

**WASTE TREATMENT AND IMMOBILIZATION PLANT
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have a “**Last Modification Date**” which represents the last date the portion of the unit has been modified. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Last modification to Waste Treatment and Immobilization Plant **November 01, 2017**

Chapters	Last Modification Date	Modification Number
Unit-Specific Conditions	11/01/2017	8C.2017.Q3
1.0 Part A Form	09/05/2017	8C.2017.6F
2.0 Topographic Map	09/05/2017	8C.2017.6F
3.0 Waste Analysis Plan	06/2011	
3A Waste Treatment Plant Waste Analysis Plan	09/05/2017	8C.2017.6F
3B Quality Assurance Project Plan for Waste Analysis Plan	09/05/2017	8C.2017.6F
4.0 Process Information	09/05/2017	8C.2017.6F
4A Figures and Drawings	09/05/2017	8C.2017.6F
4C Compliance with Uniform Building Code Seismic Design Requirements	11/17/2008	
4D Pretreatment Facility	12/15/2016	8C.2016.Q3
4E Low-Activity Waste Vitrification Facility	09/05/2017	8C.2017.6F
4F High-Level Waste Vitrification Facility	12/15/2016	8C.2016.Q3
4G Direct-Feed Low-Activity Waste (Effluent Management Facility)	09/05/2017	8C.2017.6F
4H Analytical Laboratory	09/05/2017	8C.2017.6F
4I Balance of Facilities	09/05/2017	8C.2017.6F
5.0 Reserved		
6.0 Procedures to Prevent Hazards	09/05/2017	8C.2017.6F
6A Inspection Plan	09/05/2017	8C.2017.6F
7.0 Contingency Plan	09/05/2017	8C.2017.6F
8.0 Personnel Training	09/05/2017	8C.2017.6F
9.0 Reserved		
10.0 Reserved		
11.0 Closure Plan	09/05/2017	8C.2017.6F
11A Sampling and Analysis Plan for Closure of WTP Facility	05/23/2016	8C.2016.Q1
12.0 Reporting and Recordkeeping	08/2011	

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CHANGE CONTROL LOG**

Appendices	Last Modification Date	Modification Number
Appendices 1: WTP Interim Compliance Schedule	09/30/2015	8C.2015.Q3
Appendices 1.4: WTP Effluent Management Facility Interim Compliance Schedule	09/05/2017	8C.2017.6F
Appendices 2: Critical Systems for the WTP	09/05/2017	8C.2017.6F
Appendices 3: Reserved		
Appendices 4: Reserved		
Appendices 5: Reserved		
Appendices 6: Risk Assessment	01/28/2016	8C.2016.1F
Appendices 7: WTP Documents Applicable to all Regulated Areas	09/05/2017	8C.2017.6F
Appendices 8: Pretreatment Facility	07/06/2017	8C.2017.2F
Appendices 9: Low-Activity Waste Building	11/01/2017	8C.2017.Q3
Appendices 10: High-Level Waste Building	09/30/2015	8C.2015.Q3
Appendices 11: Laboratory Building	07/06/2017	8C.2017.2F
Appendices 12: Balance of Facilities	07/06/2017	8C.2017.2F
Appendices 13: Effluent Management Facility	09/05/2017	8C.2017.6F

**WASTE TREATMENT AND IMMOBILIZATION PLANT
PART III, OPERATING UNIT GROUP 10 – SPECIFIC CONDITIONS
CHANGE CONTROL LOG**

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Modification History Table

Modification Date	Modification Number
11/01/2017	8C.2017.Q3
09/05/2017	8C.2017.6F
07/06/2017	8C.2017.2F
03/01/2017	8C.2016.Q4
12/15/2016	8C.2016.Q3
12/1/2016	8C.2016.7F

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Waste Treatment and Immobilization Plant

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**PART III, OPERATING UNIT GROUP 10 – SPECIFIC CONDITIONS
WASTE TREATMENT AND IMMOBILIZATION PLANT**

Conditions.1

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Conditions.2

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**PART III, OPERATING UNIT GROUP 10 – SPECIFIC CONDITIONS
WASTE TREATMENT AND IMMOBILIZATION PLANT**

The Waste Treatment and Immobilization Plant (WTP) is the operating treatment and storage unit designed to treat the mixed (radioactive and dangerous) waste currently stored in underground tanks at the Hanford Site. Once the mixed waste is received at the WTP, it will be separated into High-level and Low-activity waste streams in the Pretreatment Building. The waste streams are then transferred to either the High-level Waste Building or the Low-Activity Waste Building, mixed with glass forming additives and heated to 950-1250° C in melters, and then poured into containers. As the containerized waste cools, it is immobilized in the glass matrix. Once the waste is immobilized, the container is finished (i.e. provided with a lid and decontaminated), and then transported from the WTP for disposal.

