment, Ecology will make a final remedy selection  
42 decision. Final remedy decisions will be incorporated into the Permit using the Permit  
43 Modification Procedures of WAC 173-303-830.
- 44 II.Y.2.b.iv The Permittee must maintain information on corrective action for RPP units covered by  
45 the HFFACO, as amended, in accordance with Sections 9.0 and 10.0 of the HFFACO  
46 Action Plan. In addition, the Permittee must maintain all reports and other information

- 1 developed in whole, or in part, to implement the requirements of Permit  
2 Condition II.Y.2.b, including reports of investigations and all raw data, in the Facility  
3 Operating Record in accordance with Permit Condition II.I. Information that is maintained  
4 in the Hanford Site Administrative Record may be incorporated into the Facility Operating  
5 Record by reference.
- 6 II.Y.2.c For each TSD unit or group of units, when the Permittee submits a certification of closure  
7 or a certification of completion of post-closure care, or at an earlier time agreed to by  
8 Ecology and the Permittee, the Permittee must, at the same time, either:
- 9 II.Y.2.c.i Document that the activities completed under closure and/or post-closure satisfy the  
10 requirements for corrective action; or
- 11 II.Y.2.c.ii If the activities completed under closure and/or post-closure care do not satisfy corrective  
12 action requirements, identify the remaining corrective action requirements and the  
13 schedule under which they will be satisfied, if remaining corrective action requirements  
14 will be satisfied by work developed and carried out under the HFFACO provisions for  
15 RPP units or CPP units, a reference to the appropriate RPP or CPP process and schedule  
16 will suffice.
- 17 II.Y.2.c.iii Ecology will make final decisions as to whether the work completed under closure and/or  
18 post-closure care satisfies corrective action, specify any unit-specific corrective action  
19 requirements, and incorporate the decision into this Permit in accordance with the Permit  
20 Modification Procedures of WAC 173-303-830.
- 21 II.Y.2.d Notwithstanding any other condition in this Permit, Ecology may directly exercise any  
22 administrative or judicial remedy under the following circumstances:
- 23 II.Y.2.d.i Any discharge or release of dangerous waste, or dangerous constituents, which are not  
24 addressed by the HFFACO, as amended;
- 25 II.Y.2.d.ii Discovery of new information regarding dangerous constituents or dangerous waste  
26 management, including but not limited to, information about releases of dangerous waste  
27 or dangerous constituents which are not addressed under the HFFACO, as amended; or
- 28 II.Y.2.d.iii A determination that action beyond the terms of the HFFACO, as amended, is necessary to  
29 abate an imminent and substantial endangerment to the public health, or welfare, or to the  
30 environment.
- 31 II.Y.3 Releases of Dangerous Waste or Dangerous Constituents Not Covered By the HFFACO
- 32 II.Y.3.a US Ecology
- 33 II.Y.3.a.i The following solid waste management units are not covered by the HFFACO:  
34 A. US Ecology, Inc., SWMU 1: Chemical Trench;  
35 B. US Ecology, Inc., SWMU 2-13: Low-level radioactive waste trenches 1 through 11A;  
36 and  
37 C. US Ecology, Inc., SWMU 17: Underground resin tank.
- 38 II.Y.3.a.ii Selected solid waste management units identified in Permit Condition II.Y.3.a.i are  
39 currently being investigated by US Ecology in accordance with the *Comprehensive*  
40 *Investigation US Ecology – Hanford Operations Workplan*. Following completion of this  
41 investigation and any closure required of such solid waste management unit under the  
42 authority of the Washington State Department of Health, or within one (1) year of the

1 effective date of this Permit Condition, whichever is earlier, Ecology will make a tentative  
2 decision as to whether additional investigation or cleanup is necessary to protect human  
3 health or the environment for the solid waste management units identified in Permit  
4 Condition II.Y.3.a.i, and publish that decision as a draft permit in accordance with  
5 WAC 173-303-840(10). Following the associated public comment period, and  
6 consideration of any public comments received during the public comment period,  
7 Ecology will publish as final permit conditions under WAC 173-303-840(8) either:

- 8 A. a decision that corrective action is not necessary to protect human health or the  
9 environment;  
10 B. an extension to the schedule established under Permit Condition II.1.Y.3.a.ii; or  
11 C. a decision that corrective action in accordance with Permit Condition II.Y.1 is  
12 necessary to protect human health or the environment.

13 II.Y.3.a.iii If Ecology decides under Permit Condition II.Y.3.a.ii that corrective action is necessary to  
14 protect human health or the environment, the Permittee may challenge Ecology's authority  
15 to impose such corrective action requirements through a timely appeal of such permit  
16 modification, without argument from Ecology that the right to raise such challenge has  
17 been waived by a failure to fully litigate that issue through an appeal taken within thirty  
18 (30) days of the issuance of this permit, and with argument from the Permittee that such  
19 requirement fails to satisfy a cause for permit modification under  
20 WAC 173-303-830(3)(a). Within one hundred and eighty (180) days of receipt of the  
21 above Permit modification, the Permittee must submit, for Ecology review and approval, a  
22 plan to conduct corrective action in accordance with Permit Condition II.Y.1. Approved  
23 corrective action plans under this condition will be incorporated into this Permit in  
24 accordance with the Permit Modification Procedures of WAC 173-303-830.

25 II.Y.3.b Newly Identified Solid Waste Management Units and Newly Identified Releases of  
26 Dangerous Waste or Dangerous Constituents.

27 The Permittee must notify Ecology of all newly-identified solid waste management units  
28 and all newly-identified areas of concern at the Facility. For purposes of this condition, a  
29 'newly-identified' solid waste management unit or a 'newly-identified' area of concern is  
30 a unit or area not identified in the HFFACO, as amended, on the effective date of this  
31 condition and not identified by Permit Condition II.Y.3.a. Notification to Ecology must be  
32 in writing and must include, for each newly-identified unit or area, the information  
33 required by WAC 173-303-806(4)(a)(xxiii) and WAC 173-303-806(4)(a)(xxiv).  
34 Notification to Ecology must occur at least once every calendar year, in January, and must  
35 include all units and areas newly identified since the last notification, except that if a  
36 newly identified unit or area may present an imminent and substantial endangerment to  
37 human health or the environment, notification must occur within five (5) days of  
38 identification of the unit or area. If information required by WAC 173-303-  
39 806(4)(a)(xxiii) or WAC 173-303-806(4)(a)(xxiv) is already included in the Waste  
40 Information Data System, it may be incorporated by reference into the required  
41 notification.

42 **II.Z WASTE MINIMIZATION**

43 II.Z.1 In accordance with WAC 173-303-380(1)(q), and Section 3005(h) of RCRA, 42 U.S.C.  
44 6925(h), the Permittee must place a certification in the Hanford Facility Operating Record,  
45 Unit-Specific Files on an annual basis that:

- 1 II.Z.1.a A program is in place to reduce the volume and toxicity of hazardous waste generated to  
2 the degree determined by the Permittee to be economically practicable; and,
- 3 II.Z.1.b The proposed method of treatment, storage or disposal is that practicable method currently  
4 available to the Permittee, which minimizes the present and future threat to human health  
5 and the environment.
- 6 II.Z.2 The Permittee will maintain each such certification of waste minimization in the operating  
7 record as required by Permit Condition II.I.1.

8 **II.AA AIR EMISSION STANDARDS FOR PROCESS VENTS**

9 The Permittees will comply with applicable requirements of WAC 173-303-690  
10 (40 CFR 264, Subpart AA) for process vents associated with Part III units performing  
11 specific separations processes unless exempted by WAC 173-303-690(1)(d). Threshold  
12 limits applied to process vents potentially requiring emission controls subject to  
13 WAC 173-303-690 are evaluated based on the summation of applicable emission sources  
14 for the entire Hanford Facility. When the summed emissions fall below threshold limits in  
15 40 CFR 264.1032(a)(1), no emission control devices are required. If threshold limits in  
16 40 CFR 264.1032(a)(1) are predicted to be exceeded, the Permittees will notify Ecology to  
17 determine the appropriate course of action. Unit-specific information is contained in  
18 Part III of the Permit for applicable units.

19 **II.BB AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS**

20 The Permittees will comply with applicable requirements of WAC 173-303-691  
21 (40 CFR 264, Subpart BB) for certain equipment leaks associated with Part III units unless  
22 exempted by WAC 173-303-691(1)(e) or (f) and identified in accordance with  
23 40 CFR 264.1064(g)(5) or (6). Air emission standards apply to equipment that contacts or  
24 contains hazardous wastes with organic concentrations of at least 10 percent by weight.  
25 Unit-specific information is contained in Part III of the Permit for applicable units.

26 **II.CC AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS, AND**  
27 **CONTAINERS**

28 The Permittees shall comply with applicable requirements of WAC 173-303-692  
29 (40 CFR 264, Subpart CC) for containers, tanks, and surface impoundment areas associated  
30 with Part III units unless exempted by WAC 173-303-692(1)(b). Unit-specific information  
31 is contained in Part III of the Permit for applicable units.



1 **CHAPTER 2**

2 **305-B Storage Facility**

3 The 305-B Storage Facility (305-B) is an active storage unit for dangerous wastes and mixed wastes.  
4 These wastes are derived primarily from research and development activities and laboratory activities in  
5 the 300 Area. This Chapter sets forth the operating Conditions for this TSD unit.

6 **III.2.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION**

7 The Permittees shall comply with all the requirements set forth in Permit Attachment 18, including all  
8 Class 1 modifications specified below, and the Amendments specified in Permit Condition III.2.B.  
9 Enforceable portions of the permit application have been incorporated in Permit Attachment 18 and are  
10 identified as follows. All subsections, figures, and tables included in these portions are also enforceable,  
11 unless stated otherwise:

12 **PERMIT ATTACHMENT 18:**

- 13 Chapter 1.0 Part A Dangerous Waste Permit, Revision 3, from Class 1 modification dated  
14 June 30, 2006
- 15 Chapter 2.0 Unit Description, from Class 1 modification dated March 31, 2005
- 16 Chapter 3.0 Waste Analysis Plan, from Class 1 modification dated March 31, 2005
- 17 Chapter 4.0 Process Information, from Class 1 modification dated December 31, 2003
- 18 Chapter 6.0 Procedures to Prevent Hazards, from Class 1 modification dated March 31, 2005
- 19 Chapter 7.0 Building Emergency Procedure, from Class 1 modification dated June 30, 2006
- 20 Chapter 8.0 Personnel Training, from Class 1 modification dated September 30, 2003
- 21 Chapter 11.0 Closure and Post-Closure Requirements, from Class 1 modification dated June 30, 2006
- 22 Chapter 12.0 Reporting and Recordkeeping, from Class 1 modification dated August 2004
- 23 Chapter 13.0 Other Relevant Laws, from Class 1 modification dated August 2004

24 **III.2.B. AMENDMENTS TO THE APPROVED PERMIT APPLICATION**

25 III.2.B.1 For all shipments of dangerous waste to or from this TSD unit, except for shipments  
26 which occur wholly within the 300 Area, the Permittees shall comply with Permit  
27 Conditions II.P and II.Q of this Permit regarding dangerous waste shipment manifesting  
28 and transportation.

1 **CHAPTER 3**

2 **PUREX Storage Tunnels**

3 The PUREX Storage Tunnels are mixed waste storage units consisting of two underground railroad  
4 tunnels: Tunnel Number 1, designated 218-E-14, and Tunnel Number 2, designated 218-E-15. This  
5 Chapter sets forth the operating Conditions for this TSD unit.

6 **III.3.A COMPLIANCE WITH APPROVED PERMIT APPLICATION**

7 The Permittees shall comply with all requirements set forth in Permit Attachment 28, including all  
8 Class 1 modifications, and the Amendments specified in Permit Condition III.3.B, if any exist. All  
9 subsections, figures, and tables included in these portions are enforceable.

10 **PERMIT ATTACHMENT 28:**

11 Chapter 1.0 Part A Dangerous Waste Permit, Revision 6, from Class 1 modification dated May 2005

12 Chapter 2.0 Unit Description, from Class 1 modification dated May 2005

13 Chapter 3.0 Waste Analysis Plan, from Class 1 modification dated September 30, 2004

14 Chapter 4.0 Process Information, from Class 1 modification dated August 2004

15 Chapter 6.0 Procedures to Prevent Hazards, from Class 1 modification dated August 2004

16 Chapter 7.0 Contingency Plan, dated May 1998, from Class 1 modification dated December 31, 2005

17 Chapter 8.0 Personnel Training, from Class 1 modification dated September 30, 2002

18 Chapter 10.0 Waste Minimization, from Class 1 modification dated September 30, 2002

19 Chapter 11.0 Closure and Financial Assurance, from Class 1 modification dated August 2004

20 Chapter 12.0 Reporting and Recordkeeping, from Class 1 modification dated August 2004

21 Chapter 13.0 Other Federal and State Laws, from Class 1 modification dated August 2004

22 **III.3.B AMENDMENTS TO THE APPROVED PERMIT APPLICATION**

23 (None Required)

1 **CHAPTER 4**

2 **Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility**

3 This Chapter sets forth the operating Conditions for the Liquid Effluent Retention Facility (LERF) and  
4 the Effluent Treatment Facility (ETF).

5 **III.4.A COMPLIANCE WITH APPROVED PERMIT APPLICATION**

6 The Permittees shall comply with all requirements set forth in Permit Attachment 34, including the  
7 Amendments specified in Permit Condition III.4.B, if any exist. Enforceable portions of the application  
8 are listed below; all subsections, figures, and tables included in these portions are also enforceable,  
9 unless stated otherwise:

10 **PERMIT ATTACHMENT 34:**

11 Chapter 1.0 Part A Dangerous Waste Permit, Revision 0, from Class 1 modification dated May 2005

12 Chapter 2.0 Unit Description from Class 1 modification dated March 2003

13 Chapter 3.0 Waste Analysis Plan, from Class 1 modification dated August 2004

14 Chapter 4.0 Process Information, from Class 1 modification dated December 31, 2004

15 Chapter 5.0 Ground Water Monitoring (PNNL-11620 and WHC-SD-EN-AP-024), from Class 1  
16 modification dated March 2003

17 Chapter 6.0 Procedures to Prevent Hazards, from Class 1 modification dated December 31, 2003

18 Chapter 7.0 Contingency Plan, from Class 1 modification dated August 2004

19 Chapter 8.0 Personnel Training, from Class 1 modification dated March 2003

20 Chapter 11.0 Closure and Financial Assurance, from Class 1 modification dated June 30, 2005

21 Chapter 12.0 Reporting and Recordkeeping, from Class 1 modification dated August 2004

22 Chapter 13.0 Other Federal and State Laws, from Class 1 modification dated August 2004

23 **III.4.B. AMENDMENTS TO THE APPROVED PERMIT APPLICATION**

24 **III.4.B.1. Interim status Groundwater Monitoring Plan for the 200 East Area Liquid Effluent**  
25 **Treatment Facility, WHC-SD-EN-AP-024**

1 **CHAPTER 5**

2 **242-A Evaporator**

3 The 242-A Evaporator is a mixed waste treatment and storage unit consisting of a conventional forced-  
4 circulation, vacuum evaporation system to concentrate mixed-waste solutions. This Chapter sets forth  
5 the operating Conditions for this TSD unit.

6 **III.5.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION**

7 The Permittees shall comply with all requirements set forth in Permit Attachment 35, including all Class  
8 1 modification, and the Amendments specified in Permit Condition III.5.B, if any exist. All subsections,  
9 figures, and tables included in these portions are enforceable):

10 **PERMIT ATTACHMENT 35:**

11 Chapter 1.0 Part A Dangerous Waste Permit, Revision 9, from Class 1 modification dated May 2005

12 Chapter 2.0 Unit Description, from Class 1 modification dated August 2004

13 Chapter 3.0 Waste Analysis Plan, from Class 1 modification dated December 31, 2005

14 Chapter 4.0 Process Information, from Class 1 modification dated December 31, 2005

15 Chapter 6.0 Procedures to Prevent Hazards, from Class 1 modification dated December 31, 2005

16 Chapter 7.0 Contingency Plan, from Class 1 modification dated June 30, 2004

17 Chapter 8.0 Personnel Training, from Class 1 modification dated December 31, 2002

18 Chapter 11.0 Closure and Financial Assurance, from Class 1 modification dated December 31, 2005

19 Chapter 12.0 Reporting and Recordkeeping, from Class 1 modification dated August 2004

20 Chapter 13.0 Other Federal and State Laws, from Class 1 modification dated August 2004

21 Appendix 4B The 242-A Evaporator/Crystallizer Tank System Integrity Assessment Report, from  
22 Class 1 modification dated December 31, 2002

23 **III.5.B AMENDMENTS TO THE APPROVED PERMIT APPLICATION**

24 III.5.B.1 Portions of DOE/RL-94-02 that are not made enforceable by inclusion in the  
25 applicability matrix for that document, are not made enforceable by reference in this  
26 document.

1 **CHAPTER 6**

2 **325 Hazardous Waste Treatment Units**

3 The 325 Hazardous Waste Treatment Units (325 HWTUs) consist of the Shielded Analytical Laboratory  
4 (SAL) which includes Rooms 32, 200, 201, 202, and 203; and the Hazardous Waste Treatment Unit  
5 (HWTU) encompassing Rooms 520, 524 and 528 of the 325 Building.

6 **III.6.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION**

7 The Permittees shall comply with all requirements set forth in Permit Attachment 36, including the  
8 Amendments specified in Permit Condition III.6.B. All subsections, figures, and tables included in these  
9 portions are enforceable.

10 **PERMIT ATTACHMENT 36:**

11 Chapter 1.0 Part A Dangerous Waste Permit, Revision 5, from Class 1 modification dated May 2005

12 Chapter 2.0 Unit Description, from Class 1 modification dated June 30, 2005

13 Chapter 3.0 Waste Analysis Plan, from Class 1 modification dated June 30, 2005

14 Chapter 4.0 Process Information, from Class 1 modification dated June 30, 2005

15 Chapter 6.0 Procedures to Prevent Hazards, from Class 1 modification dated June 30, 2005

16 Chapter 7.0 Contingency Plan, from Class 1 modification dated June 30, 2005

17 Chapter 8.0 Personnel Training, from Class 1 modification dated September 30, 2003

18 Chapter 11.0 Closure and Financial Assurance, from Class 1 modification dated August 2004

19 Chapter 12.0 Reporting and Recordkeeping, from Class 1 modification dated August 2004

20 Chapter 13.0 Other Federal and State Laws, from Class 1 modification dated August 2004

21 **III.6.B AMENDMENTS TO THE APPROVED PERMIT APPLICATION**

22 III.6.B.1 Portions of DOE/RL-94-02 that are not made enforceable by inclusion in the  
23 applicability matrix for that document, are not made enforceable by reference in this  
24 document.

1  
2 **CHAPTER 10**

3 **Waste Treatment and Immobilization Plant**

4 The Waste Treatment and Immobilization Plant (WTP) is the unit designed to treat the mixed (radioactive  
5 and dangerous) waste stored in underground tanks at the Hanford Site. The waste will be separated into  
6 High-level and Low-level waste streams in a Pretreatment Building. The waste streams are mixed with  
7 glass forming additives, heated to 950-1250° C in melters, and poured into containers. The waste is  
8 immobilized in the glass matrix. The immobilized waste is transported from the WTP Unit for disposal.

9 **III.10.A. COMPLIANCE WITH APPROVED PERMIT AND ATTACHMENT 51**

10 The Permittees shall comply with all requirements set forth in Attachment 51, including the  
11 conditions specified in Permit Conditions III.10.B through III.10.K. Enforceable portions of  
12 the application have been incorporated in Attachment 51 and are identified as follows. All  
13 sections, figures, and tables included in these portions are also enforceable, unless stated  
14 otherwise.

15 Where information regarding treatment, management, and disposal of the radioactive source,  
16 byproduct material, and/or special nuclear components of mixed waste (as defined by the  
17 Atomic Energy Act of 1954, as amended) has been incorporated into this permit, it is not  
18 incorporated for the purpose of regulating the radiation hazards of such components under  
19 the authority of this permit and chapter 70.105 RCW. In the event of any conflict between  
20 Permit Condition III.10.A. and any statement relating to the regulation of source, special  
21 nuclear, and byproduct material contained in portions of the permit application that are  
22 incorporated into this permit, Permit Condition III.10.A. shall prevail.

23  
24 **ATTACHMENT 51**

25	Chapter 1.0	Part A, Form 3 Permit Application, Revision 1 (December 6, 2001)
26	Chapter 2.0	Facility Description (Topographic Map)
27	Chapter 3.0	Waste Analysis Plan
28	Chapter 4.0	Process Information
29	Chapter 6.0	Procedures to Prevent Hazards
30	Chapter 7.0	Contingency Plan
31	Chapter 8.0	Personnel Training
32	Chapter 11.0	Closure
33	Chapter 12.0	Reporting and Recordkeeping
34	Appendix 1.0	Compliance Schedule
35	Appendix 2.0	Critical Systems
36	Appendix 3.0	Drawing Category Table
37	Appendix 4.0	Piping Material Index Table
38	Appendix 5.0	Legends for Process Flow Diagrams and Piping and Instrumentation 39 Diagrams (RESERVED)
40	Appendix 6.0	Risk Assessment
41	6.1	Preliminary Risk Assessment Work Plan (RESERVED)

1	6.1.1	Previously Submitted Preliminary Risk Assessment Work Plan
2	6.1.2	Documentation of Revisions to Preliminary Risk Assessment Work Plan
3		(RESERVED)
4	6.2	Risk Assessment Work Plan (RESERVED)
5	6.3	Pre-Demonstration Test Risk Assessment Report (RESERVED)
6	6.3.1	Basis and Assumptions (RESERVED)
7	6.4	Final Risk Assessment Report (RESERVED)
8	6.4.1	Basis and Assumptions (RESERVED)
9	Appendix 7.0	WTP Documents Applicable to All Regulated Areas
10	7.1	Process Flow Diagrams (RESERVED)
11	7.2	Piping and Instrumentation Diagrams (RESERVED)
12	7.3	System Description Documentation (RESERVED)
13	7.4	General Arrangement Drawings (RESERVED)
14	7.5	Civil, Structural, and Architectural Criteria and Typical Design Details
15	7.6	Mechanical Drawings (RESERVED)
16	7.7	Specifications
17	7.8	Engineering Calculations (RESERVED)
18	7.9	Material Selection Documentation
19	7.10	Critical Systems Equipment/Instrument List (RESERVED)
20	7.11	IQRPE Reports (RESERVED)
21	7.12	Installation Plans
22	7.13	Instrument Control Logic and Narrative Description (RESERVED)
23	7.14	Descriptions of Instrument Installation and Testing Procedures
24		(RESERVED)
25	7.15	Operating Documents
26	Appendix 8.0	Pretreatment Building
27	8.1	Process Flow Diagrams
28	8.2	Piping and Instrumentation Diagrams
29	8.3	System Description Documentation (RESERVED)
30	8.4	General Arrangement Drawings
31	8.5	Civil, Structural, and Architectural Criteria and Typical Design Details
32	8.6	Mechanical Drawings
33	8.7	Specifications
34	8.8	Engineering Calculations
35	8.9	Material Selection Documentation
36	8.10	Critical Systems Equipment/Instrument List (RESERVED)
37	8.11	IQRPE Reports
38	8.12	Installation Plans
39	8.13	Instrument Control Logic and Narrative Description
40	8.14	Descriptions of Instrument Installation and Testing Procedures
41		(RESERVED)
42	8.15	Operating Documents (RESERVED)
43	Appendix 9.0	LAW Building
44	9.1	Process Flow Diagrams
45	9.2	Piping and Instrumentation Diagrams
46	9.3	System Description Documentation (RESERVED)
47	9.4	General Arrangement Drawings
48	9.5	Civil, Structural, and Architectural Criteria and Typical Design Details
49	9.6	Mechanical Drawings
50	9.7	Specifications
51	9.8	Engineering Calculations

1	9.9	Material Selection Documentation
2	9.10	Critical Systems Equipment /Instrument List (RESERVED)
3	9.11	IQRPE Reports
4	9.12	Installation Plans (RESERVED)
5	9.13	Instrument Control Logic, and Narrative Description
6	9.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
7		
8	9.15	Demonstration Test Plan (RESERVED)
9	9.16	Demonstration Test Report (RESERVED)
10	9.17	Treatment Effectiveness Report (RESERVED)
11	9.18	Operating Documents
12	Appendix 10.0	HLW Building
13	10.1	Process Flow Diagrams (RESERVED)
14	10.2	Piping and Instrumentation Diagrams (RESERVED)
15	10.3	System Description Documentation (RESERVED)
16	10.4	General Arrangement Drawings
17	10.5	Civil, Structural, and Architectural Criteria and Typical Design Details
18	10.6	Mechanical Drawings (RESERVED)
19	10.7	Specifications
20	10.8	Engineering Calculations (RESERVED)
21	10.9	Material Selection Documentation (RESERVED)
22	10.10	Critical Systems Equipment/Instrument List (RESERVED)
23	10.11	IQRPE Reports (RESERVED)
24	10.12	Installation Plans (RESERVED)
25	10.13	Instrument Control Logic and Narrative Description (RESERVED)
26	10.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
27		
28	10.15	Demonstration Test Plan (RESERVED)
29	10.16	Demonstration Test Report (RESERVED)
30	10.17	Treatment Effectiveness Report (RESERVED)
31	10.18	Operating Documents (RESERVED)
32	Appendix 11.0	Laboratory Building
33	11.1	Process Flow Diagrams (RESERVED)
34	11.2	Piping and Instrumentation Diagrams (RESERVED)
35	11.3	System Description Documentation (RESERVED)
36	11.4	General Arrangement Drawings (RESERVED)
37	11.5	Civil, Structural, and Architectural Criteria and Typical Design Details (RESERVED)
38		
39	11.6	Mechanical Drawings (RESERVED)
40	11.7	Specifications (RESERVED)
41	11.8	Engineering Calculations (RESERVED)
42	11.9	Material Selection Documentation (RESERVED)
43	11.10	Critical Systems Equipment/Instrument List (RESERVED)
44	11.11	IQRPE Reports (RESERVED)
45	11.12	Installation Plans (RESERVED)
46	11.13	Instrument Control Logic and Narrative Description (RESERVED)
47	11.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
48		
49	11.15	Operating Documents (RESERVED)
50	Appendix 12.0	Balance of Facilities
51	12.1	Process Flow Diagrams (RESERVED)

- 1 12.2 Piping and Instrumentation Diagrams (RESERVED)
- 2 12.3 System Description Documentation (RESERVED)
- 3 12.4 General Arrangement Drawings (RESERVED)
- 4 12.5 Civil, Structural, and Architectural Criteria and Typical Design Details
- 5 (RESERVED)
- 6 12.6 Mechanical Drawings (RESERVED)
- 7 12.7 Specifications (RESERVED)
- 8 12.8 Engineering Calculations (RESERVED)
- 9 12.9 Material Selection Documentation (RESERVED)
- 10 12.10 Critical Systems Equipment/Instrument List (RESERVED)
- 11 12.11 IQRPE Reports (RESERVED)
- 12 12.12 Installation Plans (RESERVED)
- 13 12.13 Instrument Control Logic and Narrative Description (RESERVED)
- 14 12.14 Descriptions of Instrument Installation and Testing Procedures
- 15 (RESERVED)
- 16 12.15 Operating Documents (RESERVED)

17 **III.10.B STANDARD CONDITIONS AND GENERAL FACILITY CONDITIONS**

18 In addition to the conditions in this chapter, the Permittees must comply with all the  
19 applicable portions of the Dangerous Waste Portion and EPA portion of the Resource  
20 Conservation and Recovery Act (RCRA) Permit for the Hanford Facility. In the event that a  
21 Unit-Specific Condition for the WTP Unit in Conditions III.10.C. through III.10.K. conflicts  
22 with a general condition in Conditions I and II of this permit, the Unit-Specific Condition  
23 shall apply to the WTP Unit.

24 **III.10.C. UNIT-SPECIFIC CONDITIONS FOR THE WTP UNIT**

25 **III.10.C.1 Facility-Specific Definitions and Acronyms**

26 The following definitions are specific to the WTP Unit:

27 **“ash”** means a measure of the contribution of particulate matter from the melter feeds to the  
28 melter off-gas, as determined by representative sampling and analysis of the melter feed  
29 using ASTM Method D-482, or an equivalent method.

30 **“batch”** refers to waste staged in one DST designated as mixed waste for transfer to the  
31 WTP Unit for treatment.

32 **“continuous monitoring system”** means using a device which continuously samples the  
33 regulated parameter specified on Permit Tables III.10.H.F, III.10.I.F, III.10.J.F, and  
34 III.10.K.F, with the exception of pressure, without interruption, evaluates the detector  
35 response at least once every fifteen (15) seconds and computes and records the average  
36 value at least every sixty (60) seconds, except during allowable periods of calibration and  
37 except as defined otherwise by the CEMS Performance Specifications in 4B and 8A in  
38 Appendix B, 40 CFR Part 60. For the parameter pressure, the term “continuous monitoring  
39 system” means using a device that continuously samples the pressure without interruption  
40 and evaluates the detector response without averaging at least once each second and records  
41 the value at least every sixty (60) seconds. In addition, if the AWFCO is engaged due to a  
42 pressure exceedance, the pressure value must be recorded.

43 **“cascade event”** means when additional waste feed cut-off parameter set points deviate  
44 outside the limits specified in Permit Tables III.10.H.F, III.10.I.F, III.10.J.F, and III.10.K.F  
45 after waste feed is cut-off, but while waste or waste residues are being managed in HLW and  
46 LAW.

1           **“dangerous and/or mixed waste management unit”** means dangerous and/or mixed waste  
2 management units, areas, systems, and sub-systems as defined in Permit Tables III.10.D.A,  
3 III.10.E.A through D, III.10.F.A, III.10.G.A, III.10.H.A, III.10.I.A, III.10.J.A, and  
4 III.10.K.A.

5           **“dioxin/furan”** and **“dioxins and furans”** means tetra-, penta-, hexa-, hepta-, and octa-  
6 chlorinated dibenzo dioxins and furans.

7           **“HLW Vitrification System”** is defined as specified on Permit Tables III.10.J.A and B, and  
8 III.10.K.A and B.

9           **“hourly rolling average”** or **“HRA”** shall mean the arithmetic mean of the sixty (60) most  
10 recent one-minute readings recorded by the continuous monitoring system.

11           **“LAW Vitrification System”** is defined as specified on Permit Tables III.10.H.A and B,  
12 and III.10.I.A and B.

13           **“mode of operation”** means operation of the LAW Vitrification System or the HLW  
14 Vitrification System within set limits for each operating parameter specified in Permit  
15 Tables III.10.H.D and F (for LAW) and Permit Tables III.10.I.D and F (for HLW).

16           **“one-minute average”** means the average of detector responses calculated at least every  
17 sixty (60) seconds from responses obtained at least every fifteen (15) seconds.

18           **“Permittees”** means the United States Department of Energy (owner/operator) and Bechtel  
19 National, Inc. (co-operator).

20           **“Pretreatment Plant Miscellaneous Unit Systems”** is defined as specified on Permit  
21 Tables III.10.G.A and B.

22           **“primary sump”** means any pit or reservoir that meets the WAC 173-303-040 definition of  
23 “tank,” and those troughs/trenches connected to it, that serve to collect dangerous/hazardous  
24 waste, deliberately introduced (e.g., from decontamination or treatment activities), for  
25 transport to TSD facilities.

26           **“rolling average”** means the average of all one-minute averages over the averaging period.

27           **“secondary sump”** means any pit or reservoir that meets the WAC 173-303-040 definition  
28 of “tank,” and those troughs/trenches connected to it, that serve to collect  
29 dangerous/hazardous waste, not deliberately introduced (e.g., from spills, leaks, or  
30 overflows), for transport to TSD facilities.

31           **“standard operating procedure”** or **“SOP”** shall mean a written description of the  
32 procedures by which a process, equipment, etc. shall be operated. An SOP may be written  
33 by the manufacturer and/or the Permittees.

34           **“successful completion of the demonstration test”** shall mean operations including a  
35 minimum of three test runs without significant interruptions (i.e., each test run was  
36 completed on the same day initiated and the samples have been preserved and maintained  
37 intact, and one in which sampling of exhaust gas was representative of the LAW  
38 Vitrification System or HLW Vitrification System Operations, whichever is applicable, and  
39 adequate to achieve evaluation of PODCs destruction and removal efficiency (DRE) to  
40 99.99%).

41           **“TEQ”** means toxicity equivalence, the international method of relating the toxicity of  
42 various dioxin/furan congeners to the toxicity of 2,3,7,8- tetrachlorodibenzo-p-dioxin.

43           **“pre-process”** means prior to introduction into a dangerous or mixed waste management  
44 unit at the WTP Unit.

1           **"in-process"** means duration of a waste in a dangerous or mixed waste management unit at  
2           the WTP Unit.

3           **"post-process"** means prior to the introduction into a subsequent dangerous or mixed waste  
4           management unit at the WTP Unit or prior to shipment from the WTP Unit.

5           **"vendor information"** means documentation prepared by a vendor (e.g., catalog cut sheets)  
6           for plant items that are routinely manufactured and stocked by vendors (i.e., items that are  
7           considered "off the shelf") and are not being procured in accordance with Permittee's  
8           engineering drawings and specifications. Documentation such as catalog cut sheets shall be  
9           annotated to specify selected items which meet Permittee's procurement requirements.  
10          equipment specifications. Documentation associated with "one of a kind", custom items,  
11          and commercial grade items (e.g., bulk pipe, valves) that will be procured in accordance  
12          with the Permittees engineering drawings and specifications is not considered vendor  
13          information. Changes to the drawings and specifications may require a permit modification.  
14

15          The following acronyms are specific to the WTP Unit:

16          AWFCO     Automatic Waste Feed Cut-off  
17          CDR        Construction Deficiency Report  
18          CEMS       Continuous Emissions Monitoring System  
19          CMS        Continuous Monitoring System  
20          DFETP     Dioxin and Furan Emission Test Plan  
21          DRE        Destruction and Removal Efficiency  
22          Dscf       Dry standard cubic feet  
23          ERP        Emergency Response Plan  
24          HDH        HLW Canister Decontamination Handling System  
25          HFH        HLW Filter Cave Handling System  
26          HEH        HLW Canister Export Handling System  
27          HLP        HLW Lag Storage and Feed Blending Process System  
28          HLW        High-level Waste  
29          HMH        HLW Melter Handling System  
30          HOP        HLW Vit Primary Offgas Treatment System  
31          HPH        HLW Canister Pour Handling System  
32          IHLW      Immobilized High-Level Waste (Glass)  
33          ILAW      Immobilized Low-Activity Waste (Glass)  
34          IQRPE     Independent, qualified, registered, professional engineer  
35          LAB        WTP Laboratory Building  
36          LAW        Low Activity Waste  
37          LCP        LAW Concentrate Receipt Process System  
38          LEH        LAW Container Export Handling System  
39          LFH        LAW Canister Finishing Handling System

1	<u>LFP</u>	<u>LAW Melter Feed Process System</u>
2	<u>LMH</u>	<u>LAW Melter Handling System</u>
3	<u>LPH</u>	<u>LAW Container Pour Handling System</u>
4	<u>LSH</u>	<u>LAW Melter Equipment Support Handling System</u>
5	<u>LSM</u>	<u>Locally Shielded Melter</u>
6	NCR	Nonconformance Report
7	PODC	Principal Organic Dangerous Constituents
8	<u>PTF</u>	<u>Pretreatment Building</u>
9	<u>PVP</u>	<u>Pretreatment Vessel Vent Process System</u>
10	<u>PVV</u>	<u>Process Vessel Vent System</u>
11	<u>PWD</u>	<u>Plant Wash and Disposal System</u>
12	RDTP	Revised Demonstration Test Plan
13	<u>RLD</u>	<u>Radioactive Liquid Waste Disposal System</u>
14	RPP-WTP	River Protection Project-Waste Treatment Plant
15	<u>SBS</u>	<u>Submerged Bed Scrubber</u>
16	<u>TCP</u>	<u>Treated LAW Evaporation Process System</u>
17	<u>TLP</u>	<u>Treated LAW Evaporation System</u>
18	TOC	Total Organic Carbon
19	<u>UFP</u>	<u>Ultrafiltration Process System</u>
20	<u>WESP</u>	<u>Wet Electrostatic Precipitator</u>
21	WTP	River Protection Project – Waste Treatment and Immobilization Project (also
22		known as the Waste Treatment Plant and Vitrification Plant)
23	6Mo	Six Percent Molybdenum Alloy
24	304L	ASTM A240 Grade 304L Stainless Steel
25	316L	ASTM A240 Grade 316L Stainless Steel

26 III.10.C.2. General Waste Management

27 III.10.C.2.a. The Permittees may not commence treatment or storage of dangerous waste or mixed waste  
28 in any new or modified portion of the facility until the Permittees have received a Permit  
29 modification approval pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f., or  
30 III.10.C.2.g., and submitted to Ecology, by certified mail, express mail, or hand delivery, a  
31 letter signed by the Permittees and a Registered Professional Engineer stating that the  
32 facility has been constructed or modified in compliance with the Permit in accordance with  
33 WAC 173-303-810(14)(a); and

- 34 i. Ecology has inspected the modified or newly constructed facility and finds it is in  
35 compliance with the conditions of the Permit, or
- 36 ii. Ecology has either waived the inspection or has not, within fifteen business days, after  
37 receipt of the Permittees' letter, notified the Permittees of an intent to inspect.

- 1 III.10.C.2.b. The Permittees are authorized to accept the dangerous and/or mixed waste specified in  
2 Attachment 51, Chapter 1.0 (Part A Form 3) except for those wastes outside the waste  
3 acceptance criteria specified in the WAP, Attachment 51, Chapter 3.0 of this Permit as long  
4 as the generator has a valid State/EPA identification number.
- 5 III.10.C.2.c. All dangerous and/or mixed waste must be managed only in areas authorized for dangerous  
6 and/or mixed waste management under the conditions of this Permit, except as allowed  
7 under WAC 173-303-200. The authorized dangerous and/or mixed waste management areas  
8 of the WTP Unit are specified in Conditions III.10.D through III.10.K. of this Permit.
- 9 III.10.C.2.d. Dangerous and/or mixed waste may be transferred from the WTP TSD unit to a permitted  
10 TSD only, in accordance with the receiving TSD unit's waste acceptance criteria.
- 11 III.10.C.2.e. Permit modifications pursuant to this Permit for dangerous and/or mixed waste at the request  
12 of the Permittees must be done according to the three tiered modification system specified in  
13 WAC 173-303-830(4) and Condition I.C.3. The Permit modification request must include  
14 page changes to the Permit, attachments, and permit application supporting documentation  
15 necessary to incorporate the proposed permit modification.
- 16 III.10.C.2.f. In addition to other requirements in WAC 173-303-830, within forty-five (45) days of a  
17 permit change (i.e., permit modification) being put into effect or approved, the Permittees  
18 shall retype the relevant portions of the Permit and attachments, to incorporate the change (if  
19 not already reflected in the change pages submitted in the original permit modification  
20 request), reprint the documents, and submit them to Ecology. This submittal does not  
21 require certification described in WAC 173-303-810(13).
- 22 III.10.C.2.g. For permit modifications pursuant to Attachment 51, Appendix 1.0 of this Permit, a draft  
23 permit will be prepared and issued by Ecology pursuant to WAC 173-303-830(3)(a)(ii) and  
24 WAC 173-303-840. A final permit decision will be issued by Ecology pursuant to WAC  
25 173-303-840.
- 26 III.10.C.2.h. RESERVED The Permittees must complete at least one Compliance Schedule interim  
27 requirement every 12 months, as specified in Attachment 51, Appendix 1.0 of this Permit. If  
28 no interim requirement will be completed within a 12 month period, the Permittees shall  
29 submit progress reports to Ecology for incorporation into the Administrative Record.  
30 Progress report Compliance Schedule dates shall be submitted to Ecology as a Class '1  
31 permit modification, for incorporation into Attachment 51, Appendix 1.0 of this Permit.  
32 Progress reports shall contain at a minimum, the following information:  
33  
34 i. A description of the portion of the interim requirement completed;  
35 ii. Summaries of any problems affecting timely completion of the interim requirement;  
36 iii. A description of the plans for completing the remaining portion of the interim  
37 requirement, including any alternatives;  
38 iv. Projected interim requirement completion date.  
39
- 40 III.10.C.2.i. The Permittees shall submit a Part A, Form 3 Permit Application revision for Ecology  
41 approval as a permit modification pursuant to Permit Conditions III.10.C.2.e. and  
42 III.10.C.2.f., or III.10.C.2.g., in accordance with the schedule in Attachment 51, Appendix  
43 1.0 of this Permit to incorporate changes to Tables III.10.D.A, III.10.E.A through D,  
44 III.10.F.A, III.10.G.A, III.10.H.A, III.10.I.A, III.10.J.A, and III.10.K.A, as modified  
45 pursuant to the compliance schedule in Attachment 51, Appendix 1.0 of this Permit.
- 46 III.10.C.2.j. The Permittees shall submit to Ecology the potential disposal path(s), including the potential  
47 authorized TSD facilities, for each waste stream generated at the WTP Unit in accordance

1 with the schedule in Attachment 51, Appendix 1.0 of this Permit for incorporation into the  
2 Administrative Record.

3 III.10.C.2.k. The Permittees shall submit to Ecology, traffic information at the WTP Unit pursuant to  
4 WAC 173-303-806(4)(a)(x), in accordance with the schedule in Attachment 51, Appendix  
5 1.0 of this Permit for incorporation into the Administrative Record.

6 III.10.C.2.l. During operations of the LAW Vitrification System and HLW Vitrification System,  
7 pursuant to Permit Sections III.10.H. and J., processing of materials in the LAW and HLW  
8 Vitrification Systems that would designate as dangerous waste are fully subject to the  
9 requirements of this Permit, excluding the melter feed system as identified in Tables  
10 III.10.H.A. and III.10.J.A., respectively. This exclusion does not apply to mixed waste.

11 III.10.C.3. Waste Analysis

12 III.10.C.3.a. The Permittees shall maintain adequate knowledge of any waste to be managed properly by  
13 the WTP Unit before acceptance, after receipt, and during treatment and storage of these  
14 waste. The Permittees will ensure this knowledge through compliance with the  
15 requirements of WAC-173-303-300 and with the provisions of the WAP, Attachment 51,  
16 Chapter 3.0 of this Permit [WAC 173-303-806(4)(a)(ii), WAC 173-303-300(1)].

17 III.10.C.3.b. When laboratory analytical methods are required to confirm the Permittees knowledge of the  
18 waste, the Permittees must ensure that the sampling and test procedures listed as acceptable  
19 by WAC 173-303-110, Appendices II and III to 40 CFR Part 261, the current revision of  
20 SW-846, or equivalent methods approved in writing by Ecology are used.