III.10.A COMPLIANCE WITH APPROVED PERMIT

The Permittees shall comply with all requirements set forth in the Hanford Facility RCRA Dangerous Waste Permit including all approved modification. All chapters, subsection, files, tables, addendums, and appendices included in the following unit-specific Conditions are enforceable in their entirety. In the event that a Unit-Specific Condition conflicts with Permit Conditions in Parts I or II of this Permit, the Unit-Specific Conditions shall prevail.

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

OPERATING UNIT GROUP 10

Chapter 1	Part A Form, Revision 3
Chapter 2	Topographic Map
Chapter 3	Waste Analysis Plan
	Appendix 3A Waste Treatment Plant Waste Analysis Plan
	Appendix 3B Quality Assurance Project Plan for Waste Analysis Plan
Chapter 4	Process Information
	Chapter 4A Engineering Figures
	Chapter 4C §RPP-WTP Compliance with Uniform Building Code Seismic Design
	Chapter 4D Pretreatment Facility (PTF)
	Chapter 4E Low-Activity Waste (LAW) Vitrification Facility
	Chapter 4F High-Level Waste (HLW) Vitrification Facility
	Chapter 4G Direct-Feed Low-Activity Waste (Effluent Management Facility)
	Chapter 4H Analytical Laboratory (LAB)
	Chapter 4I Balance of Facilities (BOF)
Chapter 5	Groundwater Monitoring (RESERVED)

1	Chapter 6	Procedures to Prevent Hazards
2		Chapter 6A Inspection Plan
3	Chapter 7	Contingency Plan
4	Chapter 8	Personnel Training
5	Chapter 11	Closure
6		Chapter 11.A Sampling and Analysis Plan for Closure of WTP Facility
7	Chapter 12	Reporting an Recordkeeping
8	Appendix 1.0	WTP Interim Compliance Schedule
9	Appendix 1.4	WTP Effluent Management Facility Interim Compliance Schedule
10	Appendix 2.0	Critical Systems
11	Appendix 3.0	RESERVED
12	Appendix 4.0	RESERVED
13	Appendix 5.0	RESERVED
14	Appendix 6.0	Risk Assessment
15	Appendix 6.0, §6.1	Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant 07/30/2003
16		
17	Appendix 6.0, §6.1.1	Final Work Plan for Screening Level Risk Assessment for the RPP-WTP 04/28/2000
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19	Appendix 6.0, §6.1.2	Ecology/EPA Technical Comments on Hanford River Protection Privatization Project Review of BNFL Final Work Plan for Screening Level Risk Assessment for RPP-WTP
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22	Appendix 6.0, §6.2	Final Risk Assessment Work Plan
23	Appendix 6.0, §6.2.1	Supplement 1 – Constituents of Potential concerns for the WTP Air and Dangerous Waste Permits
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25	Appendix 6.0, §6.2.2	Supplement 2 – Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant
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27	Appendix 6.0, §6.2.3	Supplement 3 – Estimated Organic Emissions from Process Cells
28	Appendix 6.0, §6.2.4	Supplement 4 – Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant
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31	Appendix 6.0, §6.2.5	Supplement 5 – Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol
32		
33	Appendix 6.0, §6.3	Pre-Demonstration Test Risk Assessment Report (RESERVED)
34	Appendix 6.0, §6.4	Final Risk Assessment (RESERVED)
35	Appendix 7.0	WTP Documents Applicable to All Regulated Areas
36	Appendix 7.0, §7.1	Process Flow Diagrams
37	Appendix 7.0, §7.2	Piping and Instrumentation Diagrams & Related Documents