21 III.10.C.3.c. The Permittees are responsible for obtaining accurate information for each waste stream.  
22 Inaccurate waste analysis information provided by the generating site (or unit) is not a  
23 defense for noncompliance by the Permittees with the waste management requirements and  
24 conditions of this Permit, WAC 173-303, and the LDR in 40 CFR Part 268, as incorporated  
25 by reference in Chapter 173-303.

26 III.10.C.3.d. Records and results of waste analyses described in Conditions II.D.3 or III.10.C.3.e. shall be  
27 maintained as described in Condition II.I.1. of this Permit. The WTP Unit operating record  
28 shall include, but not be limited to, information requirements for waste analysis in  
29 Conditions I.E.10 and II.I of this Permit.

30 III.10.C.3.e. Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
31 shall submit to Ecology for review and approval a revised WAP and QAPP in Attachment  
32 51, Chapter 3.0 of this Permit as a permit modification pursuant to Conditions III.10.C.2.e  
33 and III.10.C.2.f, and Compliance Schedule in Attachment 51, Appendix 1.0. The revised  
34 WAP and QAPP shall include:

35 i. All the elements listed in WAC 173-303-300(5), Condition II.D.3 of this Permit (Waste  
36 Analysis), and in compliance with Condition II.E. of this Permit (Quality  
37 Assurance/Quality Control).

38 ii. Requirements that characterization shall be performed on the waste feed prior to  
39 transfer to the WTP Unit in conformance with the regulatory data quality objectives  
40 supporting the *Tank Waste Remediation System Privatization Project "Regulatory  
41 DQO" Process* (Wiemers and others, 1998), as amended. Requirements that the  
42 following analyses, at a minimum, shall be conducted on each new batch prior to waste  
43 transfer to the WTP Unit, in accordance with the methods under WAC 173-303-110:  
44 Ammonia, pH, metals, organic acids, mercury, cyanide, volatiles, semi-volatiles,  
45 PCBs/pesticides, anions, TOC, and compatibility (ASTM Method D5058-90). For the  
46 purposes of this Permit Condition, a "new batch" is one that has been sampled and  
47 analyzed in accordance with the *Tank Waste Remediation System Privatization Project*

1                    “Regulatory DQO” Process (Wiemers and others, 1998), and has received no further  
2 additions. Further additions require the Permittees to resample and reanalyze, unless an  
3 exception is approved by Ecology on a case-by-case basis. Only mixed waste meeting  
4 the definition of “new batch”, or granted an exception as discussed above, are  
5 authorized for transfer to the WTP Unit. Water additions for the purposes of waste  
6 transfer are not considered additions for the purposes of this Permit Condition.

- 7                    iii. Identify and include operating parameters to be monitored/controlled and limitations  
8 for these parameters for pre-process, in-process, and post-process operations addressing  
9 on a unit specific basis treatment effectiveness, as specified in Tables III.10.E.E  
10 through H, III.10.G.C, III.10.H.C, III.10.I.C, III.10.J.C, and III.10.K.C, waste  
11 compatibility, safe operation, and compatibility with unit materials of construction.  
12 Amend the sampling, analysis, and QA/QC procedures to include these parameters and  
13 the monitoring frequency.
- 14                    iv. Requirements that the Permittees shall, for Type I sumps if liquids are detected, and for  
15 Type II sumps, as defined in Attachment 51, Chapter 4.0 of this Permit, if liquid levels  
16 are outside normal operating parameters, either collect the liquid and return to the  
17 treatment process, or designate the sump contents for proper management and disposal  
18 prior to removal.
- 19                    v. For ILAW and IHLW containers, a description of procedures used to verify exterior  
20 container surfaces are visually free of mixed waste.
- 21                    vi. Requirement that wastes generated at the WTP Unit meet the receiving authorized TSD  
22 facility waste acceptance criteria prior to a waste stream transfer.
- 23                    vii. Requirements and criteria for reevaluation of sampling and analysis frequency for all  
24 waste streams.
- 25                    viii. Documentation demonstrating methods for obtaining samples of wastes are  
26 representative as discussed in WAC 173-303-110(2).

27 **III.10.C.4. Recordkeeping**

28 **III.10.C.4.a.** The unit specific portion of the Hanford Facility Operating Record shall include the  
29 documentation specified in Attachment 51, Chapter 12.0, General Condition II.I, applicable  
30 to the WTP Unit and other documentation specified in Attachment 51. The facility and unit  
31 specific record keeping requirements are distinguished in Table 12-1 of the General  
32 Information portion, Attachment 33 to the Sitewide Permit, and tied to the associated  
33 Sitewide Permit Conditions.

34 **III.10.C.5 Procedure to Prevent Hazards**

35 **III.10.C.5.a.** The Permittees shall design, construct, and operate the WTP Unit in compliance with  
36 Attachment 51, Chapter 6.0, Section 6.1.

37 **III.10.C.5.b.** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
38 shall update and resubmit for approval Attachment 51, Chapter 6.0, Sections 6.3, 6.4, and  
39 6.5 as a permit modification pursuant to Permit Conditions III.10.C.2.e and III.10.C.2.f, to  
40 be consistent with design details and schedule described in Attachment 51, Appendix 1.0.  
41 The WTP Unit fire protection systems shall be constructed to the applicable codes listed in  
42 Attachment 51, Chapter 6.0, Section 6.3.1.4. Updated Section 6.4.4. shall include  
43 descriptions of the essential loads and critical systems supplied with back-up, un-  
44 interruptible, and standby power.

45 **III.10.C.5.c.** The Permittees shall inspect the WTP Unit to prevent malfunctions and deterioration,  
46 operator errors, and discharges that may cause or lead to the release of dangerous waste

1 constituents to the environment, or a threat to human health. Inspections must be conducted  
2 in accordance with the WTP Unit Inspection Schedule, Attachment 51, Chapter 6.0, Section  
3 6.2. Prior to the receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
4 shall update and resubmit to Ecology for review and approval the Inspection Schedule in  
5 Attachment 51, Chapter 6.0 of this Permit as a permit modification pursuant to Permit  
6 Conditions III.10.C.2.e and III.10.C.2.f, and Compliance Schedule in Attachment 51,  
7 Appendix 1.0. The revised schedule shall include, but not be limited to, i. through v. below.  
8 In addition, the Permittees shall submit to Ecology for incorporation into the Administrative  
9 Record, the basis for developing Inspection Schedule frequencies:

- 10 i. Detailed dangerous and/or mixed waste management unit specific and general inspection  
11 schedules and description of procedures (not examples) pursuant to WAC 173-303-  
12 395(1)(d), 173-303-630(6), 173-303-640(4)(a)(i) and (6), 173-303-670(7)(b) in  
13 accordance with 173-303-680(3), 40 CFR, 264.1101(c)(4). The inspection schedule  
14 shall be presented in the form of a table that includes a description of the inspection  
15 requirement, inspection frequency, and types of problems to look for during the  
16 inspections.
- 17 ii. The proposed locations (scaled drawing with layout) and capabilities of camera(s) (i.e.,  
18 zoom angles, field of view, etc.) to be used for remote inspections.
- 19 iii. Schedule and program description for performing integrity assessments as specified in  
20 Permit Conditions III.10.E.9.e.i., III.10.G.10.e.i., III.10.H.5.e.i., III.10.I.1.a.v.,  
21 III.10.J.5.e.i., and III.10.K.1.a.v.
- 22 iv. Inspection schedules for leak detection system and control instrumentation to include,  
23 but not limited to, valves pressure devices, flow devices, measuring devices, as  
24 specified in Permit Conditions III.10.E.9.e.xi, III.10.F.3.c, and III.10.G.10.e.xii, and  
25 Permit Conditions III.10.H.5.f.xvi, and III.10.J.5.f.xvi.
- 26 v. Inspection schedule shall include inspections for all dangerous and/or mixed waste  
27 management units specified in Permit Sections III.10.D, E, F, G, H, I, J, and K.

28 III.10.C.5.d. The Permittees shall equip the WTP Unit with the equipment specified in Attachment 51,  
29 Chapter 6.0, as required by WAC 173-303-340(1) and Condition II.B.1 of this Permit.

30 III.10.C.5.e. The Permittees shall test and maintain the equipment specified in Attachment 51, Chapter  
31 6.0, as necessary, to assure proper operation in the event of emergency as required by  
32 Condition II.B.2 of this Permit.

33  
34 III.10.C.5.f. The Permittees shall maintain access to communications or alarms pursuant to WAC 173-  
35 303-340(2), as provided in the *RPP-WTP Emergency Response Plan*, Attachment 51,  
36 Chapter 7.0 as required by Condition II.B.3 of this Permit.

37 III.10.C.6. Contingency Plan

38 III.10.C.6.a. The Permittees shall immediately carry out applicable provisions of the *RPP-WTP*  
39 *Emergency Response Plan*, Attachment 51, Chapter 7.0 of this Permit, pursuant to WAC  
40 173-303-360(2), whenever there is a release of dangerous and/or mixed waste or dangerous  
41 waste constituents, or other emergency circumstance, any of which threatens human health  
42 or the environment.

43 III.10.C.6.b. Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
44 shall update and resubmit the Contingency Plan in compliance with Attachment 51, Chapter  
45 7.0, and pursuant to WAC 173-303-350(5), as a permit modification pursuant to Permit  
46 Conditions III.10.C.2.e and III.10.C.2.f, to be consistent with design details and schedule  
47 described in Attachment 51, Appendix 1.0.

- 1 III.10.C.6.c. After initial receipt of dangerous and/or mixed waste, the Permittees shall review and  
2 amend, if necessary, the applicable portions of the Contingency Plan, Attachment 51,  
3 Chapter 7.0 of this Permit, and in accordance with the provisions of WAC 173-303-350(5)  
4 and WAC 173-303-830(4). The Contingency Plan shall be amended as a permit  
5 modification pursuant to Permit Conditions III.10.C.2.e and III.10.C.2.f.
- 6 III.10.C.6.d. RESERVED.
- 7 III.10.C.6.e. Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
8 shall comply with the requirements of WAC 173-303-350(3) and -360(1) concerning the  
9 emergency coordinator specific to the WTP Unit in compliance with Permit Condition  
10 II.A.4.
- 11 III.10.C.7. Training Plan
- 12 III.10.C.7.a. Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
13 shall update and resubmit, to Ecology for review and approval, the Training Program  
14 description in Attachment 51, Chapter 8.0 of this Permit as a permit modification pursuant to  
15 Permit Conditions III.10.C.2.e and III.10.C.2.f, and Compliance Schedule in Attachment 51,  
16 Appendix 1.0. The revised Training Program description shall include but not be limited to:
- 17 i. Detailed unit specific and general Training Program descriptions (not typical)  
18 consistent with WAC 173-303-806(4)(a)(xii).
- 19 ii. Sufficient detail to document that the training and qualification program for all  
20 categories of personnel whose activities may reasonably be expected to directly affect  
21 emissions from the LAW and HLW Systems, except control room operators, is  
22 appropriately consistent with 40 CFR 63.1206(c)(6)(ii), and for control room operators,  
23 is appropriately consistent with 40 CFR 63.1206(c)(6)(i) and 63.1206(c)(6)(iii) through  
24 63.1206(c)(6)(vi) [WAC 173-303-680(2)].
- 25 III.10.C.7.b. The Permittees shall ensure that the LAW and HLW Systems are operated and maintained,  
26 at all times, by persons who are trained and qualified to perform these and any other duties  
27 that may reasonably be expected to directly affect emissions from the LAW and HLW  
28 Systems [WAC 173-303-680(2)].
- 29 III.10.C.7.c. The Permittees shall conduct personnel training in accordance with the approved description  
30 of the WTP Unit Training Plan, Attachment 51, Chapter 8.0 of this Permit, pursuant to  
31 WAC 173-303-330. The Permittees shall maintain documents in accordance with Condition  
32 II.C.1. of this Permit and WAC 173-303-330(2) and (3).
- 33 III.10.C.7.d. RESERVED.
- 34 III.10.C.7.e. The Permittees shall submit, under separate cover, the actual detailed WTP Unit Dangerous  
35 Waste Training Plan in accordance with the Compliance Schedule in Attachment 51,  
36 Appendix 1.0. The WTP Unit Dangerous Waste Training Plan will be reviewed for  
37 compliance with the outline of the training program in Attachment 51, Chapter 8.0 and  
38 requirements of WAC 173-303-330. The Training Plan will be incorporated into the  
39 Administrative Record.
- 40 III.10.C.8. Closure
- 41 III.10.C.8.a. The Permittees must conduct closure of the WTP Unit according to the Closure Plan in  
42 Attachment 51, Chapter 11.0, and Conditions II.J. (Facility Closure), II.K. (Soil/Ground  
43 Water Closure Performance Standards), and III.10.C.8. of this Permit. The closure plan  
44 shall be modified according to provisions of WAC 173-303-610(3)(b)(ii).
- 45 III.10.C.8.b. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
46 shall update and resubmit the Closure Plan, Attachment 51, Chapter 11.0 of this Permit, for

1 approval as a permit modification pursuant to Permit Condition III.10.C.2.g., to be  
2 consistent with design details and schedule described in Attachment 51, Appendix 1.0. The  
3 updated Closure Plan must be consistent with the closure performance standards specified in  
4 Permit Condition II.K, WAC 173-340 and, in addition for Containment Buildings, consistent  
5 with 40 CFR 264.1102(b) as referenced by WAC 173-303-695.

6 III.10.C.8.c. The Permittees shall submit, for Ecology review and approval, an update to the Closure  
7 Plan, Attachment 51, Chapter 11.0 within one hundred eighty (180) days prior to  
8 commencing partial closure, as a permit modification pursuant to Permit Conditions  
9 III.10.C.2.e and III.10.C.2.f.

10 III.10.C.8.d. One hundred eighty (180) days prior to commencing closure, the Permittees must submit to  
11 Ecology, for review and approval, a Sampling and Analysis Plan and a revised Closure Plan  
12 as a permit modification pursuant to Permit Conditions III.10.C.2.e and III.10.C.2.f.

13 III.10.C.8.e. At least forty-five (45) days before initiating closure, the Permittees must provide  
14 Notification of Closure pursuant to WAC 173-303-610(3)(c).

15 III.10.C.8.f. Ecology may require additional sampling and/or investigation after the Permittees  
16 implement the approved Sampling and Analysis Plan if Ecology determines that the  
17 sampling and analyses have not adequately demonstrated whether clean closure has been  
18 achieved. Such a requirement will be implemented pursuant to WAC 173-303-830(3).  
19 Additional sampling and analysis may be required for the following reasons:

- 20 i. Specialized sample collection or analytical techniques are required to ensure adequate  
21 quantitation limits for chemical constituents; or
- 22 ii. Results indicate the need to analyze for additional constituents at certain locations; or
- 23 iii. Results indicate additional soil or groundwater sampling is required in certain  
24 locations; or
- 25 iv. Other reasons indicate the Sampling and Analysis Plan has not adequately  
26 demonstrated whether clean closure has been achieved.

27 III.10.C.8.g. RESERVED.

28 III.10.C.8.h. Documentation supporting the independent registered professional engineer's certification of  
29 closure must be submitted to Ecology with the closure certification required by WAC 173-  
30 303-610(6). In addition to the items in Attachment 51, Chapter 11.0, the documentation  
31 must include the following and other information Ecology may request. The Permittees are  
32 required to furnish documentation supporting the independent registered professional  
33 engineer's certification to Ecology upon request, until Ecology has notified the Permittees in  
34 writing that Ecology agrees with and has accepted the Permittees' closure certification:

- 35 i. Sampling procedures that were followed;
- 36 ii. soil and concrete locations that were sampled;
- 37 iii. Sample labeling and handling procedures that were followed, including chain of  
38 custody procedures;
- 39 iv. Description of procedures that were followed to decontaminate concrete or metal to  
40 meet the clean closure standards as set by Ecology, on a case by case basis, in  
41 accordance with the closure performance standards of WAC 173-303-610(2)(a)(ii) and  
42 in a manner that minimizes or eliminates post-closure escape of dangerous waste  
43 constituents, or to achieve a "clean debris surface" as specified in 40 CFR 268.45,  
44 Table 1, concrete surfaces, as incorporated by reference in WAC 173-303-140. [WAC  
45 173-303-610(2)(b)(ii)].

- v. Laboratory and field data, including supporting QA/QC summary;
- vi. Report that summarizes closure activities;
- vii. Copy of all field notes taken by the independent registered professional engineer; and
- viii. Copy of all contamination survey results.

III.10.C.9. Critical Systems

III.10.C.9.a. The WTP Unit critical systems, as defined in the Hanford Site-wide Permit definition section, are identified in Attachment 51, Appendix 2.0.

III.10.C.9.b. As the design proceeds, Ecology reserves the right to modify this Permit for reasons described in the WAC 173-303-830(3) to add additional systems to the Critical Systems in Attachment 51, Appendix 2.0.

III.10.C.9.c. The Permittees shall conduct all construction subject to this Permit in accordance with the approved designs, plans, and specifications that are required by this Permit, except as specified in Conditions III.10.C.9.d. or III.10.C.9.e. For purposes of Conditions III.10.C.9.d. and III.10.C.9.e., the Ecology representative will be an Ecology construction inspector, project manager, or other designated representative of Ecology.

III.10.C.9.d. The Permittees shall submit a nonconformance report (NCR) or construction deficiency report (CDR) to the Ecology representative, as applicable, within five (5) calendar days of the Permittees becoming aware of incorporation of minor nonconformance or construction deficiency from the approved designs, plans, and specifications into the construction of critical systems, as defined in the Hanford Site-wide Permit definition section. Such minor nonconformance or construction deficiency shall be defined, for the purposes of this Permit Condition, as nonconformance or construction deficiency that is necessary to accommodate proper construction and the substitution of the use of equivalent or superior materials or equipment that do not substantially alter the Permit conditions or reduce the capacity of the facility to protect human health or the environment. Such minor nonconformance or construction deficiency shall not be considered a modification of this Permit. If Ecology determines that the nonconformance or construction deficiency is not minor, it will notify the Permittees in writing that a permit modification is required for the deviation and notify the Permittees in writing whether prior approval is required from Ecology before work proceeds which affect the nonconforming or construction deficiency item.

III.10.C.9.e. The Permittees shall formally document, with a nonconformance report (NCR) or construction deficiency report (CDR), as applicable, incorporation of minor nonconformance or construction deficiency from the approved designs, plans, and specifications into the construction of non-critical systems subject to this Permit. Such minor nonconformance or construction deficiency shall not be considered a modification of this Permit. All ~~nonconformance reports~~ NCR's and CDR's shall be maintained in the WTP Unit Operating Record and shall be made available to Ecology upon request or during the course of an inspection. If Ecology determines that the nonconformance or construction deficiency is not minor, it will notify the Permittees in writing that a permit modification is required for the deviation and whether prior approval is required from Ecology before work proceeds which affects the nonconforming or construction deficiency item.

III.10.C.9.f. For each Critical System identified in Attachment 51, Appendix 2.0 or meets the definition of Critical System as defined in this Permit, the Permittees shall submit to Ecology for review and approval, following the schedule in Attachment 51, Appendix 1.0 of this Permit, 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. Information Ecology determines to incorporate into the Permit will follow the Permit Condition III.10.C.2.g. process, unless stated otherwise

1 within the specific permit condition. Information Ecology determines necessary to support  
2 design basis will be incorporated into the Administrative Record.

3 III.10.C.9.g. Upon completion of the WTP Unit construction subject to this Permit, the Permittees shall  
4 produce as-built drawings of the project which incorporate the design and construction  
5 modifications resulting from all change documentation as well as modifications made  
6 pursuant to Permit Conditions III.10.C.2.e., III.10.C.2.f., and III.10.C.2.g. The Permittees  
7 shall place the as-built drawings into the operating record within twelve (12) months of  
8 completing construction.

9 III.10.C.9.h. The Permittees shall formally document changes to approved designs, plans, and  
10 specifications with design change documentation [e.g., ~~Design Change Authorization~~  
11 (~~DCA~~), Design Change Notice (DCN), Field Change Request (FCR), Field Change Notice  
12 (FCN), Specification Change Notice (SCN), and Supplier Deviation Disposition Request  
13 (SDDR)]. All design change documentation shall be maintained in the WTP Unit ~~unit-~~  
14 specific Operating Record and shall be made available to Ecology upon request or during the  
15 course of an inspection. For any design change documentation affecting any critical  
16 systems, the Permittees shall provide copies to Ecology within five (5) working days.  
17 Identification of critical systems shall be included by the Permittees in each WTP Unit ~~unit-~~  
18 specific dangerous waste permit application, closure plan, or permit modification, as  
19 appropriate. If Ecology determines that the design change is not minor, it will notify the  
20 Permittees in writing that a permit modification is required for the design change and  
21 whether prior approval is required from Ecology before work affected by the design change  
22 may proceed.

23 III.10.C.9.i. Ventilation system duct work is not required to be doubly contained within the WTP Unit.  
24 However, upon discovery of accumulation of liquids, a compliance plan will be submitted  
25 within sixty (60) days of discovery to correct the problem.

### 26 III.10.C.10 Equivalent Materials

27 III.10.C.10.a. If certain equipment, materials, and administrative information (such as names, phone  
28 numbers, addresses) are specified in this Permit, the Permittees may use equivalent or  
29 superior substitutes. Use of such equivalent or superior items within the limits (e.g.,  
30 ranges, tolerances, and alternatives) already clearly specified in sufficient detail in  
31 Attachment 51 of this Permit, are not considered a modification of this Permit. However,  
32 the Permittees must place documentation of the substitution, accompanied by a narrative  
33 explanation and the date the substitution became effective in the operating record within  
34 seven (7) days of putting the substitution into effect, and submit documentation of the  
35 substitution to Ecology. Upon review of the documentation of the substitution, if deemed  
36 necessary, Ecology may require the Permittees to submit a permit modification in  
37 accordance with Permit Conditions III.10.C.2.e. and III.10.C.2.f.

38 Note: The format of tables and forms contained in Attachment 51 of this Permit are not  
39 subject to the requirements of this Permit, and may be revised at the Permittees' discretion.

40 III.10.C.10.b. If Ecology determines that a substitution was not equivalent to the original, they will notify  
41 the Permittees that the Permittees' claim of equivalency has been denied, of the reasons for  
42 the denial, and that the original material or equipment must be used. If the product  
43 substitution is denied, the Permittees shall comply with the original approved product  
44 specification, find an acceptable substitution, or apply for a permit modification in  
45 accordance with Permit Conditions III.10.C.2.e. and III.10.C.2.f.

### 46 III.10.C.11. Risk Assessment

47 III.10.C.11.a. The Permittees shall submit, in accordance with Attachment 51, Appendix 1.0 of this  
48 Permit to Ecology for approval, the "Previously Submitted Risk Assessment Workplan,"

1 Attachment 51, Appendix 6.1.1. of this Permit, revised in consultation with Ecology to  
2 address the revisions (NOD/responses) documented in Attachment 51, Appendix 6.1.2 and  
3 updated to address the following, as a permit modification pursuant to Permit Conditions  
4 III.10.C.2.e. and III.10.C.2.f. The updated previously submitted Risk Assessment Work  
5 Plan shall be added to Attachment 51 as Appendix 6.2 (Risk Assessment Work Plan).

- 6 i. EPA guidance for performance of Human Health and Ecological Risk Assessments for  
7 Hazardous Waste Combustion Facilities current at the time of the submittal;
- 8 ii. Toxicity data current at the time of the submittal;
- 9 iii. Compounds newly identified or updated emissions data from current waste  
10 characterization and emission testing;
- 11 iv. Air modeling updated to include stack gas parameters based on most current emissions  
12 testing and WTP Unit design;
- 13 v. Physical/transport properties of constituents current at the time of the submittal;
- 14 vi. Process Description based on most current WTP Unit design;
- 15 vii. Emissions data and all supporting calculations based on most current WTP Unit; and  
16 viii. Update of receptor locations based on land use or land use zoning changes, if any.

17 III.10.C.11.b. The Permittees shall submit for Ecology approval, prior to initial receipt of dangerous  
18 and/or mixed waste in the WTP Unit, a Pre-Demonstration Test Risk Assessment Report as  
19 Attachment 51, Appendix 6.3 addressing direct and indirect human health and ecological  
20 risks performed pursuant to Ecology approved work plan under Permit Condition  
21 III.10.C.11.a. This report shall also include submittal of projected stack emissions data in  
22 Tables III.10.G.D., III.10.H.E., and III.10.J.E. of this Permit and Attachment 51, Appendix  
23 6.3.1 (Basis and Assumptions), completed and updated which details the basis and  
24 assumptions for these emissions, including but not limited to, projected operating  
25 conditions, feed-rates, and treatment effectiveness, consistent with information provided  
26 and approved pursuant to Permit Conditions III.10.G.6., III.10.G.10., III.10.H.5., and  
27 III.10.J.5. as a permit modification pursuant to Permit Conditions III.10.C.2.e. and  
28 III.10.C.2.f.

29 III.10.C.11.c. Within ninety (90) days of Ecology approval of the Demonstration Report(s) submitted  
30 pursuant to Permit Condition III.10.H.3.d.i, the Permittees shall submit a Final Risk  
31 Assessment Report as Attachment 51, Appendix 6.4, incorporating the emission test results  
32 from the Demonstration Report(s). The Final Risk Assessment Report shall be prepared in  
33 accordance with the Risk Assessment Work Plan, as approved by Ecology pursuant to  
34 Permit Condition III.10.C.11.a, except the following updates are hereby incorporated. The  
35 Permittees shall also submit with this Final Risk Assessment Report, Tables III.10.G.D. and  
36 III.10.I.E. of this Permit and Attachment 51, Appendix 6.4.1 (Basis and Assumptions)  
37 updated to incorporate the emissions data from this Final Risk Assessment Report(s), as a  
38 permit modification pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f.

- 39 i. Toxicity data current at the time of the submittal;
- 40 ii. Compounds newly identified or updated emissions data from current waste  
41 characterization and emission testing;
- 42 iii. Air modeling updated to include stack gas parameters based on most current emissions  
43 testing;
- 44 iv. Physical/transport properties of constituents current at the time of the submittal;
- 45 v. Update of receptor locations based on land use or land use zoning changes, if any;

- 1 vi. Process description based on current WTP Unit design;
- 2 vii. Emissions data and all supporting calculations based on current WTP Unit; and
- 3 viii. Data from final risk assessment report pursuant to Permit Condition III.10.C.11.d, if
- 4 available first, or simultaneously.
- 5 III.10.C.11.d. Within ninety (90) days of Ecology approval of the Demonstration Report(s) submitted
- 6 pursuant to Permit Condition III.10.J.3.d.i, the Permittees shall submit a Final Risk
- 7 Assessment Report as Attachment 51, Appendix 6.4, incorporating the emission test results
- 8 from the Demonstration Report(s). The Final Risk Assessment Report shall be prepared in
- 9 accordance with the Risk Assessment Work Plan, as approved by Ecology pursuant to
- 10 Permit Condition III.10.C.11.a, except the following updates are hereby incorporated. The
- 11 Permittees shall also submit with this Final Risk Assessment Report, Tables III.10.G.D. and
- 12 III.10.K.E. of this Permit and Attachment 51, Appendix 6.4.1 (Basis and Assumptions)
- 13 updated to incorporate the emissions data from this Final Risk Assessment Report, as a
- 14 permit modification pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f.
- 15 i. Toxicity data current at the time of the submittal;
- 16 ii. Compounds newly identified or updated emissions data from current waste
- 17 characterization and emission testing;
- 18 iii. Air modeling updated to include stack gas parameters based on most current emissions
- 19 testing;
- 20 iv. Physical/transport properties of constituents current at the time of the submittal;
- 21 v. Update of receptor locations based on land use or land use zoning changes, if any;
- 22 vi. Process description based on current WTP Unit design;
- 23 vii. Emissions data and all supporting calculations based on current WTP Unit; and
- 24 viii. Data from final risk assessment report pursuant to Permit Condition III.10.C.11.c, if
- 25 available first, or simultaneously.
- 26 III.10.C.11.e. The Final Risk Assessment Report(s) required by Permit Conditions III.10.C.11.c. and
- 27 III.10.C.11.d. may be combined, or provided separately, as appropriate.
- 28 III.10.C.12 Air Emissions
- 29 III.10.C.12.a Prior to installing or using any equipment subject to the requirements of WAC 173-303-
- 30 690, the Permittees shall obtain a Permit Modification following the Permit Condition
- 31 III.10.C.2.g. process to incorporate WAC 173-303-690 standards into the permit
- 32 application and this Permit prior to generation/receipt of dangerous and/or mixed waste in
- 33 the WTP Unit.
- 34 III.10.C.12.b Prior to installing or using any equipment subject to the requirements of WAC 173-303-
- 35 691, the Permittees shall obtain a Permit Modification following the Permit Condition
- 36 III.10.C.2.g. process to incorporate WAC 173-303-691 standards into the permit
- 37 application and this Permit prior to generation/receipt of dangerous and/or mixed waste in
- 38 the WTP Unit.
- 39 III.10.C.12.c The Permittees shall comply with the organic air emission standards as set forth in WAC
- 40 173-303-692. The Permittees shall obtain a permit modification following the Permit
- 41 Condition III.10.C.2.g. process to incorporate WAC 173-303-692 standards into the permit
- 42 application and this Permit prior to generation/receipt of dangerous waste in the WTP Unit.
- 43 III.10.C.13 Remote Data Access

1           Onsite, unrestricted, twenty-four (24) hour access to key WTP Unit operating data and  
2           emissions monitoring data shall be provided to Ecology. This onsite, unrestricted access  
3           shall include providing and maintaining for Ecology only use a computer terminal and  
4           printer linked to key WTP Unit operating data and emissions monitoring data. This  
5           terminal shall be equipped with all necessary software and hardware to monitor, retrieve,  
6           and trend this data. Additional remote access will be provided on Ecology request if  
7           security concerns can be addressed.

8   **III.10.C.14** Interim Period of Operation during Post Demonstration Test Period prior to receiving  
9           Ecology approval of the complete Demonstration Test Reports and the Final Risk  
10           Assessment Report.

11 **III.10.C.14.a.** During this Interim Period of Operation, the Permittees will be able to treat dangerous waste  
12           and mixed waste feed subject to the following conditions:

13           i. Obtain receipt of Ecology's approval for the LAW Vitrification System, Permit condition  
14           III.10.H.3.d.iii., prior to receiving dangerous or mixed waste feed into the LAW Vitrification  
15           System

16           ii. Obtain receipt of Ecology's approval for the HLW Vitrification System, Permit condition  
17           III.10.J.3.d.iii., prior to receiving dangerous or mixed waste feed into the HLW Vitrification  
18           System

19           iii. Accept and treat up to 3 million gallons of Hanford tank waste feed in  
20           WTP.

21           iv. Accepting and treating more than 3 million gallons of Hanford tank waste feed in WTP  
22           during this Interim Period will require a permit modification in accordance with WAC 173-  
23           303-830, Appendix 1, 5a.

24  
25 **III.10.D.    CONTAINERS**

26 **III.10.D.1.   Container Storage Areas and Storage Limits**

27 **III.10.D.1.a.** The Permittees may store, in containers, all dangerous and/or mixed waste listed in the Part  
28           A, Forms Attachment 51, Chapter 1.0 of this Permit, in accordance with the WAP,  
29           Attachment 51, Chapter 3.0 of this Permit, as approved pursuant to Permit Conditions  
30           III.10.C.3. and III.10.C.2. Total containerized dangerous and/or mixed waste storage at the  
31           Facility shall not exceed 2,780,000 gallons (372,520 cubic feet) pursuant to requirements in  
32           Permit Condition III.10.D.1.b.

33 **III.10.D.1.b.** The Permittees may place and store dangerous and mixed waste only in approved container  
34           storage areas and containment systems listed in Permit Tables III.10.D.A, III.10.D.B, and  
35           III.10.D.C (as approved/modified pursuant to Permit Condition III.10.D.10.), in accordance  
36           with Permit Section III.10.D, and in accordance with Attachment 51, Chapters 1.0 and 4.0,  
37           and Attachment 51, Appendices 9.4, 9.5, 9.7, 9.8, 9.9, 9.18, 10.4, 10.5, 10.7, 10.8, 10.9,  
38           10.18, 12.4, 12.5, 12.7, 12.8, 12.9, and 12.15 of this Permit, as approved pursuant to Permit  
39           Conditions III.10.D.10.b. through d. The Permittees shall limit the total volume of waste to  
40           quantities specified for the individual container storage areas listed in Permit Table  
41           III.10.D.A.

42 **III.10.D.1.c.** The Permittees must maintain a free volume (i.e., free volume = total capacity of  
43           containment system minus volume occupied by equipment and containers within  
44           containment systems) within containment systems identified in Permit Tables III.10.D.B and  
45           III.10.D.C (as approved/modified pursuant to Permit Condition III.10.D.10.), equal to ten  
46           percent (10%) of the total volume of dangerous and mixed waste stored within the

1 containment system, or the volume of the largest container stored within the containment  
2 system, whichever is greater.

3 III.10.D.1.d. The Permittees shall maintain documentation in the operating record for each container  
4 storage area and containment system listed in Permit Tables III.10.D.A, III.10.D.B, and  
5 III.10.D.C (as approved/modified pursuant to Permit Condition III.10.D.10.), in accordance  
6 with WAC 173-303-380.

7 III.10.D.1.e. For the purpose of determining compliance with container storage area capacity limits and  
8 containment system requirements, every waste container shall be considered to be full.

9 III.10.D.1.f. If the containers of ILAW and/or IHLW are determined to no longer be dangerous and/or  
10 mixed waste as described in WAC 173-303-070, the ILAW and/or IHLW containers will no  
11 longer be subject to the conditions of this Permit.

### 12 III.10.D.2 Container Storage Areas Design and Construction

13 III.10.D.2.a. The Permittees shall construct container storage areas identified in Permit Table III.10.D.A  
14 (as approved/modified pursuant to Permit Condition III.10.D.10.), as specified in all  
15 applicable drawings and specifications in Attachment 51, Appendices 9.4, 9.5, 9.7, 9.8, 9.9,  
16 10.4, 10.5, 10.7, 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9 of this Permit, as approved  
17 pursuant to Permit Condition III.10.D.10.b.

18 III.10.D.2.b. The Permittees shall construct all permanent containment systems identified in Permit Table  
19 III.10.D.B (as approved/modified pursuant to Permit Condition III.10.D.10.), as specified in  
20 all applicable drawings and specifications in Attachment 51, Appendices 9.4, 9.5, 9.7, 9.8,  
21 9.9, 10.4, 10.5, 10.7, 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9 of this Permit, as approved  
22 pursuant to Permit Condition III.10.D.10.b.

23 III.10.D.2.c. All container storage areas and containment systems identified in Permit Tables III.10.D.A,  
24 III.10.D.B, and III.10.D.C (as approved/modified pursuant to Permit Condition III.10.D.10.),  
25 must be constructed, or operated to protect containers from contact with accumulated liquids  
26 (e.g., leaks, spills, precipitation, fire water, liquids from damaged or broken pipes) [WAC  
27 173-303-630(7)(a)(i) and WAC 173-303-630(7)(c)(ii)].

28 III.10.D.2.d. Modifications to approved design, plans, and specifications in Attachment 51 of this Permit  
29 for the Container Storage Areas and containment systems shall be allowed only in  
30 accordance with Permit Conditions III.10.C.2.e. and f., or III.10.C.2.g, III.10.C.9.d, e., and  
31 h.

### 32 III.10.D.3. Container Storage Area and Permanent Containment System Installation

33 III.10.D.3.a. RESERVED.

34 III.10.D.3.b. The Permittees shall obtain and place in the WTP Unit operating record, within thirty (30)  
35 days of completion of each container storage area and containment system identified in  
36 Permit Tables III.10.D.A, and III.10.D.B (as approved/modified pursuant to Permit  
37 Condition III.10.D.10.), written statements by a qualified, installation inspector or a  
38 qualified registered, professional engineer, attesting that these areas were installed in  
39 compliance with WAC 173-303-630(7)(a), (b), and (c) [WAC 173-303-630(7), WAC 173-  
40 303-340].

### 41 III.10.D.4 Container Management Practices

42 III.10.D.4.a. No dangerous and/or mixed waste shall be managed in the container storage areas unless the  
43 operating conditions specified under Permit Condition III.10.D.4. are complied with.

44 III.10.D.4.b. The Permittees shall manage all containerized dangerous and mixed waste for container  
45 storage areas and containment systems identified in Permit Tables III.10.D.A, III.10.D.B,  
46 and III.10.D.C (as approved/modified pursuant to Permit Condition III.10.D.10.), in

1 accordance with procedures described in Attachment 51, Chapter 4.0, Appendices 9.18,  
2 10.18, and 12.15 of this Permit, as approved pursuant to Permit Condition III.10.D.10.c, and  
3 the following conditions:

- 4 i. The operating records and waste tracking procedures shall indicate all times at which  
5 containerized dangerous and mixed waste were removed from and returned to  
6 designated staging, storage, segregation, and treatment areas as approved pursuant to  
7 Permit Condition III.10.D.10.c.vi. (WAC 173-303-380).
- 8 ii. The physical arrangement (i.e., spacing) of dangerous and mixed waste containers shall  
9 be as specified in WAC 173-303-630(5)(c), except for the immobilized LAW and  
10 HLW waste containers, which must be as described in Attachment 51, Chapter 4.0,  
11 Section 4.2.1.2.1. of this Permit, as updated pursuant to Permit Condition  
12 III.10.D.10.c.i.
- 13 iii. All container storage areas and containment systems must be operated to protect  
14 containers from contact with accumulated liquids resulting from leaks, spills, or  
15 precipitation [WAC 173-303-630(7)(a)(i) and (c)(ii)].
- 16 iv. At all times, the Permittees shall place and store ignitable and/or reactive dangerous  
17 and/or mixed waste in accordance with the procedures described in Attachment 51,  
18 Appendix 9.18, 10.18, and 12.15, as approved pursuant to Permit Condition  
19 III.10.D.10.c.xi.
- 20 v. At all times, the Permittees shall place and store incompatible dangerous and/or mixed  
21 waste in accordance with the procedures described in Attachment 51, Appendix 9.18,  
22 10.18, and 12.15, as approved pursuant to Permit Condition III.10.D.10.c.xii.
- 23 vi. At all times, storage containers holding dangerous and/or mixed waste that contain free  
24 liquids and/or exhibit either the characteristic of ignitability or reactivity as described in  
25 WAC 173-303-090(5) or (7), must be provided with a containment system in  
26 accordance with WAC 173-303-630(7)(a)(i) through (iii) [WAC 173-303-630(7)(c)].
- 27 vii. At all times, containers holding dangerous and/or mixed waste in container storage  
28 areas must be closed, except when it is necessary to add or remove waste [WAC 173-  
29 303-630(5)(a)].
- 30 viii. At all times, containers holding dangerous and/or mixed waste must not be opened,  
31 handled, or stored in a manner which may rupture the container or cause it to leak  
32 [WAC 173-303-630(5)(b)].
- 33 ix. A storage container holding a dangerous and/or mixed waste that is incompatible with  
34 any waste or other materials stored nearby in other containers, piles, open tanks, or  
35 surface impoundments must be separated from the other waste or materials or protected  
36 from them by means of a dike, berm, wall, or other device (as approved by Ecology)  
37 [WAC 173-303-630(9)(c)].
- 38 x. If a container holding dangerous and/or mixed waste is not in good condition (e.g.,  
39 exhibits severe rusting, apparent structural defects, or any other condition that could  
40 lead to container rupture or leakage) or is leaking, the Permittees shall manage the  
41 container in accordance with procedures described in Attachment 51, Appendices 9.18,  
42 10.18, and 12.15 of this Permit, as approved pursuant to Permit Condition  
43 III.10.D.10.c.viii. [WAC 173-303-630(2)].
- 44 xi. The Permittees shall maintain an adequate inventory of containers and/or over-pack  
45 containers at the WTP Unit for use pursuant to Permit Condition III.10.D.4.b.x.

- 1           xii. The Permittees shall ensure that all containers used for dangerous and/or mixed waste  
2           management, are made of or lined with materials which will not react with and are  
3           otherwise compatible with the waste to be stored [WAC 173-303-630(4)].
- 4           xiii. Except for lab packs assembled in compliance with WAC 173-303-161 requirements,  
5           the Permittees shall not place incompatible wastes, or incompatible wastes and  
6           materials, in the same container, unless WAC 173-303-395(1)(b) is complied with  
7           [WAC 173-303-630(9)(a)].
- 8           xiv. The Permittees shall not place dangerous and/or mixed waste in an unwashed container  
9           that previously held an incompatible waste or material [WAC 173-303-630(9)(b)].

10   **III.10.D.5. Identification of Containers and Container Storage Areas**

11   **III.10.D.5.a.** Pursuant to WAC 173-303-630(3), the Permittees shall ensure that all dangerous and/or  
12   mixed waste containers (except as otherwise specified in Attachment 51, Chapter 4.0,  
13   Section 4.2.1.3., as updated pursuant to Permit Condition III.10.D.10.c.i., for containers of  
14   ILAW and IHLW) are labeled in a manner that adequately identifies the major risk(s)  
15   associated with the contents. For purposes of container labeling, major risk(s) could include  
16   but are not limited to the following:

- 17           i. PERSISTENT (if a WP01 or WP02 waste code);  
18           ii. TOXIC (if a WT01, WT02, or D waste code other than D001, D002, or D003);  
19           iii. FLAMMABLE (if a D001 and other waste codes);  
20           iv. CORROSIVE (if a D002 and other waste codes);  
21           v. REACTIVE (if a D003 and other waste codes).

22   **III.10.D.5.b.** For all dangerous and mixed waste containers (except as otherwise specified in Attachment  
23   51, Chapter 4.0, Section 4.2.1.3., as updated pursuant to Permit Condition III.10.D.10.c.i.,  
24   for containers of ILAW and IHLW), the Permittees shall ensure that:

- 25           i. Labels are not obscured or otherwise unreadable;  
26           ii. Waste containers are oriented so as to allow inspection of the labels identified in Permit  
27           Conditions III.10.D.5.a and III.10.D.5.b, the container tracking number, and, to the  
28           extent possible, any labels which the generator placed upon the container; and  
29           iii. Empty dangerous and mixed waste containers, as defined by WAC 173-303-160(2),  
30           must have their dangerous and/or mixed waste labels destroyed or otherwise removed  
31           immediately upon being rendered empty.