1	Appendix 7.0, §7.3	System Description Documentation (Administrative Record)
2	Appendix 7.0, §7.4	General Arrangement Drawings (RESERVED)
3	Appendix 7.0, §7.5	Civil, Structural, and Architectural Criteria and Typical Design Details
4	Appendix 7.0, §7.6	Mechanical Drawings (RESERVED)
5	Appendix 7.0, §7.7	Specifications
6	Appendix 7.0, §7.8	Engineering Calculations (RESERVED)
7	Appendix 7.0, §7.9	Material Selection Documentation
8	Appendix 7.0, §7.10	Critical Systems Equipment/Instrument List (RESERVED)
9	Appendix 7.0, §7.11	Independent, Qualified, Registered Professional Engineer (IQRPE) Reports
10	Appendix 7.0, §7.12	Installation Plans
11	Appendix 7.0, §7.13	Instrument Control Logic and Narrative Description
12	Appendix 7.0, §7.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
13	Appendix 7.0, §7.15	Operating Documents
14	Appendix 8.0	Pretreatment Building
15	Appendix 8.0, §8.1	Process Flow Diagrams
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19	Appendix 8.0, §8.5	Civil, Structural, and Architectural Criteria and Typical Design Details
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26	Appendix 8.0, §8.12	Installation Plans (RESERVED)
27	Appendix 8.0, §8.13	Instrument Control Logic and Narrative Description
28	Appendix 8.0, §8.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
29	Appendix 8.0, §8.15	Demonstration Test Plan (RESERVED)
30	Appendix 8.0, §8.16	Demonstration Test Report (RESERVED)
31	Appendix 8.0, §8.17	Treatment Effectiveness Report (RESERVED)
32	Appendix 8.0, §8.18	Operating Documents
33	Appendix 9.0	Low-Activity Waste (LAW) Building
34	Appendix 9.0, §9.1	Process Flow Diagrams
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10	Appendix 9.0, §9.12	Installation Plans (RESERVED)
11	Appendix 9.0, §9.13	Instrument Control Logic, and Narrative Description
12	Appendix 9.0, §9.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
13	Appendix 9.0, §9.15	Demonstration Test Plan (RESERVED)
14	Appendix 9.0, §9.16	Demonstration Test Report (RESERVED)
15	Appendix 9.0, §9.17	Treatment Effectiveness Report (RESERVED)
16	Appendix 9.0, §9.18	Operating Documents
17	Appendix 10.0	High Level Waste (HLW) Building
18	Appendix 10.0, §10.1	Process Flow Diagrams
19	Appendix 10.0, §10.2	Piping and Instrumentation Diagrams
20	Appendix 10.0, §10.3	System Description Documentation (Administrative Record)
21	Appendix 10.0, §10.4	General Arrangement Drawings
22	Appendix 10.0, §10.5	Civil, Structural, and Architectural Criteria and Typical Design Details
23	Appendix 10.0, §10.6	Mechanical Drawings
24	Appendix 10.0, §10.7	Specifications
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32	Appendix 10.0, §10.15	Demonstration Test Plan (RESERVED)
33	Appendix 10.0, §10.16	Demonstration Test Report (RESERVED)
34	Appendix 10.0, §10.17	Treatment Effectiveness Report (RESERVED)
35	Appendix 10.0, §10.18	Operating Documents

1	Appendix 11.0	Laboratory Building
2	Appendix 11.0, §11.1	Process Flow Diagrams
3	Appendix 11.0, §11.2	Piping and Instrumentation Diagrams
4	Appendix 11.0, §11.3	System Description Documentation (RESERVED)
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6	Appendix 11.0, §11.5	Civil, Structural, and Architectural Criteria and Typical Design Details
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20	Appendix 12.0	Balance of Facilities
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29	Appendix 12.0, §12.9	Material Selection and Corrosion Evaluation Documentation (RESERVED)
30	Appendix 12.0, §12.10	Critical Systems Equipment/Instrument List (RESERVED)
31	Appendix 12.0, §12.11	Independent, Qualified, Registered Professional Engineer (IQRPE) Reports
32		(RESERVED)
33	Appendix 12.0, §12.12	Installation Plans (RESERVED)
34	Appendix 12.0, §12.13	Instrument Control Logic and Narrative Description (RESERVED)
35	Appendix 12.0, §12.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)