32   **III.10.D.5.c.** The Permittees shall post entrances and access points to all ILAW and IHLW container  
33   storage areas, and any other areas where containers of ILAW and IHLW are handled, with  
34   signs that, in addition to meeting the requirements of WAC 173-303-310(2)(a), clearly  
35   identify the major risk(s) associated with the containers of ILAW and IHLW.

36   **III.10.D.6. Containment Systems**

37   **III.10.D.6.a.** Containerized dangerous and mixed waste, and other materials that are incompatible, shall  
38   not be staged, segregated, or stored within the same containment system as identified in  
39   Permit Tables III.10.D.B. and III.10.D.C., as approved/modified pursuant to Permit  
40   Condition III.10.D.10. (e.g., metal pan, concrete berm, portable containment system) [WAC  
41   173-303-630(9)(c)].

42   **III.10.D.6.b.** The integrity of containment systems identified in Permit Tables III.10.D.B. and III.10.D.C.  
43   (as approved/modified pursuant to Permit Condition III.10.D.10.) must be maintained in  
44   accordance with WAC 173-303-630(7)(a)(i). Cracks, gaps, loss of integrity, deterioration,

1 corrosion, or erosion of containment pads, joints in containment pads, berms, curbs,  
2 trenches, sumps, and coatings must be repaired in accordance with Attachment 51, Chapter  
3 6.0 of this Permit, as approved/modified pursuant to Permit Conditions III.10.D.10.c.vii.,  
4 III.10.C.5.b., and III.10.C.5.c. [WAC 173-303-320, WAC 173-303-630(7)(a)(i)].

5 III.10.D.6.c. An impermeable coating, as specified in Attachment 51, Appendices 9.4, 9.5, 9.7, 9.8, 9.9,  
6 10.4, 10.5, 10.7, 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9 shall be maintained for all  
7 concrete containment systems identified in Permit Table III.10.D.B (as approved/modified  
8 pursuant to Permit Condition III.10.D.10.) and shall meet the following performance  
9 standards [WAC 173-303-630(7)(a)]:

10 i. The coating must seal the containment system surface such that no cracks, seams, or  
11 other pathways through which liquid could migrate are present;

12 ii. The coating must be of adequate thickness and strength to withstand the normal  
13 operation of equipment and personnel within the given area such that degradation or  
14 physical damage to the coating or lining can be identified and remedied before waste  
15 could migrate from the containment system; and

16 iii. The coating must be compatible with the waste managed in the containment system.

17 III.10.D.6.d. The Permittees must inspect all containment systems specified in Permit Tables III.10.D.B  
18 and III.10.D.C in accordance with the inspection schedules and requirements in Attachment  
19 51, Chapter 6.0, as approved/modified pursuant to Permit Conditions III.10.D.10.c.vii. and  
20 III.10.C.5.c, and take the following actions if liquid is detected in these containment  
21 systems:

22 i. Remove the liquid from the containment system in accordance with procedures  
23 described in Attachments 51, Chapter 6.0, (as modified pursuant to Permit Conditions  
24 III.10.C.5.b. and III.10.C.5.c.), Permit Condition III.10.C.6.a., and Attachment 51,  
25 Chapter 7.0 (as modified pursuant to Permit Condition III.10.C.6.b.). The liquid  
26 removed from containment systems shall be managed as dangerous and/or mixed  
27 waste, except for liquids from the Non-Radioactive Dangerous Waste Container  
28 Storage Area which shall be managed as dangerous waste, unless the Permittees  
29 demonstrate, to Ecology's satisfaction, that the liquid is not a dangerous waste.

30 ii. Determine the source of the liquid.

31 iii. If the source of the liquid is determined to be a leak in a container, the Permittees must  
32 follow the procedures specified in Permit Condition III.10.D.4.b.x.

33 iv. The Permittees must take action to ensure the incident that caused liquid to enter the  
34 containment system will not reoccur.

35 v. The Permittees shall document in the WTP Unit operating record actions/procedures  
36 taken to comply with i. through iv. above in accordance with WAC 173-303-630(6).

37 vi. The Permittees shall notify and report releases to the environment to Ecology in  
38 accordance with Permit Condition III.10.C.6.a.

39 III.10.D.7 Inspections

40 III.10.D.7.a. The Permittees shall inspect the container storage areas and containment systems in  
41 accordance with the Inspection Schedules in Attachment 51, Chapter 6.0 of this Permit, as  
42 modified pursuant to Permit Condition III.10.C.5.c.

43 III.10.D.7.b. The inspection data for the container storage areas and containment systems shall be  
44 recorded, and the records shall be placed in the WTP Unit operating record in accordance  
45 with Permit Condition III.10.C.4.

1 III.10.D.8. Recordkeeping (WAC 173-303-380)

2 For the container storage areas and containment systems, the Permittees shall record and  
3 maintain in the WTP Unit operating record, all monitoring, recording, maintenance,  
4 calibration, test data, and inspection data compiled under the conditions of this Permit, in  
5 accordance with Permit Condition III.10.C.4. and III.10.C.5.

6 III.10.D.9. Closure

7 The Permittees shall close the container storage areas and containment systems in  
8 accordance with Attachment 51, Chapter 11.0 of this Permit, as approved pursuant to Permit  
9 Condition III.10.C.8.

10 III.10.D.10. Compliance Schedules

11 III.10.D.10.a. All information identified for submittal to Ecology in III.10.D.10.b. through III.10.D.10.d.  
12 of this compliance schedule must be signed in accordance with requirements in WAC 173-  
13 303-810(12).

14 III.10.D.10.b. The Permittees shall submit to Ecology, consistent with the schedule described in  
15 Attachment 51, Appendix 1.0, for review and approval, prior to construction of container  
16 storage area and permanent containment systems as identified in Permit Tables III.10.D.A  
17 and III.10.D.B respectively, engineering information as specified below, for incorporation  
18 into Attachment 51, Appendices 9.4, 9.5, 9.7, 9.8, 9.9, 10.4, 10.5, 10.7, 10.8, 10.9, 12.4,  
19 12.5, 12.7, 12.8, and 12.9 of this Permit. In order to incorporate engineering information  
20 specified below into Attachment 51, Appendices 9.4, 9.5, 9.7, 9.8, 9.9, 10.4, 10.5, 10.7,  
21 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9, Permit Condition III.10.C.2.g. process will be  
22 followed. At a minimum, container storage area and permanent containment system  
23 drawings and specifications will show the following pursuant to WAC 173-303-806(4)(b)  
24 and WAC 173-303-630:

- 25 i. Design drawings (General Arrangement Drawings - in plan and cross sections) and  
26 specifications including references to specific building codes (e.g., UBC, ASCE) for  
27 each container storage areas' foundation and permanent containment systems. These  
28 items should show basic design parameters and dimensions, and location of the  
29 container storage areas and permanent containment systems; how permanent  
30 containment system design promotes positive drainage control (such as a locked  
31 drainage valve) to prevent release of contaminated liquids and so that uncontaminated  
32 liquids can be drained promptly for convenience of operation; capacity of the  
33 permanent containment system relative to the volume of the largest container to be  
34 stored; for permanent containment systems, how the base underlying the containers is  
35 sloped (i.e., floor slopes to sumps) or the containment system is otherwise designed  
36 and operated to drain and remove liquids resulting from leaks, spills, or other liquids,  
37 or how containers are kept from contact with standing liquids in the permanent  
38 containment system (i.e., elevated or are otherwise protected); for container storage  
39 areas without permanent containment systems, a description of how the storage area is  
40 designed or operated to drain and remove liquids or how containers are kept from  
41 contact with standing liquids;
- 42 ii. Permanent containment systems materials selection documentation (including, but not  
43 limited to, materials of construction, coatings and liner materials for concrete portions  
44 of containment systems);
- 45 iii. Sketches, drawings, or data demonstrating compliance with WAC 173-303-630(8)  
46 (location of buffer zone and containers holding ignitable or reactive waste) and WAC  
47 173-303-630(9)(c) (location of incompatible waste), where applicable;

- 1           iv. Submit Permit Table III.10.D.B. completed to provide for all permanent containment  
2           systems, the information as specified in each column heading, consistent with  
3           information to be provided in i. through iii. above.

4   III.10.D.10.c. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
5           shall update and submit to Ecology, consistent with the schedule described in Attachment  
6           51, Appendix 1.0, for review and approval, the following, as specified below, for  
7           incorporation into Attachment 51, Chapter 4.0, and Appendices 9.18, 10.18, and 12.15 of  
8           this Permit, except Permit Condition III.10.D.10.c.vii., which will be incorporated into  
9           Attachment 51, Chapter 6.0 of this Permit. In order to incorporate the following  
10           information (specified below) into Attachment 51, Appendix 9.18, 10.18, and 12.15, Permit  
11           Condition III.10.C.2.g. will be followed. All information provided under this permit  
12           condition must be consistent with information provided pursuant to Permit Conditions  
13           III.10.D.10.b., III.10.D.10.c., and III.10.D.10.d. as approved by Ecology, and will include  
14           at a minimum, the following information as required pursuant to WAC 173-303-630 and  
15           WAC 173-303-340:

- 16           i. Attachment 51, Chapter 4.0, Narrative Descriptions, updated;  
17           ii. Descriptions of procedures for addition and removal of waste from containers;  
18           iii. Descriptions of procedures for opening and closing of containers, including any  
19           inspections performed prior to opening;  
20           iv. Descriptions of procedures for handling and transport of containers within the WTP  
21           Unit;  
22           v. Description of the tracking system used to track containers throughout the WTP Unit  
23           pursuant to WAC 173-303-380. The tracking system, at a minimum, will do the  
24           following:  
25           A. Track the location of containers within the WTP Unit;  
26           B. Track which containers have been shipped off-facility and/or off-site, and to  
27           where they have been shipped;  
28           C. For containers intended for transport off-site, include information in accordance  
29           with the requirements specified in WAC 173-303-190(3)(b);  
30           D. Record the date container is placed in the container storage area;  
31           E. Record the nature of the waste in any given container, including dangerous waste  
32           designation codes, any associated land disposal restriction treatment requirements,  
33           and the major risk(s) associated with the waste (as described in Permit Conditions  
34           III.10.D.5.a. and III.10.D.5.c.).  
35           vi. Descriptions of procedures for container spacing, stacking, and labeling pursuant to  
36           WAC 173-303-630(3), WAC 173-303-630(5)(c), WAC 173-303-340(3), WAC 173-  
37           303-630(6);  
38           vii. Descriptions of procedures for investigating container storage areas and investigating  
39           and repairing containment systems [WAC 173-303-320, WAC 173-303-630(6)];  
40           viii. Descriptions of procedures for responding to damaged (e.g., severe rusting, apparent  
41           structural defects) or leaking containers [WAC 173-303-630(2)];  
42           ix. Descriptions of operational procedures demonstrating how accumulated liquids can be  
43           analyzed and removed from permanent and portable containment systems to prevent  
44           overflow [WAC 173-303-806(4)(b)(i)(E)];

- 1 x. For portable containment systems, vendor information, design drawings, or sketches  
2 showing the following information. These items shall include as a minimum basic  
3 design parameters, dimensions, and materials of construction; how the design  
4 promotes positive drainage control (such as a locked drainage valve) to prevent release  
5 of contaminated liquids and so that uncontaminated liquids can be drained promptly  
6 for convenience of operation; how the base underlying the containers is sloped (i.e.,  
7 floor slopes to sumps) or the containment system is otherwise designed and operated  
8 to drain and remove liquids resulting from leaks, spills, or other liquids, or how  
9 containers are kept from contact with standing liquids in the containment system (i.e.,  
10 elevated or are otherwise protected); and capacity of the containment system relative  
11 to the volume of the largest container to be stored;
- 12 xi. Where ignitable and reactive waste are stored or otherwise managed in containers, a  
13 description of the procedures used to ensure compliance with WAC 173-303-630(8)(a)  
14 and (b);
- 15 xii. Where incompatible waste are stored or otherwise managed in containers, a  
16 description of the procedures used to ensure compliance with WAC 173-303-630(9)(a)  
17 and (b), and 173-303-395(1)(b) and (c);
- 18 xiii. Submit Permit Table III.10.D.C completed to provide for all portable containment  
19 systems, the information as specified in each column heading, consistent with  
20 information to be provided in i. through xii. above;
- 21 xiv. Test procedures and results or other documentation or information to show that the  
22 waste do not contain free liquids, as applicable.

23 III.10.D.10.d. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
24 shall submit to Ecology, consistent with the schedule described in Attachment 51,  
25 Appendix 1.0, for review and approval, completed Permit Tables III.10.D.A, III.10.D.B,  
26 and III.10.D.C, for incorporation into Attachment 51, Chapter 4.0, and Appendices 9.18,  
27 10.18, and 12.15 of this Permit. In order to incorporate the information into Attachment  
28 51, Chapter 4.0, and Appendices 9.18, 10.18, and 12.15 of this Permit, Permit Condition  
29 III.10.C.2.g. process will be followed.  
30

**Table III.10.D.A – Container Storage Areas Description**

1  
2

Dangerous and Mixed Waste Container Storage Areas	Maximum Capacity Gallons (Solids) (ft <sup>3</sup> ) <sup>d</sup>	Maximum Capacity (Liquid) <sup>e</sup>
<b>LAW Vitrification Plant</b>		
ILAW Buffer Container Storage Area <sup>a</sup>	89,099 gal. (11,939 ft <sup>3</sup> )	RESERVED
ILAW Container Storage Area <sup>a</sup>	889,448 gal. (119,186 ft <sup>3</sup> )	RESERVED
LAW Container Storage Area	80,549 gal. (10,794 ft <sup>3</sup> )	RESERVED
<b>HLW Vitrification Plant</b>		
IHLW Canister Storage Area <sup>a</sup>	245,504 gal. (32,898 ft <sup>3</sup> )	RESERVED
HLW Container Storage Area No. 1	266,654 gal. (35,732 ft <sup>3</sup> )	RESERVED
HLW Container Storage Area No. 2	71,999 gal. (9,648 ft <sup>3</sup> )	RESERVED
HLW Container Storage Area No. 3	43,392 gal. (5,815 ft <sup>3</sup> )	RESERVED
<b>Other Areas</b>		
Central Waste Storage Facility	617,137 gal. (82,696 ft <sup>3</sup> )	RESERVED
Non-Radioactive Dangerous Waste Container Storage Area <sup>b</sup>	48,214 gal. (6,461 ft <sup>3</sup> )	RESERVED
HLW Melter Out-Of-Service Storage Area	202,498 gal. (27,135 ft <sup>3</sup> )	RESERVED
LAW Melter Out-Of-Service Storage Area	216,962 gal. (29,073 ft <sup>3</sup> )	RESERVED
Lab Waste Management Area (Rooms 0-139, 0-139A/B/C/D)	119,613 gal. (16,029 ft <sup>3</sup> )	RESERVED
Containment Building Container Storage	RESERVED	RESERVED

3 <sup>a</sup> Capacity is for immobilized glass waste storage.  
 4 <sup>b</sup> Capacity is for dangerous and/or mixed waste storage.  
 5 <sup>c</sup> All material within the containment systems will be considered waste for the purposes of calculating free volume,  
 6 where free volume is the amount of space available in containment systems (i.e., free volume = total capacity of  
 7 containment systems [which includes total capacity of portable containment systems] minus volume occupied by  
 8 equipment and containers within containment systems).  
 9 <sup>d</sup> Gallons converted to cubic feet using a conversion factor of 1 gallon (liquid) x 0.134 = 1ft<sup>3</sup> (rounded to the nearest  
 10 whole number).  
 11 <sup>e</sup> Location and capacities of containers stored within portable containment systems specified on Table III.10.D.C are  
 12 limited to the dangerous and mixed waste container storage areas and capacities specified above.  
 13  
 14

**Table III.10.D.B – Container Storage Area Permanent Containment Systems**

Container Storage Areas	Permanent Containment System Description – Drawing #s	Permanent Containment System Sump/Floor Drain ID#	Permanent Containment System Dimensions (ft) & Materials of Construction	Permanent Containment System Capacity (gal) (relative to 10% of the volume of all containers within the container storage area, or 100% of the volume of the largest container, whichever is greater).
Central Waste Storage Facility	RESERVED	RESERVED	RESERVED	RESERVED

**Table III.10.D.C – Container Storage Area Portable Containment Systems<sup>a</sup>**

Portable Containment System Description – Specifications and Vendor Information	Portable Containment System Container Storage Area(s) Location(s)	Portable Containment System Dimensions (ft) & Materials of Construction	Portable Containment System Capacity (gal) (relative to 10% of the volume of all containers managed within the portable containment system, or 100% of the volume of the largest container, whichever is greater).
RESERVED	RESERVED	RESERVED	RESERVED

<sup>a</sup> Location and capacities of containers stored within portable containment systems specified on this Permit Table are limited to the dangerous and mixed waste container storage areas and capacities specified in Permit Table III.10.D.A.

**III.10.E TANK SYSTEMS**

**III.10.E.1 Approved Waste and Storage Limits**

III.10.E.1.a. The Permittees may store in tank systems all dangerous and/or mixed waste listed in the Part A Forms, Attachment 51, Chapter 1.0 of this Permit and in accordance with the Waste Analysis Plan, Attachment 51, Chapter 3.0 as approved pursuant to Permit Condition III.10.C.3. of this Permit. Total tank system dangerous and/or mixed waste storage at the Facility shall not exceed 4,735,000 gallons pursuant to requirements in Permit Condition III.10.E.1.

III.10.E.1.b. The Permittees may store and manage dangerous and/or mixed waste only in approved tank systems listed in Permit Tables III.10.E.A through D, I, K, M, and O, as approved/modified pursuant to Permit Condition III.10.E.9., in accordance with Permit Section III.10.E of this Permit, and in accordance with Attachment 51, Chapters 1.0 and 4.0, and Attachment 51, Appendices 8.1 through 8.15, 9.1 through 9.14, 9.18, 10.1 through 10.14, 10.18, and 11.1 through 11.15 of this Permit, as approved pursuant to Permit Conditions III.10.E.9.b through e. The Permittees shall limit the total volume of waste to quantities specified for the individual units listed in Permit Tables III.10.E.A through D, I, K, M, and O.

III.10.E.1.c. The Permittees shall manage ignitable and reactive, and incompatible waste in accordance with WAC 173-303-395(1). Any tank system specified in Permit Tables III.10.E.A through D and III.10.E, I, K, M, and O as approved/modified pursuant to Permit Condition III.10.E.9., in which ignitable, reactive, or incompatible waste are managed shall meet the requirements specified in WAC 173-303-640(9) and (10).

1 III.10.E.1.d. The Permittees shall ensure all certifications required by specialists (e.g., independent,  
2 qualified, registered professional engineer; independent corrosion expert; independent,  
3 qualified installation inspector; etc.) use the following statement or equivalent pursuant to  
4 Permit Condition III.10.C.10 of this Permit:

5 "I, (Insert Name) have (choose one or more of the following: overseen, supervised,  
6 reviewed, and/or certified) a portion of the design or installation of a new tank system or  
7 component located at (address), and owned/operated by (name(s)). My duties were: (e.g.,  
8 installation inspector, testing for tightness, etc.), for the following tank system components  
9 (e.g., the tank, venting piping, etc.), as required by the Dangerous Waste Regulations,  
10 namely, WAC 173-303-640(3) (applicable paragraphs (i.e., (a) through (g)).

11 "I certify under penalty of law that I have personally examined and am familiar with the  
12 information submitted in this document and all attachments and that, based on my inquiry of  
13 those individuals immediately responsible for obtaining the information, I believe that the  
14 information is true, accurate, and complete. I am aware that there are significant penalties  
15 for submitting false information, including the possibility of fine and imprisonment."

16 III.10.E.1.e. In all future permit submittals, the Permittees shall include tank names with the tank  
17 designation (e.g., Process Condensate Vessels located in the RLD System are designated  
18 V45028A and V45028B, respectively).

19 III.10.E.2 Tank System Design and Construction

20 III.10.E.2.a. The Permittees shall construct the tank systems identified in Permit Tables III.10.E.A  
21 through D, I, K, M, and O, as approved/modified pursuant to Permit Condition III.10.E.9., as  
22 specified in Attachment 51, Appendices 8.1 through 8.14, 9.1 through 9.14, 10.1 through  
23 10.14, and 11.1 through 11.14 of this Permit, as approved pursuant to Permit Conditions  
24 III.10.E.9.b., III.10.E.9.c., and III.10.E.9.d.

25 III.10.E.2.b. The Permittees shall construct all secondary containment systems identified in Permit Tables  
26 III.10.E.A through D, and I through P, as approved/modified pursuant to Permit Condition  
27 III.10.E.9., as specified in Attachment 51, Appendices 8.2, 8.4 through 8.15, 9.2, 9.4 through  
28 9.14, 9.18, 10.2, 10.4 through 10.14, 10.18 and 11.2, 11.4 through 11.15, 11.15 of this  
29 Permit, as approved pursuant to Permit Conditions III.10.E.9.b., III.10.E.9.c., and  
30 III.10.E.9.d.

31 III.10.E.2.c. Modifications to approved design, plans, and specifications in Attachment 51 of this Permit  
32 for the WTP Unit Tank Systems shall be allowed only in accordance with Permit Conditions  
33 III.10.C.2.e. and f., or III.10.C.2.g., III.10.C.9.d, e., and h.

34 III.10.E.3 Tank System Installation and Certification

35 III.10.E.3.a. The Permittees must ensure that proper handling procedures are adhered to in order to  
36 prevent damage to the system during installation. Prior to covering, enclosing, or placing a  
37 new tank system or component in use, an independent, qualified, installation inspector or an  
38 independent, qualified, registered professional engineer, either of whom is trained and  
39 experienced in the proper installation of tank systems or components, must inspect the  
40 system for the presence of any of the following items:

- 41 i. Weld breaks;
- 42 ii. Punctures;
- 43 iii. Scrapes of protective coatings;
- 44 iv. Cracks;
- 45 v. Corrosion;

1 vi. Other structural damage or inadequate construction/installation.

2 All discrepancies must be remedied before the tank system is covered, enclosed, or placed in  
3 use [WAC 173-303-640(3)(c)].

4 III.10.E.3.b. For tank systems or components that are placed underground and that are back-filled, the  
5 Permittees must provide a backfill material that is a non-corrosive, porous, homogeneous  
6 substance. The backfill must be installed so that it is placed completely around the tank and  
7 compacted to ensure that the tank and piping are fully and uniformly supported [WAC 173-  
8 303-640(3)(d)].

9 III.10.E.3.c. The Permittees must test for tightness all new tanks and ancillary equipment prior to these  
10 components being covered, enclosed, or placed into use. If a tank system is found not to be  
11 tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the  
12 tank system being covered, enclosed, or placed in use [WAC 173-303-640(3)(e)].

13 III.10.E.3.d. The Permittees must ensure ancillary equipment is supported and protected against physical  
14 damage and excessive stress due to settlement, vibration, expansion, or contraction [WAC  
15 173-303-640(3)(f)].

16 III.10.E.3.e. The Permittees must provide the type and degree of corrosion protection recommended by  
17 an independent corrosion expert, based on the information provided in Attachment 51,  
18 Appendices 8.9, 8.11, 9.9, 9.11, 10.9, 10.11, 11.9, and 11.11 of this Permit, as approved  
19 pursuant to Permit Conditions III.10.E.9.b.i., III.10.E.9.b.iv., III.10.E.9.b.v., III.10.E.9.c.i.,  
20 III.10.E.9.c.iv., III.10.E.9.c.v., III.10.E.9.d.i., III.10.E.9.d.iv., and III.10.E.9.d.v. or other  
21 corrosion protection if the Ecology believes other corrosion protection is necessary to ensure  
22 the integrity of the tank system during use of the tank system. The installation of a corrosion  
23 protection system that is field fabricated must be supervised by an independent corrosion  
24 expert to ensure proper installation [WAC 173-303-640(3)(g)].

25 III.10.E.3.f. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
26 shall obtain, and keep on file in the WTP Unit operating record, written statements by those  
27 persons required to certify the design of the tank system and supervise the installation of the  
28 tank system in accordance with the requirements of WAC 173-303-640(3)(b), (c), (d), (e),  
29 (f), and (g), attesting that each tank system and corresponding containment system listed in  
30 Permit Tables III.10.E.A through D and III.10.E.I through P, as approved/modified pursuant  
31 to Permit Condition III.10.E.9., were properly designed and installed, and that repairs,  
32 pursuant to WAC 173-303-640(3)(c) and (e) were performed [WAC 173-303-640(3)(a)  
33 WAC 173-303-640(3)(h)].

34 III.10.E.3.g. The independent tank system installation inspection and subsequent written statements shall  
35 be certified pursuant to Permit Condition III.10.E.1.d., comply with all requirements of  
36 WAC 173-303-640(3)(h) and shall consider, but not be limited to, the following tank system  
37 installation documentation:

38 i. Field installation report with date of installation;

39 ii. Approved welding procedures;

40 iii. Welder qualifications and certification;

41 iv. Hydro-test reports, as applicable, in accordance with the American Society of  
42 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1,  
43 American Petroleum Institute (API) Standard 620, or Standard 650 as applicable;

44 v. Tester credentials;

45 vi. Field inspector credentials;

- 1           vii. Field inspector reports;
- 2           viii. Field waiver reports; and
- 3           ix. Non-compliance reports and corrective action (including field waiver reports) and
- 4           repair reports.

5   **III.10.E.4 Integrity Assessments**

6   **III.10.E.4.a.** The Permittees shall ensure periodic integrity assessments are conducted on the WTP Unit  
7   Tank Systems listed in Permit Tables III.10.E.A through D, I, K, M, and O, as  
8   approved/modified pursuant to Permit Condition III.10.E.9., over the term of this Permit as  
9   specified in WAC 173-303-640(3)(b), following the description of the integrity assessment  
10   program and schedule in Attachment 51, Chapter 6.0 of this Permit, as approved pursuant to  
11   Permit Conditions III.10.E.9.e.i. and III.10.C.5.c. Results of the integrity assessments shall  
12   be included in the WTP Unit operating record until ten (10) years after post-closure, or  
13   corrective action is complete and certified, whichever is later.

14   **III.10.E.4.b.** The Permittees shall address problems detected during the tank integrity assessments  
15   specified in Permit Condition III.10.E.4.a. following the integrity assessment program in  
16   Attachment 51, Chapter 6.0 of this Permit, as approved pursuant to Permit Conditions  
17   III.10.E.9.e.i. and III.10.C.5.c.

18   **III.10.E.4.c.** The Permittees must immediately and safely remove from service any Tank System or  
19   secondary containment system which through an integrity assessment is found to be "unfit  
20   for use" as defined in WAC 173-303-040, following Permit Conditions III.10.E.5.i.i through  
21   iv., vi., and vii. The affected tank system or secondary containment system must be either  
22   repaired or closed in accordance with Permit Condition III.10.E.5.i.v. [WAC 173-303-  
23   640(7)(e) and (f), WAC 173-303-640(8)].

24   **III.10.E.5 Tank Management Practices**

25   **III.10.E.5.a.** No dangerous and/or mixed waste shall be managed in the WTP Unit Tank System unless  
26   the operating conditions, specified under Permit Condition III.10.E.5 are complied with.

27   **III.10.E.5.b.** The Permittees shall install and test all process and leak detection system  
28   monitoring/instrumentation, as specified in Permit Tables III.10.E.E through H, as  
29   approved/modified pursuant to Permit Condition III.10.E.9., in accordance with Attachment  
30   51, Appendices 8.1, 8.2, 8.14, 9.1, 9.2, 9.14, 10.1, 10.2, 10.14, 11.1, 11.2, and 11.14 of this  
31   Permit, as approved pursuant to Permit Conditions III.10.E.9.e.ix. and III.10.E.9.d.x.

32   **III.10.E.5.c.** The Permittees shall not place dangerous and/or mixed waste, treatment reagents, or other  
33   materials in the WTP Unit Tank System if these substances could cause the tank system to  
34   rupture, leak, corrode, or otherwise fail [WAC 173-303-640(5)(a)].

35   **III.10.E.5.d.** The Permittees shall operate the WTP Unit Tank System to prevent spills and overflows  
36   using the description of controls and practices as required under WAC 173-303-640(5)(b)  
37   described in Permit Condition III.10.C.5, and Attachment 51, Appendices 8.15, 9.18, 10.18,  
38   and 11.15 of this Permit, as approved pursuant to Permit Condition III.10.E.9.e.iv. [WAC  
39   173-303-640(5)(b), WAC 173-303-806(4)(c)(ix)].

40   **III.10.E.5.e.** For routinely non-accessible WTP Unit Tank Systems, as specified in Attachment 51,  
41   Chapter 4.0 of this Permit, as updated pursuant to Permit Condition III.10.E.9.e.vi., the  
42   Permittees shall mark all routinely non-accessible tank system access points with labels or  
43   signs to identify the waste contained in the tanks. The label, or sign, must be legible at a  
44   distance of at least fifty (50) feet and must bear a legend that identifies the waste in a manner  
45   which adequately warns employees, emergency response personnel, and the public of the  
46   major risk(s) associated with the waste being stored or treated in the tank system(s). For the

1 purposes of this Permit condition, “routinely non-accessible” means personnel are unable to  
2 enter these areas while waste is being managed in them [WAC 173-303-640(5)(d)].

3 III.10.E.5.f. For all tank systems not addressed in Permit Condition III.10.E.5.e., the Permittees shall  
4 mark all these tank systems holding dangerous and/or mixed waste with labels or signs to  
5 identify the waste contained in the tank. The labels, or sign, must be legible at a distance of  
6 at least fifty (50) feet, and must bear a legend that identifies the waste in a manner which  
7 adequately warns employees, emergency response personnel, and the public of the major  
8 risk(s) associated with the waste being stored or treated in the tank system(s) [WAC 173-  
9 303-640(5)(d)].

10 III.10.E.5.g. The Permittees shall ensure that the secondary containment systems for the WTP Unit Tank  
11 Systems listed in Permit Tables III.10.E.A through D, I, K, M, and O, as approved/modified  
12 pursuant to Permit Condition III.10.E.9., are free of cracks or gaps to prevent any migration  
13 of dangerous and/or mixed waste or accumulated liquid out of the system to the soil, ground  
14 water, or surface water at any time that waste is in the tank system. Any indication that a  
15 crack or gap may exist in the containment systems shall be investigated and repaired in  
16 accordance with Attachment 51, Appendices 8.15, 9.18, 10.18, and 11.15 of this Permit, as  
17 approved pursuant to Permit Condition III.10.E.9.e.v [WAC 173-303-320, WAC 173-303-  
18 640(4)(b)(i), WAC 173-303-640(4)(e)(i)(C), WAC 173-303-640(6), and WAC 173-303-  
19 806(4)(c)(vii)].

20 III.10.E.5.h. An impermeable coating, as specified in Attachment 51, Appendices 8.4, 8.5, 8.7, 8.9, 8.11,  
21 8.12, 9.4, 9.5, 9.7, 9.9, 9.11, 9.12, 10.4, 10.5, 10.7, 10.9, 10.11, 10.12, 11.4, 11.5, 11.7, 11.9,  
22 11.11, and 11.12 of this Permit, as approved pursuant to Permit Condition III.10.E.9.b.v.,  
23 shall be maintained for all concrete containment systems and concrete portions of  
24 containment systems for each WTP Unit Tank System listed in Permit Tables III.10.E.A  
25 through D and I through P, as approved/modified pursuant to Permit Condition III.10.E.9.  
26 Concrete containment systems that do not have a liner and have construction joints, must  
27 meet the requirements of WAC 173-303-640(4)(e)(ii)(C) and -806(4)(c)(vii). The coating  
28 shall prevent migration of any dangerous and/or mixed waste into the concrete. All coatings  
29 shall meet the following performance standards:

- 30 i. The coating must seal the containment surface such that no cracks, seams, or other  
31 avenues through which liquid could migrate are present;
- 32 ii. The coating must be of adequate thickness and strength to withstand the normal  
33 operation of equipment and personnel within the given area such that degradation or  
34 physical damage to the coating or lining can be identified and remedied before  
35 dangerous and/or mixed waste could migrate from the system; and
- 36 iii. The coating must be compatible with the dangerous and/or mixed waste, treatment  
37 reagents, or other materials managed in the containment system [WAC 173-303-  
38 640(4)(e)(ii)(D), WAC 173-303-806(4)(c)(vii)].

39 III.10.E.5.i. The Permittees shall inspect all secondary containment systems for WTP Unit Tank Systems  
40 listed in Permit Tables III.10.E.A through D and I through P, as approved/modified pursuant  
41 to Permit Condition III.10.E.9., in accordance with the Inspection Schedule specified in  
42 Attachment 51, Chapter 6.0 of this Permit, as approved pursuant to Permit Conditions  
43 III.10.E.9.e.v. and III.10.C.5., and take the following actions if a leak or spill of dangerous  
44 and/or mixed waste is detected in these containment systems [WAC 173-303-320, WAC  
45 173-303-640(5)(c), WAC 173-303-640(6), WAC 173-303-806(4)(a)(v)]:

- 1 i. Immediately and safely stop the flow of dangerous and/or mixed waste into the tank  
2 system or secondary containment system, in accordance with procedures based on all  
3 applicable safety analysis documentation;
  - 4 ii. Determine the source of the dangerous and/or mixed waste;
  - 5 iii. Remove the waste from the secondary containment area pursuant to WAC 173-303-  
6 640(7)(b). The waste removed from containment areas of WTP Unit Tank Systems  
7 shall be managed as dangerous and/or mixed waste;
  - 8 iv. If the cause of the release was a spill that has not damaged the integrity of the tank  
9 system, the Permittees may return the tank system to service pursuant to WAC 173-  
10 303-640(7)(e)(ii). In such a case, the Permittees shall take action to ensure the incident  
11 that caused liquid to enter the containment systems of these tank systems will not  
12 reoccur [WAC 173-303-320(3);
  - 13 v. If the source of the dangerous waste and/or mixed waste is determined to be a leak  
14 from a primary WTP Unit Tank System, or the system is unfit for use as determined  
15 through an integrity assessment or other inspection, the Permittees must comply with  
16 the requirements of WAC 173-303-640(7) and take the following actions [WAC 173-  
17 303-640(5)(c)]:
    - 18 A. Close the tank system according to procedures in WAC 173-303-640(7)(e)(i), and  
19 Attachment 51, Chapter 11.0 of this Permit, as approved pursuant to Permit  
20 Condition III.10.C.8; or
    - 21 B. Repair and re-certify (in accordance with WAC 173-303-810(13)(a) as modified  
22 pursuant to Permit Condition III.10.E.1.d.) the tank system in accordance with  
23 Attachment 51, Appendices 8.15, 9.18, 10.18, and 11.15 of this Permit, as  
24 approved pursuant to Permit Condition III.10.E.9.e.v. before the tank system is  
25 placed back into service [WAC 173-303-640(7)(e) and (f), and WAC 173-303-  
26 806(4)(c)(vii)];
  - 27 vi. The Permittees shall document in the operating record actions/procedures taken to  
28 comply with i. through v. above in accordance with WAC 173-303-640(6)(d);
  - 29 vii. The Permittees shall notify and report releases to the environment to Ecology in  
30 accordance with WAC 173-303-640(7)(d).
- 31 III.10.E.5.j. If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire water  
32 liquids from damaged or broken pipes) can not be removed from the secondary containment  
33 system within twenty-four (24) hours, Ecology will be verbally notified within twenty-four  
34 (24) hours of discovery. The notification shall provide the information in A, B, and C listed  
35 below. The Permittees shall provide Ecology with a written demonstration within seven (7)  
36 business days, identifying at a minimum [WAC 173-303-640(4)(c)(iv), WAC 173-303-  
37 640(7)(b)(ii), WAC 173-303-806(4)(c)(vii)]:
- 38 A. Reasons for delayed removal;
  - 39 B. Measures implemented to ensure continued protection of human health and the  
40 environment;
  - 41 C. Current actions being taken to remove liquids from secondary containment.
- 42 III.10.E.5.k. The Permittees shall operate the WTP Unit Tank System in accordance with Attachment 51,  
43 Chapter 4.0 as updated pursuant to Permit Condition III.10.E.9.e.vi. and Appendices 8.15,  
44 9.18, 10.18, and 11.15 of this Permit, as approved pursuant to Permit Condition III.10.E.9.e.,  
45 and the following:

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- i. The Permittees shall operate the WTP Unit Tank System in order to maintain the systems and process parameters listed in Permit Tables III.10.E.E through H, as approved/modified pursuant to Permit Condition III.10.E.9., within the operating trips and operating ranges specified in Permit Tables III.10.E.E through H, and consistent with assumptions and basis which are reflected in Attachment 51, Appendix, 6.3.1. as approved pursuant to Permit Condition III.10.C.11.b. [WAC 173-303-815(2)(b)(ii) and WAC 173-303-640(5)(b)]. For the purposes of this permit condition, Attachment 51, Appendix 6.3.1 shall be superceded by Appendix 6.4.1 upon its approval pursuant to either Permit Conditions III.10.C.11.c. or III.10.C.11.d.;
- ii. The Permittees shall calibrate/function test the instruments listed on Permit Tables III.10.E.E through H in accordance with Attachment 51, Appendices 8.15, 9.18, 10.18, and 11.15 of this Permit, as approved pursuant to Permit Condition III.10.E.9.e.xi.

III.10.E.5.l. Tank systems that have the potential for formation and accumulation of hydrogen gases must be operated to maintain hydrogen levels below the lower explosive limit [WAC 173-303-815(2)(b)(ii)].

III.10.E.5.m. For each tank system holding dangerous waste which are acutely or chronically toxic by inhalation, operate the system to prevent escape of vapors, fumes or other emissions into the air [WAC 173-303-640(5)(e), WAC 173-303-806(4)(c)(xii)].

III.10.E.6 Inspections [WAC 173-303-640(6)]

III.10.E.6.a. The Permittees shall inspect the WTP Unit Tank Systems in accordance with the Inspection Schedules in Attachment 51, Chapter 6.0 of this Permit, as modified pursuant to Permit Condition III.10.C.5.c.

III.10.E.6.b. The inspection data for the WTP Unit Tank Systems shall be recorded, and the records shall be placed in the WTP Unit operating record, in accordance with Permit Condition III.10.C.4.

III.10.E.7 Recordkeeping (WAC 173-303-380)

For the WTP Unit Tank Systems, the Permittees shall record and maintain in the WTP Unit operating record, all monitoring, calibration, recording, maintenance, test data, and inspection data compiled under the conditions of this Permit, in accordance with Permit Conditions III.10.C.4. and III.10.C.5.

III.10.E.8 Closure

The Permittees shall close the WTP Unit Tank Systems in accordance with Attachment 51, Chapter 11.0 of this Permit, as approved pursuant to Permit Condition III.10.C.8.

III.10.E.9 Compliance Schedule

III.10.E.9.a. All information identified for submittal to Ecology in b. through e. of this compliance schedule must be signed and certified in accordance with requirements in WAC 173-303-810(12), as modified in accordance with Permit Condition III.10.E.1.d. [WAC 173-303-806(4)].