- 1 Appendix 12.0, §12.15 Demonstration Test Plan (RESERVED)
- 2 Appendix 12.0, §12.16 Demonstration Test Report (RESERVED)
- 3 Appendix 12.0, §12.17 Treatment Effectiveness Report (RESERVED)
- 4 Appendix 12.0, §12.18 Operating Documents
- 5 Appendix 13.0, §13.0 Effluent Management Facility
- 6 Appendix 13.0, §13.1 Process Flow Diagrams
- 7 Appendix 13.0, §13.2 Piping & Instrumentation Diagrams
- 8 Appendix 13.0, §13.3 System Description Documentation (RESERVED)
- 9 Appendix 13.0, §13.4 General Arrangement Drawings
- 10 Appendix 13.0, §13.5 Civil, Structural, and Architectural Criteria and Typical Design Details
- 11 (RESERVED)
- 12 Appendix 13.0, §13.6 Mechanical Drawings (RESERVED)
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- 21 Appendix 13.0, §13.15 Demonstration Test Plan (RESERVED)
- 22 Appendix 13.0, §13.16 Demonstration Test Report (RESERVED)
- 23 Appendix 13.0, §13.17 Treatment Effectiveness Report (RESERVED)
- 24 Appendix 13.0, §13.18 Operating Documents

25 Facility-Specific Definitions

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 melter off-
 28 gas, as determined by representative sampling and analysis of the melter feed using ASTM Method D-482,
 29 or an equivalent method.

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

32 **Continuous monitoring system:** means using a device which continuously samples the regulated
 33 parameter specified on Permit Tables [III.10.H.F](#), [III.10.I.F](#), [III.10.J.F](#), and [III.10.K.F](#), with the exception
 34 of pressure, without interruption, evaluates the detector response at least once every fifteen (15) seconds
 35 and computes and records the average value at least every sixty (60) seconds, except during allowable
 36 periods of calibration and except as defined otherwise by the CEMS Performance Specifications in 4B
 37 and 8A in Appendix B, [40 CFR Part 60](#). For the parameter pressure, the term “continuous monitoring
 38 system” means using a device that continuously samples the pressure without interruption and evaluates

- 1 the detector response without averaging at least once each second and records the value at least every
2 sixty (60) seconds. In addition, if the AWFCO is engaged due to a pressure exceedance, the pressure
3 value must be recorded.
- 4 **Cascade event:** means when additional waste feed cut-off parameter set points deviate outside the limits
5 specified in Permit Tables [III.10.H.F](#), [III.10.I.F](#), [III.10.J.F](#), and [III.10.K.F](#) after waste feed is cut-off, but
6 while waste or waste residues are being managed in HLW and LAW.
- 7 **Critical System:** as applied to determining whether a Permit Modification is required, means those
8 specific portions of a treatment, storage, and disposal (TSD) unit's structure, or equipment, whose failure
9 could lead to the release of dangerous waste into the environment, and/or systems which include
10 processes which treat, transfer, store, or dispose of regulated wastes. A list identifying the critical
11 systems for the WTP is included in Appendix 2.
- 12 **Dangerous and/or mixed waste management unit:** means dangerous and/or mixed waste management
13 units, areas, systems, and sub-systems as defined in Permit Tables [III.10.D.A](#), [III.10.E.A](#) through [D](#),
14 [III.10.F.A](#), [III.10.G.A](#), [III.10.H.A](#), [III.10.I.A](#), [III.10.J.A](#), [III.10.K.A](#), [III.10.M.A](#), and [III.10.E.R](#) through
15 [III.10.E.T](#).
- 16 **Dioxin/furan” and “dioxins and furans:** means tetra-, penta-, hexa-, hepta-, and octa-chlorinated
17 dibenzo dioxins and furans.
- 18 **EMF Vitrification System:** is defined as specified on Permit Tables [III.10.M.A](#) and [III.10.E.R](#) through
19 [III.10.E.T](#).
- 20 **HLW Vitrification System:** is defined as specified on Permit Tables [III.10.J.A](#) and [B](#), and [III.10.K.A](#)
21 and [B](#).
- 22 **Hourly rolling average or HRA:** will mean the arithmetic mean of the sixty (60) most recent one-
23 minute readings recorded by the continuous monitoring system.
- 24 **LAW Vitrification System:** is defined as specified on Permit Tables [III.10.H.A](#) and [B](#), and [III.10.I.A](#)
25 and [B](#).
- 26 **Mode of operation:** means operation of the LAW Vitrification System or the HLW Vitrification System
27 within set limits for each operating parameter specified in Permit Tables [III.10.H.D](#) and [F](#) (for LAW) and
28 Permit Tables [III.10.I.D](#) and [F](#) (for HLW).
- 29 **One-minute average:** means the average of detector responses calculated at least every sixty (60)
30 seconds from responses obtained at least every fifteen (15) seconds.
- 31 **Permittees:** means the United States Department of Energy (owner/operator) and Bechtel National, Inc.
32 (Co-operator).
- 33 **Pretreatment Plant Miscellaneous Unit Systems:** is defined as specified on Permit Tables [III.10.G.A](#)
34 and [B](#).
- 35 **Primary sump:** means any pit or reservoir that meets the [WAC 173-303-040](#) definition of “tank,” and
36 those troughs/trenches connected to it, that serve to collect dangerous/hazardous waste, deliberately
37 introduced (e.g., from decontamination or treatment activities), for transport to TSD facilities.
- 38 **Rolling average:** means the average of all one-minute averages over the averaging period.
- 39 **Secondary sump:** means any pit or reservoir that meets the [WAC 173-303-040](#) definition of “tank,” and
40 those troughs/trenches connected to it, that serve to collect dangerous/hazardous waste, not deliberately
41 introduced (e.g., from spills, leaks, or overflows), for transport to TSD facilities.

1 **Secondary mixed waste stream:** means treatment residues and materials derived from the treatment of
 2 mixed waste which continue to designate as a dangerous, extremely hazardous, or acutely hazardous
 3 waste and contains a radioactive component.

4 **Standard operating procedure or SOP:** will mean a written description of the procedures by which a
 5 process, equipment, etc. will be operated. An SOP may be written by the manufacturer and/or the
 6 Permittees.

7 **Successful completion of the demonstration test:** will mean operations including a minimum of three
 8 test runs without significant interruptions (i.e., once initiated, each test run must be continuous, and the
 9 samples have been preserved and maintained intact, and one in which sampling of exhaust gas was
 10 representative of the LAW Vitrification System or HLW Vitrification System Operations, whichever is
 11 applicable, and adequate to achieve evaluation of PODCs destruction and removal efficiency (DRE) to
 12 99.99%).

13 **TEQ or "toxic equivalents":** refer to the sum of the weighted potencies of 7 polychlorinated dibenzo-p
 14 -dioxins (PCDDs), 10 polychlorinated dibenzofurans (PCDFs), and 12 dioxin-like (coplanar)
 15 polychlorinated biphenyl (PCBs), relative to a reference compound, 2, 3, 7, 8 - tetrachlorodibenzo-p-
 16 dioxin (2, 3, 7, 8 -TCDD).

17 **Pre-process:** means prior to introduction into a dangerous or mixed waste management unit at the WTP
 18 Unit.

19 **In-process:** means duration of a waste in a dangerous or mixed waste management unit at the WTP Unit.

20 **Post-process:** means prior to the introduction into a subsequent dangerous or mixed waste management
 21 unit at the WTP Unit or prior to shipment from the WTP Unit.

22 **Vendor information:** means documentation prepared by a vendor (e.g., catalog cut sheets) for plant
 23 items that are routinely manufactured and stocked by vendors (i.e., items that are considered "off the
 24 shelf") and are not being procured in accordance with Permittees' engineering drawings and
 25 specifications. Documentation such as catalog cut sheets will be annotated to specify selected items
 26 which meet Permittee's procurement requirements equipment specification. Documentation associated
 27 with "one of a kind", custom items, and commercial grade items (e.g., bulk pipe, valves) that will be
 28 procured in accordance with the Permittees engineering drawings and specifications is not considered
 29 vendor information. Changes to the drawings and specifications may require a permit modification.

30 **Vitrification System Shutdown:** means emergency and planned shutdowns of the vitrification system as
 31 defined in the operating procedure(s).

32 **Vitrification System Startup:** means startup of the vitrification system as defined in operating
 33 procedure(s).

34 **FACILITY-SPECIFIC ACRONYMS**

35 The following acronyms are specific to the WTP Unit:

36	AWFCO	Automatic Waste Feed Cut-off
37	CDR	Construction Deficiency Report
38	CEMS	Continuous Emissions Monitoring System
39	CMS	Continuous Monitoring System
40	CNP	Cesium Nitric Acid Recovery Process System
41	CRP	Cesium Resin Addition Process System
42	CPE	Cathodic Protection Electrical System