III.10.E.9.b. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., prior to construction of each secondary containment and leak detection system for the WTP Unit Tank System (per level, per WTP Unit building and outside the WTP Unit buildings) as identified in Permit Tables III.10.E.A through D, J, L, N, and P, engineering information as specified below, for incorporation into Attachment 51, Appendices 8.4, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12, 9.4, 9.5, 9.7, 9.8, 9.9, 9.11, 9.12, 10.4, 10.5, 10.7, 10.8, 10.9, 10.11, 11.4, 11.5, 11.7, 11.8, 11.9, and 11.11 of this Permit. At a minimum, engineering information specified below will show the following as required pursuant to WAC 173-303-640 (the information

1 specified below will include dimensioned engineering drawings and information on sumps  
2 and floor drains):

- 3 i. IQRPE Reports (specific to foundation, secondary containment, and leak detection  
4 system) shall include review of design drawings, calculations, and other information on  
5 which the certification report is based and shall include as applicable, but not limited  
6 to, review of such information described below. Information (drawings, specifications,  
7 etc.) already included in Attachment 51, Appendices 8.0 through 11.0 of this Permit,  
8 may be included in the report by reference and should include drawing and document  
9 numbers. IQRPE Reports shall be consistent with the information separately provided  
10 in ii. through ix. below. The IQRPE Report(s) (specific to foundation, secondary  
11 containment and leak detection system) for the LAW and HLW buildings (-21 foot  
12 elevation only) shall be submitted with the first IQRPE Report for tanks, identified in  
13 Permit Condition III.10.E.9.c.i. [WAC 173-303-640(3)(a), WAC 173-303-  
14 806(4)(c)(i)];
- 15 ii. Design drawings (General Arrangement Drawings in plan and cross sections) and  
16 specifications for the foundation, secondary containment, including, liner installation  
17 details, and leak detection methodology [Note: leak detection systems for areas where  
18 daily, direct, or remote visual inspection is not feasible, shall be continuous in  
19 accordance with WAC 173-303-640(4)(e)(iii)(C)]. These items should show the  
20 dimensions, volume calculations, and location of the secondary containment system,  
21 and should include items such as floor/pipe slopes to sumps, tanks, floor drains [WAC  
22 173-303-640(4)(b) through (f), WAC 173-303-640(3)(a), WAC 173-303-806(4)(c)(i)];
- 23 iii. The Permittees shall provide the design criteria (references to codes and standards, load  
24 definitions, and load combinations, materials of construction, and analysis/design  
25 methodology) and typical design details for the support of the secondary containment  
26 system. This information shall demonstrate the foundation will be capable of providing  
27 support to the secondary containment system, resistance to pressure gradients above  
28 and below the system, and capable of preventing failure due to settlement,  
29 compression, or uplift [WAC 173-303-640(4)(c)(ii), WAC 173-303-806(4)(c)(vii)];
- 30 iv. A description of materials and equipment used to provide corrosion protection for  
31 external metal components in contact with soil, including factors affecting the potential  
32 for corrosion as required under WAC 173-303-640(3)(a)(iii)(B) [WAC 173-303-  
33 806(4)(c)(v)];
- 34 v. Secondary containment/foundation and leak detection system materials selection  
35 documentation (including, but not limited to, concrete coatings and water stops, and  
36 liner materials as applicable) [WAC 173-303-806(4)(c)(i)];
- 37 vi. Detailed description of how the secondary containment for each tank system will be  
38 installed in compliance with WAC 173-303-640(3)(c) [WAC 173-303-806(4)(c)(vi)];
- 39 vii. Submit Permit Tables III.10.E.J, L, N, and P, completed to provide for all secondary  
40 containment sumps and floor drains, the information as specified in each column  
41 heading, consistent with information to be provided in i. through vi. above;
- 42 viii. Documentation that secondary containment and leak detection systems will not  
43 accumulate hydrogen gas levels above the lower explosive limit for incorporation into  
44 the Administrative Record [WAC 173-303-340].
- 45 ix. A detailed description of how tank system design provides access for conducting future  
46 tank integrity assessments [WAC 173-303-640(3)(b), WAC 173-303-806(4)(c)(vi)];

- 1 III.10.E.9.c. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., prior to  
2 installation of each tank as identified in Permit Tables III.10.E.A through D, and I, K, M,  
3 and O engineering information as specified below, for incorporation into Attachment 51,  
4 Appendices 8.1 through 8.9, 8.11 through 8.14, 9.1 through 9.9, 9.11 through 9.14, 10.1  
5 through 10.9, 10.11 through 10.14, 11.1 through 11.9, and 11.11 through 11.14 of this  
6 Permit. Tanks shall include primary sumps. At a minimum, engineering information  
7 specified below will show the following as required pursuant to WAC 173-303-640 (the  
8 information specified below will include dimensioned engineering drawings):
- 9 i. IQRPE Reports (specific to tanks) shall include review of design drawings,  
10 calculations, and other information on which the certification report is based and shall  
11 include as applicable, but not limited to, review of such information described below.  
12 Information (drawings, specifications, etc.) already included in Attachment 51,  
13 Appendices 8.0 through 11.0 of this Permit, may be included in the report by reference  
14 and should include drawing and document numbers. The IQRPE Reports shall be  
15 consistent with the information separately provided in ii. through xiv. below and the  
16 IQRPE Report specified in Permit Condition III.10.E.9.b.i. [WAC 173-303-640(3)(a),  
17 WAC 173-303-806(4)(c)(i)];
  - 18 ii. Design drawings (General Arrangement Drawings in plan and cross sections, Process  
19 Flow Diagrams, Piping and Instrumentation Diagrams [including pressure control  
20 systems], Mechanical Drawings) and specifications, and other information, specific to  
21 tanks (to show location and physical attributes of each tank) [WAC 173-303-640(3)(a),  
22 WAC 173-303-806(4)(c)(i) through (iv)];
  - 23 iii. The Permittees shall provide the design criteria (references to codes and standards, load  
24 definitions, and load combinations, materials of construction, and analysis/design  
25 methodology) and typical design details for the support of the tank(s). Structural  
26 support calculations specific to off-specification, non-standard, and field fabricated  
27 tanks shall be submitted for incorporation into the Administrative Record [WAC 173-  
28 303-640(3)(a), WAC 173-303-806(4)(c)(i)];
  - 29 iv. A description of materials and equipment used to provide corrosion protection for  
30 external metal components in contact with water, including factors affecting the  
31 potential for corrosion as required under WAC 173-303-640(3)(a)(iii)(B) [WAC 173-  
32 303-806(4)(c)(v)];
  - 33 v. Tank materials selection documentation (e.g., physical and chemical tolerances) [WAC  
34 173-303-640(3)(a), WAC 173-303-806(4)(c)(i)];
  - 35 vi. Tank vendor information (including, but not limited to required performance  
36 warranties, as available), consistent with information submitted under ii. above, shall  
37 be submitted for incorporation into the Administrative Record [WAC 173-303-640, and  
38 WAC 173-303-806(4)(c)];
  - 39 vii. System Descriptions (process) related to tanks shall be submitted for incorporation into  
40 the Administrative Record;
  - 41 viii. Mass balance for each projected operating condition, including assumptions and  
42 formulas used to complete the mass balance, so that they can be independently verified,  
43 and shall be submitted for incorporation into the Administrative Record;
  - 44 ix. A detailed description of how the tanks will be installed in compliance with WAC 173-  
45 303-640(3)(c), (d), and (e) [WAC 173-303-806(4)(c)(vi)];

- 1 x. Submit Permit Tables III.10.E.I, K, M, and O, completed to provide for all primary  
2 containment sumps and floor drains, the information as specified in each column  
3 heading, consistent with information to be provided in i. through ix.;
- 4 xi. Documentation that tanks are designed to prevent the accumulation of hydrogen gas  
5 levels above the lower explosive limit for incorporation into the Administrative Record  
6 [WAC 173-303-340];
- 7 xii. Documentation that tanks are designed to prevent escape of vapors and emissions of  
8 acutely or chronically toxic (upon inhalation) EHW limit for incorporation into the  
9 Administrative Record [WAC 173-303-640(5)(e), WAC 173-303-806(4)(c)(xii)];
- 10 III.10.E.9.d. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., prior to  
11 installation of ancillary equipment for each tank system, as identified in Permit Tables  
12 III.10.E.A, through D, and I through P, not addressed in Permit Condition III.10.E.9.c.,  
13 engineering information as specified below, for incorporation into Attachment 51,  
14 Appendices 8.1 through 8.9, 8.11 through 8.14, 9.1 through 9.9, 9.11 through 9.14, 10.1  
15 through 10.9, 10.11 through 10.14, 11.1 through 11.9, and 11.11 through 11.14 of this  
16 Permit. At a minimum, engineering information specified below will show the following as  
17 required pursuant to WAC 173-303-640 (the information specified below will include  
18 dimensioned engineering drawings):
- 19 i. IQRPE Reports (specific to ancillary equipment) shall include a review of design  
20 drawings, calculations, and other information as applicable, on which the certification  
21 report is based. The reports shall include, but not be limited to, review of such  
22 information described below. Information (drawings, specifications, etc.) already  
23 included in Attachment 51, Appendix 8.0 through 11.0 of this Permit, may be included  
24 in the report by reference and should include drawing and document numbers. The  
25 IQRPE Reports shall be consistent with the information provided separately in ii.  
26 through xiii. below and the IQRPE Reports specified in Permit Conditions III.10.E.9.b  
27 and III.10.E.9.c. [WAC 173-303-640(3)(a), WAC 173-303-806(4)(c)(i)];
- 28 ii. Design drawings (Process Flow Diagrams, Piping and Instrumentation Diagrams  
29 [including pressure control systems], etc.) specifications (including required  
30 performance warranties), and other information specific to ancillary equipment (these  
31 drawings should include all equipment such as pipe, valves, fittings, pumps,  
32 instruments, etc.) [WAC 173-303-640(3)(a), WAC 173-303-806(4)(c)(i), (iii), (iv)];
- 33 iii. The Permittees shall provide the design criteria (references to codes and standards, load  
34 definitions, and load combinations, materials of construction, and analysis/design  
35 methodology) and typical design details for the support of the ancillary equipment  
36 [WAC 173-303-640(3)(a), WAC 173-303-640(3)(f), WAC 173-303-806(4)(c)(i)];
- 37 iv. A description of materials and equipment used to provide corrosion protection for  
38 external metal components in contact with soil and water, including factors affecting  
39 the potential for corrosion as required under WAC 173-303-640(3)(a)(iii)(B) [WAC  
40 173-303-806(4)(c)(v)];
- 41 v. Materials selection documentation for ancillary equipment (e.g., physical and chemical  
42 tolerances) [WAC 173-303-640(3)(a), WAC 173-303-806(4)(c)(i)];
- 43 vi. Vendor information, consistent with information submitted under ii. above, shall be  
44 submitted for incorporation into the Administrative Record [WAC 173-303-640, and  
45 WAC 173-303-806(4)(c)];

- 1           vii. Tank, ancillary equipment, and leak detection system instrument control logic narrative  
2           description (e.g., software functional specifications, descriptions of fail-safe conditions,  
3           etc.);
- 4           viii. System Descriptions (process) related to ancillary equipment and system descriptions  
5           related to leak detection systems, (including instrument control logic and narrative  
6           descriptions), for incorporation into the Administrative Record;
- 7           ix. A detailed description of how the ancillary equipment will be installed and tested  
8           [WAC 173-303-640(3)(c) through (e), WAC 173-303-640(4)(b) and (c), and WAC  
9           173-303-806(4)(c)(vi)];
- 10          x. For process monitoring, control, and leak detection system instrumentation for the  
11          WTP Unit Tank System as identified in Permit Tables III.10.E.E through H, a detailed  
12          description of how the process monitoring, control, and leak detection system  
13          instrumentation will be installed and tested [WAC 173-303-640(3)(c) through (e),  
14          WAC 173-303-640(4)(b) and (c), WAC 173-303-806(4)(c)(vi)];
- 15          xi. Mass balance for projected normal operating condition used in developing the process  
16          and instrumentation diagrams, including assumptions and formulas used to complete  
17          the mass balance, so that they can be independently verified, for incorporation into the  
18          Administrative Record;
- 19          xii. Documentation that ancillary equipment is designed to prevent the accumulation of  
20          hydrogen gas levels above the lower explosive limit for incorporation into the  
21          Administrative Record [WAC 173-303-340].
- 22          xiii. Leak detection system documentation (e.g. vendor information, etc.) consistent with  
23          information submitted under Permit Condition III.10.E.9.c.ii. and Permit Conditions  
24          III.10.E.9.d.ii., vii., viii. and x. above, shall be submitted for incorporation into the  
25          Administrative Record.

26

27   III.10.E.9.e. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
28   shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., the following as  
29   specified below for incorporation into Attachment 51, Appendices 8.15, 9.18, 10.18, 11.15  
30   of this Permit, except Permit Condition III.10.E.9.e.v., which will be incorporated into  
31   Attachment 51, Chapter 6.0 of this Permit. All information provided under this permit  
32   condition must be consistent with information provided pursuant to Permit Conditions  
33   III.10.E.9.b., c., d., and e., III.10.C.3.e., and III.10.C.11.b., as approved by Ecology.

- 34          i. Integrity assessment program and schedule for all WTP Unit tanks shall address the  
35          conducting of periodic integrity assessments on all WTP Unit tanks over the life of the  
36          tank, in accordance with III.10.E.9.b.ix. and WAC 173-303-640(3)(b), and descriptions  
37          of procedures for addressing problems detected during integrity assessments. The  
38          schedule must be based on past integrity assessments, age of the tank system, materials  
39          of construction, characteristics of the waste, and any other relevant factors [WAC 173-  
40          303-640(3)(b), WAC 173-303-806(4)(c)(vi)];
- 41          ii. Detailed plans and descriptions, demonstrating the leak detection system is operated so  
42          that it will detect the failure of either the primary or secondary containment structure or  
43          the presence of any release of dangerous and/or mixed waste, or accumulated liquid in  
44          the secondary containment system within twenty-four (24) hours. Detection of a leak  
45          of at least 0.1 gallons per hour within twenty-four (24) hours is defined as being able to

- 1 detect a leak within twenty-four (24) hours. Any exceptions to this criteria must be  
2 approved by Ecology [WAC 173-303-640(4)(c)(iii), WAC 173-303-806(4)(c)(vii)];
- 3 iii. Detailed operational plans and descriptions, demonstrating that spilled or leaked waste  
4 and accumulated liquids can be removed from the secondary containment system  
5 within twenty-four (24) hours [WAC 173-303-806(4)(c)(vii)];
- 6 iv. Descriptions of operational procedures demonstrating appropriate controls and  
7 practices are in place to prevent spills and overflows from tanks or containment  
8 systems in compliance with WAC 173-303-640(5)(b)(i) through (iii) [WAC 173-303-  
9 640(5)(b), WAC 173-303-806(4)(c)(ix)];
- 10 v. Description of procedures for investigation and repair of tank systems [WAC 173-303-  
11 320, WAC 173-303-640(6), WAC 173-303-640(7)(e) and (f), WAC 173-303-  
12 806(4)(a)(v), WAC 173-303-806(4)(c)(vii)];
- 13 vi. Updated Chapter 4.0, Narrative Descriptions, Tables and Figures as identified in Permit  
14 Tables III.10.E.A through D (as modified pursuant to Permit Condition  
15 III.10.E.9.e.xii.) and updated to identify routinely non-accessible tank systems;
- 16 vii. Description of procedures for management of ignitable and reactive, and incompatible  
17 dangerous and/or mixed waste in accordance with WAC 173-303-640(9) and (10)  
18 [WAC 173-303-806(4)(c)(x)].
- 19 viii. A description of the tracking system used to track dangerous and/or mixed waste  
20 throughout the WTP Unit Tank System, pursuant to WAC 173-303-380.
- 21 ix. Permit Tables III.10.E.E through H shall be completed for WTP Unit Tank System  
22 process and leak detection system monitors and instruments (to include but not limited  
23 to: instruments and monitors measuring and/or controlling flow, pressure, temperature,  
24 density, pH, level, humidity, and emission) to provide the information as specified in  
25 each column heading. Process and leak detection system monitors and instruments for  
26 critical systems as specified in Attachment 51, Appendix 2.0 and as updated pursuant  
27 to Permit Condition III.10.C.9.b. and for operating parameters as required to comply  
28 with Permit Condition III.10.C.3.e.iii. shall be addressed. Process monitors and  
29 instruments for non-waste management operations (e.g., utilities, raw chemical storage,  
30 non-contact cooling waters, etc.) are excluded from this permit condition.
- 31 x. Supporting documentation for operating trips and expected operating range as specified  
32 in Permit Tables III.10.E.E through H as approved pursuant to Permit Condition  
33 III.10.E.9.e.ix.
- 34 xi. Documentation of process and leak detection instruments and monitors (as listed in  
35 Permit Tables III.10.E.E through H) for the WTP Unit Tank Systems to include but not  
36 be limited to the following:
- 37 A. Procurement specifications;
- 38 B. Location used;
- 39 C. Range, precision, and accuracy;
- 40 D. Detailed descriptions of Calibration/functionality test procedures (e.g., method  
41 number [ASTM]) or provide a copy of manufacturer's recommended calibration  
42 procedures;
- 43 E. Calibration/functionality test, inspection, and routine maintenance schedules and  
44 checklists, including justification for calibration, inspection and maintenance  
45 frequencies, criteria for identifying instruments found to be significantly out of

- 1 calibration, and corrective action to be taken for instruments found to be  
2 significantly out of calibration (e.g., increasing frequency of calibration,  
3 instrument replacement, etc.);
- 4 F. Equipment instrument control logic narrative description (e.g., software functional  
5 specifications, descriptions of fail safe conditions, etc.), as identified in Permit  
6 Tables III.10.E.E through H not addressed in Permit Condition III.10.E.9.d.
- 7 xii. Permit Tables III.10.E.A through D amended as follows:
- 8 A. Under column 1, update and complete list of dangerous and/or mixed waste tank  
9 systems, including plant items that comprise each system (listed by item number);
- 10 B. Under column 2, update and complete system designations;
- 11 C. Under column 3, replace the 'reserved' with the Attachment 51, Appendices 8.0,  
12 9.0, 10.0, and 11.0, subsections specific to tank systems as listed in column 1;
- 13 D. Under column 4, update and complete list of narrative description tables and  
14 figures;
- 15 E. Under column 5, update and complete maximum capacity, for each tank.
- 16 xiii. Permit Tables III.10.E.I, K, M, and O amended as follows:
- 17 A. Under column 1, replace the 'reserved' with the updated and complete list of  
18 sump numbers and room location;
- 19 B. Under column 2, replace the 'reserved' with the updated and complete maximum  
20 sump capacities in gallons;
- 21 C. Under column 3, replace the 'reserved' with the updated and complete sump  
22 dimensions and materials of construction;
- 23 D. Under column 4, replace the 'reserved' with the updated and complete list of  
24 engineering descriptions (drawing numbers, specifications, etc.);
- 25

Table III.10.E.A – Pretreatment Plant Tank Systems Description

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Waste Feed Receipt Vessels (FRP VSL-00002-A/B/C/D)	FRP (Waste Feed Receipt Process System)	<u>24590-PTF</u> -M2-FRP-P0001 -M2-FRP-P0002 -M2-FRP-P0003 -M2-FRP-P0004 -M5-V17T-P0003 -M5-V17T-P0006 -M5-V17T-P0009 -M5-V17T-P0010 -M5-V17T-P0011 -M6-FRP-P0001 -M6-FRP-P0002 -MVD-FRP-00001 -MVD-FRP-00002 -MVD-FRP-00003 -MVD-FRP-00004 -MVD-FRP-P0005 -MVD-FRP-P0006 -MVD-FRP-P0007 -MVD-FRP-P0008 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0008 -P1-P01T-P0009 -P1-P01T-P0010 -M6-PWD-P0034 -P1-P01T-P0011 -P1-P01T-P0016 -P1-P01T-P0017	Section 4.1.2.1; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-5, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	FRP-VSL-00002-A = 474,000 FRP-VSL-00002-B = 474,000 FRP-VSL-00002-C = 474,000 FRP-VSL-00002-D = 474,000
Waste Feed Evaporator Feed Vessels (FEP-VSL-00017A/B)  LAW Feed Evaporator Condensate Pot	FEP (Waste Feed Evaporation Process)	<u>24590-PTF</u> -M5-V17T-P0006 -M5-V17T-P0009 -M5-V17T-P0010	Section 4.1.2.2; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-6, 4A-61, 4A-62, 4A-63, 4A-78, 4A-79, 4A-80 of Attachment 51, Chapter 4.0 of this	FEP-VSL-00017A = 59,070 FEP-VSL-00017B = 90,070 FEP-VSL-00005 = 1,190

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
(FEP-VSL-00005)	System)	-M5-V17T-P0011 -M5-V17T-P0004001 -M6-FEP-P0001 -M6-FEP-P0003 -M6-FEP-P0006 -M6-FEP-P0007 -M6-FEP-P0008 -MED-FEP-00001 -MED-FEP-P0003 -MED-FEP-P0004 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0007 -P1-P01T-P0008 -P1-P01T-P0015 -P1-P01T-P0016 -MV-FEP-P0001 -MV-FEP-P0002	Permit.	
Ultrafilter Permeate Vessels (UFP-VSL-00062A/B/C)  Ultrafiltration Feed Preparation Vessels (UFP-VSL-00001A/B)  Ultrafiltration Feed Vessels (UFP-VSL-00002A/B)  Ultrafilters (UFP-FILT-00001A/B, UFP-FILT-00002A/B, UFP-FILT-00003A/B)	UFP (Ultrafiltration Process System)	<b>24590-PTF</b> -M5-V17T-P0006 -M5-V17T-P0009 -M5-V17T-P0010 -M5-V17T-P0011 -M6-UFP-P0001 -M6-UFP-P0002 -M6-UFP-P0003 -M6-UFP-P0004 -M6-UFP-P0005 -M6-UFP-P0006 -M6-UFP-P0007 -M6-UFP-P0008 -M6-UFP-P0009 -M6-UFP-P0010 -M6-UFP-P0011 -M6-UFP-P0013	Section 4.1.2.3; Table 4-3 and 4-11; Figures 4A-1, 4A-2, 4A-7, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	UFP-VSL-00062A = 34,700 UFP-VSL-00062B = 34,700 UFP-VSL-00062C = 34,700 UFP-VSL-00001A = 75,593 UFP-VSL-00002A = 40,783 UFP-VSL-00001B = 75,593 UFP-VSL-00002B = 40,783 UFP-FILT-00001A= RESERVED UFP-FILT-00001B= RESERVED UPF-FILT-00002A= RESERVED UPF-FILT-00002B= RESERVED UPF-FILT-00003A= RESERVED UPF-FILT-00003B= RESERVED

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
		-M6-UFP-P0015 -M6-UFP-P0016 -M6-UFP-P0017 -MV-UFP-P0001 -MV-UFP-P0002 -MV-UFP-P0003 -MV-UFP-P0004 -MV-UFP-P0005 -MV-UFP-P0006 -MV-UFP-P0007 -MVC-UFP-00001 -MVC-UFP-00002 -MVC-UFP-00003 -MVC-UFP-P0001 -MVC-UFP-P0002 -MVC-UFP-P0005 -MVC-UFP-P0006 -MVC-UFP-P0007 -MVC-UFP-P0014 -MVC-UFP-P0015 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0008 -P1-P01T-P0009 -P1-P01T-P0014 -P1-P01T-P0015		
HLW Feed Receipt Vessel (HLP-VSL-00022)  HLW Feed Blending Vessel (HLP-VSL-00028)  Sr/TRU Lag Storage Vessels (HLP-VSL-00027A/B)	HLP (HLW Lag Storage and Feed Blending Process system)	<u>24590-PTF-</u> -M5-V17T-P0006 -M5-V17T-P0007 -M5-V17T-P0008 -M5-V17T-P0009 -M5-V17T-P0010 -M5-V17T-P0011 -M6-HLP-P0001 -M6-HLP-P0002	Section 4.1.2.4; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-8, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	HLP-VSL-00022 = 270,600 HLP-VSL-00028 = 142,200 HLP-VSL-00027A = 127,260 HLP-VSL-00027B = 127,260 V12001D = 96,900 V12001E = 96,900

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Lag Storage Vessels (V12001D/E)		-M6-HLP-P0003 -M6-HLP-P0005 -M6-HLP-P0006 -M6-HLP-P0007 -M6-HLP-P0009 -M6-HLP-P0010 -MV-HLP-P0003 -MV-HLP-P0004 -MV-HLP-P0005 -MV-HLP-P0006 -MVD-HLP-P0006 -MVD-HLP-P0007 -MVD-HLP-P0008 -MVD-HLP-P0009 -N1D-HLP-P0003 -N1D-HLP-P0007 -N1D-HLP-P0010 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0008 -P1-P01T-P0013 -P1-P01T-P0014		
Cesium Ion Exchange Columns (CXP-IXC-00001/2/3/4)  Cs IX Feed Vessel (CXP-VSL-00001)  Caustic Rinse Collection Vessel (CXP-VSL-00004)  Cesium Ion Exchange Treated LAW Collection Vessels (VSL-00026A/B/C)  Cs Reagent Vessel (CXP-VSL-00005)	CXP (Cesium Ion Exchange Process System)	<u>24590-PTF</u> -M5-V17T-P0012 -M5-V17T-P0013 -M5-V17T-P0025 -M6-CXP-P0001 -M6-CXP-P0002 -M6-CXP-P0003 -M6-CXP-P0005 -M6-CXP-P0007 -M6-CXP-P0010 -M6-CXP-P0011 -M6-CXP-P0012 -M6-CXP-P0013	Section 4.1.2.5; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-9, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	CXP-IXC-00001 = 680 CXP-IXC-00002 = 680 CXP-IXC-00003 = 680 CXP-IXC-00004 = 680 CXP-VSL-00001 = 103,350 CXP-VSL-00004 = 11,085 CXP-VSL-00005 = 1141 CXP-VSL-00026A = 39,000 CXP-VSL-00026B = 39,000 CXP-VSL-00026C = 39,000 Cs IX Gas Separation Vessels = RESERVED

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Cs IX Gas Separation Vessels (ID RESERVED)		-MV-CXP-P0001 -MV-CXP-P0002 -MV-CXP-P0003 -MV-CXP-P0008 -MV-CXP-P0009 -MV-CXP-P0010 -MVD-CXP-P0007 -MVD-CXP-P0015 -MVD-CXP-P0016 -MVD-CXP-P0021 -MVD-CXP-P0022 -MVD-CXP-P0023 -N1D-CXP-P0001 -N1D-CXP-P0003 -N1D-CXP-P0007 -N1D-CXP-P0008 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0008 -P1-P01T-P0009 -P1-P01T-P0010 -P1-P01T-P0014 -P1-P01T-P0016		
RESERVED (CRP-VSL-00002)	CRP (RESERVED)	<u>24590-PTF</u> -M6-CNP-P0005	Section 4.1.2.7; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-10, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	CRP-VSL-00002 = RESERVED
Eluate Contingency Storage Vessel (CNP-VSL-00003)  Cs Evaporator Recovered Nitric Acid Vessel (CNP-VSL-00004)  Cs Evaporator Eluant Lute Pot (CNP-VSL-00001)	CNP (Cesium Nitric Acid Recovery Process System)	<u>24590-PTF</u> -M5D-CNP-00001 -M5-V17T-P0014 -M6-CNP-P0001 -M6-CNP-P0002 -M6-CNP-P0003 -M6-CNP-P0004 -M6-CNP-P0005	Section 4.1.2.6; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-10, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	CNP-VSL-00003 = 23,2000 CNP-VSL-00004 = 11,115 CNP-VSL-00001 = 109

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
		-M6-CNP-P0008 -M6-CNP-P0010 -ME-CNP-EVAP-00001 -MB-CNP-HX-00001 -ME-CNP-HX-00002 -ME-CNP-HX-00003 -ME-CNP-HX-00004 -MED-CNP-P0003 -MED-CNP-P0004 -MED-CNP-P0005 -MED-CNP-P0010 -MV-CNP-P0001 -MV-CNP-P0002 -MV-CNP-P0003 -MV-CNP-P0005 -MV-CNP-DISTC-00001 -MV-CNP-VSL-00001 -MV-CNP-VSL-00004 -MVD-CNP-P0003 -MVD-CNP-P0006 -MVD-CNP-P0007 -MVD-CNP-P0010 -MWD-CNP-P0001		
Technetium Ion Exchange Buffer Vessel (V43001)  Cs Treated LAW Collection Vessel (ID RESERVED)  Technetium Ion Exchange Columns (C43006/7/8/9)  Caustic Rinse Collection Vessel (V43056)	TXP (Technetium Ion Exchange Process System)	RESERVED	Section 4.1.2.8; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-12, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	V43001 = 18,100 Cs Treated LAW Collection Vessel (ID RESERVED) C43006 = 680 C43007 = 680 C43008 = 680 C43009 = 680 V43056 = 3,300 V43110A = 33,050 V43110B = 33,050 V43110C = 33,170

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Treated LAW Buffer Vessels (V43110A/B/C)  Tc Reagent Vessels (ID's RESERVED)				Tc Reagent Vessels (ID's RESERVED)
Recovered Technetium Eluant Vessel (V43071)  Technetium Concentrate Lute Pot (V43072)	TEP (Technetium Eluant Recovery Process System)	RESERVED	Section 4.1.2.9; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-13, 4A-61, 4A-78 of Attachment 51, Chapter 4.0 of this Permit.	V43071 = 7,900 V43072 = 70
Process Condensate Hold Vessel (V41013)  LAW SBS Condensate Receipt Vessels (TLP-VSL-00009A/B)  Treated LAW Evaporator Condensate Vessel (TLP-VSL-00002)  LAW SBS Purge Receipt Vessels (ID's RESERVED)  Treated LAW Concentrate Storage Vessel (TCP-VSL-00001)	TLP (Treated LAW Evaporation Process System)          TCP (Treated LAW Concentrate Storage Process System)	<u>24590-PTF</u> -M5-V17T-P0005 -M5-V17T-P0006 -M5-V17T-P0007 -M5-V17T-P0008 -M5-V17T-P0009 -M5-V17T-P0010 -M5-V17T-P0011 -M6-TCP-P0001 -M6-TCP-P0002 -M6-TLP-P0001 -M6-TLP-P0002 -M6-TLP-P0005 -M6-TLP-P0006 -M6-TLP-P0007 -MV-TCP-P0002 -MVC-TLP-00002 -MVD-TCP-00001 -MVD-TCP-P0002 -MV-TLP-P0001 -MV-TLP-P0002 -MVD-TLP-P0001 -MVD-TLP-P0002 -MVD-TLP-P0004	Section 4.1.2.11 & 4.2.2.12; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-16, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	V41013 = 450 TLP-VSL-00009A = 130,010 TLP-VSL-00009B = 130,010 TLP-VSL-00002 = RESERVED LAW SBS Purge Receipt Vessels (ID's RESERVED) TCP-VSL-00001 = 146,740

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
		-P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0010 -P1-P01T-P0011 -P1-P01T-P0013 -P1-P01T-P0014		
Spent Resin Slurry Vessels (RDP-VSL-00002A/B/C)  Resin Flush Collection Vessel (V43136)  Spent Resin Dewatering Moisture Separation Vessel (RDP-VSL-00004)	RDP (Spent Resin and Dewatering Process System)	<u>24590-PTF</u> -3PS-MWD0-TP003 -M5-V17T-P0020 -M6-TLP-P0007 -M6-RDP-P0001 -M6-RDP-P0002 -M6-RDP-P0006 -MEC-RDP-00001 -MV-RDP-P0001 -MV-RDP-P0002 -MV-RDP-P0003 -MVD-RDP-P0005 -MVD-RDP-P0006 -MVD-RDP-P0007 -MVD-RDP-P0008 -N1D-RDP-P0001 -P1-P01T-P0001 -P1-P01T-P0010 -P1-P01T-P0013 -P1-P01T-P0015	Section 4.1.2.13; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-15, 4A-61, 4A-78 of Attachment 51, Chapter 4.0 of this Permit.	RDP-VSL-00002A = 15,240 RDP-VSL-00002B = 15,240 RDP-VSL-00002C = 15,240 V43136 = 11,220 RDP-VSL-00004 = 101
Process Condensate Vessels (RLD-TK-00006A/B)  Alkaline Effluent Vessels (RLD-VSL-00017A/B)	RLD (Pretreatment Plant Radioactive Liquid Waste Disposal System)	<u>24590-PTF</u> -M5-V17T-P0022003 -M5-V17T-P0022004 -M6-RLD-P0001 -M6-RLD-P0003 -M6-RLD-P0004 -M6-RLD-P0006 -MV-RLD-P0001 -MV-RLD-P0002	Section 4.1.2.16; Table 4-3; and Figures 4A-1, 4A-2, 4A-18, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	RLD-TK-00006A = 394,000 RLD-TK-00006B = 394,000 RLD-VSL-00017A = 34,340 RLD-VSL-00017B = 34,340

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
		-MVC-RLD-00004 -MVD-RLD-P0005 -MVD-RLD-P0006 -MVD-RLD-P0007 -P1-P01T-P0002 -P1-P01T-P0010 -P1-P01T-P0011 -P1-P01T-P0012 -P1-P01T-P0013		
Ultimate Overflow Vessel (PWD-VSL-00033)  HLW Effluent Transfer Vessel (PWD-VSL-00043)  Acidic/Alkaline Effluent Vessels (PWD-VSL-00015/16)  Plant Wash Vessel (PWD-VSL-00044)  C3 Floor Drain Collection Vessel (PWD-VSL-00046)	PWD (Pretreatment Plant Wash and Disposal System)	<u>24590-PTF</u> -M5-V17T-P0029 -M5-V17T-P0022001 -M5-V17T-P0022002 -M6-PWD-P0001 -M6-PWD-P0002 -M6-PWD-P0003 -M6-PWD-P0005 -M6-PWD-P0006 -M6-PWD-P0018 -M6-PWD-P0019 -M6-PWD-P0020 -M6-PWD-P0021 -M6-PWD-P0023 -M6-PWD-P0024 -M6-PWD-P0025 -M6-PWD-P0026 -M6-PWD-P0029 -M6-PWD-P0033 -M6-PWD-P0043, -M6-PWD-P0046 -M6-PWD-P0050 -M6-PWD-P0051 -MV-PWD-P0001001 -MV-PWD-P0003001 -MV-PWD-P0005	Section 4.1.2.15; Table 4-3 and 4-11; and Figures 4A-1, 4A-2, 4A-17, 4A-60, 4A-61, 4A-62, 4A-78, 4A-79 of Attachment 51, Chapter 4.0 of this Permit.	PWD-VSL-00033 = 41,650 PWD-VSL-00043 = 41,650 PWD-VSL-00015 = 119,150 PWD-VSL-00016 = 119,150 PWD-VSL-00044 = 103,024 PWD-VSL-00046 = 4982

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
		-MV-PWD-P0006 -MV-PWD-P0007 -MV-PWD-P0010 -MVC-PWD-00028 -MVC-PWD-00029 -MVC-PWD-00030 -MVC-PWD-00031 -MVD-PWD-P0001 -MVD-PWD-P0002 -MVD-PWD-P0003 -MVD-PWD-P0010 -MVD-PWD-P0011 -MVD-PWD-P0012 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0006 -P1-P01T-P0008 -P1-P01T-P0009 -P1-P01T-P0010 -P1-P01T-P0011 -P1-P01T-P0012 -P1-P01T-P0014 -P1-P01T-P0015 -P1-P01T-P0016		
Vessel Vent Header Collection Vessel (PVP-VSL-00003)  Vessel Ventilation HEME Drain Collection Vessel (PVP-VSL-00001)	PVP (Pretreatment Vessel Vent Process System)	<b>24590-PTF</b> -M5-V17T-P0021001 -M6-PVP-P0002 -M6-PVP-P0018 -MV-PVP-P0002 -MVD-PVP-P0001 -N1D-PVP-P0002 -P1-P01T-P0013 -P1-P01T-P0014	Section 4.1.2.17; Table 4-3; and Figures 4A-1, 4A-2, 4A-19, 4A-61, and 4A-78 of Attachment 51, Chapter 4.0 of this Permit.	PVP-VSL-00003 = RESERVED PVP-VSL-00001 = 1,969
PJV Drain Collection Vessel (PJV-VSL-	PJV (Pulse-Jet	<b>24590-PTF</b>	Section 4.1.2.18; Table 4-3; and Figures	PJV-VSL-00002 = RESERVED

Dangerous and/or mixed waste Tank Systems Name	System Designation	Engineering Description (Drawing Nos., Specifications Nos., etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
00002)	Ventilation System)	-M5-V17T-P0021002 -M6-PJV-P0001 -M6-PJV-P0002 -M6-PJV-P0004 -MV-PJV-P0001	4A-1, 4A-2, 4A-19, 4A-61, and 4A-78 of Attachment 51, Chapter 4.0 of this Permit.	

Table III.10.E.B – LAW Vitrification Plant Tank Systems Description

Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Melter 1 Concentrate Receipt Vessel (LCP-VSL-00001)  Melter 2 Concentrate Receipt Vessel (LCP-VSL-00002)  Melter 3 Concentrate Receipt Vessel (V21003)	LCP (LAW Concentrate Receipt Process System)	<u>24590-LAW</u> -M5-V17T-P0001 -M5-V17T-P0002 -M5-V17T-P0006 -M5-V17T-P0007 -M5-V17T-P0008 -M5-V17T-P0009 -M5-V17T-P0010 -M5-V17T-P0011 -M6-LCP-P0001 -M6-LCP-P0002 -MV-LCP-P0001 -MV-LCP-P0002 -MVD-LCP-00001 -MVD-LCP-00002 -MVD-LCP-P0004 -MVD-LCP-P0005 -P1-P01T-P0002 -P1-P01T-P0011	Section 4.1.3.1; Table 4-4 and 4-11; and Figures 4A-1, 4A-3, 4A-20, of Attachment 51, Chapter 4.0 of this Permit.	LCP-VSL-00001 = 18,130 LCP-VSL-00002 = 18,130 V21003 = 14,392
Melter 1 Feed Preparation Vessel (LFP-VSL-00001)	LFP (LAW Melter Feed Process System)	<u>24590-LAW</u> -M5-V17T-P0001 -M5-V17T-P0002	Section 4.1.3.1; Table 4-4 and 4-11; and Figures 4A-1, 4A-3, 4A-20, 4A-67, and 4A-83 of Attachment 51, Chapter 4.0 of this Permit.	LFP-VSL-00001 = 9,123 LFP-VSL-00002 = 9,123 LFP-VSL-00003 = 9,123

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Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Melter 1 Feed Vessel (LFP-VSL-00002) Melter 2 Feed Preparation Vessel (LFP-VSL-00003) Melter 2 Feed Vessel (LFP-VSL-00004) Melter 3 Feed Preparation Vessel (V21301) Melter 3 Feed Vessel (V21302)		-M6-LFP-P0001 -M6-LFP-P0002 -M6-LFP-P0003 -M6-LFP-P0004 -MV-LFP-P0001 -MV-LFP-P0002 -MV-LFP-P0004 -MV-LFP-P0005 -MVD-LFP-00001 -MVD-LFP-00002 -MVD-LFP-00003 -MVD-LFP-00004 -MVD-LFP-P0007 -MVD-LFP-P0008 -MVD-LFP-P0010 -MVD-LFP-P0011 -P1-P01T-P0002 -P1-P01T-P0007 -P1-P01T-P0010 -P1-P01T-P0011		LFP-VSL-00004 = 9,123 V21301 = 6,221 V21302 = 6,221
LAW Caustic Scrubber Blowdown Vessel- (LVP-VSL-00001) LAW Caustic Collection Tank (LVP-TK-00001) Ammonia & Secondary Off-Gas System; AMR & LVP (AMR-VSL-00001, AMR-VSL-00002)	LVP (LAW Secondary Off-gas/Vessel Vent Process System)	<u>24590-LAW</u> -P1-P01T-P0004 -P1-P01T-P0010 -M5-V17T-P0010 -M5-V17T-P0011 -M6-LVP-P0001 -M6-LVP-P0002 -M6-LVP-P0004 -M6-LVP-P0005 -MT-LVP-P0004 -MTD-LVP-P0001	Section 4.1.3.3; Table 4-4 and 4-11; and Figures 4A-1, 4A-3, 4A-23 of Attachment 51, Chapter 4.0 of this Permit.	LVP-VSL-00001 = 12,191 LVP-TK-00001 = 14,232
LAW Melter 1 SBS Condensate Vessel (LOP-VSL-00001)	LOP (LAW Primary Off-gas)	<u>24590-LAW</u> -M5-V17T-P0007	Section 4.1.3.3; Table 4-4 and 4-11; and Figures 4A-1, 4A-3, 4A-22, 4A-67, and 4A-83 of	LOP-VSL-00001 = 9,056 LOP-VSL-00002 = 9,056

Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
LAW Melter 2 SBS Condensate Vessel (LOP-VSL-00002)  Melter 3 SBS Condensate Vessel (V22301)	Process System)	-M5-V17T-P0008 -M6-LOP-P0001 -M6-LOP-P0002 -MK-LOP-P001001 -MK-LOP-P001002 -MK-LOP-P001003 -MKD-LOP-P0002 -MKD-LOP-P0004 -MKD-LOP-P0008 -MV-LOP-P0001 -MV-LOP-P0002 -MVD-LOP-P0004 -MVD-LOP-P0005 -N1D-LOP-P0001 -N1D-LOP-P0002 -N1D-LOP-P0003 -P1-P01T-P0002 -P1-P01T-P0007 -P1-P01T-P0010 -P1-P01T-P0011	Attachment 51, Chapter 4.0 of this Permit.	V22301 = 6,833
Plant Wash Vessel (RLD-VSL-00003)  C3/C5 Drains/Sump Collection Vessel (RLD-VSL-00004)  SBS Condensate Collection Vessel (RLD-VSL-00005)	RLD (LAW Vitrification Plant Radioactive Liquid Waste Disposal System)	<u>24590-LAW</u> -M6-RLD-P0001 -M6-RLD-P0002 -M6-RLD-P0003 -MVD-RLD-00002 -MVD-RLD-00003 -MVD-RLD-00004 -MVD-RLD-P0001 -MVD-RLD-P0006 -MVD-RLD-P0007 -MV-RLD-P0001 -MV-RLD-P0002 -MV-RLD-P0003	Section 4.1.3.4; Table 4-4 and 4-11; and Figures 4A-1, 4A-2, 4A-25, 4A-66, 4A-67, 4A-82, and 4A-83 of Attachment 51, Chapter 4.0 of this Permit.	RLD-VSL-00003 = 25,780 RLD-VSL-00004 = 7696 RLD-VSL-00005 = 25,780

<b>Mixed Waste Tank Systems Name</b>	<b>Unit Designation</b>	<b>Engineering Description (Drawing Nos, Specification Nos, etc.)</b>	<b>Narrative Description, Tables &amp; Figures</b>	<b>Maximum Capacity (gallons)</b>
		-P1-P01T-P0002 -P1-P01T-P0007 -P1-P01T-P0008 -P1-P01T-P0010 -P1-P01T-P0011		

**Table III.10.E.C – HLW Vitrification Plant Tank Systems Description**

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Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Concentrate Receipt Vessels (HCP-VSL-00001/2)	HCP (HLW Cave Receipt Process System)	<u>24590-HLW</u> -M5-V17T-P0001 -M6-HCP-P0001 -M6-HCP-P0002	Section 4.1.4.1; Table 4-5 and 4-11; and Figures 4A-1, 4A-4, 4A-26, 4A-71, 4A-72, 4A-73, 4A-86, and 4A-87 of Attachment 51, Chapter 4.0 of this Permit.	HCP-VSL-00001 = 17,900 HCP-VSL-00002 = 17,900
Feed Preparation Vessels (HFP-VSL-00001/5)  HLW Melter Feed Vessels (HFP-VSL-00002/6)	HFP (HLW Melter Feed Process System)	<u>24590-HLW</u> -M5-V17T-P0001 -M6-HFP-P0001 -M6-HFP-P0002 -M6-HFP-P20001 -M6-HFP-P20002 -PER-J-04-0001 -3YD-HFP-00001	Section 4.1.4.1; Table 4-5 and 4-11; and Figures 4A-1, 4A-4, 4A-26, 4A-72, 4A-73, 4A-86, and 4A-87, of Attachment 51, Chapter 4.0 of this Permit.	HFP-VSL-00001 = 8,800 HFP-VSL-00005 = 8,800 HFP-VSL-00002 = 8,800 HFP-VSL-00006 = 8,800
SBS Condensate Receiver Vessel (HOP-VSL-00903)	HOP (Melter Off-gas Treatment Process System-Primary System)	<u>24590-HLW</u> -M5-V17T-P0004 -M5-V17T-P20004 -M6-HOP-P0003 -M6-HOP-P0004 -M6-HOP-P0006 -M6-HOP-P0008 -M6-HOP-P20003 -M6-HOP-P20008 -MKD-HOP-P0014 -MKD-HOP-P0017 -MV-HOP-P0001 -MVD-HOP-P0001 -MVD-231-00001 -N1D-HOP-P0006	Section 4.1.4.3; Table 4-5 and 4-11; and Figures 4A-1, 4A-4, 4A-28, 4A-71, and 4A-86 of Attachment 51, Chapter 4.0 of this Permit.	HOP-VSL-00903 = 9891
Canister Bogie Decontamination Vessel (HDH-VSL-00001)	HDH (HLW Canister Decontamination)	<u>24590-HLW</u> -M5-V17T-P0006 -M6-HDH-P0001	Section 4.1.4.7; Table 4-5 and 4-11; and Figures 4A-1, 4A-4, 4A-30, 4A-71, 4A-72, 4A-86, 4A-87 of Attachment 51, Chapter 4.0 of this Permit.	HDH-VSL-00001 = 3314 HDH-VSL-00002 = 630 HDH-VSL-00003 = 5315

<p>Canister Decontamination Vessel (HDH-VSL-00002)</p> <p>Waste Neutralization Vessel (HDH-VSL-00003)</p>	<p>Handling System)</p>	<p>-M6-HDH-P0002          -M6-HDH-P20001          -MV-HDH-P0003          -MV-HDH-P0004          -MV-HDH-P0005          -MV-HDH-P0006          -MV-HDH-P0007          -MV-HDH-P0012001          -MV-HDH-P0012002          -MVD-HDH-P0003          -MVD-HDH-P0006          -MVD-HDH-P0009</p>		
<p>Acidic Waste Vessel (RLD-VSL-00007)</p> <p>Plant Wash &amp; Drain Vessel (RLD-VSL-00008)</p> <p>Decontamination Effluent Collection Vessel (V35009)</p> <p>Off-gas Drains Collection Vessel (RLD-VSL-00002)</p> <p>RESERVED (RLD-VSL-15A/B)</p> <p>RESERVED (RLD-VSL-16A/B)</p>	<p>RLD (HLW          Vitrification Plant          Radioactive          Liquid Waste          Disposal System)</p>	<p><u>24590-HLW</u>          -M6-RLD-P0001          -M6-RLD-P0002          -M6-RLD-P0003          -M6-RLD-P0006          -M6-RLD-P0007          -M6-RLD-P0008          -M6-RLD-P0014          -M6-RLD-P0015          -M6-RLD-P0016          -M6-RLD-P0017          -M6-RLD-P20003          -M6-RLD-P20004          -M6-RLD-P20005          -MVD-RLD-P0005          -MVD-RLD-P0007          -MVD-RLD-P0008          -MV-RLD-P0002          -MV-RLD-P0004          -P1-P01T-P0001          -P1-P01T-P0002          -P1-P01T-P0004          -P1-P01T-P0005          -P1-P01T-P0008          -P1-P01T-P0009          -P1-P01T-P0010          -P1-P01T-P0011</p>	<p>Section 4.1.4.6; Table 4-5 and 4-11; and Figures 4A-1, 4A-4, 4A-31, 4A-71, 4A-72, 4A-73, 4A-86, 4A-87 of Attachment 51, Chapter 4.0 of this Permit.</p>	<p>RLD-VSL-00007 = 18145          RLD-VSL-00008 = 13,774          V35009 = 7,300          RLD-VSL-00002 = 366</p>

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**Table III.10.E.D – Analytical Laboratory Tank Systems Description**

Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
Lab Area Sink Drain Collection Vessel (RLD-VSL-00164)  Hot Cell Drain Collection Vessel (RLD-VSL-00165)	RLD (Radioactive Liquid Waste Disposal System)	<b>24590-LAB</b> -M5-V17T-P0029 -M6-RLD-P0001 -M6-RLD-P0002 -MV-RLD-P0001 -MV-RLD-P0003 -MVD-RLD-P0164 -MVD-RLD-P0165 -P1-60-P0007 -P1-60-P0008 -P1-60-P0010	Section 4.1.5.1; Table 4-6 and 4-11; and Figures 4A-1, 4A-2, and 4A-113 of Attachment 51, Chapter 4.0 of this Permit.	RLD-VSI-00164 = 3180 RLD-VSL-00165 = 9100

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**Table III.10.E.E – Pretreatment Plant Tank System Process and Leak Detection System Instruments and Parameters**

Tank System Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Operating Trips (Description & Numerical Limits)	Instrument Calibration Method No. and Range
PWD-SUMP-00071 P-B005 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00040 P-B002 <sup>a</sup>	Not Applicable	Bubbler Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00001 P-0108B <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00001A	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

P-0108C <sup>a</sup>									
PWD-SUMP-00002 P-0108A <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00002A P-0108 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00003 P-0106 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00004 P-0104 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00005 P-0102A <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00006 P-0102 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00007 P-0109 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00008 P-0111 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00009 P-0112 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00010 P-0113 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00011 P-0114 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00012 P-0117 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-	Not	Radar Leak	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

00013 P-117A <sup>a</sup>	Applicable	Detector							
PWD-SUMP-00026	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00028	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00029	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00031 P-0119 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00032	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00033	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00034 P-0121A <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00035 P-0122A <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00036 P-0118 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

1 <sup>a</sup>Sump locator and name (including P&ID designator) is located on Permit Table III.10.E J – Pretreatment Plant Tank Systems Secondary Containment Systems

2 Including Sumps and Floor Drains.

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**Table III.10.E.F – LAW Vitrification Plant Tank System Process and Leak Detection System Instruments and Parameters**

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Tank System Locator and Name (including	Control Parameter	Type of Measuring or Leak	Location of Measuring Instrument	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Operating Trips (Description & Numerical Limits)	Instrument Calibration Method No. and
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P&ID)		Detection Instrument	(Tag No.)						Range	
RLD-SUMP-00001	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00003	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00028 L-B001B <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00029 L-0123 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00030 L-0123 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00031 L-0124 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00032 L-0124 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00033 L-0125 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00034 L-0125 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00035 L-0126 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00036 L-0126 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

1 <sup>a</sup>Sump locator and name (including P&ID designator) is located on Permit Table III.10.E L - LAW Vitrification Plant Tank Systems Secondary Containment  
 2 Systems Including Sumps and Floor Drains.