1	CXP	Cesium Ion Exchange Process System
2	DEP	Direct Feed LAW EMF Process System
3	DFETP	Dioxin and Furan Emission Test Plan
4	DRE	Destruction and Removal Efficiency
5	Dscf	Dry standard cubic feet
6	EMF	Effluent Management Facility
7	ERP	Emergency Response Plan
8	FEP	Waste Feed Evaporation Process System
9	FRP	Waste Feed Receipt Process System
10	HCP	HLW Concentrate Receipt Process System
11	HDH	HLW Canister Decontamination Handling System
12	HEH	HLW Canister Export Handling System
13	HEME	High Efficiency Mist Eliminator
14	HEPA	High Efficiency Particulate Air Filter
15	HFH	HLW Filter Cave Handling System
16	HFP	HLW Melter Feed Process System
17	HLP	HLW Lag Storage and Feed Blending Process System
18	HLW	High-level Waste
19	HMH	HLW Melter Handling System
20	HMP	HLW Melter Process System
21	HOP	HLW Vit Primary Offgas Treatment System
22	HPH	HLW Canister Pour Handling System
23	HSH	HLW Melter Cave Support Handling System
24	IHLW	Immobilized High-Level Waste (Glass)
25	ILAW	Immobilized Low-Activity Waste (Glass)
26	IQRPE	Independent, qualified, registered, professional engineer
27	LAB	WTP Laboratory Building
28	LAW	Low Activity Waste
29	LCP	LAW Concentrate Receipt Process System
30	LEH	LAW Container Export Handling System
31	LFH	LAW Canister Finishing Handling System
32	LFP	LAW Melter Feed Process System
33	LMH	LAW Melter Handling System
34	LMP	LAW Melter Process System
35	LOP	LAW Primary Offgas Process System

1	LPH	LAW Container Pour Handling System
2	LSH	LAW Melter Equipment Support Handling System
3	LSM	Locally Shielded Melter
4	LVP	LAW Secondary Offgas/Vessel Vent Process System
5	NCR	Nonconformance Report
6	PFH	Pretreatment Filter Cave Handling System
7	PIH	Pretreatment In-Cell Handling System
8	PJV	Pulse Jet Ventilation System
9	PODC	Principal Organic Dangerous Constituents
10	PTF	Pretreatment Building
11	PVP	Pretreatment Vessel Vent Process System
12	PVV	Process Vessel Vent System
13	PWD	Plant Wash and Disposal System
14	RDP	Spent Resin and Dewatering Process System
15	RDTP	Revised Demonstration Test Plan
16	RLD	Radioactive Liquid Waste Disposal System
17	RPP-WTP	River Protection Project-Waste Treatment Plant
18	RWH	Radioactive Solid Waste Handling System
19	SBS	Submerged Bed Scrubber
20	TCP	Treated LAW Evaporation Process System
21	TLP	Treated LAW Evaporation System
22	TOC	Total Organic Carbon
23	TXP	Technetium Ion Exchange Process System
24	TEP	Technetium Eluant Recovery Process System
25	UFP	Ultrafiltration Process System
26	WESP	Wet Electrostatic Precipitator
27	WTP	River Protection Project – Waste Treatment and Immobilization Project (also known as
28		the Waste Treatment Plant and Vitrification Plant)
29	6% Mo	Six Percent Molybdenum Alloy
30	304L	ASTM A240 Grade 304L Stainless Steel
31	316L	ASTM A240 Grade 316L Stainless Steel
32	III.10.A	COMPLIANCE WITH APPROVED PERMIT
33	III.10.B	STANDARD CONDITIONS AND GENERAL FACILITY CONDITIONS
34	In addition to the conditions in this chapter, the Permittees must comply with all the applicable portions	
35	of the Dangerous Waste Permit for the Hanford Facility. In the event that a Unit-Specific Condition for	

1 the WTP Unit in Permit Conditions [III.10.C.](#) through [III.10.M.](#) conflicts with a general condition in
2 Permit Conditions I and II of this permit, the Unit-Specific Condition will apply to the WTP Unit.

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

4 **III.10.C.1 RESERVED**

5 **III.10.C.2 General Waste Management**

6 **III.10.C.2.a** Treatment or storage of dangerous waste or mixed waste in any new or modified portion
7 of the facility may commence when the Permittees have submitted to Ecology, by
8 certified mail, or hand delivery, a letter signed by the Permittees and a Registered
9 Professional Engineer stating that the facility has been constructed or modified in
10 compliance with the Permit in accordance with [WAC 173-303-810](#)(14)(a); and

11 **III.10.C.2.a.i** The Permittee has received a Permit modification approval pursuant to Permit Conditions
12 [III.10.C.2.e.](#) and [III.10.C.2.f.](#), or [III.10.C.2.g.](#), and

13 **III.10.C.2.a.ii** Ecology has inspected the modified or newly constructed facility and finds it is in
14 compliance with the conditions of the Permit, or

15 **III.10.C.2.a.iii** Within fifteen days, of the date of submission of the Permittees' letter, Ecology has not
16 notified the Permittees of intent to inspect.

17 **III.10.C.2.b** The Permittees are authorized to accept the dangerous and/or mixed waste specified in
18 Operating Unit Group 10, Chapter 1 (Part A Form), and Chapter 3 (Waste Analysis Plan
19 [WAP]).

20 **III.10.C.2.c** All dangerous and/or mixed waste must be managed only in areas authorized for
21 dangerous and/or mixed waste management under the Permit conditions, except as
22 allowed under [WAC 173-303-200](#). The authorized dangerous and/or mixed waste
23 management areas of the WTP Unit are specified in Conditions [III.10.D](#) through
24 [III.10.M](#).

25 **III.10.C.2.d** Dangerous and/or mixed waste may be transferred from dangerous waste management
26 units within the WTP operating unit to an on-site dangerous waste management unit or an
27 off-site permitted TSD Facility using the manifest/tracking system required by permit
28 condition II.N.

29 **III.10.C.2.e** Permit modifications pursuant to this Permit for dangerous and/or mixed waste at the
30 request of the Permittees must be done according to the three tiered modification system
31 specified in [WAC 173-303-830](#)(4) and Condition I.C.3. The Permit modification request
32 must include page changes to the Permit, attachments, and permit application supporting
33 documentation necessary to incorporate the proposed permit modification.

34 **III.10.C.2.f** In addition to other requirements in [WAC 173-303-830](#), within forty-five (45) days of a
35 permit change (i.e., permit modification) being put into effect or approved, the Permittees
36 will provide copies of the Permit attachments to incorporate the change (if not already
37 reflected in the change pages submitted in the original permit modification request). This
38 submittal does not require re-certification in accordance with [WAC 173-303-810](#)(13).

39 **III.10.C.2.g** Permit modifications pursuant to Operating Unit Group 10, Appendix 1.0 will be
40 prepared and issued pursuant to [WAC 173-303-830](#)(3)(a)(ii) and [WAC 173-303-840](#).

41 **III.10.C.2.h** The Permittees must complete Compliance Schedule interim requirements as specified in
42 Operating Unit Group 10, Appendix 1.0. If an interim requirement is not completed as

- 1 specified, the Permittees will, within 14 days, notify Ecology in writing of its non-
 2 compliance. The notification will include the following:
- 3 **III.10.C.2.h.i** A description of any portion of the interim requirement completed;
- 4 **III.10.C.2.h.ii** Summaries of any problems affecting timely completion of the interim requirement;
- 5 **III.10.C.2.h.iii** A description of the plans for completing the remaining portion of the interim
 6 requirement, including any alternatives;
- 7 **III.10.C.2.h.iv** Projected interim requirement completion date.
- 8 **III.10.C.2.i** RESERVED
- 9 **III.10.C.2.j** RESERVED
- 10 **III.10.C.2.k** RESERVED
- 11 **III.10.C.2.l** During demonstration testing of the LAW Vitrification System and HLW Vitrification
 12 System, pursuant to Permit Sections [III.10.H.](#) and [J.](#), processing of materials in the LAW
 13 and HLW Vitrification Systems that would designate as dangerous waste are fully subject
 14 to the requirements of this Permit, excluding the melter feed system as identified in
 15 Tables [III.10.H.A.](#) and [III.10.J.A.](#), respectively. This exclusion does not apply to mixed
 16 waste.
- 17 **III.10.C.2.m** The Facility Owner will ensure WTP input is provided to the risk budget tool developed
 18 in accordance with permit condition III.11.I.5.
- 19 **III.10.C.2.n** The Permittees will submit the following reports, based on the August 2006 mass balance
 20 submitted to Ecology (DOE Letter 06-ESQ-081), for Ecology's review and
 21 comment/resolution. Updated information to the August 2006 Mass Balance may be
 22 used if available and mutually agreed upon by the Permittees and Ecology. The reports
 23 will describe all of the treatment approaches identified in Permit Conditions [III.10.C.2.n.i](#)
 24 through [III.10.C.2.n.v](#), and will be included in the administrative record.
- 25 **III.10.C.2.n.i** By June 30, 2010, the Permittees will perform an assessment that projects mixed waste
 26 constituents and the concentrations that are expected to be contained in each secondary
 27 mixed waste stream anticipated to be generated;
- 28 **III.10.C.2.n.ii** By June 30, 2010, the Permittees will identify appropriate LDR treatment standards for
 29 each mixed waste stream identified in Permit Condition [III.10.C.2.n.i](#);
- 30 **III.10.C.2.n.iii** By June 30, 2010, the Permittees will identify which mixed waste streams that, from a
 31 qualitative risk perspective, reasonably may cause or may significantly contribute to an
 32 exceedance of applicable environmental standards at a disposal facility; and
- 33 **III.10.C.2.n.iv** By June 30, 2010, the Permittees will, for the mixed waste streams identified in Permit
 34 Condition [III.10.C.2.n.iii](#), identify potential treatment approaches that mitigate their
 35 environmental impacts;
- 36 **III.10.C.2.n.v** By December 31, 2015, or 12 months prior to cold commissioning of the facility
 37 producing the waste, whichever is earlier, the Permittees will, for the mixed waste
 38 streams identified in Permit Condition [III.10.C.2.n.iii](#), select appropriate treatment
 39 approaches that mitigate their environmental impacts.
- 40 **III.10.C.2.o** The Facility owner will evaluate all waste streams generated at the WTP for potential
 41 exceedances of applicable environmental standards and will ensure all mixed and
 42 dangerous waste streams generated at the WTP will not cause an exceedance of