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**Table III.10.E.G - HLW Vitrification Plant Tank System Process and Leak Detection System Instruments and Parameters**

Tank System Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Operating Trips (Description & Numerical Limits)	Instrument Calibration Method No. and Range
HCP-SUMP-00001 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00001 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HOP-SUMP-00003 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HOP-SUMP-00008 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HDH-SUMP-00001 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HDH-SUMP-00002 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HDH-SUMP-00003 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RWH-SUMP-00001 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RWH-SUMP-00005 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RWH-SUMP-00006 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HPH-SUMP-00001 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HPH-SUMP-00005 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HMH-SUMP-00002 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HMH-SUMP-	Not	Radar Leak	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

00003 <sup>a</sup>	Applicable	Detector							
HFP-SUMP-00001 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HFP-SUMP-00002 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HFP-SUMP-00003 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HFP-SUMP-00004 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00003 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00007 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00008 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00009 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00003 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

1 <sup>a</sup>Sump locator and name (including P&ID designator) is located on Permit Table III.10.E.N - HLW Vitrification Plant Tank Systems Secondary Containment  
 2 Systems Including Sumps and Floor Drains.  
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**Table III.10.E.H – Laboratory Tank System Process and Leak Detection System Instruments and Parameters**

Tank System Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Operating Trips (Description & Numerical Limits)	Instrument Calibration Method No. and Range
RLD-SUMP-00041 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

RLD-SUMP-00042 <sup>a</sup>	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00043A	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RLD-SUMP-00043B	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00044	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00045	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00002	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00004	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00005	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00006	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00007	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00008	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00009	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00011	Not Applicable	Thermal Dispersion	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

1 <sup>a</sup>Sump locator and name (including P&ID designator) is located on Permit Table III.10.E P - Laboratory Tank Systems Secondary Containment Systems  
 2 Including Sumps and Floor Drains.

3 **Table III.10.E.I – Pretreatment Plant Tank Systems Primary<sup>a</sup> Containment Sump Systems**  
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Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED

5 <sup>a</sup>Primary sumps are defined in Permit Section III.10.C, and must comply with dangerous waste tank system requirements for tanks as described in WAC-173-  
 6 303-640.

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**Table III.10.E J – Pretreatment Plant Tank Systems Secondary Containment Systems Including Sumps, Bulges, and Floor Drains**

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump/Bulge (gallons) or Drain Line (gallons per minute) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-SUMP-00071 P-B005 (Pit-19, El. -19')	112.2	Dry Sump <sup>a</sup>	24"x30"x36" Coating Type (RESERVED)	<b>24590-PTF</b> -M6-PWD-P00041 -P1-P01T-P0006 -P1-P01T-P0012
PWD-SUMP-00040 P-B002 (Pit-45, El. -45')	233.7	Wet Sump/ 140.3	60"x30"x30" 6Mo	<b>24590-PTF</b> -M6-PWD-P00012 -P1-P01T-P0006 -P1-P01T-P0009
PWD-SUMP-00001 P-0108B (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00008 -P1-P01T-P0001 -P1-P01T-P0009
PWD-SUMP-00001A P-0108C (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00010 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00002 P-0108A (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00008 -P1-P01T-P0001 -P1-P01T-P0008
PWD-SUMP-00002A P-0108 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00010 -P1-P01T-P0001 -P1-P01T-P0008
PWD-SUMP-00003 P-0106 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00008 -P1-P01T-P0001 -P1-P01T-P0008

PWD-SUMP-00004 P-0104 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00008 -P1-P01T-P0001 -P1-P01T-P0008
PWD-SUMP-00005 P-0102A (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00008 -P1-P01T-P0001 -P1-P01T-P0008
PWD-SUMP-00006 P-0102 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00008 -P1-P01T-P0001 -P1-P01T-P0008
PWD-SUMP-00007 P-0109 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00009 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00008 P-0111 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00009 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00009 P-0112 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00009 -P1-P01T-P0001
PWD-SUMP-00010 P-0113 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00009 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00011 P-0114 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00009 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00012 P-0117 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00009 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00013 P-0117A (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b><u>24590-PTF</u></b> -M6-PWD-P00014

				-P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00026	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	RESERVED
PWD-SUMP-00028	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	RESERVED
PWD-SUMP-00029	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	RESERVED
PWD-SUMP-00031 P-0119 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00010 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00032	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	RESERVED
PWD-SUMP-00033	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	RESERVED
PWD-SUMP-00034 P-0121A (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00012 -P1-P01T-P0001 -P1-P01T-P0010
PWD-SUMP-00035 P-0122A (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00012 -P1-P01T-P0001
PWD-SUMP-00036 P-0118 (El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 304L	<b>24590-PTF</b> -M6-PWD-P00012 -P1-P01T-P0001 -P1-P01T-P0010
PJV-ZF-00027-S11B-02 P-0101 (PJV-BULGE- 00001 Drain, El. 0')	60	N/A	2" Dia. 316L	<b>24590-PTF</b> -M6-PJV-P0002
PWD-ZF-00004-S11B-02 P-0105 (PVP-BULGE- 00001 Drain, El. 0')	60	N/A	2" Dia. 316L	<b>24590-PTF</b> -M6-PVP-P0003
PWD-ZF-00005-S11B-02 P-0101A (PVP-BULGE- 00002 Drain, El. 0')	60	N/A	2" Dia. 316L	<b>24590-PTF</b> -M6-PVP-P0003

RDP-ZF-00016-S11B-02 P-0110A (RDP-BULGE-00010 Drain, El. 0')	60	N/A	2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-RDP-P0001
TCP-PH-00032-S11B-02 P-0116 (TCP-BULGE-00004 Drain, El. 0')	60	N/A	2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-TCP-P0001
TEP-ZF-02066-S11B-011/2 P-0110A (TEP-BULGE-00006 Drain, El. 0')	40	N/A	1-1/2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-TEP-P0001
TXP-ZF-00022-S11M-011/2 P-0110B (TXP-BULGE-00001 Drain, El. 0')	40	N/A	1-1/2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-TXP-P0001
TXP-ZF-00021-S11M-011/2 P-0110C (TXP-BULGE-00002 Drain, El. 0')	40	N/A	1-1/2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-TXP-P0001
TXP-ZF-00042-S11M-011/2 P-0110C (TXP-BULGE-00004 Drain, El. 0')	40	N/A	1-1/2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-TXP-P0001
TXP-ZF-00019-S11M-011/2 P-0110C (TXP-BULGE-00005 Drain, El. 0')	40	N/A	1-1/2" Dia. 316L	<b><u>24590-PTF</u></b> -M6-TXP-P0004
CNP-ZF-00043-S11B-03 P-0207 (CNP-BULGE-00008 Drain, El. 28')	160	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-CNP-P0002
PWD-FD-00432 P-0201 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00452 P-0201 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00456 P-0201A Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044

PWD-FD-00341 P-0201A Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00351A P-0201A Drain, El. 28'	52	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00451 P-0203 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00339 P-0203 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00450 P-0203 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00450A P-0203 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00449A P-0203 Drain, El. 28'	52	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00449 P-0203A Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00338 P-0203A Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00337 P-0203B Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00448 P-0203B Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00447A P-0203B Drain, El. 28'	52	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044

PWD-FD-00447 P-0204 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00336 P-0204 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0044
PWD-FD-00397 P-0206 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00443 P-0206 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00398A P-0207 Drain, El. 28'	52	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00398 P-0207 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00399 P-0208 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00400 P-0209 Drain, El. 28'	52	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00444 P-0209 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00401 P-0209 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00402 P-0210 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00445 P-0210 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043

PWD-FD-00445A P-0212 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00442 P-0212 Drain, El. 28'	52	N/A	3" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00404 P-0212 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00404A P-0212 Drain, El. 28'	155	N/A	6" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PWD-FD-00446 P-0212 Drain, El. 28'	706	N/A	8" Dia. 316L	<b><u>24590-PTF</u></b> -M6-PWD-P0043
PVP-BULGE-00002 (Vessel Vent HEME Drain Vessel Pump Bulge)	RESERVED	N/A	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

<sup>a</sup>This sump is routinely accessible for inspections and maintenance.

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**Table III.10.E K - LAW Vitrification Plant Tank Systems Primary<sup>a</sup> Containment Sump Systems**

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED

<sup>a</sup> Primary sumps are defined in Permit Section III.10.C, and must comply with dangerous waste tank system requirements for tanks as described in WAC-173-303-640.

**Table III.10.E.L - LAW Vitrification Plant Tank Systems Secondary Containment Systems Including Sumps and Floor Drains**

Sump or Drain Line I.D.# & Room Location	Maximum Sump (gallons) or Drain Line (gallons per minute) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump or Drain Line Dimensions (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-SUMP-00001	RESERVED	RESERVED	RESERVED	RESERVED
RLD-SUMP-00003	RESERVED	RESERVED	RESERVED	RESERVED
RLD-SUMP-00028 L-B001B (C3/C5 Drains/Sump Collection Vessel Cell, El. -21')	59	Dry Sump <sup>a</sup>	24" Dia. By 30" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0002
RLD-SUMP-00029 L-0123 (Process Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003 -P1-P01T-P0002 -P1-P01T-P0010
RLD-SUMP-00030 L-0123 (Process Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003 -LAW-P1-P01T-P0002 -P1-P01T-P0010

RLD-SUMP-00031 L-0124 Process Cell Sump, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003 P1-P01T-P0002 -P1-P01T-P0010
RLD-SUMP-00032 L-0124 (Process Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003 -LAW -P1-P01T-P0010
RLD-SUMP-00033 L-0125 (Process Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003
RLD-SUMP-00034 L-0125 (Process Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003
RLD-SUMP-00035 L-0126 (Effluent Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003 -P1-P01T-P0002 -P1-P01T-P0010
RLD-SUMP-00036 L-0126 (Effluent Cell, El. +3')	46	Dry Sump <sup>a</sup>	30" Dia. By 15" deep 304L or higher grade	<u>24590-LAW</u> -M6-RLD-P0003 -P1-P01T-P0002 -LAW -P1-P01T-P0010
Drain Line ID# = RESERVED L-B001B (RLD-BULGE- 00001 Drain, El. -21')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-RLD-P0002
Drain Line ID# = RESERVED L-B001B (Double-Walled	30	N/A	1" Dia. 316L	<u>24590-LAW</u> -M6-RLD-P0002

Piping Outer Containment Drain, El. -21')				
Drain Line ID# = RESERVED L-0123 [Primary Offgas (LOP) Melter 1 Valve Bulge Drain, El. +3']	60	N/A	2" Dia. 6 Mo	<u>24590-LAW</u> -M6-LOP-P0001
Drain Line ID# = RESERVED L-0123 (Concentrate Feed Receipt LCP-VSL-00001 Valve Bulge Drains, El. +3')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LCP-P0001
Drain Line ID# = RESERVED L-0123 (Melter 1 Feed Prep/Feed Vessel Valve Bulge Drain, El. +3')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LFP-P0001
Drain Line ID# = RESERVED L-0124 [Primary Offgas (LOP) Melter 2 Valve Bulge Drain, El. +3']	60	N/A	2" Dia. 6 Mo	<u>24590-LAW</u> -M6-LOP-P0002
Drain Line ID# = RESERVED L-0124 (Concentrate Receipt Vessel LCP-VSL- 00002 Valve Bulge Drain, El. +3')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LCP-P0002
Drain Line ID# = RESERVED L-0124 (Melter 2 Feed Prep/Feed Vessel Valve Bulge Drain, El. +3')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LFP-P0003

Drain Line ID# = RESERVED L-0125 [Primary Offgas (LOP) Melter 3 Valve Bulge Drain, El. +3']	60	N/A	2" Dia. 6 Mo	<u>24590-LAW</u> -M6-LOP-P0003
Drain Line ID# = RESERVED L-0125 (Melter 3 Feed Prep/Feed Vessel Valve Bulge Drain, El. +3')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LFP-P0005
Drain Line ID# = RESERVED L-0125 (Concentrate Receipt Vessel LCP-VSL- 00003 Valve Bulge Drain, El. +3')	60	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LCP-P0002
Drain Line ID# = RESERVED L-0126 (Plant Wash Vessel/SBS Condensate Collection Vessel Valve Bulge Drain, El. +3')	60	N/A	2" Dia. 6 Mo	<u>24590-LAW</u> -M6-RLD-P0001
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

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**Table III.10.E M - HLW Vitrification Plant Tank Systems Primary<sup>a</sup> Containment Sump Systems**

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED

<sup>a</sup> Primary sumps are defined in Permit Section III.10.C, and must comply with dangerous waste tank system requirements for tanks as described in WAC-173-303-640.

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**Table III.10.E N - HLW Vitrification Plant Tank Systems Secondary Containment Systems Including Sumps and Floor Drains**

Sump or Drain Line I.D.# & Room Location	Maximum Sump (gallons) or Drain Line (gallons per minute) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump or Drain Line Dimensions (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
HCP-SUMP-00001 H-B014 (Wet Process Cell, El. -21')	70	Wet Sump / 60	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0015
RLD-SUMP-00001 H-B014 (Wet Process Cell, El. -21')	70	Wet Sump / 60	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0015
HOP-SUMP-00003 H-B021 (SBS Drain Collection Cell No. 1, El. -21')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0015
HOP-SUMP-00008 H-B005 (SBS Drain Collection Cell No. 2, El. -21)	70	Dry Sump	30" Dia. X 18" Deep 6Mo	24590-HLW-M6-RLD-P20004
HDH-SUMP-00001 H-B039B (Canister Rinse Tunnel, El. -16.5')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0016
HDH-SUMP-00002 H-B039A (Bogie Decon/Maint. Tunnel-Canister Rinse, El. -16')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0004
HDH-SUMP-00003 H-B035 (Canister Decon Cave, El. -16')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0015
RWH-SUMP-00001 H-B015 (Drum Transfer Tunnel, El. -9.5')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0017
RWH-SUMP-00005 H-B015 (Drum Transfer Tunnel, El. -9.5')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0017
RWH-SUMP-00006 H-B015 (Drum Transfer	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0017

Tunnel, El. -9.5')				
HPH-SUMP-00001 H-0136 (Canister Handling Cave, El. -3')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0016
HPH-SUMP-00005 H-0136 (Canister Handling Cave, El. -3')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0004
HMH-SUMP-00002 H-0116B (Melter Cave No. 1-C3/C5 Airlock, El. 0')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0003
HMH-SUMP-00003 H-0105B (Melter Cave No. 2-C3/C5 Airlock, El. 0')	10.8	Dry Sump	18" in. x 11.5" x 12" Deep 6Mo	24590-HLW-M6-RLD-P0003
HFP-SUMP-00001 H-0308 (Active Services Duct Melter No.1 El. 37')	70	Gravity Drain	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0015
HFP-SUMP-00002 H-0117 (Melter Cave No. 1, El. 5')	70	Wet Sump / 60	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0008
HFP-SUMP-00003	RESERVED	RESERVED	RESERVED	RESERVED
HFP-SUMP-00004 H-0302 (Active Services Duct Melter No.2 El. 37')	70	Gravity Drain	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0004
HFP-SUMP-00005 H-0106 (Melter Cave No. 2 El. 5')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0005
HOP-SUMP-00004 H-0117 (Melter Cave No. 1, El. 3')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0017
HSH-SUMP-00003 H-0117 (Melter Cave No. 1, El. 3')	70	Dry Sump	30" Dia. x 18" Deep 6Mo	24590-HLW-M6-RLD-P0008
HSH-SUMP-00007 H-0106 (Melter Cave No. 2 El. 3')	37.4	Dry Sump	24" x 18" x 20" Deep 6Mo	24590-HLW-M6-RLD-P0005
HSH-SUMP-00008 H-0310A (Melter No. 1	70	Dry Sump	30" Dia x 18" Deep 6Mo	24590-HLW-M6-RLD-P0003

Equip. Decon. Area El. 0')				
HSH-SUMP-00009 H-0304A (Melter No. 2 Equip. Decon. Area El. 0')	70	Dry Sump	30" Dia x 18" Deep 6Mo	24590-HLW-M6-RLD-P0003
RLD-ZF-00330-S11B-03 H-B021 (SBS Drain Collection Cell No. 1)	20	Floor Drain	Overflow Line Size Pipe Diam 3" 316L Stainless Steel	24590-HLW-M6-RLD-P0015
RLD-ZF-03447-S11B-03 H-B005 (SBS Drain Collection Cell No. 2)	20	Floor Drain	Overflow Line Size Pipe Diam 3" 316L Stainless Steel	24590-HLW-M6-RLD-P20004
HCP-PC-00057-S12A-011/2 H-B014 (Wet Process Cell	5	Floor Drain	Overflow Line Size Pipe Diam 1.5" 316L Stainless Steel	24590-HLW-M6-RLD-P0015
HCP-PC-00061-S12A-011/2 H-B014 (Wet Process Cell	5	Floor Drain	Overflow Line Size Pipe Diam 1.5" 316L Stainless Steel	24590-HLW-M6-RLD-P0015
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

**Table III.10.E O – Laboratory Tank Systems Primary<sup>a</sup> Containment Sump Systems**

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED

<sup>a</sup> Primary sumps are defined in Permit Section III.10.C, and must comply with dangerous waste tank system requirements for tanks as described in WAC-173-303-640.

**Table III.10.E P – Laboratory Tank Systems Secondary Containment Systems Including Sumps and Floor Drains**

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Type/Nominal Operating Volume (gallons)	Sump Dimensions (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-SUMP-00041 A-B003 (C3 Effluent Vessel Cell, El. -18'7")	30	Dry	30" Dia. X ~12" Deep 304L or higher grade	<b>24590-LAB</b> -M6-RLD-P0002 -P1-60-P0007 -PER-M-02-002
RLD-SUMP-00042 A-B004 (C5 Effluent Vessel Cell, El. -19'2")	30	Dry	30" Dia. X ~12" Deep 304L or higher grade	<b>24590-LAB</b> -M6-RLD-P0001 -P1-60-P0007 -PER-M-02-002
RLD-SUMP-00045 A-B002 (C3 Pump Pit Sump, EL -6'-8 1/2" (LP))	1.56	Dry	2'-0" X 2'-6" X 1/2" 304L or higher grade	<b>24590-LAB</b> -M6-RLD-P0002 -P1-60-P0007 -PER-M-02-002
RLD-SUMP-00043A A-B007 (C5 Pump Pit Sump, EL -6'-7" (LP))	1.40	Dry	1'-6" X 3'-0" X 1/2" 304L or higher grade	<b>24590-LAB</b> -M6-RLD-P0001 -P1-60-P0007 -PER-M-02-002
RLD-SUMP-00043B A-B005 (C5 Pump Pit Sump, EL -6'-7" (LP))	1.40	Dry	1'-6" X 3'-0" X 1/2" 304L or higher grade	<b>24590-LAB</b> -M6-RLD-P0001 -P1-60-P0007 -PER-M-02-002
RLD-SUMP-00044 A-B006 (C5 Piping Pit Sump, EL -6'-7" (LP))	1.56	Dry	2'-0" X 2'-6" X 1/2" 304L or higher grade	<b>24590-LAB</b> -M6-RLD-P0001 -P1-60-P0007

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				-PER-M-02-002
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

1 III.10.F. CONTAINMENT BUILDING UNITS

2 III.10.F.1. Containment Building Units and Storage Limits

3 III.10.F.1.a. Approved Waste and Storage Limits

- 4 i. The Permittees may store and treat, in containment building units listed in Permit Table  
5 III.10.F.A., as modified by Permit Condition III.10.F.7.d.iv., all dangerous and mixed  
6 waste listed in the Part A Forms, Attachment 51, Chapter 1.0 of this Permit, except for  
7 those wastes outside the waste acceptance criteria specified in the WAP, Attachment  
8 51, Chapter 3.0, as approved pursuant to Permit Condition III.10.C.3. Total dangerous  
9 and mixed waste storage at the containment building units shall not exceed the sum of  
10 the capacities in column 7 of Permit Table III.10.F.A., as modified pursuant to Permit  
11 Condition III.10.F.7.d.iv.
- 12 ii. The Permittees may place and store dangerous and mixed waste only in the  
13 containment building units listed in Permit Table III.10.F.A., as modified pursuant to  
14 Permit Condition III.10.F.7.d.iv., in accordance with Permit Condition III.10.F., and in  
15 accordance with Attachment 51, Chapters 1.0 and 4.0, and Attachment 51, Appendices  
16 8.1, 8.2, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2, 9.4 through 9.10, 9.13, 9.18, 10.1, 10.2,  
17 10.4 through 10.10, 10.13, and 10.18 of this Permit, as approved pursuant to Permit  
18 Conditions III.10.F.7.c. and III.10.F.7.d. The Permittees shall limit the volume of  
19 dangerous and mixed waste to quantities specified for the individual areas listed in  
20 column 7 of Permit Table III.10.F.A., as modified pursuant to Permit Condition  
21 III.10.F.7.d.iv.

22 III.10.F.1.b. The Permittees shall manage any ignitable, reactive, or incompatible waste in these units in  
23 accordance with WAC 173-303-395(1). Any containment building units specified in Permit  
24 Table III.10.F.A. in which ignitable, reactive, or incompatible waste are managed shall meet  
25 the requirements specified in WAC 173-303-640(9) and (10), in accordance with WAC 173-  
26 303-680(2).

27 III.10.F.1.c. The Permittees must maintain documentation in the operating record of the description and  
28 quantity of dangerous waste in each containment building unit listed in Permit Table  
29 III.10.F.A., as modified pursuant to Permit Condition III.10.F.7.d.iv., in accordance with  
30 WAC 173-303-380.

31 III.10.F.1.d. The Permittees shall ensure all certifications required by specialists (e.g., qualified,  
32 registered, professional engineer, etc.) use the following statement or equivalent pursuant to  
33 Permit Condition III.10.C.10., of this Permit:

34 "I, (Insert Name) have (choose one or more of the following: overseen, supervised,  
35 reviewed, and/or certified) a portion of the design or installation of a new containment  
36 building unit or component located at (address), and owned/operated by (name(s)). My  
37 duties were: (e.g., design engineer, etc.), for the following containment building unit  
38 components (e.g., the venting piping, etc.), as required by the Resource Conservation and  
39 Recovery Act (RCRA) regulation(s), namely, 40 CFR 264.1101(c)(2) in accordance with  
40 WAC 173-303-695).

41 "I certify under penalty of law that I have personally examined and am familiar with the  
42 information submitted in this document and all attachments and that, based on my inquiry of  
43 those individuals immediately responsible for obtaining the information, I believe that the  
44 information is true, accurate, and complete. I am aware that there are significant penalties  
45 for submitting false information, including the possibility of fine and imprisonment."

1 III.10.F.2. Containment Building Unit Design and Construction

2 III.10.F.2.a. The Permittees shall design and construct the containment building units identified in Permit  
3 Table III.10.F.A., as modified pursuant to Permit Condition III.10.F.7.d.iv., as specified in  
4 Attachment 51, Appendices 8.1, 8.2, 8.4 through 8.10, 8.13, 8.15; 9.1, 9.2, 9.4 through 9.10,  
5 9.13, 9.18, 10.1, 10.2, 10.4 through 10.10, 10.13, and 10.18 of this Permit, as approved in  
6 accordance with Permit Condition III.10.F.7.a. of this Permit and WAC 173-303-695.

7 III.10.F.2.b. The Permittees shall design and construct all applicable containment building units'  
8 secondary containment systems for each unit listed in Permit Table III.10.F.A., as specified  
9 in Attachment 51, Appendices 8.4 through 8.9, 8.15, 9.4 through 9.9, 9.18, 10.4 through  
10 10.9, and 10.18 of this Permit, as approved in accordance with Permit Condition III.10.F.7.a.  
11 of this Permit and WAC 173-303-695.

12 III.10.F.2.c. Modifications to approved design plans and specifications, in Attachment 51, Appendices  
13 8.1, 8.2, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2, 9.4 through 9.10, 9.13, 9.18, 10.1, 10.2, 10.4  
14 through 10.10, 10.13, and 10.18 for the containment building units shall be allowed only in  
15 accordance with Permit Conditions III.10.C.2.e. and III.10.C.2.f., or III.10.C.2.g.,  
16 III.10.C.9.d, and III.10.C.9.e.

17 III.10.F.3. Containment Building Unit Management Practices

18 III.10.F.3.a. The Permittees shall manage all dangerous and mixed waste in containment building units in  
19 accordance with procedures described in Attachment 51, Appendices 8.15, 9.18, 10.18 and  
20 Chapter 4.0 of this Permit, as approved pursuant to Permit Condition III.10.F.7.d.iv. of this  
21 Permit.

22 III.10.F.3.b. The Permittees shall follow the description of operating procedures described in Attachment  
23 51, Appendices 8.15, 9.18, 10.18 and Chapter 4, as approved pursuant to Permit Condition  
24 III.10.F.7.d.iv. and Permit Condition III.10.F.3., and as specified below:

- 25 i. Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other  
26 deterioration that could cause dangerous and mixed waste to be released from the  
27 primary barrier;
- 28 ii. Maintain the level of stored/treated dangerous and mixed waste within the containment  
29 building unit walls so that the height of the wall is not exceeded;
- 30 iii. Take measures to prevent the tracking of dangerous and mixed waste out of the unit by  
31 personnel or by equipment used in handling the waste. An area must be designated to  
32 decontaminate equipment and any rinsate must be collected and properly managed;
- 33 iv. Maintain the containment building unit at all times to prevent the spread of airborne  
34 dangerous and/or mixed waste contamination into less contaminated or uncontaminated  
35 areas. All air pollution control devices for exhaust from containment building unit  
36 must be properly maintained and operational when storing or treating dangerous and  
37 mixed waste in the containment building units;
- 38 v. Collect and remove liquids and waste to minimize hydraulic head on the containment  
39 system at the earliest practicable time.

40 III.10.F.3.c. The Permittees shall inspect the containment building units per requirements in the  
41 Attachment 51, Chapter 6.0 as approved pursuant to Permit Condition III.10.C.5., 40 CFR  
42 264.1101(c)(4), in accordance with WAC 173-303-695 and WAC 173-303-320 and record in  
43 the Facility's operating record, at least once every seven (7) days, data gathered from  
44 monitoring equipment and leak detection equipment as well as the containment building unit  
45 and area immediately surrounding the containment building unit to detect signs of releases  
46 of dangerous and mixed waste.

1 III.10.F.3.d. Throughout the active life of the containment building unit, if the Permittees detects a  
2 condition that could lead to or has caused a release of dangerous and/or mixed waste, the  
3 Permittees must repair the condition promptly, in accordance with the following procedures:

- 4 i. Upon detection of a condition that has lead to the release of dangerous and/or mixed  
5 waste (e.g., upon detection of leakage from the primary barrier) the Permittees must:
- 6 A. Enter a record of the discovery in the facility operating record;
  - 7 B. Immediately remove the portion of the containment building unit affected by the  
8 condition from service;
  - 9 C. Determine what steps must be taken to repair the containment building unit,  
10 remove any leakage from the secondary collection system, and establish a  
11 schedule for accomplishing the cleanup and repairs; and
  - 12 D. Within seven (7) days after the discovery of the condition, notify Ecology of the  
13 condition, and within fourteen (14) working days, provide a written notice to  
14 Ecology with a description of the steps taken to repair the containment building  
15 unit, and the schedule for accomplishing the work.
- 16 ii. Ecology will review the information submitted, make a determination regarding  
17 whether the containment building unit must be removed from service completely or  
18 partially until repairs and cleanup are complete, and notify the Permittees of the  
19 determination and underlying rationale in writing.
- 20 iii. Upon completing all repairs and cleanup the Permittees must notify Ecology in writing  
21 and provide verification, signed by a qualified, registered, professional engineer, that  
22 repairs have been completed according to the written notice submitted in accordance  
23 with Permit Condition III.10.F.3.d.i.D.

24 III.10.F.4 Inspections [WAC 173-303-640(6)]

25 III.10.F.4.a. The Permittees shall inspect the containment building units in accordance with the  
26 Inspection Schedules in Attachment 51, Chapter 6.0 of this Permit, as modified pursuant to  
27 Permit Condition III.10.C.5.c.

28 III.10.E.4.b. The inspection data for the containment building units shall be recorded, and the records  
29 shall be placed in the WTP Unit operating record, in accordance with Permit Condition  
30 III.10.C.4.

31 III.10.F.5 Recordkeeping (WAC 173-303-380)

32 For the containment building units, the Permittees shall record and maintain in the WTP  
33 Unit operating record, all monitoring, calibration, recording, maintenance, test data, and  
34 inspection data compiled under the conditions of this Permit, in accordance with Permit  
35 Condition III.10.C.4. and III.10.C.5.

36 III.10.F.6. Closure

37 The Permittees shall close the containment building units in accordance with Attachment 51,  
38 Chapter 11.0 of this Permit, as approved pursuant to Permit Condition III.10.C.8.

39 III.10.F.7. Compliance Schedule

40 III.10.F.7.a. All information identified for submittal to Ecology in b. through e. of this compliance  
41 schedule must be signed in accordance with requirements in WAC 173-303-810(12), as  
42 modified in accordance with Permit Condition III.10.F.1.d. [WAC 173-303-806(4)].

- 1 III.10.F.7.b. Prior to initial receipt of dangerous and/or mixed waste, the Permittees shall submit to  
2 Ecology a certification by a qualified, registered, professional engineer that the containment  
3 building units design meets the requirements of Permit Conditions II.10.F.1. and III.10.F.2.  
4 in accordance with Permit Condition III.10.F.7.a. The certification will also be stored in the  
5 WTP Unit operating record. For containment buildings units in Permit Table III.10.F.A., as  
6 modified pursuant to Permit Condition III.10.F.7.d.iv., identified as allowed to manage free  
7 liquids, the certification shall include an additional demonstration that the containment  
8 building meets the requirements specified in 40 CFR 264.1101(b), in accordance with WAC  
9 173-303-695.
- 10 III.10.F.7.c. The Permittees shall submit to Ecology pursuant to Permit Condition III.10.C.9.f., prior to  
11 construction of the containment building unit containment system, and as appropriate, leak  
12 detection system for each containment building unit (per level, per WTP Unit building) as  
13 identified in Permit Condition III.10.F.1., Permit Tables III.10.F.A., engineering information  
14 as specified below, for incorporation, as appropriate, into Attachment 51, Appendices 8.1,  
15 8.2, 8.3, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2, 9.4 through 9.10, 9.13, 9.18, 10.1, 10.2, 10.4  
16 through 10.10, 10.13, and 10.18 of this Permit. At a minimum, engineering information  
17 specified below will show the following as required in accordance with WAC 173-303-695  
18 (the information specified below will include dimensioned engineering drawings showing  
19 floors, walls, and ceilings/roof of the containment building units and other information on  
20 floor drains and sumps):
- 21 i. Design drawings (General Arrangement Drawings in plan and cross sections) and  
22 specifications for the foundation, containment, including liner/coating installation  
23 details and leak detection methodology, as appropriate [40 CFR 264.1101(a)(1) and  
24 (b), in accordance with WAC 173-303-695].
  - 25 ii. The Permittees shall provide the design criteria (references to codes and standards,  
26 load definitions and load combinations, materials of construction, and analysis/design  
27 methodology) and typical design details for the support of the containment system.  
28 This information shall demonstrate the foundation will be capable of providing  
29 support to the secondary containment system, resistance to pressure gradients above  
30 and below the system, and capable of preventing failure due to settlement,  
31 compression, or uplift [40 CFR 264.1101(a)(2) in accordance with WAC 173-303-  
32 695, in accordance with WAC 173-303-695].
  - 33 iii. The Permittees shall provide documentation addressing how coatings will withstand  
34 the movement of personnel, waste, and equipment during the operating life of the  
35 containment building per 40 CFR 264.1101(a)(2), (a)(4), and (b) in accordance with  
36 WAC 173-303-695.
  - 37 iv. Containment/foundation and, as appropriate, for leak detection systems, materials  
38 selection documentation (including, but not limited to, concrete coatings and water  
39 stops, and liner materials as applicable [e.g. physical and chemical tolerances]) [40  
40 CFR 264.1101(a)(4) and (b) in accordance with WAC 173-303-695].
  - 41 v. A detailed description of how the containment/foundation and, as appropriate, leak  
42 detection systems, will be installed.
  - 43 vi. Submit Permit Tables III.10.F.B and III.10.F.C, completed to provide for all  
44 secondary containment sumps and floor drains, the information as specified in each  
45 column heading, consistent with the information to be provided in i. through viii.

- 1           vii. A detailed description of how fugitive emissions will be controlled such that any  
2           openings (e.g., doors, windows, vents, cracks, etc.) exhibit no visible emissions [40  
3           CFR 264.1101(c)(1)(iv) in accordance with WAC 173-303-695].
- 4           viii. Prior to installation, the Permittees shall submit coating vendor information specific to  
5           containment buildings for incorporation into the Administrative Record [40 CFR  
6           264.1101(a)(4) and (b) in accordance with WAC 173-303-695].
- 7           ix. Prior to installation, leak detection system documentation (e.g. vendor information,  
8           etc.) consistent with information submitted under i. above, shall be submitted for  
9           incorporation into the Administrative Record;<sup>a</sup>
- 10          x. Prior to installation, the Permittees shall submit leak detection system instrumentation  
11          control logic narrative description (e.g., software functional specifications,  
12          descriptions of fail-safe conditions, etc.);<sup>a</sup>
- 13          xi. Prior to installation, system descriptions related to leak detection systems (including  
14          instrument control logic and narrative descriptions) shall be submitted for  
15          incorporation into the Administrative Record;<sup>a</sup>
- 16          xii. For leak detection system instrumentation for containment buildings as identified in  
17          Permit Tables III.10.F.D., a detailed description of how the leak detection system  
18          instrumentation will be installed and tested [40 CFR 264.1101(b)(3) in accordance  
19          with WAC 173-303-695] shall be submitted prior to installation.<sup>a</sup>

20                   <sup>a</sup>Information pertaining to leak detection systems in Permit Conditions III.10.F.7.c.ix.  
21                   through xii. will be submitted pursuant to Permit Conditions III.10.E.9.d.vii., viii., x.,  
22                   and xiii.

23  
24   III.10.F.7.d Prior to initial receipt of dangerous and mixed waste, in the WTP Unit, the Permittees shall  
25   submit the following, as specified below, for incorporation into Attachment 51. The  
26   information specified below into Attachment 51, and incorporated pursuant to Permit  
27   Condition III.10.C.2.g. shall be followed:

- 28           i. Registered Professional Engineer certification documentation consistent with the  
29           information provided in III.10.F.7.b. and III.10.F.7.c. for incorporation in the  
30           Administrative Record. The certification must be maintained in the WTP Unit  
31           Operating Record [40 CFR 264.1101(c)(2)];
- 32           ii. Updated Chapter 4.0, Section 4.2.1., and the figures for containment building units  
33           identified in Permit Table III.10.F.A. (as modified pursuant to Permit Condition  
34           III.10.F.7.d.iv., consistent with Attachment 51, Appendices 8.1, 8.2, 8.4 through 8.10,  
35           8.13, 8.15, 9.1, 9.2, 9.4 through 9.10, 9.13, 9.18, 10.1, 10.2, 10.4 through 10.10, 10.13,  
36           and 10.18, as approved pursuant Permit Conditions III.10.F.7.a. through d.);
- 37           iii. Description of operating procedures demonstrating compliance with 40 CFR  
38           264.1101(c) and (d) in accordance with WAC 173-303-695;
- 39           iv. Permit Table III.10.F.A., amended as follows:
  - 40                   A. Under column 1, update and complete list of dangerous and mixed waste  
41                   containment building units including room location and number.
  - 42                   B. Under column 2, update unit dimensions.

- 1 C. Under column 3, replace the 'Reserved' with the Attachment 51, Appendices 8.0,  
2 9.0, and 10.0, subsections specific to containment building units as listed in  
3 column 1.
- 4 D. Under column 4, update and complete list of narrative description, tables, and  
5 figures.
- 6 E. Under column 5, replace the 'Reserved' to indicate if container storage is used in  
7 each containment building units (Yes or No) consistent with Permit Table  
8 III.10.D.A. updated pursuant to Permit Condition III.10.D.10.d.
- 9 F. Under column 6, replace the 'Reserved' to indicate if tank storage is used in each  
10 containment building units (Yes or No) consistent with Permit Tables III. 10.E.A-  
11 D., updated pursuant to Permit Condition III.10.E.9.e.vi.
- 12 G. Under column 7, replace the 'Reserved' with the maximum capacity for each  
13 containment building unit, to include the container storage capacity specified in  
14 Permit Table III.10.D.A., tank capacity specified in Permit Tables III. 10.E.A-D.  
15 and update the total capacity for the containment building units.
- 16 H. Under column 8, update the status of each containment building unit.
- 17 v. Permit Table III.10.F.D. shall be completed for Containment Building leak  
18 detection system instrumentation and parameters to provide the information as  
19 specified in each column heading. Leak detection system monitors and  
20 instruments for critical systems as specified in Attachment 51, Appendix 2.0  
21 and as updated pursuant to Permit Condition III.10.C.9.b. shall be addressed.
- 22 III.10.F.7.e. All information provided under Permit Condition III.10.F.7.d. must be consistent with  
23 information provided pursuant to Permit Conditions III.10.F.7.a. through d., as approved by  
24 Ecology.  
25

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**Table III.10.F.A. – Containment Building Unit Description**

Mixed Waste Containment Building Units <sup>a</sup> & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas <sup>b</sup>	Tank Systems <sup>c</sup>	Containment Building Capacity (cu ft)	Manage Free Liquids
Pretreatment Hot Cell Containment Building	414x54x46	RESERVED	Section 4.3.4 Fig. 4A-78	RESERVED	RESERVED	RESERVED	Yes
Pretreatment Maintenance Containment Building	(98x56x18) + (54x5x18) + (54x78x18) + (18x98x18)	RESERVED	Section 4.3.4 Fig. 4A-78	RESERVED	RESERVED	RESERVED	Yes
Pretreatment Air Filtration Containment Building	234x54x19	RESERVED	Section 4.3.4 Fig. 4A-80, -81	RESERVED	RESERVED	RESERVED	No
LAW LSM Gallery Containment Building	151x62x25	RESERVED	Section 4.3.4 Fig. 4A-83	RESERVED	RESERVED	RESERVED	Yes
ILAW Container Finishing Containment Building	98x31x25	RESERVED	Section 4.3.4 Fig. 4A-83	RESERVED	RESERVED	RESERVED	No
Law Vitrification Plant C3 Workshop Containment Building	35x40x20	RESERVED	Section 4.3.4 Fig. 4A-85	RESERVED	RESERVED	RESERVED	Yes
HLW Melters 1 and 2 Containment Buildings	35x107x49	RESERVED	Section 4.3.4 Fig. 4A-87	RESERVED	RESERVED	RESERVED	No
IHLW Container Weld Containment Building	140x18x48	RESERVED	Section 4.3.4 Fig. 4A-88	RESERVED	RESERVED	RESERVED	No
IHLW Container Decontamination Building	10x80x58	RESERVED	Section 4.3.4 Fig. 4A-88	RESERVED	RESERVED	RESERVED	No
HLW Vitrification Plant C3 Workshop Containment Building	30x27x19 + 33x15x19	RESERVED	Section 4.3.4 Fig. 4A-89	RESERVED	RESERVED	RESERVED	No
HLW Air Filtration Containment Building	104x38x19	RESERVED	Section 4.3.4 Fig. 4A-88	RESERVED	RESERVED	RESERVED	No
HLW Pour Tunnel No. 1 Containment Building	140x11x21	RESERVED	Section 4.3.4 Fig. 4A-86	RESERVED	RESERVED	RESERVED	No
HLW Pour Tunnel No. 2 Containment Building	140x11x21	RESERVED	Section 4.3.4 Fig. 4A-86	RESERVED	RESERVED	RESERVED	No

3 <sup>a</sup> Containment Building Units include associated process systems and equipment  
 4 <sup>b</sup> Requirements pertaining to the containers in the Containment Building Units are specified in Section III.10.D. of this Permit.  
 5 <sup>c</sup> Requirements pertaining to the tanks in the Containment Building Units are specified in Section III.10.E. of this Permit.  
 6

Table III.10.F.B. – Containment Building Primary<sup>a</sup> Containment Sump Systems

Sump I.D.# & Room Location	Maximum Capacity (gallons)	Dimensions (feet) & Materials of Construction	Maximum Allowable Liquid Height (inches)	Secondary Containment Volume (gallons)	Unit Description Drawings <sup>#</sup>
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

<sup>a</sup>Primary sumps are defined in Permit Section III.10.C, and must comply with dangerous waste tank system requirements for tanks as described in WAC-173-303-640.

Table III.10.F.C. – Containment Building Secondary Containment Systems Including Sumps and Floor Drains

Sump or Drain Line I.D.# & Room Location	Maximum Sump (gallons) or Drain Line (gallons per minute) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump or Drain Line Dimensions (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications No.'s, etc.)
PWD-SUMP-00026 P-0123 (Hot Cell, El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 316L	<b>24590-PTF</b> -M6-PWD-P00010 -P1-P01T-P0001 -P1-P01T-P0009
PWD-SUMP-00028 P-0123 (Hot Cell, El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 316L	<b>24590-PTF</b> -M6-PWD-P00014 -P1-P01T-P0001
PWD-SUMP-00029 P-0123 (Hot Cell, El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 316L	<b>24590-PTF</b> -M6-PWD-P00014 -P1-P01T-P0001 -P1-P01T-P0009
PWD-SUMP-00032 P-0123A (Maintenance Cave, El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 316L	<b>24590-PTF</b> -M6-PWD-P00010 -P1-P01T-P0001 -P1-P01T-P0009
PWD-SUMP-00033 P-0123A (Maintenance Cave, El. 0')	73.5	Dry Sump <sup>a</sup>	30" Dia. By ~28" deep 316L	<b>24590-PTF</b> -M6-PWD-P00010 -P1-P01T-P0001

				-P1-P01T-P0009
PWD-ZF-03000-S11B-06 P-0123 (Hot Cell, El. 0')	939	N/A	6" Dia. 316L	<b>24590-PTF</b> -M6-PWD-P0011
PWD-ZF-03001-S11B-06 P-0123 (Hot Cell, El. 0')	939	N/A	6" Dia. 316L	<b>24590-PTF</b> -M6-PWD-P0011
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

1  
2  
3  
4  
5

**Table III.10.F.D – Containment Building Leak Detection System Instrumentation and Parameters**

Containment Building Locator and Name (including P&ID)	Type of Leak Detection Instrument	Location of Leak Detection Instrument (Tag No.)	Leak Detection Instrument Range	Expected Range	Fail States	Leak Detection Instrument Accuracy	Leak Detection Instrument Calibration Method No. and Range
PWD-SUMP-00026 P-0123 <sup>a</sup>	Radar	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00028 P-0123 <sup>a</sup>	Radar	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00029 P-0123 <sup>a</sup>	Radar	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00032 P-0123A <sup>a</sup>	Radar	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00033 P-0123A <sup>a</sup>	Radar	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

6  
7

<sup>a</sup>Sump locator and name (including P&ID designator) is located on Permit Table III.10.F.C – Containment Building Secondary Containment Systems Including Sumps and Floor Drains.

1 **III.10.G PRETREATMENT PLANT MISCELLANEOUS UNIT SYSTEMS**

2 For purposes of Permit Section III.10.G., where reference is made to WAC 173-303-640, the  
3 following substitutions apply: substitute the terms "Pretreatment Plant Miscellaneous Unit  
4 System(s)" for "tank system(s)," "miscellaneous unit(s)" for "tank(s)," "equipment" for  
5 "ancillary equipment," and "miscellaneous unit(s) or equipment of a Pretreatment Plant  
6 Miscellaneous Unit System" for "component(s)" in accordance with WAC 173-303-680.

7 **III.10.G.1 Approved Waste and Storage Limits**

8 **III.10.G.1.a.** The Permittees may process, in the Pretreatment Plant Miscellaneous Unit Systems listed in  
9 Permit Table III.10.G.A, as approved/modified pursuant to Permit Condition III.10.G.10, all  
10 dangerous and mixed waste listed in the Part A Forms, Attachment 51, Chapter 1.0 of this  
11 Permit, and in accordance with in the WAP, Attachment 51, Chapter 3.0 of this Permit, as  
12 approved pursuant to Permit Condition III.10.C.3. Total Pretreatment Plant Miscellaneous  
13 Unit dangerous and mixed waste storage at the Facility shall not exceed the limits specified  
14 in Permit Table III.10.G.A.

15 **III.10.G.1.b.** The Permittees may process dangerous and mixed waste only in approved Pretreatment  
16 Plant Miscellaneous Unit Systems listed in Permit Table III.10.G.A in accordance with  
17 Permit Section III.10.G and in accordance with Attachment 51, Chapters 1.0 and 4.0 of this  
18 Permit, and Attachment 51, Appendices 8.1 through 8.15 of this Permit, as approved  
19 pursuant to Permit Conditions III.10.G.10.b. through e. The Permittees shall limit the total  
20 volume of wastes to quantities specified for the individual miscellaneous units listed in  
21 Permit Table III.10.G.A.

22 **III.10.G.1.c.** The Permittees shall manage ignitable and reactive, and incompatible waste in accordance  
23 with WAC 173-303-395(1). Any Pretreatment Plant Miscellaneous Unit System specified in  
24 Permit Tables III.10.G.A and III.10.G.B in which ignitable, reactive or incompatible waste  
25 are managed shall meet the requirements specified in WAC 173-303-640(9) and (10), in  
26 accordance to WAC 173-303-680.

27 **III.10.G.1.d.** The Permittees shall ensure all certifications required by specialists (e.g., independent,  
28 qualified, registered professional engineer; independent corrosion expert; independent,  
29 qualified installation inspector; etc.) use the following statement or equivalent pursuant to  
30 Permit Condition III.10.C.10:

31 "I, (Insert Name) have (choose one or more of the following: overseen, supervised,  
32 reviewed, and/or certified) a portion of the design or installation of a new miscellaneous unit  
33 system or component located at (address), and owned/operated by (name(s)). My duties  
34 were: (e.g., installation inspector, testing for tightness, etc.), for the following miscellaneous  
35 unit system components (e.g., the venting piping, etc.), as required by the Dangerous Waste  
36 Regulations, namely, WAC 173-303-640(3) (applicable paragraphs (i.e., (a) through (g)) in  
37 accordance with WAC 173-303-680).

38 "I certify under penalty of law that I have personally examined and am familiar with the  
39 information submitted in this document and all attachments and that, based on my inquiry of  
40 those individuals immediately responsible for obtaining the information, I believe that the  
41 information is true, accurate, and complete. I am aware that there are significant penalties  
42 for submitting false information, including the possibility of fine and imprisonment."

43 **III.10.G.1.e.** In all future narrative permit submittals, the Permittees shall include miscellaneous unit  
44 system names with the unit designation (e.g., Waste Feed Evaporator Separator Vessels are  
45 designated V11002A and V11002B, respectively).

- 1 III.10.G.2 Miscellaneous Unit Systems Design and Construction [WAC 173-303-640, in accordance  
2 with WAC 173-303-680(2) and WAC 173-303-340].
- 3 III.10.G.2.a. The Permittees shall construct the Pretreatment Plant Miscellaneous Unit Systems identified  
4 in Permit Table III.10.G.A, as specified in Attachment 51, Appendices 8.1 through 8.14 of  
5 this Permit, as approved pursuant to Permit Conditions III.10.G.10.b., III.10.G.10.c., and  
6 III.10.G.10.d.
- 7 III.10.G.2.b. The Permittees shall construct secondary containment systems for the Pretreatment Plant  
8 Miscellaneous Unit Systems identified in Permit Tables III.10.G.A and III.10.G.B, as  
9 specified in Attachment 51, Appendices 8.2, 8.4 through 8.14 of this Permit, as approved  
10 pursuant to Permit Conditions III.10.G.10.b., III.10.G.10.c., and III.10.G.10.d.
- 11 III.10.G.2.c. Modifications to approved design, plans, and specifications in Attachment 51 of this Permit  
12 for the Pretreatment Plant Miscellaneous Unit Systems shall be allowed only in accordance  
13 with Permit Conditions III.10.C.2.e. and f., or III.10.C.2.g., III.10.C.9.d., e., and h.
- 14 III.10.G.3 Miscellaneous Unit System Installation and Certification [WAC 173-303-640, in accordance  
15 with WAC 173-303-680(2) and (3), and WAC 173-303-340].
- 16 III.10.G.3.a. The Permittees must ensure that proper handling procedures are adhered to in order to  
17 prevent damage to Pretreatment Plant Miscellaneous Unit Systems during installation. Prior  
18 to covering, enclosing, or placing a new Pretreatment Plant Miscellaneous Unit System(s) or  
19 component(s) in use, an independent, qualified, installation inspector or an independent,  
20 qualified, registered professional engineer, either of whom is trained and experienced in the  
21 proper installation of similar systems or components, must inspect the system for the  
22 presence of any of the following items:
- 23 i. Weld breaks;
  - 24 ii. Punctures;
  - 25 iii. Scrapes of protective coatings;
  - 26 iv. Cracks;
  - 27 v. Corrosion;
  - 28 vi. Other structural damage or inadequate construction/installation;
  - 29 vii. All discrepancies must be remedied before the Pretreatment Plant Miscellaneous Unit  
30 Systems are covered, enclosed, or placed in use [WAC 173-303-640(3)(c) in  
31 accordance with WAC 173-303-680(2) and (3)].
- 32 III.10.G.3.b. For Pretreatment Plant Miscellaneous Unit Systems or components that are placed  
33 underground and that are back-filled, the Permittees must provide a backfill material that is a  
34 non-corrosive, porous, homogeneous substance. The backfill must be installed so that it is  
35 placed completely around the miscellaneous unit and compacted to ensure that the  
36 miscellaneous unit and piping are fully and uniformly supported [WAC 173-303-640(3)(d),  
37 in accordance with WAC 173-303-680(2) and (3)].
- 38 III.10.G.3.c. The Permittees must test for tightness all new Pretreatment Plant miscellaneous units and  
39 equipment, prior to being covered, enclosed, or placed into use. If the Pretreatment Plant  
40 Miscellaneous Unit Systems are found not to be tight, all repairs necessary to remedy the  
41 leak(s) in the system must be performed prior to the Pretreatment Plant Miscellaneous Units  
42 Systems being covered, enclosed, or placed in use [WAC 173-303-640(3)(e), in accordance  
43 with WAC 173-303-680(2) and (3)].

- 1 III.10.G.3.d. The Permittees must ensure Pretreatment Plant Miscellaneous Unit Systems equipment is  
2 supported and protected against physical damage and excessive stress due to settlement,  
3 vibration, expansion, or contraction [WAC 173-303-640(3)(f), in accordance with WAC  
4 173-303-680(2) and (3)].
- 5 III.10.G.3.e. The Permittees must provide the type and degree of corrosion protection recommended by  
6 an independent corrosion expert, based on the information provided in Attachment 51,  
7 Appendices 8.9 and 8.11 as approved pursuant to Permit Conditions III.10.G.10.b.i.,  
8 III.10.G.10.b.i.v., III.10.G.10.b.v., III.10.G.10.c.i., III.10.G.10.c.i.v., III.10.G.10.c.v., and  
9 III.10.G.10.d.i., III.10.G.10.d.iv. III.10.G.10.d.v., or other corrosion protection if Ecology  
10 believes other corrosion protection is necessary to ensure the integrity of the Pretreatment  
11 Plant Miscellaneous Unit Systems during use of the Pretreatment Plant Miscellaneous Unit  
12 Systems. The installation of a corrosion protection system that is field fabricated must be  
13 supervised by an independent corrosion expert to ensure proper installation [WAC 173-303-  
14 640(3)(g), in accordance with WAC 173-303-680(2) and (3)].
- 15 III.10.G.3.f. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
16 shall obtain, and keep on file in the WTP Unit operating record, written statements by those  
17 persons required to certify the design of the Pretreatment Plant Miscellaneous Unit Systems  
18 and supervise the installation of the Pretreatment Plant Miscellaneous Unit Systems, as  
19 specified in WAC 173-303-640(3)(b), (c), (d), (e), (f), and (g), in accordance with WAC  
20 173-303-680, attesting that each Pretreatment Plant Miscellaneous Unit System and  
21 corresponding containment system listed in Permit Tables III.10.G.A and III.10.G.B, as  
22 approved/modified pursuant to Permit Condition III.10.G.10., were properly designed and  
23 installed, and that repairs, in accordance with WAC 173-303-640(3)(c) and (e), were  
24 performed [WAC 173-303-640(3)(a), WAC 173-303-640(3)(h), in accordance with WAC  
25 173-303-680(3)].
- 26 III.10.G.3.g. The independent Pretreatment Plant Miscellaneous Unit System installation inspection and  
27 subsequent written statements shall be certified in accordance with WAC 173-303-  
28 810(13)(a) as modified pursuant to Permit Condition III.10.G.1.d., comply with all  
29 requirements of WAC 173-303-640(3)(h), in accordance with WAC 173-303-680, and shall  
30 consider, but not be limited to, the following miscellaneous unit system installation  
31 documentation:
- 32 i. Field installation report with date of installation;
  - 33 ii. Approved welding procedures;
  - 34 iii. Welder qualifications and certification;
  - 35 iv. Hydro-test reports, as applicable, in accordance with the American Society of  
36 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1,  
37 American Petroleum Institute (API) Standard 620, or Standard 650 as applicable;
  - 38 v. Tester credentials;
  - 39 vi. Field inspector credentials;
  - 40 vii. Field inspector reports;
  - 41 viii. Field waiver reports; and
  - 42 ix. Non-compliance reports and corrective action (including field waiver reports) and  
43 repair reports.
- 44 III.10.G.4 Integrity Assessments [WAC 173-303-340 and WAC 173-303-640, in accordance with  
45 WAC 173-303-680(2) and (3)].

- 1 III.10.G.4.a. The Permittees shall ensure periodic integrity assessments are conducted on the Pretreatment  
2 Plant Miscellaneous Unit Systems listed in Permit Table III.10.G.A, as approved/modified  
3 pursuant to Permit Condition III.10.G.10., over the term of this Permit in accordance with  
4 WAC173-303-680(2) and (3) as specified in WAC 173-303-640(3)(b), following the  
5 description of the integrity assessment program and schedule in Attachment 51, Chapter 6.0  
6 of this Permit, as approved pursuant to Permit Conditions III.10.G.10.e.i. and III.10.C.5.c.  
7 Results of the integrity assessments shall be included in the WTP Unit operating record until  
8 ten (10) years after post-closure, or corrective action is complete and certified, whichever is  
9 later.
- 10 III.10.G.4.b. The Permittees shall address problems detected during Pretreatment Plant Miscellaneous  
11 Unit Systems integrity assessments specified in Permit Condition III.10.G.4.a. following the  
12 integrity assessment program in Attachment 51, Chapter 6.0 of this Permit, as approved  
13 pursuant to Permit Conditions III.10.G.10.e.i. and III.10.C.5.c.
- 14 III.10.G.4.c. The Permittees must immediately and safely remove from service any Pretreatment Plant  
15 Miscellaneous Unit System or secondary containment system which through an integrity  
16 assessment is found to be "unfit for use" as defined in WAC 173-303-040, following Permit  
17 Condition III.10.G.5.j.i. through iv., and vi. The affected Pretreatment Plant Miscellaneous  
18 Unit or secondary containment system must be either repaired or closed in accordance with  
19 Permit Condition III.10.G.5.j.v. [WAC 173-303-640(7)(e) and (f) and WAC 173-303-  
20 640(8), in accordance with WAC 173-303-680(3)].
- 21 III.10.G.5 Miscellaneous Unit Management Practices
- 22 III.10.G.5.a. No dangerous and/or mixed waste shall be managed in the Pretreatment Plant Miscellaneous  
23 Unit Systems unless the operating conditions, specified under Permit Condition III.10.G.5,  
24 are complied with.
- 25 III.10.G.5.b. The Permittees shall install and test all process and leak detection system  
26 monitoring/instrumentation, as specified in Permit Table III.10.G.C, as approved/modified  
27 pursuant to Permit Condition III.10.G.10, in accordance with Attachment 51, Appendices  
28 8.1, 8.2, and 8.14 of this Permit, as approved pursuant to Permit Condition III.10.G.10.d.x.
- 29 III.10.G.5.c. The Permittees shall not place dangerous and/or mixed waste, treatment reagents, or other  
30 materials in the Pretreatment Plant Miscellaneous Unit Systems if these substances could  
31 cause the systems to rupture, leak, corrode, or otherwise fail [WAC 173-303-640(5)(a), in  
32 accordance with WAC 173-303-680(2)].
- 33 III.10.G.5.d. The Permittees shall operate the Pretreatment Plant Miscellaneous Unit Systems to prevent  
34 spills and overflows using the description of controls and practices, as required under WAC  
35 173-303-640(5)(b), described in Permit Condition III.10.C.5, and Attachment 51, Appendix  
36 8.15 of this Permit, as approved pursuant to Permit Condition III.10.G.10.e.iv. [WAC 173-  
37 303-640(5)(b), in accordance with WAC 173-303-680(2) and (3) and WAC 173-303-  
38 806(4)(c)(ix)].
- 39 III.10.G.5.e. For routinely non-accessible Pretreatment Plant Miscellaneous Unit Systems, as specified in  
40 Attachment 51, Chapter 4.0 of this Permit, as updated pursuant to Permit Condition  
41 III.10.G.10.e.vi., the Permittees shall mark all routinely non-accessible Pretreatment Plant  
42 Miscellaneous Unit System access points with labels or signs to identify the waste contained  
43 in the units. The label, or sign, must be legible at a distance of at least fifty (50) feet and  
44 must bear a legend which identifies the waste in a manner which adequately warns  
45 employees, emergency response personnel, and the public of the major risk(s) associated  
46 with the waste being stored or treated in the miscellaneous unit system(s). For the purposes  
47 of this Permit condition, "routinely non-accessible" means personnel are unable to enter

1 these areas while waste is being managed in them [WAC 173-303-640(5)(d), in accordance  
2 with WAC 173-303-680(2)].

3 III.10.G.5.f. For all Pretreatment Plant Miscellaneous Unit Systems not addressed in Permit Condition  
4 III.10.G.5.e, the Permittees shall mark all these miscellaneous unit systems holding  
5 dangerous and/or mixed waste with labels or signs to identify the waste contained in the  
6 unit. The labels, or sign, must be legible at a distance of at least fifty (50) feet, and must  
7 bear a legend which identifies the waste in a manner which adequately warns employees,  
8 emergency response personnel, and the public of the major risk(s) associated with the waste  
9 being stored or treated in the miscellaneous unit system(s) [WAC 173-303-640(5)(d), in  
10 accordance with WAC 173-303-680(2)].

11 III.10.G.5.g. The Permittees shall ensure that the secondary containment systems for Pretreatment Plant  
12 Miscellaneous Unit Systems listed in Permit Tables III.10.G.A and III.10.G.B, as  
13 approved/modified pursuant to Permit Condition III.10.G.10, are free of cracks or gaps to  
14 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the  
15 system to the soil, ground water, or surface water at any time waste is in the Pretreatment  
16 Plant Miscellaneous Units System. Any indication that a crack or gap may exist in the  
17 containment systems shall be investigated and repaired in accordance with Attachment 51,  
18 Appendix 8.15 of this Permit, as approved pursuant to Permit Condition III.10.G.10.e.v.  
19 [WAC 173-303-640(4)(b)(i), WAC 173-303-640(4)(e)(i)(C), and WAC 173-303-640(6) in  
20 accordance with WAC 173-303-680(2) and (3), WAC 173-303-806(4)(i)(i)(B), and WAC  
21 173-303-320].

22 III.10.G.5.i. An impermeable coating, as specified in Attachment 51, Appendices 8.4, 8.5, 8.7, 8.9, 8.11,  
23 and 8.12 of this Permit, as approved pursuant to Permit Condition III.10.G.10.b.v. of this  
24 Permit, shall be maintained for all concrete containment systems and concrete portions of  
25 containment systems for each Pretreatment Plant Miscellaneous Unit System listed in Permit  
26 Tables III.10.G.A and III.10.G.B, as approved/modified pursuant to Permit Condition  
27 III.10.G.10 [concrete containment systems that do not have a liner pursuant to WAC-173-  
28 303-640(4)(e)(i), in accordance with WAC 173-303-680(2), and have construction joints,  
29 shall meet the requirements of WAC 173-303-640(4)(e)(ii)(C), in accordance with WAC  
30 173-303-680(2)]. The coating shall prevent migration of any dangerous and mixed waste  
31 into the concrete. All coatings shall meet the following performance standards:

- 32 i. The coating must seal the containment surface such that no cracks, seams, or other  
33 avenues through which liquid could migrate are present;
- 34 ii. The coating must be of adequate thickness and strength to withstand the normal  
35 operation of equipment and personnel within the given area such that degradation or  
36 physical damage to the coating or lining can be identified and remedied before  
37 dangerous and mixed waste could migrate from the system; and
- 38 iii. The coating must be compatible with the dangerous and mixed waste, treatment  
39 reagents, or other materials managed in the containment system [WAC 173-303-  
40 640(4)(e)(ii)(D), in accordance with WAC 173-303-680(2) and (3) and WAC 173-303-  
41 806(4)(i)(i)(A)].

42 III.10.G.5.j. The Permittees shall inspect all secondary containment systems for the Pretreatment Plant  
43 Miscellaneous Unit Systems listed in Permit Tables III.10.G.A and III.10.G.B., as  
44 approved/modified pursuant to Permit Condition III.10.G.10., in accordance with the  
45 Inspection Schedule specified in Attachment 51, Chapter 6.0 of this Permit, as approved  
46 pursuant to Permit Conditions III.10.G.10.e.i. and III.10.C.5.c., and take the following  
47 actions if a leak or spill of dangerous and/or mixed waste is detected in these containment

1 systems [WAC 173-303-640(5)(c) and WAC 173-303-640(6), in accordance with WAC  
2 173-303-680(2) and (3), WAC 173-303-320, and WAC 173-303-806(4)(i)(i)(B)]:

- 3 i. Immediately and safely stop the flow of dangerous and/or mixed waste into the  
4 miscellaneous unit system or secondary containment system;
- 5 ii. Determine the source of the dangerous and/or mixed waste;
- 6 iii. Remove the waste from the containment area in accordance with WAC 173-303-680(2)  
7 and (3), as specified in WAC 173-303-640(7)(b). The dangerous and/or mixed waste  
8 removed from containment areas of miscellaneous unit systems shall be, as a minimum,  
9 managed as dangerous and/or mixed waste;
- 10 iv. If the cause of the release was a spill that has not damaged the integrity of the  
11 miscellaneous unit system, the Permittees may return the miscellaneous unit system to  
12 service in accordance with WAC 173-303-680(2) and (3), as specified in WAC 173-  
13 303-640(7)(e)(ii). In such a case, the Permittees shall take action to ensure the incident  
14 that caused liquid to enter the containment system will not reoccur [WAC 173-303-  
15 320(3)];
- 16 v. If the source of the dangerous and/or mixed waste is determined to be a leak from a the  
17 primary Pretreatment Plant Miscellaneous Unit System into the secondary containment  
18 system, or the system is unfit for use as determined through an integrity assessment or  
19 other inspection, the Permittees must comply with the requirements of WAC 173-303-  
20 640(7), and take the following actions:
- 21 A. Close the miscellaneous unit following procedures in WAC 173-303-640(7)(e)(i)  
22 and in accordance with WAC 173-303-680, and Attachment 51, Chapter 11.0 of  
23 this Permit, as approved pursuant to Permit Condition III.10.C.8; or
- 24 B. Repair and re-certify (in accordance with WAC 173-303-810(13)(a), as modified  
25 pursuant to Permit Condition III.10.G.1.d.) the Pretreatment Plant Miscellaneous  
26 Unit System in accordance with Attachment 51, Appendix 8.15 of this Permit, as  
27 approved pursuant to Permit Condition III.10.G.10.e.v. before the Pretreatment  
28 Plant Miscellaneous Unit System is placed back into service [WAC 173-303-  
29 640(7)(e)(iii) and WAC 173-303-640(7)(f), in accordance with WAC 173-303-  
30 680].
- 31 vi. The Permittees shall document, in the operating record, actions/procedures taken to  
32 comply with i. through v. above, as specified in WAC 173-303-640(6)(d) and in  
33 accordance with WAC 173-303-680(2) and (3).
- 34 vii. In accordance with WAC 173-303-680(2) and (3), the Permittees shall notify and  
35 report releases to the environment to Ecology as specified in WAC 173-303-640(7)(d).

36 III.10.G.5.k. If liquids (e.g., Dangerous and/or mixed waste leaks and spills, precipitation, fire water,  
37 liquids from damaged or broken pipes) cannot be removed from the secondary containment  
38 system within twenty-four (24) hours, Ecology will be verbally notified within twenty-four  
39 (24) hours of discovery. The notification shall provide the information in A., B., and C.  
40 listed below. The Permittees shall provide Ecology with a written demonstration, within  
41 seven (7) business days, identifying at a minimum [WAC 173-303-640(4)(c)(iv) and WAC  
42 173-303-640(7)(b)(ii), in accordance with WAC 173-303-680(3) and WAC 173-303-  
43 806(4)(i)(i)(B)]:

- 44 A. Reasons for delayed removal;
- 45 B. Measures implemented to ensure continued protection of human health and the  
46 environment; and

1 C. Current actions being taken to remove liquids from secondary containment.

2 III.10.G.5.l. The Permittees shall operate the Pretreatment Plant Miscellaneous Unit Systems in  
3 accordance with Attachment 51, Chapter 4.0 as updated pursuant to Permit Condition  
4 III.10.G.10.e.vi. and Appendix 8.15 of this Permit, as approved pursuant to Permit Condition  
5 III.10.G.10.e., and the following:

6 i. The Permittees shall operate the Pretreatment Plant Miscellaneous Unit Systems in  
7 order to maintain the systems and process parameters listed in Permit Table III.10.G.C.  
8 as approved/modified pursuant to Permit Condition III. 10.G.10., within the operating  
9 trips and operating ranges specified in Permit Table III.10.G.C., and consistent with  
10 assumptions and basis which are reflected in Attachment 51, Appendix 6.3.1, as  
11 approved pursuant to Permit Condition III.10.C.11.b. [WAC 173-303-815(2)(b)(ii) and  
12 WAC 173-303-680(2) and (3)]. For the purposes of this Permit Condition, Attachment  
13 51, Appendix 6.3.1. shall be superceded by Appendix 6.4.1. upon its approval pursuant  
14 to either Permit Conditions III.10.C.11.c. or III.10.C.11.d.

15 ii. The Permittees shall calibrate/function test the instruments listed in Permit Table  
16 III.10.G.C., in accordance with Attachment 51, Appendix 8.15, as approved pursuant to  
17 Permit Condition III.10.G.10.e.xii.

18 III.10.G.5.m. For any portion of the Pretreatment Plant Miscellaneous Unit Systems which have the  
19 potential for formation and accumulation of hydrogen gases, the Permittees shall operate the  
20 portion to maintain hydrogen levels below the lower explosive limit [WAC 173-303-  
21 815(2)(b)(ii)].

22 III.10.G.5.n. For each miscellaneous unit holding dangerous waste which are acutely or chronically toxic  
23 by inhalation, the Permittees shall operate the system to prevent escape of vapors, fumes, or  
24 other emissions into the air [WAC 173-303-806(4)(i)(i)(B) and WAC 173-303-640(5)(e), in  
25 accordance with WAC 173-303-680].

26 III.10.G.6 Air Emissions

27 III.10.G.6.a. Treatment effectiveness, feed-rates, and operating rates for dangerous and mixed waste  
28 systems and sub-systems contained in the Pretreatment Plant (as specified in Permit Tables  
29 III.10.E.A, III.10.F.A, and III.10.G.A, as approved/modified pursuant to Permit Conditions  
30 III.10.E.9., III.10.F.5., III.10.G.10., respectively) shall be as specified in Permit Sections  
31 III.10.E, III.10.F, and III.10.G, and consistent with the assumptions and basis reflected in  
32 Attachment 51, Appendix 6.3.1 of this Permit, as approved pursuant to Permit Condition  
33 III.10.C.11.b. For the purposes of this permit condition, Attachment 51, Appendix 6.3.1  
34 shall be superceded by Appendix 6.4.1, upon its approval, pursuant to either Permit  
35 Condition III.10.C.11.c. or III.10.C.11.d. [WAC 173-303-680(2) and (3), and WAC 173-  
36 303-815(2)(b)(ii)].

37 III.10.G.6.b. Compliance with Permit Condition III.10.G.6.a. of this Permit shall be regarded as operating  
38 within the emission limits specified in Permit Table III.10.G.D., as approved pursuant to  
39 Permit Conditions III.10.C.11.b., III.10.C.11.c., or III.10.C.11.d. of this Permit.

40 III.10.G.6.c. All air pollution control devices and capture systems in the Pretreatment Plant  
41 Miscellaneous Unit Systems shall be maintained and operated at all times in a manner so as  
42 to minimize the emissions of air contaminants and to minimize process upsets. Procedures  
43 for ensuring that the above equipment is properly operated and maintained so as to minimize  
44 the emission of air contaminants and process upsets shall be established.

45 III.10.G.6.d. The Permittees shall ensure that for all dangerous and/or mixed waste areas, systems, and  
46 units contained in the Pretreatment Plant (as specified in Permit Tables III.10.E.A,

1 III.10.F.A, and III.10.G.A, as approved pursuant to Permit Conditions III.10.E.9.e.xii.,  
2 III.10.F.7.d.iv., and III.10.G.10.e.ix., respectively), the Pretreatment Vessel Vent Process  
3 System specified in Permit Table III.10.G.A.i shall be in operation prior to waste being  
4 introduced into these dangerous and/or mixed waste areas, systems, and units contained in  
5 the Pretreatment Building. At any time the Pretreatment Vessel Vent Process System ceases  
6 to operate or produces insufficient vacuum to recover emissions from the areas, systems, or  
7 units, the Permittees shall not commence new treatment activities within the dangerous and  
8 mixed waste areas, systems, or units contained in the Pretreatment Building, and take  
9 measures to minimize evolution of emissions from on-going treatment, and shall not receive  
10 new dangerous and/or mixed waste shipments into the Pretreatment Building. The  
11 Permittees shall not re-commence new treatment activities until the Pretreatment Vessel  
12 Vent Process System is operational and producing sufficient vacuum to recover emissions.

13 III.10.G.7 Inspections [WAC 173-303-680(3)]

14 III.10.G.7.a. The Permittees shall inspect the Pretreatment Plant Miscellaneous Unit Systems in  
15 accordance with the Inspection Schedules in Attachment 51, Chapter 6.0 of this Permit, as  
16 modified in accordance with Permit Condition III.10.C.5.c.

17 III.10.G.7.b. The inspection data for Pretreatment Plant Miscellaneous Unit Systems shall be recorded,  
18 and the records shall be placed in the WTP Unit operating record for the Pretreatment Plant  
19 Miscellaneous Unit Systems, in accordance with Permit Condition III.10.C.4.

20 III.10.G.8 Recordkeeping

21 The Permittees shall record and maintain in the WTP Unit operating record for the  
22 Pretreatment Plant Miscellaneous Unit Systems, all monitoring, calibration, maintenance,  
23 test data, and inspection data compiled under the conditions of this Permit, in accordance  
24 with Permit Conditions III.10.C.4 and III.10.C.5.

25 III.10.G.9 Closure

26 The Permittees shall close the Pretreatment Plant Miscellaneous Unit Systems in accordance  
27 with Attachment 51, Chapter 11.0, as approved pursuant to Permit Condition III.10.C.8.

28 III.10.G.10 Compliance Schedule

29 III.10.G.10.a. All information identified for submittal to Ecology in a. through e. of this compliance  
30 schedule must be signed and certified in accordance with requirements in WAC 173-303-  
31 810(12), as modified in accordance with Permit Condition III.10.G.1.d. [WAC 173-303-  
32 806(4)].

33 III.10.G.10.b. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., prior to  
34 construction of each secondary containment and leak detection system for the Pretreatment  
35 Plant Miscellaneous Unit Systems (per level) as identified in Permit Tables III.10.G.A and  
36 III.10.G.B, engineering information as specified below, for incorporation into Attachment  
37 51, Appendices 8.2, 8.4, 8.5, 8.7, 8.8, 8.9, 8.11, and 8.12 of this Permit. At a minimum,  
38 engineering information specified below will show the following as described in WAC  
39 173-303-640, in accordance with WAC 173-303-680 (the information specified below will  
40 include dimensioned engineering drawings and information on sumps and floor drains):

- 41 i. IQRPE Reports (specific to foundation, secondary containment, and leak detection  
42 system) shall include review of design drawings, calculations, and other information  
43 on which the certification report is based and shall include as applicable, but not  
44 limited to, review of such information described below. Information (drawings,  
45 specifications, etc.) already included in Attachment 51, Appendix 8.0 of this Permit  
46 may be included in the report by reference and should include drawing and document

1 numbers. IQRPE Reports shall be consistent with the information separately provided  
2 in ii. through ix. below [WAC 173-303-640(3)(a), in accordance with WAC 173-303-  
3 680 and WAC 173-303-806(4)(i)(i)];

4 ii. Design drawings (General Arrangement Drawings, in plan and cross sections) and  
5 specifications for the foundation, secondary containment, including, liner installation  
6 details, and leak detection methodology [Note: leak detection systems for areas where  
7 daily, direct, or remote visual inspection is not feasible, shall be continuous in  
8 accordance with WAC 173-303-640(4)(e)(iii)(C)]. These items should show the  
9 dimensions, volume calculations, and location of the secondary containment system,  
10 and should include items such as floor/pipe slopes to sumps, tanks, floor drains [WAC  
11 173-303-640(4)(b) through (f) and WAC 173-303-640(3)(a), in accordance with WAC  
12 173-303-680 and WAC 173-303-806(4)(i)(i)];

13 iii. The Permittees shall provide the design criteria (references to codes and standards,  
14 load definitions, and load combinations, materials of construction, and analysis/design  
15 methodology) and typical design details for the support of the secondary containment  
16 system. This information shall demonstrate the foundation will be capable of  
17 providing support to the secondary containment system, resistance to pressure  
18 gradients above and below the system, and capable of preventing failure due to  
19 settlement, compression, or uplift [WAC 173-303-640(4)(c)(ii), in accordance with  
20 WAC 173-303-680(2) and WAC 173-303-806(4)(i)(i)(B)];

21 iv. A description of materials and equipment used to provide corrosion protection for  
22 external metal components in contact with soil, including factors affecting the  
23 potential for corrosion [WAC 173-303-640(3)(a)(iii)(B), in accordance with WAC  
24 173-303-680 and WAC 173-303-806(4)(i)(i)(A) through (B)];

25 v. Secondary containment/foundation and leak detection systems materials selection  
26 documentation (including, but not limited to, concrete coatings and water stops, and  
27 liner materials), as applicable [WAC 173-303-806(4)(i)(i)(A) through (B)];

28 vi. Detailed description of how the secondary containment for each miscellaneous unit  
29 system will be installed in compliance with WAC 173-303-640(3)(c), in accordance  
30 with WAC 173-303-680 and WAC 173-303-806(4)(i)(i)(A) through (B);

31 vii. Submit Permit Table III.10.G.B. completed to provide for all secondary containment  
32 sumps and floor drains, the information as specified in each column heading,  
33 consistent with information to be provided in i. through vi. above;

34 viii. Documentation that secondary containment and leak detection systems will not  
35 accumulate hydrogen gas levels above the lower explosive limit for incorporation into  
36 the Administrative Record [WAC 173-303-680, WAC 173-303-806(4)(i)(i)(A), and  
37 WAC 173-303-806(4)(i)(v)];

38 ix. A detailed description of how miscellaneous unit design provides access for  
39 conducting future miscellaneous unit integrity assessments [WAC 173-303-640(3)(b)  
40 and WAC 173-303-806(4)(i)(i)(B)].

41 III.10.G.10.c. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., prior to  
42 installation of each Pretreatment Plant Miscellaneous Unit System as identified in Permit  
43 Tables III.10.G.A and III.10.G.B, engineering information as specified below, for  
44 incorporation into Attachment 51, Appendix 8.1 through 8.14 of this Permit. At a  
45 minimum, engineering information specified below will show the following as required  
46 pursuant to WAC 173-303-640 and in accordance with WAC 173-303-680 (the information  
47 specified below will include dimensioned engineering drawings):

- 1 i. IQRPE Reports (specific to miscellaneous unit) shall include review of design  
2 drawings, calculations, and other information on which the certification report is based  
3 and shall include as applicable, but not limited to, review of such information  
4 described below. Information (drawings, specifications, etc.) already included in  
5 Attachment 51, Appendix 8.0 of this Permit may be included in the report by reference  
6 and should include drawing and document numbers. The IQRPE Reports shall be  
7 consistent with the information separately provided in ii. through xi. below and the  
8 IQRPE Report specified in Permit Condition III.10.G.10.b.i. [WAC 173-303-  
9 640(3)(a), in accordance with WAC 173-303-680(2) and WAC 173-303-806(4)(i)(i)];
- 10 ii. Design drawings (General Arrangement Drawings in plan and cross sections, Process  
11 Flow Diagrams, Piping and Instrumentation Diagrams [including pressure control  
12 systems], and Mechanical Drawings) and specifications, and other information  
13 specific to miscellaneous units (to show location and physical attributes of each  
14 miscellaneous unit), [WAC 173-303-640(3)(a), in accordance with WAC 173-303-  
15 680(2) and WAC 173-303-806(4)(i)(i)];
- 16 iii. Miscellaneous unit design criteria (references to codes and standards, load definitions,  
17 and load combinations, materials of construction, and analysis/design methodology)  
18 and typical design details for the support of the miscellaneous unit(s). Structural  
19 support calculations specific to off-specification, non-standard, and field fabricated  
20 miscellaneous units shall be submitted for incorporation into the Administrative  
21 Record [WAC 173-303-640(3)(a), in accordance with WAC 173-303-680(2) and  
22 WAC 173-303-806(4)(i)(i)(B)];
- 23 iv. A description of materials and equipment used to provide corrosion protection for  
24 external metal components in contact with water, including factors affecting the  
25 potential for corrosion [WAC 173-303-640(3)(a)(iii)(B), in accordance with WAC  
26 173-303-680(2) and WAC 173-303-806(4)(i)(i)(A) through (B)];
- 27 v. Miscellaneous unit materials selection documentation (e.g., physical and chemical  
28 tolerances) [WAC 173-303-640(3)(a), in accordance with WAC 173-303-680(2) and  
29 WAC 173-303-806(4)(i)(i)(A)];
- 30 vi. Miscellaneous unit vendor information (including, but not limited to, required  
31 performance warranties, as available), consistent with information submitted under ii.  
32 above, shall be submitted for incorporation into the Administrative Record [WAC  
33 173-303-640(3)(a), in accordance with WAC 173-303-680(2), WAC 173-303-  
34 806(4)(i)(i)(A) through (B), and WAC 173-303-806(4)(i)(v)];
- 35 vii. System Description (process) related to miscellaneous units shall be submitted for  
36 incorporation into the Administrative Record [WAC 173-303-680, WAC 173-303-  
37 806(4)(i)(i)(A) through (B), and WAC 173-303-806(4)(i)(v)].
- 38 viii. Mass and energy balance for normal projected operating conditions used in  
39 developing the Piping and Instrumentation Diagrams and the Process Flow Diagrams,  
40 including assumptions and formulas used to complete the mass and energy balance, so  
41 that they can be independently verified for incorporation into the Administrative  
42 Record [WAC 173-303-680(2), WAC 173-303-806(4)(i)(i)(B), and WAC 173-303-  
43 806(4)(i)(v)];
- 44 ix. A detailed description of how the miscellaneous unit will be installed in compliance  
45 with WAC 173-303-640(3)(c), (d), and (e), in accordance with WAC 173-303-680 and  
46 WAC 173-303-806(4)(i)(i)(B);

- 1 x. Documentation that miscellaneous units are designed to prevent the accumulation of  
2 hydrogen gas levels above the lower explosive limit for incorporation into the  
3 Administrative Record [WAC 173-303-680, WAC 173-303-806(4)(i)(A), and WAC  
4 173-303-806(4)(i)(v)];
- 5 xi. Documentation that miscellaneous units are designed to prevent escape of vapors and  
6 emissions of acutely or chronically toxic (upon inhalation) EHW, for incorporation  
7 into the Administrative Record [WAC 173-303-640(5)(e), in accordance with WAC  
8 173-303-680(2) and WAC 173-303-806(4)(i)(B)];

9 III.10.G.10.d. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., prior to  
10 installation of equipment as identified in Permit Tables III.10.G.A and III.10.G.B, not  
11 addressed in Permit Condition III.10.G.10.c., engineering information as specified below  
12 for incorporation into Attachment 51, Appendices 8.1 through 8.14 of this Permit. At a  
13 minimum, engineering information specified below will show the following as required  
14 pursuant to WAC 173-303-640, in accordance with WAC 173-303-680 (the information  
15 specified below will include dimensioned engineering drawings):

- 16 i. IQRPE Reports (specific to equipment) shall include a review of design drawings,  
17 calculations, and other information as applicable, on which the certification report is  
18 based. The reports shall include, but not be limited to, review of such information  
19 described below. Information (drawings, specifications, etc.) already included in  
20 Attachment 51, Appendix 8.0 of this Permit may be included in the report by reference  
21 and should include drawing and document numbers. The IQRPE Reports shall be  
22 consistent with the information provided separately in ii. through xiii. below and the  
23 IQRPE Reports specified in Permit Conditions III.10.G.10.b. and III.10.G.10.c. [WAC  
24 173-303-640(3)(a), in accordance with WAC 173-303-680(2) and WAC 173-303-  
25 806(4)(i)(A) through (B)];
- 26 ii. Design drawings (Process Flow Diagrams, Piping and Instrumentation Diagrams  
27 [including pressure control systems]) specifications and other information specific to  
28 equipment (these drawings should include all equipment such as pipe, valves, fittings,  
29 pumps, instruments, etc) [WAC 173-303-640(3)(a), in accordance with WAC 173-  
30 303-680(2) and WAC 173-303-806(4)(i)(A) through (B)];
- 31 iii. The Permittees shall provide the design criteria (references to codes and standards,  
32 load definitions, and load combinations, materials of construction, and analysis/design  
33 methodology) and typical design details for the support of the equipment [WAC 173-  
34 303-640(3)(a) and WAC 173-303-640(3)(f), in accordance with WAC 173-303-680  
35 and WAC 173-303-806(4)(i)(B)];
- 36 iv. A description of materials and equipment used to provide corrosion protection for  
37 external metal components in contact with soil and water, including factors affecting  
38 the potential for corrosion [WAC 173-303-640(3)(a)(iii)(B), in accordance with WAC  
39 173-303-680(2) and WAC 173-303-806(4)(i)(A)];
- 40 v. Materials selection documentation for equipment (e.g., physical and chemical  
41 tolerances) [WAC 173-303-640(3)(a), in accordance with WAC 173-303-680(2) and  
42 WAC 173-303-806(4)(i)(A)];
- 43 vi. Vendor information (including, but not limited to, required performance warranties, as  
44 available), consistent with information submitted under ii. above, for equipment shall  
45 be submitted for incorporation into the Administrative Record [WAC 173-303-  
46 640(3)(a), in accordance with WAC 173-303-680(2), WAC 173-303-806(4)(i)(A)  
47 through (B), and WAC 173-303-806(4)(i)(iv)];

- 1           vii. Miscellaneous unit, equipment, and leak detection system instrument control logic  
2           narrative description (e.g., software functional specifications, descriptions of fail-safe  
3           conditions, etc.) [WAC 173-303-680(2), WAC 173-303-806(4)(i)(B), and WAC  
4           173-303-806(4)(i)(v)].
- 5           viii. System Descriptions (process) related to equipment and system descriptions related to  
6           leak detection systems, (including instrument control logic and narrative descriptions),  
7           for incorporation into the Administrative Record [WAC 173-303-680, WAC 173-303-  
8           806(4)(i)(A) through (B), and WAC 173-303-806(4)(i)(v)];
- 9           ix. A detailed description of how the equipment will be installed and tested [WAC 173-  
10           303-640(3)(c) through (e) and WAC 173-303-640(4)(b) and (c), in accordance with  
11           WAC 173-303-680 and WAC 173-303-806(4)(i)(B)];
- 12           x. For process monitoring, control, and leak detection system instrumentation for the  
13           WTP Unit Miscellaneous Unit Systems as identified in Permit Table III.10.G.C, a  
14           detailed description of how the process monitoring, control, and leak detection system  
15           instrumentation will be installed and tested [WAC 173-303-640(3)(c) through (e),  
16           WAC 173-303-640(4)(b) and (c), WAC 173-303-806(4)(c)(vi), and WAC 173-303-  
17           806(4)(i)(B)];
- 18           xi. Mass and energy balance for projected normal operating conditions, used in  
19           developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,  
20           including assumptions and formulas used to complete the mass and energy balance, so  
21           that they can be independently verified, for incorporation into the Administrative  
22           Record [WAC 173-303-680(2), WAC 173-303-806(4)(i)(B), and WAC 173-303-  
23           806(4)(i)(v)];
- 24           xii. Documentation that miscellaneous units are designed to prevent the accumulation of  
25           hydrogen gas levels above the lower explosive limit for incorporation into the  
26           Administrative Record [WAC 173-303-680, WAC 173-303-806(4)(i)(A), and WAC  
27           173-303-806(4)(i)(v)].
- 28           xiii. Leak detection system documentation (e.g. vendor information, etc.) consistent with  
29           information submitted under Permit Condition III.10.G.10.c.ii. and Permit Conditions  
30           III.10.G.10.d.ii., vii., viii., and x. above, shall be submitted for incorporation into the  
31           Administrative Record.

32   **III.10.G.10.e.** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees  
33   shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f., the following as  
34   specified below for incorporation into Attachment 51, Appendix 8.15, except Permit  
35   Condition III.10.G.10.e.i., which will be incorporated into Attachment 51, Chapter 6.0, of  
36   this Permit. All information provided under this permit condition must be consistent with  
37   information provided pursuant to Permit Conditions III.10.G.10.b., c., d., and e.,  
38   III.10.C.3.e., and III.10.C.11.b., as approved by Ecology.

- 39           i. Integrity assessment program and schedule for the Pretreatment Plant Miscellaneous  
40           Unit Systems shall address the conducting of periodic integrity assessments on the  
41           Pretreatment Plant Miscellaneous Unit Systems over the life of the systems, as  
42           specified in Permit Condition III.10.G.10.b.ix. and WAC 173-303-640(3)(b), in  
43           accordance with WAC 173-303-680, and descriptions of procedures for addressing  
44           problems detected during integrity assessments. The schedule must be based on past  
45           integrity assessments, age of the system, materials of construction, characteristics of  
46           the waste, and any other relevant factors [WAC 173-303-640(3)(b), in accordance  
47           with WAC 173-303-680 and WAC 173-303-806(4)(i)(B)];

- 1           ii. Detailed plans and descriptions, demonstrating the leak detection system is operated  
2           so that it will detect the failure of either the primary or secondary containment  
3           structure or the presence of any release of dangerous and/or mixed waste or  
4           accumulated liquid in the secondary containment system within twenty-four (24)  
5           hours WAC 173-303-640(4)(c)(iii). Detection of a leak of at least 0.1 gallons per hour  
6           within twenty-four (24) hours is defined as being able to detect a leak within twenty-  
7           four (24) hours. Any exceptions to this criteria must be approved by Ecology in  
8           accordance with WAC 173-303-680, WAC 173-303-640(4)(c)(iii), and WAC 173-  
9           303-806(4)(i)(i)(B)];
- 10          iii. Detailed operational plans and descriptions, demonstrating that spilled or leaked waste  
11          and accumulated liquids can be removed from the secondary containment system  
12          within twenty-four (24) hours [WAC 173-303-806(4)(i)(i)(B)];
- 13          iv. Descriptions of operational procedures demonstrating appropriate controls and  
14          practices are in place to prevent spills and overflows from the Pretreatment Plant  
15          Miscellaneous Unit Systems, or containment systems, in compliance with WAC 173-  
16          303-640(5)(b)(i) through (iii), in accordance with WAC 173-303-680 [WAC 173-303-  
17          806(4)(i)(i)(B)];
- 18          v. Description of procedures for investigation and repair of the Pretreatment Plant  
19          Miscellaneous Unit Systems [WAC 173-303-640(6) and WAC 173-303-640(7)(e) and  
20          (f), in accordance with WAC 173-303-680, WAC 173-303-320, WAC 173-303-  
21          806(4)(a)(v), and WAC 173-303-806(4)(i)(i)(B)];
- 22          vi. Updated Chapter 4.0, Narrative Descriptions, Tables and Figures as identified in  
23          Permit Tables III.10.G.A and III.10.G.B., as modified pursuant to Permit Condition  
24          III.10.G.10.e.ix., and updated to identify routinely non-accessible Pretreatment Plant  
25          Miscellaneous Unit Systems [WAC 173-303-680 and WAC 173-303-806(4)(i)(i)(A)  
26          through (B)];
- 27          vii. Descriptions of procedures for management of ignitable and reactive, and  
28          incompatible dangerous and/or mixed waste, in accordance with WAC 173-303-  
29          640(9) and (10), in accordance with WAC 173-303-680 and WAC 173-303-  
30          806(4)(i)(i)(B).
- 31          viii. A description of the tracking system used to track dangerous and/or mixed waste  
32          generated throughout the Pretreatment Plant Miscellaneous Unit Systems, pursuant to  
33          WAC 173-303-380.
- 34          ix. Permit Table III.10.G.A, amended as follows [WAC 173-303-680 and WAC 173-303-  
35          806(4)(i)(i)(A) through (B)]:
- 36            A. Under column 1, update and complete list of dangerous and mixed waste  
37            Pretreatment Plant Miscellaneous Unit Systems, including plant items which  
38            comprise each system (listed by item number).
- 39            B. Under column 2, update and complete system designations.
- 40            C. Under column 3, replace the 'Reserved' with the Attachment 51, Appendix 8.0  
41            subsections specific to miscellaneous unit systems as listed in column 1.
- 42            D. Under column 4, update and complete list of narrative description tables and  
43            figures.
- 44            E. Under column 5, update and complete maximum capacity for each miscellaneous  
45            unit, as applicable.

1 F. Permit Table III.10.G.A.i., amended as follows:

- 2 1. Under column 1, update and complete list of plant items that comprise the  
3 Pretreatment Plant Vessel Vent System (listed by item number).  
4 2. Under column 2, update and complete designations.  
5 3. Under column 3, replace the 'Reserved' with the Attachment 51, Appendix  
6 8.0, subsections (e.g., 9.1, 9.2, etc.) specific to systems as listed in column 1.  
7 4. Under column 4, update and complete list of narrative description tables and  
8 figures.

9 x. Permit Table III.10.G.C. shall be completed for Pretreatment Plant Miscellaneous Unit  
10 System process and leak detection system monitors and instruments (to include, but  
11 not be limited to: instruments and monitors measuring and/or controlling flow,  
12 pressure, temperature, density, pH, level, humidity, and emissions) to provide the  
13 information as specified in each column heading. Process and leak detection system  
14 monitors and instruments for critical systems as specified in Attachment 51, Appendix  
15 2.0 and as updated pursuant to Permit Condition III.10.C.9.b. and for operating  
16 parameters as required to comply with Permit Condition III.10.C.3.e.iii. shall be  
17 addressed. Process monitors and instruments for non-waste management operations  
18 (e.g., utilities, raw chemical storage, non-contact cooling waters, etc.) are excluded  
19 from this permit condition [WAC 173-303-680, WAC 173-303-806(4)(i)(A)  
20 through (B), and WAC 173-303-806(4)(i)(v)];

21 xi. Supporting documentation for operating trips and expected operating range as  
22 specified in Permit Table III.10.G.C., as approved pursuant to Permit Condition  
23 III.10.G.10.e.x. [WAC 173-303-680, WAC 173-303-806(4)(i)(B), WAC 173-303-  
24 806(4)(i)(iv), and WAC 173-303-806(4)(i)(v)];

25 xii. Documentation of process and leak detection instruments and monitors (as listed in  
26 Permit Table III.10.G.C.) for the Pretreatment Plant Miscellaneous Unit Systems to  
27 include, but not be limited to, the following [WAC 173-303-680, WAC 173-303-  
28 806(4)(i)(B), and WAC 173-303-806(4)(i)(v)]:

29 A. Procurement Specifications

30 B. Location used

31 C. Range, precision, and accuracy

32 D. Detailed descriptions of calibration/functionality test procedures (e.g., method  
33 number [ASTM]) or provide a copy of manufacturer's recommended calibration  
34 procedures.

35 E. Calibration/functionality test, inspection, and routine maintenance schedules and  
36 checklists, including justification for calibration, inspection and maintenance  
37 frequencies, criteria for identifying instruments found to be significantly out of  
38 calibration, and corrective action to be taken for instruments found to be  
39 significantly out of calibration (e.g., increasing frequency of calibration,  
40 instrument replacement, etc.)

41 F. Equipment instrument control logic narrative description (e.g., software functional  
42 specifications, descriptions of fail-safe conditions, etc.) [WAC 173-303-680(2),  
43 WAC 173-303-806(4)(i)(B), and WAC 173-303-806(4)(i)(v)].

**Table III.10.G.A – Pretreatment Plant Miscellaneous Unit Systems**

Miscellaneous Unit System Description <sup>a</sup>	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
<p><b>Waste Feed Evaporation Process System</b> (Comprised of the following miscellaneous units and equipment: Waste Feed Evaporator Feed Vessel- FEP-VSL- 00017A/B<sup>b</sup>, Waste Feed Evaporator Separator Vessels- FEP-SEP-00001A/B,,LAW Feed Evaporator Condensate Pot- FEP-VSL-00005<sup>b</sup>, Reboilers FEP-RBLR-00001A/B, Demisters, and Pumps and associated equipment Waste Evaporator Primary Condensers FEP-COND-00001A-B,, Waste Evaporator Inter Condensers FEP-COND-00002A-B, Waste Evaporator After Condensers FEP-COND-00003A-B)</p>	FEP	<p><b>24590-PTF</b>            -M5-V17T-P0004002            -M6-FEP-P0002            -M6-FEP-P0003            -M6-FEP-P0004            -M6-FEP-P0005            -ME-FEP-COND-00001A/B            -ME-FEP-COND-00002A/B            -MEC-FEP-            -MED-FEP-00002            -MED-FEP-P0003            -MED-FEP-P0004            -MED-FEP-P0005            -MED-FEP-P0006            -MED-FEP-P0007            -MED-FEP-P0008            -MED-FEP-P0009            -MED-FEP-P0010            -P1-P01T-P0001            -P1-P01T-P0002            -P1-P01T-P0008            -P1-P01T-P0009            -P1-P01T-P0015            -P1-P01T-P0016            -MV-FEP-P0001</p>	<p>Section 4.1.2.2.; Figure 4A-1, 4A-2, and 4A-6 of Attachment 51, Chapter 4 of this Permit.</p>	<p>FEP-SEP-00001B = 21,240            FEP-SEP-00001B = 21,240</p>

		-MV-FEP-P0002 -MVD-FEP-P0007		
<b>Cesium Nitric Acid Recovery Process System</b> (Comprised of the following miscellaneous units and equipment: Cs Evaporator, CNP-EVAP-00001, Cs Concentrate Reboiler, Eluate Contingency Storage Vessel- VSL-00003 <sup>b</sup> , Cs Evaporator Recovered Nitric Acid Vessel- VSL-00004 <sup>b</sup> , Cs Evaporator Eluant Lute Pot VSL-00001 <sup>b</sup> , Cs Rectifier Column CNP-DISTC-00001, Rectifier Overhead Primary condenser, After (Secondary) condenser, Heater CNP-HX-00001/2/3, and Ejectors and associated equipment)	CNP	<b>24590-PTF</b> -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0003 -P1-P01T-P0004 -P1-P01T-P0009 -P1-P01T-P0010 -P1-P01T-P0015 -M5D-CNP-00001 -M5-V17T-P0014 -M6-CNP-P0001 -M6-CNP-P0002 -M6-CNP-P0003 -M6-CNP-P0004 -M6-CNP-P0008 -M6-CNP-P0010 -ME-CNP-EVAP-00001 -MB-CNP-HX-00001 -ME-CNP-HX-00002 -ME-CNP-HX-00003 -ME-CNP-HX-00004 -MED-CNP-P0003 -MED-CNP-P0004 -MED-CNP-P0005 -MED-CNP-P0010 -MV-CNP-P0001 -MV-CNP-P0002 -MV-CNP-P0005 -MV-CNP-DISTC-00001 -MV-CNP-VSL-00001	Section 4.1.2.6.; Figure 4A-1, 4A-2, and 4A-10 of Attachment 51, Chapter 4 of this Permit	CNP-EVAP-00001 = RESERVED

		-MV-CNP-VSL-00003 -MV-CNP-VSL-00004 -MVD-CNP-P0003 -MVD-CNP-P0006 -MVD-CNP-P0007 -MVD-CNP-P0010 -MWD-CNP-P0001		
<b>Technetium Eluant Recovery Process System</b> (Comprised of the following miscellaneous units and equipment: Technetium Eluant Recovery Evaporator V43069, Tc Concentrate Reboiler, Recovered Tc Eluant Vessel V43071 <sup>b</sup> , Tc Concentrate Lute Pot V43072 <sup>b</sup> , Tc Rectifier Column, Rectifier Overhead Condenser, Aftercondenser, Vacuum Ejectors and associated equipment)	TEP	RESERVED	Section 4.1.2.9.; Figure 4A-1, 4A-2, and 4A-13 of Attachment 51, Chapter 4 of this Permit	V43069 = 4,300
<b>Treated LAW Evaporation Process System</b> (Comprised of the following miscellaneous units and equipment: Treated LAW Evaporator Separator Vessel -TLP-SEP 00001, Treated LAW Evaporator Condensate Vessel- TLP-VSL-00002, <sup>b</sup> Process Condensate Hold Vessel V41013 <sup>b</sup> , LAW SBS Condensate Receipt Vessel -TLP-VSL-00009A/B <sup>b</sup> , Reboiler TLP-RBLR-00001, Primary Condenser TLP-COND-00001, Intercondenser TLP-COND-00002, Aftercondenser TLP-COND-00003, Demister TLP-DMST-00001, Pumps and associated equipment)	TLP	<b>24590-PTF</b> -M5-V17T-P0005 -M6-TLP-P0002 -M6-TLP-P0003 -M6-TLP-P0005 -M6-TLP-P0006 -M6-TLP-P0007 -MEC-TLP-00002 -MED-TLP-P0001 -MED-TLP-P0002 -MED-TLP-P0003 -MED-TLP-P0004 -MVC-TLP-00001 -MVC-TLP-00002 -P1-P01T-P0001 -P1-P01T-P0002 -P1-P01T-P0003 -P1-P01T-P0009 -P1-P01T-P0010	Section 4.1.2.11; Figure 4A-1, 4A-2, and 4A-16 of Attachment 51, Chapter 4 of this Permit	TLP-SEP 00001= 21,240

		-P1-P01T-P0014 -MV-TLP-P0001 -MV-TLP-P0002		
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1

2 <sup>a</sup> The Pretreatment Vessel Vent Process System specified in Permit Table III.10.G.A.i is shared between the Pretreatment Plant Miscellaneous Unit Systems. Any references in  
3 this Permit to the individual Pretreatment Plant Miscellaneous Unit Systems are also a reference to the Pretreatment Vessel Vent Process System. Any reference in this Permit to  
4 Permit Table III.10.G.A is also a reference to Permit Table III.10.G.A.i.

5 <sup>b</sup> Requirements pertaining to the tanks in the Pretreatment Plant Miscellaneous Unit Systems are specified in Section III.10.E. of this Permit.

**Table III.10.G.A.i. – Pretreatment Plant Miscellaneous Unit Systems’ Pretreatment Vessel Vent Process System**

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
<p>Pretreatment Vessel Vent Process System (PVP) [Comprised of the following: Vessel Vent Header Collection Vessel (PVP-VSL-00003<sup>b</sup>), Condensate Collection Vessel (V15038<sup>b</sup>), Caustic Scrubber (PVP-SCB-00002), High Efficiency Mist Eliminators (HEME) (PVP-HEME-00001A/B/C), Vessel Vent HEME Drain Collection Vessel (PVP-VSL-00001<sup>b</sup>), Electric Heaters, Primary &amp; Secondary High Efficiency Particulate Air Filters, Heat Exchanger, Thermal Catalytic Oxidizer (PVP-OXID-00001), Vessel Vent Scrubbing Liquid Cooler (PVP-HX-00002), Aftercooler (PVP-CLR-00001), Carbon Bed Absorbers (PVP-ABS-00001A/B), Vessel Vent Adsorber Outlet Filte (PVP-FILT-00001), Pumps, Fans, Vessel Vent Heaters, and associated equipment]</p> <p>Process Vessel Vent System (PVV) [Comprised of the following: High Efficiency Particulate Air Filters – Primary (PVV-HEPA-00001A/B), High Efficiency Particulate Air Filters – Secondary (PVV-HEPA-00002A/B), Vessel Vent Exhaust Fans (PVV-FAN-00001A/B) Pumps, Fans, Vessel Vent Heaters, PVV Stack and associated equipment]</p>	<p>PVP (Pretreatment Vessel Vent Process System)</p> <p>PVV (Process Vessel Vent System )</p>	<p><b>24590-PTF</b>            -M5-V17T-P0021001            -M6-PWD-P0044            -M6-PVP-P00017            -M6-PVP-P00018            -M6-PVP-P0002            -M6-PVP-P0004            -MV-PVP-P0002            -P1-P01T-P0001            -P1-P01T-P0002            -P1-P01T-P0003            -P1-P01T-P0004            -P1-P01T-P0008            -P1-P01T-P0009            -P1-P01T-P0013            -P1-P01T-P0014</p>	<p>Section 4.1.2.17; Figure 4A-1, 4A-2, and 4A-19 of Attachment 51, Chapter 4 of this Permit</p>

<sup>a</sup> The Pretreatment Vessel Vent Process (PVP) and Process Vessel Vent Systems specified in Permit Table III.10.G.A.i are shared between the Pretreatment Plant Miscellaneous Unit Systems. Any references in this Permit to the individual Pretreatment Plant Miscellaneous Unit Systems are also a reference to the PVP and PVV Systems. Any reference in this Permit to Permit Table III.10.G.A is also a reference to Permit Table III.10.G.A.i.

<sup>b</sup> Requirements pertaining to the tanks in the Pretreatment Plant Miscellaneous Unit Systems are specified in Section III.10.E. of this Permit.



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**Table III.10.G.D. – Pretreatment Plant Miscellaneous Unit Systems  
 Estimated Emission Rates**

<b>Chemicals</b>	<b>CAS Number</b>	<b>Emission Rates (grams /second)</b>
RESERVED	RESERVED	RESERVED

III.10.H LAW Vitrification System – Short Term Miscellaneous Thermal Treatment Unit-Shakedown, Demonstration Test, and Post Demonstration Test

For purposes of Permit Section III.10.H, where reference is made to WAC 173-303-640, the following substitutions apply: substituting the terms “LAW Vitrification System” for “tank system(s),” “sub-system(s)” for “tank(s),” “sub-system equipment” for “ancillary equipment,” and “sub-system(s) or sub-system equipment of a LAW Vitrification System” for “component(s)” in accordance with WAC 173-303-680.

III.10.H.1. General Conditions During Shakedown, Demonstration Test, and Post-Demonstration Test for LAW Vitrification System

III.10.H.1.a. Construction and Maintenance [WAC 173-303-640, in accordance with WAC 173-303-680(2) and (3), and WAC 173-303-340].

- i. The Permittees shall construct the LAW Vitrification System (listed in Permit Tables III.10.H.A and B., as approved/modified pursuant to Permit Condition III.10.H.5.) as specified in Permit Condition III.10.H.1. and Attachment 51, Chapter 4.0 of this Permit, and Attachment 51, Appendices 9.1 through 9.15 and 9.17 of this Permit, as approved pursuant to Permit Conditions III.10.H.5.a. through d., and III.10.H.5.f.
- ii. The Permittees shall construct all containment systems for the LAW Vitrification System as specified in Attachment 51, Chapter 4.0 of this Permit, and Attachment 51, Appendices 9.2 and 9.4 through 9.14 of this Permit, as approved pursuant to Permit Conditions III.10.H.5.a. through d.
- iii. The Permittees shall ensure all certifications required by specialists (e.g., independent, qualified registered professional engineer, independent corrosion expert, independent, qualified installation inspector, etc.) use the following statement or equivalent pursuant to Permit Condition III.10.C.10.:

“I, (Insert Name) have (choose one or more of the following: overseen, supervised, reviewed, and/or certified) a portion of the design or installation of a new LAW Vitrification System or component located at (address), and owned/operated by (name(s)). My duties were: (e.g., installation inspector, testing for tightness, etc.), for the following LAW Vitrification System components (e.g., the venting piping, etc.), as

1 required by the Dangerous Waste Regulations, namely, WAC 173-303-640(3)  
2 (applicable paragraphs (i.e., (a) through (g)) in accordance with WAC 173-303-680).

3 "I certify under penalty of law that I have personally examined and am familiar with  
4 the information submitted in this document and all attachments and that, based on my  
5 inquiry of those individuals immediately responsible for obtaining the information, I  
6 believe that the information is true, accurate, and complete. I am aware that there are  
7 significant penalties for submitting false information, including the possibility of fine  
8 and imprisonment."

9 iv. The Permittees must ensure that proper handling procedures are adhered to in order to  
10 prevent damage to the LAW Vitrification System during installation. Prior to  
11 covering, enclosing, or placing the new LAW Vitrification System or component in  
12 use, an independent, qualified, installation inspector or an independent, qualified,  
13 registered professional engineer, either of whom is trained and experienced in the  
14 proper installation of similar systems or components, must inspect the system for the  
15 presence of any of the following items:

- 16 A. Weld breaks;
- 17 B. Punctures;
- 18 C. Scrapes of protective coatings;
- 19 D. Cracks;
- 20 E. Corrosion;
- 21 F. Other structural damage or inadequate construction/installation.

22 All discrepancies must be remedied before the LAW Vitrification System is covered,  
23 enclosed, or placed in use [WAC 173-303-640(3)(c), in accordance with WAC 173-  
24 303-680(2) and (3)].

25 v. For the LAW Vitrification System or components that are placed underground and  
26 that are back-filled, the Permittees must provide a backfill material that is a non-  
27 corrosive, porous, homogeneous substance. The backfill must be installed so that it is  
28 placed completely around the LAW Vitrification System and compacted to ensure that  
29 the LAW Vitrification System is fully and uniformly supported [WAC 173-303-  
30 640(3)(d), in accordance with WAC 173-303-680(2) and (3)].

31 vi. The Permittees must test for tightness the LAW Vitrification System or components,  
32 prior to being covered, enclosed, or placed into use. If the LAW Vitrification System  
33 or components are found not to be tight, all repairs necessary to remedy the leak(s) in  
34 the system must be performed prior to the LAW Vitrification System being covered,  
35 enclosed, or placed in use [WAC 173-303-640(3)(e), in accordance with WAC 173-  
36 303-680(2) and (3)].

37 vii. The Permittees must ensure the LAW Vitrification System equipment is supported and  
38 protected against physical damage and excessive stress due to settlement, vibration,  
39 expansion, or contraction [WAC 173-303-640(3)(f), in accordance with WAC 173-  
40 303-680(2) and (3)].

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- viii. The Permittees must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided in Attachment 51, Appendices 9.9 and 9.11 of this Permit, as approved pursuant to Permit Conditions III.10.H.5.b.i., III.10.H.5.b.iv., III.10.H.5.b.v., III.10.H.5.c.i., III.10.H.5.c.iv., III.10.H.5.c.v., III.10.H.5.d.i., III.10.H.5.d.iv., and III.10.H.5.d.v., or other corrosion protection if Ecology believes other corrosion protection is necessary to ensure the integrity of the LAW Vitrification System during use of the LAW Vitrification System. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation [WAC 173-303-640(3)(g), in accordance with WAC 173-303-680(2) and (3)].
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- ix. Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees shall obtain and keep on file in the WTP Unit operating record, written statements by those persons required to certify the design of the LAW Vitrification System and supervise the installation of the LAW Vitrification System, as specified in WAC 173-303-640(3)(b), (c), (d), (e), (f), and (g), in accordance with WAC 173-303-680, attesting that the LAW Vitrification System and corresponding containment system listed in Permit Tables III.10.H.A and III.10.H.B, as approved/modified pursuant to Permit Condition III.10.H.5., were properly designed and installed, and that repairs, in accordance with WAC 173-303-640(3)(c) and (e) were performed [WAC 173-303-640(3)(a) and WAC 173-303-640(3)(h), in accordance with WAC 173-303-680(3)].
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- x. The independent LAW Vitrification System installation inspection and subsequent written statements shall be certified in accordance with WAC 173-303-810(13)(a), as modified pursuant to Permit Condition III.10.H.1.a.iii., comply with all requirements of WAC 173-303-640(3)(h) in accordance with WAC 173-303-680, and shall consider, but not be limited to, the following LAW Vitrification System installation documentation:
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- A. Field installation report with date of installation;
  - B. Approved welding procedures;
  - C. Welder qualification and certifications;
  - D. Hydro-test reports, as applicable, in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1; American Petroleum Institute (API) Standard 620, or Standard 650, as applicable;
  - E. Tester credentials;
  - F. Field inspector credentials;
  - G. Field inspector reports;
  - H. Field waiver reports; and

I. Non-compliance reports and corrective action (including field waiver reports) and repair reports.

- xi. The Permittees shall ensure periodic integrity assessments are conducted on the LAW Vitrification System, listed in Permit Table III.10.H.A, as approved/modified pursuant to Permit Condition III.10.H.5., over the term of this Permit in accordance with WAC 173-303-680(2) and (3) as specified in WAC 173-303-640(3)(b), following the description of the integrity assessment program and schedule in Attachment 51, Chapter 6.0 of this Permit, as approved pursuant to Permit Conditions III.10.H.5.e.i. and III.10.C.5.c. Results of the integrity assessments shall be included in the WTP Unit operating record until ten (10) years after post-closure, or corrective action is complete and certified, whichever is later.
- xii. The Permittees shall address problems detected during the LAW Vitrification System integrity assessments specified in Permit Condition III.10.H.1.a.xi. following the integrity assessment program in Attachment 51, Chapter 6.0 of this Permit, as approved pursuant to Permit Conditions III.10.H.5.e.i. and III.10.C.5.c.
- xiii. All process monitors/instruments, as specified in Permit Table III.10.H.F, as approved/modified pursuant to Permit Condition III.10.H.5., shall be equipped with operational alarms to warn of deviation, or imminent deviation from the limits specified in Permit Table III.10.H.F.
- xiv. The Permittees shall install and test all process and leak detection system monitors/instrumentation as specified in Permit Tables III.10.H.C and III.10.H.F, as approved/modified pursuant to Permit Condition III.10.H.5, in accordance with Attachment 51, Appendices 9.1, 9.2, and 9.14 of this Permit, as approved pursuant to Permit Conditions III.10.H.5.d.x. and III.10.H.5.f.xvi.
- xv. No dangerous and/or mixed waste shall be treated in the LAW Vitrification System unless the operating conditions, specified under Permit Condition III.10.H.1.c. are complied with.
- xvi. The Permittees shall not place dangerous and/or mixed waste, treatment reagents, or other materials in the LAW Vitrification System if these substances could cause the subsystem, subsystem equipment, or the containment system to rupture, leak, corrode, or otherwise fail [WAC 173-303-640(5)(a), in accordance with WAC 173-303-680(2)]. This condition is not applicable to corrosion of LAW Vitrification System sub-system or sub-system equipment that are expected to be replaced as part of normal operations (e.g., melters).
- xvii. The Permittees shall operate the LAW Vitrification System to prevent spills and overflows using controls and practices as required under WAC 173-303-640(5)(b) described in Permit Condition III.10.C.5 and Attachment 51, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition III.10.H.5.e. [WAC 173-303-640(5)(b), in accordance with WAC 173-303-680(2) and (3), and WAC 173-303-806(4)(c)(ix)].
- xviii. For routinely non-accessible LAW Vitrification System sub-systems, as specified in Attachment 51, Chapter 4.0 of this Permit, as updated pursuant to Permit Condition

1 III.10.H.5.e.vi., the Permittees shall mark all routinely non-accessible LAW  
2 Vitrification System sub-systems access points with labels, or signs, to identify the  
3 waste contained in each LAW Vitrification System sub-system. The label, or sign,  
4 must be legible at a distance of at least fifty (50) feet, and must bear a legend which  
5 identifies the waste in a manner which adequately warns employees, emergency  
6 response personnel, and the public of the major risk(s) associated with the waste being  
7 stored or treated in the LAW Vitrification System sub-systems. For the purposes of  
8 this permit condition, "routinely non-accessible" means personnel are unable to enter  
9 these areas while waste is being managed in them [WAC 173-303-640(5)(d), in  
10 accordance with WAC 173-303-680(2)].

11 xix. For all LAW Vitrification System sub-systems not addressed in Permit Condition  
12 III.10.H.1.a.xviii., the Permittees shall mark all these LAW Vitrification System sub-  
13 systems holding dangerous and/or mixed waste with labels, or signs, to identify the  
14 waste contained in the LAW Vitrification System sub-systems. The labels, or signs,  
15 must be legible at a distance of at least fifty (50) feet, and must bear a legend which  
16 identifies the waste in a manner which adequately warns employees, emergency  
17 response personnel, and the public of the major risk(s) associated with the waste being  
18 stored or treated in the LAW Vitrification System sub-systems [WAC 173-303-  
19 640(5)(d), in accordance with WAC 173-303-680(2)].

20 xx. The Permittees shall ensure that the secondary containment systems for the LAW  
21 Vitrification System sub-systems listed in Permit Tables III.10.H.A. and III.10.H.B, as  
22 approved/modified pursuant to Permit Condition III.10.H.5, are free of cracks or gaps  
23 to prevent any migration of dangerous and/or mixed waste or accumulated liquid out  
24 of the system to the soil, groundwater, or surface water at any time during use of the  
25 LAW Vitrification System sub-systems. Any indication that a crack or gap may exist  
26 in the containment systems shall be investigated and repaired in accordance with  
27 Attachment 51, Appendix 9.18 of this Permit, as approved pursuant to Permit  
28 Condition III.10.H.5.e.v. [WAC 173-303-640(4)(b)(i), WAC 173-303-  
29 640(4)(e)(i)(C), and WAC 173-303-640(6), in accordance with WAC 173-303-680(2)  
30 and (3), WAC 173-303-806(4)(i)(i)(B), and WAC 173-303-320].

31 xxi. The Permittees must immediately, and safely, remove from service any LAW  
32 Vitrification System or secondary containment system which through an integrity  
33 assessment is found to be "unfit for use" as defined in WAC 173-303-040, following  
34 Permit Conditions III.10.H.1.a.xxiii.A. through D., and F. The affected LAW  
35 Vitrification System or secondary containment system must be either repaired or  
36 closed in accordance with Permit Condition III.10.H.1.a.xxiii.E. [WAC 173-303-  
37 640(7)(e) and (f), WAC 173-303-640(8), in accordance with WAC 173-303-680(3)].

38 xxii. An impermeable coating, as specified in Attachment 51, Appendices 9.4, 9.5, 9.7, 9.9,  
39 9.11, and 9.12 of this Permit, as approved pursuant to Permit Condition III.10.H.5.b.v.  
40 shall be maintained for all concrete containment systems and concrete portions of  
41 containment systems for each LAW Vitrification System sub-systems listed in Permit  
42 Tables III.10.H.A and III.10.H.B, as approved/modified pursuant to Permit Condition  
43 III.10.H.5 (concrete containment systems that do not have a liner, pursuant to WAC  
44 173-303-640(4)(e)(i), in accordance with WAC 173-303-680(2), and have

1 construction joints, shall meet the requirements of WAC 173-303-640(4)(e)(ii)(C), in  
2 accordance with WAC 173-303-680(2). The coating shall prevent migration of any  
3 dangerous and mixed waste into the concrete. All coatings shall meet the following  
4 performance standards:

- 5 A. The coating must seal the containment surface such that no cracks, seams, or  
6 other avenues through which liquid could migrate are present;
- 7 B. The coating must be of adequate thickness and strength to withstand the normal  
8 operation of equipment and personnel within the given area such that degradation  
9 or physical damage to the coating or lining can be identified and remedied before  
10 dangerous and mixed waste could migrate from the system; and
- 11 C. The coating must be compatible with the dangerous and mixed waste, treatment  
12 reagents, or other materials managed in the containment system [WAC 173-303-  
13 640(4)(e)(ii)(D), in accordance with WAC 173-303-680(2) and (3), and WAC  
14 173-303-806(4)(i)(A)].

15 xxiii. The Permittees shall inspect all secondary containment systems for the LAW  
16 Vitrification System sub-systems listed in Permit Tables III.10.H.A and III.10.H.B, as  
17 approved/modified pursuant to Permit Condition III.10.H.5., in accordance with the  
18 Inspection Schedule specified in Attachment 51, Chapter 6.0 of this Permit, as  
19 approved pursuant to Permit Conditions III.10.H.5.e.i. and III.10.C.5.c., and take the  
20 following actions if a leak or spill of dangerous and/or mixed waste is detected in  
21 these containment systems [WAC 173-303-640(5)(c) and WAC 173-303-640(6), in  
22 accordance with WAC 173-303-680(2) and (3), WAC 173-303-320, and WAC 173-  
23 303-806(4)(i)(B)]:

- 24 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the  
25 LAW Vitrification System sub-systems or secondary containment system.
- 26 B. Determine the source of the dangerous and/or mixed waste.
- 27 C. Remove the dangerous and/or mixed waste from the containment area in  
28 accordance with WAC 173-303-680(2) and (3) as specified in WAC 173-303-  
29 640(7)(b). The dangerous and/or mixed waste removed from containment areas  
30 of the LAW Vitrification System sub-systems shall be, as a minimum, managed  
31 as mixed waste.
- 32 D. If the cause of the release was a spill that has not damaged the integrity of the  
33 LAW Vitrification System sub-system, the Permittees may return the LAW  
34 Vitrification System sub-system to service in accordance with WAC 173-303-  
35 680(2) and (3) as specified in WAC 173-303-640(7)(e)(ii). In such case, the  
36 Permittees shall take action to insure the incident that caused the dangerous  
37 and/or mixed waste to enter the containment system will not reoccur [WAC 173-  
38 303-320(3)].
- 39 E. If the source of the dangerous and/or mixed waste is determined to be a leak from  
40 the primary LAW Vitrification System into the secondary containment system, or  
41 the system is unfit for use as determined through an integrity assessment or other

1 inspection, the Permittees shall comply with the requirements of WAC 173-303-  
2 640(7) and take the following actions:

- 3 1. Close the LAW Vitrification System sub-system following procedures in  
4 WAC 173-303-640(7)(e)(i), in accordance with WAC 173-303-680 and  
5 Attachment 51, Chapter 11.0 of this Permit, as approved pursuant to Permit  
6 Condition III.10.C.8., or
- 7 2. Repair and re-certify (in accordance with WAC 173-303-810(13)(a), as  
8 modified pursuant to Permit Condition III.10.H.1.a.iii.) the LAW  
9 Vitrification System, in accordance with Attachment 51, Appendix 9.18 of  
10 this Permit, as approved pursuant to Permit Condition III.10.H.5.e.v., before  
11 the LAW Vitrification System is placed back into service [WAC 173-303-  
12 640(7)(e)(iii) and WAC 173-303-640(7)(f), in accordance with WAC 173-  
13 303-680].

14 F. The Permittees shall document in the operating record actions/procedures taken  
15 to comply with A. through E. above as specified in WAC 173-303-640(6)(d), in  
16 accordance with WAC 173-303-680(2) and (3).

17 G. In accordance with WAC 173-303-680(2) and WAC 173-303-680 (3), the  
18 Permittees shall notify and report releases to the environment to Ecology as  
19 specified in WAC 173-303-640(7)(d).

20 xxiv. If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire  
21 water, liquids from damaged or broken pipes) cannot be removed from the secondary  
22 containment system within twenty-four (24) hours, Ecology will be verbally notified  
23 within twenty-four (24) hours of discovery. The notification shall provide the  
24 information in A, B, and C, listed below. The Permittees shall provide Ecology with a  
25 written demonstration within seven (7) business days, identifying at a minimum  
26 [WAC 173-303-640(4)(c)(iv) and WAC 173-303-640(7)(b)(ii), in accordance with  
27 WAC 173-303-680(3) and WAC 173-303-806(4)(i)(i)(B)]:

28 A. Reasons for delayed removal;

29 B. Measures implemented to ensure continued protection of human health and the  
30 environment;

31 C. Current actions being taken to remove liquids from secondary containment.

32 xxv. All air pollution control devices and capture systems in the LAW Vitrification System  
33 shall be maintained and operated at all times in a manner so as to minimize the  
34 emissions of air contaminants and to minimize process upsets. Procedures for  
35 ensuring that the air pollution control devices and capture systems in the LAW  
36 Vitrification System are properly operated and maintained so as to minimize the  
37 emission of air contaminants and process upsets shall be established.

38 xxvi. In all future narrative permit submittals, the Permittees shall include LAW  
39 Vitrification sub-system names with the sub-system designation.

- 1 xxvii. Modifications to approved design, plans, and specifications in Attachment 51 of this  
2 Permit for the LAW Vitrification System shall be allowed only in accordance with  
3 Permit Conditions III.10.C.2.e. and f., or III.10.C.2.g., III.10.C.9.d., III.10.C.9.e., and  
4 III.10.C.9.h.
- 5 xxviii. For any portion of the LAW Vitrification System which has the potential for  
6 formation and accumulation of hydrogen gases, the Permittees shall operate the  
7 portion to maintain hydrogen levels below the lower explosive limit [WAC 173-303-  
8 815(2)(b)(ii)].
- 9 xxix. For each LAW Vitrification System sub-system holding dangerous waste which are  
10 acutely or chronically toxic by inhalation, the Permittees shall operate the system to  
11 prevent escape of vapors, fumes or other emissions into the air [WAC 173-303-  
12 806(4)(i)(i)(B) and WAC 173-303-640(5)(e), in accordance with WAC 173-303-680].

13 III.10.H.1.b. Performance Standards

- 14 i. The LAW Vitrification System must achieve a destruction and removal efficiency  
15 (DRE) of 99.99% for the principal organic dangerous constituents (PODCs) listed below  
16 [40 CFR §63.1203(c)(1), 40CFR 63.1203(c)(2), in accordance with WAC 173-303-  
17 680(2)]:

18 RESERVED

19 DRE in this permit condition shall be calculated in accordance with the formula  
20 given below:

21 
$$DRE = [1 - (W_{out}/W_{in})] \times 100\%$$

22 Where:

23  $W_{in}$  = mass feed-rate of one principal organic dangerous constituent (PODC) in a  
24 waste feedstream; and

25  $W_{out}$  = mass emission rate of the same PODC present in exhaust emissions prior to  
26 release to the atmosphere.

- 27 ii. Particulate matter emissions from the LAW Vitrification System shall not exceed 34  
28 mg/dscm (0.015 grains/dscf) [40 CFR §63.1203(b)(7), in accordance with WAC 173-  
29 303-680(2)].
- 30 iii. Hydrochloric acid and chlorine gas emissions from the LAW Vitrification System shall  
31 not exceed 21 ppmv, combined [40 CFR §63.1203(b)(6), in accordance with WAC 173-  
32 303-680(2)].
- 33 iv. Dioxin and Furan TEQ emissions from the LAW Vitrification System shall not exceed  
34 0.2 nanograms (ng)/dscm [40 CFR §63.1203(b)(1), in accordance with WAC 173-303-  
35 680(2)].
- 36 v. Mercury emissions from the LAW Vitrification System shall not exceed 45 µg/dscm [40  
37 CFR §63.1203(b)(2), in accordance with WAC 173-303-680(2)].

- 1 vi. Lead and cadmium emissions from the LAW Vitrification System shall not exceed 120  
2  $\mu\text{g}/\text{dscm}$ , combined [40 CFR §63.1203(b)(3), in accordance with WAC 173-303-  
3 680(2)].
- 4 vii. Arsenic, beryllium, and chromium emissions from the LAW Vitrification System shall  
5 not exceed 97  $\mu\text{g}/\text{dscm}$ , combined [40 CFR §63.1203(b)(4), in accordance with WAC  
6 173-303-680(2)].
- 7 viii. Carbon monoxide (CO) emission from the LAW Vitrification System shall not exceed  
8 100 parts per million (ppm) by volume, over an hourly rolling average (as measured and  
9 recorded by the continuous monitoring system), dry basis [40 CFR §63.1203(b)(5)(i), in  
10 accordance with WAC 173-303-680(2)].
- 11 ix. Hydrocarbon emission from the LAW Vitrification System shall not exceed 10 parts per  
12 million (ppm) by volume, over an hourly rolling average (as measured and recorded by  
13 the continuous monitoring system during demonstration testing required by this Permit),  
14 dry basis, and reported as propane [40 CFR §63.1203(b)(5)(ii), in accordance with  
15 WAC 173-303-680(2)].
- 16 x. If the emissions from the LAW Vitrification System exceed the emission rates listed in  
17 Permit Table III.10.H.E, as approved pursuant to Permit Condition III.10.C.11.b., the  
18 Permittees shall notify Ecology in accordance with Permit Condition III.10.H.3.d.vii.  
19 [WAC 173-303-680(2) and (3), and WAC 173-303-815(2)(b)(ii)].
- 20 The emission limits specified in Permit Conditions III.10.H.1.b.i. through III.10.H.1.b.x.  
21 above, shall be met for the LAW Vitrification System by limiting feed-rates as specified  
22 in Permit Tables III.10.H.D. and III.10.H.F., as approved/modified pursuant to Permit  
23 Condition III.10.H.5., compliance with operating conditions specified in Permit  
24 Condition III.10.H.1.c. (except as specified in Permit Condition III.10.H.1.b.xii.), and  
25 compliance with Permit Condition III.10.H.1.b.xi.
- 26 xi. Treatment effectiveness, feed-rates and operating rates for dangerous and mixed waste  
27 management units contained in the LAW Building, but not included in Permit Table  
28 III.10.H.A, as approved/modified pursuant to Permit Condition III.10.H.5., shall be as  
29 specified in Permit Sections III.10.D, III.10.E, III.10.F and consistent with assumptions  
30 and basis which are reflected in Attachment 51, Appendix 6.3.1 of this Permit, as  
31 approved pursuant to Permit Condition III.10.C.11.b. For the purposes of this permit  
32 condition, Attachment 51, Appendix 6.3.1 shall be superceded by Appendix 6.4.1 upon  
33 its approval pursuant to either Permit Conditions III.10.C.11.c. or III.10.C.11.d. [WAC  
34 173-303-680(2) and (3), and WAC 173-303-815(2)(b)(ii)].
- 35 xii. Compliance with the operating conditions specified in Permit Condition III.10.H.1.c.,  
36 shall be regarded as compliance with the required performance standards identified in  
37 Permit Conditions III.10.H.1.b.i. through x. However, if it is determined that during the  
38 effective period of this Permit that compliance with the operating conditions in Permit  
39 Condition III.10.H.1.c. is not sufficient to ensure compliance with the performance  
40 standards specified in Permit Conditions III.10.H.1.b.i. through x., the Permit may be  
41 modified, revoked, or reissued pursuant to Permit Conditions III.10.C.2.e. and  
42 III.10.C.2.f., or III.10.C.2.g.

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

2 The Permittees shall operate the LAW Vitrification System in accordance with Attachment  
3 51, Chapter 4.0 of this Permit, as updated pursuant to Permit Condition III.10.H.5.e.vi.,  
4 Attachment 51, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition  
5 III.10.H.5.e., and Attachment 51, Appendix 9.15 of this Permit, as approved pursuant to  
6 Permit Condition III.10.H.5.f., except as modified pursuant to Permit Conditions  
7 III.10.H.1.b.xii., III.10.H.2., III.10.H.3., III.10.H.4., and in accordance with the following:

- 8 i. The Permittees shall operate the LAW Vitrification System in order to maintain the  
9 systems and process parameters listed in Permit Tables III.10.H.C and III.10.H.F, as  
10 approved/modified pursuant to Permit Condition III.10.H.5., within the set-points  
11 specified in Permit Table III.10.H.F.
- 12 ii. The Permittees shall operate the AWFCO systems, specified in Permit Table III.10.H.F,  
13 as approved/modified pursuant to Permit Condition III.10.H.5., to automatically cut-off  
14 and/or lock-out the dangerous and mixed waste feed to the LAW Vitrification System  
15 when the monitored operating conditions deviate from the set-points specified in Permit  
16 Table III.10.H.F.
- 17 iii. The Permittees shall operate the AWFCO systems, specified in Permit Table III.10.H.F,  
18 as approved/modified pursuant to Permit Condition III.10.H.5., to automatically cut-off  
19 and/or lock-out the dangerous and mixed waste feed to the LAW Vitrification System  
20 when all instruments specified on Permit Table III.10.H.F for measuring the monitored  
21 parameter fail or exceed its span value.
- 22 iv. The Permittees shall operate the AWFCO systems, specified in Permit Table III.10.H.F,  
23 as approved/modified pursuant to Permit Condition III.10.H.5., to automatically cut-off  
24 and/or lock out the dangerous and/or mixed waste feed to the LAW Vitrification System  
25 when any portion of the LAW Vitrification System is bypassed. The terms "bypassed"  
26 and "bypass event" as used in Permit Sections III.10.H and III.10.I shall mean if any  
27 portion of the LAW Vitrification System is bypassed so that gases are not treated as  
28 during the Demonstration Test.
- 29 v. In the event of a malfunction of the AWFCO systems listed in Permit Table III.10.H.F,  
30 as approved/modified pursuant to Permit Condition III.10.H.5., the Permittees shall  
31 immediately, manually cut-off the dangerous and mixed waste feed to the LAW  
32 Vitrification System. The Permittees shall not restart the dangerous and/or mixed waste  
33 feed until the problem causing the malfunction has been identified and corrected.
- 34 vi. The Permittees shall manually cut-off the dangerous and mixed waste feed to the LAW  
35 Vitrification System when the operating conditions deviate from the limits specified in  
36 Permit Condition III.10.H.1.c.i., unless the deviation automatically activates the waste  
37 feed cut-off sequence specified in Permit Conditions III.10.H.1.c.ii., III.10.H.1.c.iii.,  
38 and/or III.10.H.1.c.iv.
- 39 vii. If greater than thirty (30) dangerous and mixed waste feed cut-off, combined, to the  
40 LAW Vitrification System occur due to deviations from Permit Table III.10.H.F, as  
41 approved/modified pursuant to Permit Condition III.10.H.5., within a sixty (60) day  
42 period, the Permittees shall submit a written report to Ecology within five (5) calendar

1 days of the thirty-first exceedance including the information specified below. These  
2 dangerous and mixed waste feed cut-offs to the LAW Vitrification System, whether  
3 automatically or manually activated, are counted if the specified set points are deviated  
4 from while dangerous waste, mixed waste, and waste residues continue to be processed  
5 in the LAW Vitrification System. A cascade event is counted at a frequency of one (1)  
6 towards the first waste feed cut-off parameter, specified on Permit Table III.10.H.F,  
7 from which the set-point is deviated:

- 8 A. The parameter(s) that deviated from the set-point(s) in Permit Table III.10.H.F;
- 9 B. The magnitude, dates, and duration of the deviations;
- 10 C. Results of the investigation of the cause of the deviations; and
- 11 D. Corrective measures taken to minimize future occurrences of the deviations.

12 viii. If any portion of the LAW Vitrification System is bypassed while treating dangerous  
13 and/or mixed waste it shall be regarded as non-compliance with the operating conditions  
14 specified in Permit Condition III.10.H.1.c. and the performance standards specified in  
15 Permit Condition III.10.H.1.b. After such a bypass event, the Permittees shall perform  
16 the following actions:

- 17 A. Investigate the cause of the bypass event;
- 18 B. Take appropriate corrective measures to minimize future bypasses;
- 19 C. Record the investigation findings and corrective measures in the operating record;  
20 and
- 21 D. Submit a written report to Ecology within five (5) days of the bypass event  
22 documenting the result of the investigation and corrective measures.

23 ix. The Permittees shall control fugitive emissions from the LAW Vitrification System by  
24 maintaining the melters under negative pressure.

25 x. Compliance with the operating conditions specified in Permit Condition III.10.H.1.c.  
26 shall be regarded as compliance with the required performance standards identified in  
27 Permit Condition III.10.H.1.b. However, evidence that compliance with these operating  
28 conditions is insufficient to ensure compliance with the performance standards, shall  
29 justify modification, revocation, or re-issuance of this Permit, in accordance with Permit  
30 Conditions III.10.C.2.e. and III.10.C.2.f., or III.10.C.2.g.

31 III.10.H.1.d. Inspection Requirements [WAC 173-303-680(3)]

- 32 i. The Permittees shall inspect the LAW Vitrification System in accordance with the  
33 Inspection Schedules in Attachment 51, Chapter 6.0 of this Permit, as modified in  
34 accordance with Permit Condition III.10.C.5.c.
- 35 ii. The inspection data for LAW Vitrification System shall be recorded, and the records  
36 shall be placed in the WTP Unit operating record for the LAW Vitrification System, in  
37 accordance with Permit Condition III.10.C.4.

1           iii. The Permittees shall comply with the inspection requirements specified in Attachment  
2           51, Appendix 9.15 of this Permit, as approved pursuant to Permit Condition  
3           III.10.H.5.f., and as modified by Permit Conditions III.10.H.1.b.xii., III.10.H.2.,  
4           III.10.H.3., and III.10.H.4.

5   III.10.H.1.e. Monitoring Requirements [WAC 173-303-670(5), WAC 173-303-670(6), WAC -173-303-  
6   670(7) and WAC 173-303-807(2), in accordance with WAC 173-303-680(3)]

7           i. Upon receipt of a written request from Ecology, the Permittees shall perform sampling  
8           and analysis of the dangerous and mixed waste and exhaust emissions to verify that the  
9           operating requirements established in the Permit achieve the performance standards  
10          delineated in this Permit.

11          ii. The Permittees shall comply with the monitoring requirements specified in Attachment  
12          51, Appendices 9.2, 9.3, 9.7, 9.13, 9.15 and 9.18 of this Permit, as approved pursuant to  
13          Permit Conditions III.10.H.5.c., III.10.H.5.d., III.10.H.5.e., and III.10.H.5.f., as modified  
14          by Permit Conditions III.10.H.1.b.xii., III.10.H.2., III.10.H.3., and III.10.H.4.

15          iii. The Permittees shall operate, calibrate, and maintain the carbon monoxide and  
16          hydrocarbon continuous emission monitors (CEM) specified in this Permit in  
17          accordance with Performance Specification 4B and 8A of 40 CFR Part 60, Appendix B,  
18          in accordance with Appendix to Subpart EEE of 40 CFR Part 63, and Attachment 51  
19          Appendix 9.15 of this Permit, as approved pursuant to Permit Condition III.10.H.5.f.,  
20          and as modified by Permit Conditions III.10.H.1.b.xii., III.10.H.2., III.10.H.3., and  
21          III.10.H.4.

22          iv. The Permittees shall operate, calibrate, and maintain the instruments specified on Permit  
23          Tables III.10.H.C, and F, as approved/modified pursuant to Permit Condition  
24          III.10.H.5., in accordance with Attachment 51, Appendix 9.15 of this Permit, as  
25          approved pursuant to Permit Condition III.10.H.5.f., and as modified by Permit  
26          Conditions III.10.H.1.b.xii., III.10.H.2., III.10.H.3., and III.10.H.4.

27   III.10.H.1.f. Recordkeeping Requirements [WAC 173-303-380 and WAC 173-303-680(3)]

28          i. The Permittees shall record and maintain in the WTP Unit operating record for the LAW  
29          Vitrification System, all monitoring, calibration, maintenance, test data, and inspection  
30          data compiled under the conditions of this Permit, in accordance with Permit Conditions  
31          III.10.C.4. and III.10.C.5., as modified by Permit Conditions III.10.H.1.b.xii.,  
32          III.10.H.2., III.10.H.3., and III.10.H.4.

33          ii. The Permittees shall record in the WTP Unit operating record the date, time, and  
34          duration of all automatic waste feed cutoffs and/or lockouts, including the triggering  
35          parameters, reason for the deviation, and recurrence of the incident. The Permittees  
36          shall also record all incidents of AWFCO system function failures, including the  
37          corrective measures taken to correct the condition that caused the failure.

38          iii. The Permittees shall submit to Ecology a report semi-annually the first calendar year,  
39          and annually thereafter each calendar year within ninety (90) days following the end of  
40          the year. The report will include the following information:

- 1           A. Total dangerous and mixed waste feed processing time for the LAW Vitrification
- 2           System;
- 3           B. Date/Time of all LAW Vitrification System startups and shutdowns;
- 4           C. Date/Time/Duration/Cause/Corrective Action taken for all LAW Vitrification
- 5           System shutdowns caused by malfunction of either process or control equipment;
- 6           and
- 7           D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
- 8           and/or mixed waste feed cut-off due to deviations from Permit Table III.10.H.F, as
- 9           approved/modified pursuant to Permit Condition III.10.H.5.
- 10          iv. The Permittees shall submit an annual report to Ecology each calendar year within
- 11           ninety (90) days following the end of the year of all quarterly CEM Calibration Error
- 12           and Annual CEM Performance Specification Tests conducted in accordance with Permit
- 13           Condition III.10.H.1.e.iii.

14    III.10.H.1.g. Closure

15           The Permittees shall close the LAW Vitrification System in accordance with Attachment 51,

16           Chapter 11.0 of this Permit, as approved pursuant to Permit Condition III.10.C.8.

17    III.10.H.2. Shakedown Period [WAC 173-303-670(5), WAC 173-303-670(6), WAC -173-303-670(7),

18           and WAC 173-303-807(2), in accordance with WAC 173-303-680(2) and (3)].

19    III.10.H.2.a. The shakedown period for the LAW Vitrification System shall be conducted in accordance

20           with Permit Condition III.10.H.1., Attachment 51, Appendix 9.15 of this Permit, as approved

21           pursuant to Permit Condition III.10.H.5.f., and as modified in accordance with Permit

22           Conditions III.10.H.1.b.xii., III.10.H.2., and III.10.H.3.

23    III.10.H.2.b. Duration of the Shakedown Period

- 24          i. The shakedown period for the LAW Vitrification System shall begin with the initial
- 25           introduction of dangerous waste in the LAW Vitrification System following
- 26           construction and shall end with the start of the demonstration test.
- 27          ii. The shakedown period shall not exceed the following limits, as defined by hours of
- 28           operation of the LAW Vitrification System with dangerous waste. The Permittees may
- 29           petition Ecology for one extension of each shakedown phase for seven hundred and
- 30           twenty (720) additional operating hours in accordance with Permit modification
- 31           procedures specified in Permit Conditions III.10.C.2.e. and III.10.C.2.f.

32                           Shakedown Phase 1: 720 hours

33                           Shakedown Phase 2: 720 hours

- 34          iii. Shakedown Phase 2 shall not be commenced until documentation has been submitted to
- 35           Ecology verifying that the LAW Vitrification System has operated at a minimum of
- 36           75% of the shakedown Phase 1 feed-rate limit for two (2) separate eight (8) consecutive
- 37           hour periods with no AWFCOs.

38    III.10.H.2.c. Allowable Waste Feed During the Shakedown Period

- 1 i. The Permittees may feed the dangerous waste specified for the LAW Vitrification  
2 System on the Part A Forms (Attachment 51, Chapter 1.0 of this Permit), except for  
3 those wastes outside the waste acceptance criteria specified in the WAP, Attachment 1,  
4 Chapter 3.0 of this Permit, as approved pursuant to Permit Condition III.10.C.3., except  
5 Permit Conditions III.10.H.2.c.ii. through v. also apply.
- 6 ii. The Permittees shall not feed the following wastes to the LAW Vitrification System  
7 during Shakedown Phase 1:
  - 8 A. Acutely toxic dangerous waste listed in WAC 173-303-081(a)(2)(a)(i).
  - 9 B. Mixed waste
- 10 iii. The Permittees shall not feed the following waste to the LAW Vitrification System  
11 during Shakedown Phase 2:
  - 12 A. Mixed waste
- 13 iv. The feed-rates to the LAW Vitrification System shall not exceed the limits in Permit  
14 Tables III.10.H.D and III.10.H.F, as approved/modified pursuant to Permit Condition  
15 III.10.H.5.
- 16 v. The Permittees shall conduct sufficient analysis of the dangerous waste treated in the  
17 LAW Vitrification System to verify that the waste feed is within the physical and  
18 chemical composition limits specified in this Permit.

19 III.10.H.3. Demonstration Test Period [WAC 173-303-670(5), WAC 173-303-670(6), WAC 173-303-  
20 670(7), and WAC 173-303-807(2), in accordance with WAC 173-303-680(2) and (3)].

21 III.10.H.3.a. Demonstration Test Period

- 22 i. The Permittees shall operate, monitor, and maintain the LAW Vitrification System as  
23 specified in Permit Condition III.10.H.1., and Attachment 51, Appendix 9.15 of this  
24 Permit, as approved pursuant to Permit Condition III.10.H.5.f., except as modified in  
25 accordance with Permit Conditions III.10.H.1.b.xii., and III.10.H.3.
- 26 ii. Attachment 51, Appendix 9.15 of this Permit, as approved pursuant to Permit Condition  
27 III.10.H.5.f., shall be resubmitted to Ecology for approval by the Permittees as a permit  
28 modification pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f. at least one  
29 hundred and eighty (180) days prior to the start date of the demonstration test. The  
30 revised Demonstration Test Plan shall include applicable EPA promulgated test methods  
31 and procedures in effect at the time of the re-submittal and projected commencement  
32 and completion dates for the Demonstration Test.
- 33 iii. The Permittees shall not commence the demonstration test period until documentation  
34 has been submitted to Ecology verifying that the LAW Vitrification System has  
35 operated at a minimum of 90% of the demonstration test period feed-rate limit for a  
36 minimum of an eight (8) consecutive hours period on two (2) consecutive days.

37 III.10.H.3.b. Performance Standards

38 The Permittees shall demonstrate compliance with the performance standards specified in  
39 Permit Condition III.10.H.1.b. during the Demonstration Test Period.

1 III.10.H.3.c. Allowable Waste Feed During the Demonstration Test Period

- 2 i. The Permittees may feed the dangerous waste specified for the LAW Vitrification  
3 System in Part A Forms (Attachment 51, Chapter 1.0 of this Permit), except for those  
4 waste outside the waste acceptance criteria specified in the WAP, Attachment 51,  
5 Chapter 3.0 of this Permit, as approved pursuant to Permit Condition III.10.C.3., except  
6 Permit Conditions III.10.H.3.c.ii. through iv. also apply.
- 7 ii. The Permittees shall not feed mixed waste to the LAW Vitrification System.
- 8 iii. The dangerous waste feed-rates to the LAW Vitrification System shall not exceed the  
9 limits in Permit Tables III.10.H.D and F, as approved/modified pursuant to Permit  
10 Condition III.10.H.5.
- 11 iv. The Permittees shall conduct sufficient analysis of the dangerous waste treated in the  
12 LAW Vitrification System to verify that the dangerous waste is within the physical and  
13 chemical composition limits specified in this Permit.

14 III.10.H.3.d. Demonstration Data Submissions and Certifications

- 15 i. The Permittees shall submit to Ecology a complete demonstration test report within one-  
16 hundred twenty (120) calendar days of completion of the Demonstration Test including  
17 all data collected during the Demonstration Test and updated Permit Tables III.10.I.D,  
18 III.10.I.E and III.10.I.F.
- 19 ii. The Permittees must submit the following information to Ecology prior to receiving  
20 Ecology's approval to commence feed of dangerous waste and mixed waste to the LAW  
21 Vitrification System:
- 22 A. The Permittees shall submit a summary of data collected as required by the  
23 Demonstration Test Plan to Ecology upon completion of the Demonstration Test.
- 24 B. A certification that the Demonstration Test has been carried out in accordance with  
25 the approved Demonstration Test Plan and approved modifications within thirty  
26 (30) days of the completion of the Demonstration Test [WAC 173-303-807(8)].
- 27 C. Calculations and analytical data showing compliance with the performance  
28 standards specified in Permit Conditions III.10.H.1.b.i, III.10.H.1.b.iv,  
29 III.10.H.1.b.v, III.10.H.1.b.vi, and III.10.H.1.b.vii
- 30 D. Laboratory data QA/QC summary for the information provided in  
31 III.10.H.3.d.ii.C.
- 32 iii. After successful completion of the Demonstration Test and receipt of Ecology's  
33 approval, the Permittees shall be authorized to commence feed of dangerous waste and  
34 mixed waste to the LAW Vitrification System for the post-demonstration test period  
35 indicated in Permit Tables III.10.H.D and F, as approved/modified pursuant to Permit  
36 Condition III.10.H.5., in compliance with the operating requirements specified in Permit  
37 Condition III.10.H.1.c. and within the limitations specified in Permit  
38 Condition.III.10.C.14.
- 39 iv. RESERVED

- 1 v. After successful completion of the Demonstration Test, Permittees submittal of the  
2 following to Ecology and the Permittees receipt of approval of the following in writing,  
3 the Permittees shall be authorized to feed dangerous waste and mixed waste to the LAW  
4 Vitrification System pursuant to Permit Section III.10.I.
- 5 A. A complete Demonstration Test Report for the LAW Vitrification System and  
6 updated Permit Tables III.10.I.D, III.10.I.E, and III.10.I.F, as approved/modified  
7 pursuant to Permit Conditions III.10.H.5 and III.10.C.11.c or III.10.C.11.d. The  
8 test report shall be certified in accordance with WAC 173-303-807(8), in  
9 accordance with WAC 173-303-680(2) and (3).
- 10 B. A Final Risk Assessment Report completed pursuant to Permit Conditions  
11 III.10.C.11.c. or III.10.C.11.d.
- 12 vi. If any calculations or testing results show that one or more of the performance standards  
13 listed in Permit Condition III.10.H.1.b., with the exception of Permit Condition  
14 III.10.H.1.b.x., for the LAW Vitrification System were not met during the  
15 Demonstration Test, the Permittees shall perform the following actions:
- 16 A. Immediately stop dangerous and mixed waste feed to the LAW Vitrification  
17 System under the mode of operation that resulted in not meeting the performance  
18 standard(s).
- 19 B. Verbally notify Ecology within twenty-four (24) hours of discovery of not meeting  
20 the performance standard(s) as specified in Permit Condition I.E.21.
- 21 C. Investigate the cause of the failure and submit a report of the investigation findings  
22 to Ecology within fifteen (15) days of discovery of not meeting the performance  
23 standard(s).
- 24 D. Submit to Ecology within fifteen (15) days of discovery of not meeting the  
25 performance standard(s), documentation supporting a mode of operation where all  
26 performance standards listed in Permit Condition III.10.H.1.b., with the exception  
27 of Permit Condition III.10.H.1.b.x., for the LAW Vitrification System were met  
28 during the demonstration test, if any such mode was demonstrated.
- 29 E. Based on the information provided to Ecology by the Permittees pursuant to Permit  
30 Conditions III.10.H.3.d.vi.A through D above, and any additional information,  
31 Ecology may submit in writing, direction to the Permittees to stop dangerous  
32 and/or mixed waste feed to the LAW Vitrification System and/or amend the mode  
33 of operation the Permittees are allowed to continue operations prior to Ecology  
34 approval of a compliance schedule and/or revised Demonstration Test Plan  
35 pursuant to Permit Conditions III.10.H.3.d.vi.F and G.
- 36 F. If the performance standard listed in Permit Condition III.10.H.1.b.i. was not met  
37 during the Demonstration Test, the Permittees shall submit within one hundred and  
38 twenty (120) days of discovery of not meeting the performance standard, a revised  
39 Demonstration Test Plan (if appropriate), and a compliance schedule for Ecology  
40 approval to address this deficiency. If a revised Demonstration Test Plan is  
41 submitted, it shall be accompanied by a request for approval to retest as a permit

1 modification pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f. The  
2 revised Demonstration Test Plan (if submitted) must include substantive changes to  
3 prevent failure from reoccurring.

4 G. If any of the performance standards listed in Permit Condition III.10.H.1.b., with  
5 the exception of Permit Conditions III.10.H.1.b.i. or III.10.H.1.b.x., were not met  
6 during the Demonstration Test the Permittees shall submit to Ecology within one  
7 hundred twenty (120) days of discovery of not meeting the performance  
8 standard(s), a revised Demonstration Test Plan requesting approval to retest as a  
9 permit modification pursuant to Permit Conditions III.10.C.2.e. and III.10.C.2.f.  
10 The revised Demonstration Test Plan must include substantive changes to prevent  
11 failure from reoccurring.

12 vii. If any calculations or testing results show that any emission rate for any constituent  
13 listed in Permit Table III.10.H.E, as approved pursuant to Permit Condition  
14 III.10.C.11.b., is exceeded for LAW Vitrification System during the Demonstration  
15 Test, the Permittees shall perform the following actions:

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

30 III.10.H.4. Post Demonstration Test Period [WAC 173-303-670(5), WAC 173-303-670(6), and WAC  
31 173-303-807(2), in accordance with WAC 173-303-680(2) and (3)]

32 III.10.H.4.a. The Permittees shall operate, monitor, and maintain the LAW Vitrification System as  
33 specified in Permit Condition III.10.H.1. and Attachment 51, Appendix 9.15 of this Permit, as  
34 approved pursuant to Permit Condition III.10.H.5., except as modified in accordance with  
35 Permit Conditions III.10.H.1.b.xii., III.10.H.3., and III.10.H.4.

36 III.10.H.4.b. Allowable Waste Feed During the Post-Demonstration Test Period

- 37 i. The Permittees may feed the dangerous and/or mixed waste specified for the LAW  
38 Vitrification System on the Part A Forms (Attachment 51, Chapter 1.0 of this Permit),  
39 except for those wastes outside the waste acceptance criteria specified in the WAP,  
40 Attachment 51, Chapter 3.0 of this Permit, as approved pursuant to Permit Condition  
41 III.10.C.3., and except Permit Conditions III.10.H.4.b.ii. and III.10.H.4.b.iii. also apply.

- 1           ii. The dangerous waste and mixed waste feed-rates to the LAW Vitrification System shall  
2 not exceed the limits in Permit Tables III.10.H.D and F, as approved/modified pursuant  
3 to Permit Condition III.10.H.5., or in Permit Condition III.10.H.3
- 4           iii. The Permittees shall conduct sufficient analysis of the dangerous waste and mixed waste  
5 treated in LAW Vitrification System to verify that the waste feed is within the physical  
6 and chemical composition limits specified in this Permit.

7 III.10.H.5. Compliance Schedules

8 III.10.H.5.a. All information identified for submittal to Ecology in a. through f. of this compliance  
9 schedule must be signed and certified in accordance with requirements in WAC 173-303-  
10 810(12), as modified in accordance with Permit Condition III.10.H.1.a.iii. [WAC 173-303-  
11 806(4)].

12 III.10.H.5.b. The Permittees shall submit to Ecology, pursuant to Permit Condition III. 10.C.9.f., prior to  
13 construction of each secondary containment and leak detection system for the LAW  
14 Vitrification System (per level) as identified in Permit Tables III.10.H.A and III.10.H.B,  
15 engineering information as specified below, for incorporation into Attachment 51,  
16 Appendices 9.2 , 9.4, 9.5, 9.7, 9.8, 9.9, 9.11, and 9.12 of this Permit. At a minimum,  
17 engineering information specified below will show the following as described in WAC 173-  
18 303-640, in accordance with WAC 173-303-680 (the information specified below will  
19 include dimensioned engineering drawings and information on sumps and floor drains):

- 20           i. IQRPE Reports (specific to foundation, secondary containment, and leak detection  
21 system) shall include review of design drawings, calculations, and other information on  
22 which the certification report is based and shall include as applicable, but not limited to,  
23 review of such information described below. Information (drawings, specifications,  
24 etc.) already included in Attachment 51, Appendix 9.0 of this Permit, may be included  
25 in the report by reference and should include drawing and document numbers. IQRPE  
26 Reports shall be consistent with the information separately provided in ii. through ix.  
27 below [WAC 173-303-640(3)(a), in accordance with WAC 173-303-680 and WAC 173-  
28 303-806(4)(i)(i)];
- 29           ii. Design drawings (General Arrangement Drawings, in plan and cross sections) and  
30 specifications for the foundation, secondary containment including liner installation  
31 details, and leak detection methodology. These items should show the dimensions,  
32 volume calculations, and location of the secondary containment system, and should  
33 include items such as floor/pipe slopes to sumps, tanks, floor drains [WAC 173-303-  
34 640(4)(b) through (f) and WAC 173-303-640(3)(a), in accordance with WAC 173-303-  
35 680 and WAC 173-303-806(4)(i)(i)];
- 36           iii. The Permittees shall provide the design criteria (references to codes and standards, load  
37 definitions, and load combinations, materials of construction, and analysis/design  
38 methodology) and typical design details for the support of the secondary containment  
39 system. This information shall demonstrate the foundation will be capable of providing  
40 support to the secondary containment system, resistance to pressure gradients above and  
41 below the system, and capable of preventing failure due to settlement, compression, or

- 1 uplift [WAC 173-303-640(4)(c)(ii), in accordance with WAC 173-303-680(2) and WAC  
2 173-303-806(4)(i)(i)(B)];
- 3 iv. A description of materials and equipment used to provide corrosion protection for  
4 external metal components in contact with soil, including factors affecting the potential  
5 for corrosion [WAC 173-303-640(3)(a)(iii)(B), in accordance with WAC 173-303-680  
6 and WAC 173-303-806(4)(i)(i)(A) through (B)];
- 7 v. Secondary containment/foundation, and leak detection system, materials selection  
8 documentation (including, but not limited to, concrete coatings and water stops, and  
9 liner materials) as applicable [WAC 173-303-806(4)(i)(i)(A) through (B)];
- 10 vi. Detailed description of how the secondary containment for the LAW Vitrification  
11 System will be installed in compliance with WAC 173-303-640(3)(c), in accordance  
12 with WAC 173-303-680 and WAC 173-303-806(4)(i)(i)(A) through (B);
- 13 vii. Submit Permit Tables III.10.H.B and III.10.I.B completed to provide for all secondary  
14 containment sumps and floor drains the information as specified in each column heading  
15 consistent with information to be provided in i. through vi., above;
- 16 viii. Documentation that secondary containment and leak detection systems will not  
17 accumulate hydrogen gas levels above the lower explosive limit for incorporation into  
18 the Administrative Record [WAC 173-303-680, WAC 173-303-806(4)(i)(i)(A), and  
19 WAC 173-303-806(4)(i)(v)];
- 20 ix. A detailed description of how LAW Vitrification System design provides access for  
21 conducting future LAW Vitrification System integrity assessments [WAC 173-303-  
22 640(3)(b) and WAC 173-303-806(4)(i)(i)(B)].
- 23 III.10.H.5.c. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f, prior to  
24 installation of each sub-system as identified in Permit Table III.10.H.A, engineering  
25 information as specified below, for incorporation into Attachment 51, Appendices 9.1  
26 through 9.14, and 9.17 of this Permit. At a minimum, engineering information specified  
27 below will show the following, as required pursuant to WAC 173-303-640, in accordance  
28 with WAC 173-303-680 (the information specified below will include dimensioned  
29 engineering drawings):
- 30 i. IQRPE Reports (specific to sub-system) shall include review of design drawings,  
31 calculations, and other information on which the certification report is based and shall  
32 include as applicable, but not limited to, review of such information described below.  
33 Information (drawings, specifications, etc.) already included in Attachment 51,  
34 Appendix 9.0 of this Permit, may be included in the report by reference and should  
35 include drawing and document numbers. The IQRPE Reports shall be consistent with  
36 the information separately provided in ii. through xii. below, and the IQRPE Report  
37 specified in Permit Condition III.10.H.5.b. [WAC 173-303-640(3)(a), in accordance  
38 with WAC 173-303-680(2) and WAC 173-303-806(4)(i)(i)];
- 39 ii. Design drawings [General Arrangement Drawings in plan and cross section, Process  
40 Flow Diagrams, Piping and Instrumentation Diagrams (including pressure control  
41 systems), Mechanical Drawings, and specifications, and other information specific to

- 1 subsystems (to show location and physical attributes of each subsystem)] [WAC 173-  
2 303-640(3)(a), in accordance with WAC 173-303-680(2) and WAC 173-303-  
3 806(4)(i)(i)];
- 4 iii. Sub-system design criteria (references to codes and standards, load definitions, and load  
5 combinations, materials of construction, and analysis/design methodology) and typical  
6 design details to support the subsystems. Structural support calculations specific to off-  
7 specification, non-standard and field fabricated subsystems shall be submitted for  
8 incorporation into the Administrative Record. Documentation shall include but not  
9 limited to, supporting specifications, test data, treatment effectiveness report, etc.  
10 supporting projected operational capability (e.g., WESP projected removal efficiency for  
11 individual metals, halogens, particulates, etc.) and compliance with performance  
12 standards specified in Permit Condition III.10.H.1.b [WAC 173-303-640(3)(a), in  
13 accordance with WAC 173-303-680(2) and WAC 173-303-806(4)(i)(i)(B)];
- 14 iv. A description of materials and equipment used to provide corrosion protection for  
15 external metal components in contact with water, including factors affecting the  
16 potential for corrosion [WAC 173-303-640(3)(a)(iii)(B), in accordance with WAC 173-  
17 303-680(2) and WAC 173-303-806(4)(i)(i)(A) through (B)];
- 18 v. Sub-system materials selection documentation (e.g., physical and chemical tolerances)  
19 [WAC 173-303-640(3)(a), in accordance with WAC 173-303-680(2) and WAC 173-  
20 303-806(4)(i)(i)(A)];
- 21 vi. Sub-system vendor information (including, but not limited to, required performance  
22 warranties, as available), consistent with information submitted under ii. above, shall be  
23 submitted for incorporation into the Administrative Record [WAC 173-303-640(3)(a), in  
24 accordance with WAC 173-303-680(2), WAC 173-303-806(4)(i)(i)(A) through (B), and  
25 WAC 173-303-806(4)(i)(v)];
- 26 vii. System descriptions (process) related to sub-system units shall be submitted for  
27 incorporation into the Administrative Record [WAC 173-303-680, WAC 173-303-  
28 806(4)(i)(i)(A) through (B), and WAC 173-303-806(4)(i)(v)];
- 29 viii. Mass and energy balance for normal projected operating conditions used in developing  
30 the Piping and Instrumentation Diagrams and Process Flow Diagrams, including  
31 assumptions and formulas used to complete the mass and energy balance, so that they  
32 can be independently verified for incorporation into the Administrative Record [WAC  
33 173-303-680(2), WAC 173-303-806(4)(i)(i)(B), and WAC 173-303-806(4)(i)(v)];
- 34 ix. Detailed description of all potential LAW Vitrification System bypass events including:
- 35 A. A report which includes an analysis of credible potential bypass events and  
36 recommendations for prevention/minimization of the potential, impact, and  
37 frequency of the bypass event to include at a minimum:
- 38 1. Operating procedures  
39 2. Maintenance procedures  
40 3. Redundant equipment

- 1                           4. Redundant instrumentation
- 2                           5. Alternate equipment
- 3                           6. Alternate materials of construction
- 4                   x. A detailed description of how the sub-systems will be installed in compliance with
- 5                    WAC 173-303-640(3)(c), (d), and (e), in accordance with WAC 173-303-680 and WAC
- 6                    173-303-806(4)(i)(i)(B);
- 7                   xi. Sub-system design to prevent escape of vapors and emissions of acutely or chronically
- 8                    toxic (upon inhalation) EHW, for incorporation into the Administrative Record [WAC
- 9                    173-303-640(5)(e), in accordance with WAC 173-303-680(2) and WAC 173-303-
- 10                   806(4)(i)(i)(B)];
- 11                   xii. Documentation that sub-systems are designed to prevent the accumulation of hydrogen
- 12                    gases levels above the lower explosive limit for incorporation into the Administrative
- 13                    Record [WAC 173-303-680, WAC 173-303-806(4)(i)(i)(A), and WAC 173-303-
- 14                    806(4)(i)(v)].

15   III.10.H.5.d. The Permittees shall submit to Ecology, pursuant to Permit Condition III.10.C.9.f, prior to  
16   installation of equipment for each sub-system as identified in Permit Tables III.10.H.A and  
17   III.10.H.B, not addressed in Permit Conditions III.10.H.5.b. or III.10.H.5.c., engineering  
18   information as specified below, for incorporation into Attachment 51, Appendices 9.1  
19   through 9.14 of this Permit. At a minimum, engineering information specified below will  
20   show the following as required pursuant to WAC 173-303-640, in accordance with WAC  
21   173-303-680 (the information specified below will include dimensioned engineering  
22   drawings):

- 23           i. IQRPE Reports (specific to sub-system equipment) shall include a review of design
- 24            drawings, calculations, and other information as applicable on which the certification
- 25            report is based. The reports shall include, but not be limited to, review of such
- 26            information described below. Information (drawings, specifications, etc.) already
- 27            included in Attachment 51, Appendix 9.0 of this Permit, may be included in the report
- 28            by reference and should include drawing and document numbers. The IQRPE Reports
- 29            shall be consistent with the information provided separately in ii. through xiii. below
- 30            and the IQRPE Reports specified in Permit Conditions III.10.H.5.b. and III.10.H.5.c.
- 31            [WAC 173-303-640(3)(a), in accordance with WAC 173-303-680(2) and WAC 173-
- 32            303-806(4)(i)(i)(A) through (B)];
- 33           ii. Design drawings [Process Flow Diagrams, Piping and Instrumentation Diagrams
- 34            (including pressure control systems), specifications and other information specific to
- 35            equipment (these drawings should include all equipment such as pipes, valves, fittings,
- 36            pumps, instruments, etc.)] [WAC 173-303-640(3)(a), in accordance with WAC 173-
- 37            303-680(2) and WAC 173-303-806(4)(i)(i)(A) through (B)];
- 38           iii. Sub-system equipment design criteria (references to codes and standards, load
- 39            definitions, and load combinations, materials of construction, and analysis/design
- 40            methodology) and typical design details for the support of the sub-system equipment

- 1 [WAC 173-303-640(3)(a) and WAC 173-303-640(3)(f), in accordance with WAC 173-  
2 303-680 and WAC 173-303-806(4)(i)(B)];
- 3 iv. A description of materials and equipment used to provide corrosion protection for  
4 external metal components in contact with soil and water, including factors affecting the  
5 potential for corrosion [WAC 173-303-640(3)(a)(iii)(B), in accordance with WAC 173-  
6 303-680(2) and WAC 173-303-806(4)(i)(A)];
- 7 v. Materials selection documentation for equipment for each sub-system (e.g., physical and  
8 chemical tolerances) [WAC 173-303-640(3)(a), in accordance with WAC 173-303-  
9 680(2) and WAC 173-303-806(4)(i)(A)];
- 10 vi. Vendor information (including, but not limited to, required performance warranties, as  
11 available), consistent with information submitted under ii. above, for sub-system  
12 equipment shall be submitted for incorporation into the Administrative Record. [WAC  
13 173-303-640(3)(a), in accordance with WAC 173-303-680(2), WAC 173-303-  
14 806(4)(i)(A) through (B), and WAC 173-303-806(4)(i)(iv)];
- 15 vii. Sub-system, sub-system equipment, and leak detection system instrument control logic  
16 narrative description (e.g., software functional specifications, descriptions of fail-safe  
17 conditions, etc.) [WAC 173-303-680(2), WAC 173-303-806(4)(i)(B), and WAC 173-  
18 303-806(4)(i)(v)].
- 19 viii. System description (process) related to sub-system equipment, and system descriptions  
20 related to leak detection systems, (including instrument control logic and narrative  
21 descriptions), for incorporation into the Administrative Record [WAC 173-303-680,  
22 WAC 173-303-806(4)(i)(A) through (B), and WAC 173-303-806(4)(i)(v)];
- 23 ix. A detailed description of how the sub-system equipment will be installed and tested  
24 [WAC 173-303-640(3)(c) through (e), WAC 173-303-640(4)(b) and (c), in accordance  
25 with WAC 173-303-680 and WAC 173-303-806(4)(i)(B)];
- 26 x. For process monitoring, control, and leak detection system instrumentation for the LAW  
27 Vitrification System as identified in Permit Tables III.10.H.C. and III.10.H. F., a  
28 detailed description of how the process monitoring, control, and leak detection system  
29 instrumentation, will be installed and tested [WAC 173-303-640(3)(c) through (e),  
30 WAC 173-303-640(4)(b) and (c), WAC 173-303-806(4)(c)(vi), and WAC 173-303-  
31 806(4)(i)(B)];
- 32 xi. Mass and energy balance for projected normal operating conditions used in developing  
33 the Piping and Instrumentation Diagrams and Process Flow Diagrams, including  
34 assumptions and formulas used to complete the mass and energy balance, so that they  
35 can be independently verified, for incorporation into the Administrative Record [WAC  
36 173-303-680(2), WAC 173-303-806(4)(i)(B), and WAC 173-303-806(4)(i)(v)];
- 37 xii. Documentation that sub-systems equipment are designed to prevent the accumulation of  
38 hydrogen gas levels above the lower explosive limit for incorporation into the  
39 Administrative Record [WAC 173-303-680, WAC 173-303-806(4)(i)(A), and WAC  
40 173-303-806(4)(i)(v)];