- 1 applicable environmental standards at an appropriate disposal facility on-site and is
2 subject to the following requirements:
- 3 **III.10.C.2.o.i** ILAW glass will be engineered to be compliant with the disposal facility Waste
4 Acceptance Criteria (WAC). The waste feed and ILAW glass recipes will be verified to
5 be compliant with the permitted glass formulations (including planning for pertinent
6 operating parameters) prior to vitrification.
- 7 **III.10.C.2.o.ii** Treatment methods for secondary waste streams projected to be generated by the WTP
8 that are slated for disposal at the Hanford Site will be engineered to ensure that treated
9 secondary wastes will comply with the on-site disposal facility WAC and applicable
10 LDRs prior to generation. Prior to treatment, secondary wastes must be evaluated to
11 ensure that selected treatment methods are still appropriate and continue to comply with
12 the on-site disposal facility WAC and applicable LDRs; and
- 13 **III.10.C.2.o.iii** On a case-by-case basis, for any WTP mixed waste that does not meet the WAC for the
14 disposal facility, Ecology will approve or deny acceptance of that waste into the disposal
15 facility. This decision will be based on the disposal facility's WAC and compliance with
16 [WAC 173-303-140](#).
- 17 **III.10.C.3 Waste Analysis**
- 18 **III.10.C.3.a** RESERVED
- 19 **III.10.C.3.b** RESERVED
- 20 **III.10.C.3.c** The Permittees are responsible for obtaining accurate information for each waste stream.
21 Inaccurate waste analysis information provided by the generating site (or unit) is not a
22 defense for noncompliance by the Permittees with conditions of this Permit.
- 23 **III.10.C.3.d** Records and results of waste analyses conducted under the WAP will be maintained in
24 accordance with Permit Condition II.I.1. The WTP Unit operating record will include,
25 but not be limited to, information requirements for monitoring in Permit Conditions
26 [I.E.10, I.F.1, I.F.2, and I.F.3](#).
- 27 **III.10.C.3.e** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the
28 Permittees will submit to Ecology for review and approval a revised WAP and QAPP
29 pursuant to Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#), and the Compliance Schedule in
30 Operating Unit Group 10, Appendix 1.0. The revised WAP and QAPP will include:
- 31 **III.10.C.3.e.i** All the elements listed in [WAC 173-303-300\(5\)](#), and Permit Condition II.D.1.
- 32 **III.10.C.3.e.ii** Requirements that characterization will be performed on the waste feed prior to transfer
33 to the WTP Unit in conformance with the regulatory data quality objectives identified in
34 the Regulatory DQO Optimization Report (24590-WTP-RPT-MGT-04-001, Rev 0), or
35 any other parameters, and the rationale for selecting these parameters. Requirements that
36 the following analyses, at a minimum, will be conducted on each new batch prior to
37 waste transfer to the WTP Unit, in accordance with the methods under [WAC 173-303-
38 110](#): Ammonia, pH, metals, organic acids, mercury, cyanide, volatiles, semi-volatiles,
39 PCBs/pesticides, anions, TOC, and compatibility (ASTM Method D5058-90). For the
40 purposes of this Permit Condition, a "new batch" is one that has been sampled and
41 analyzed in accordance with the Regulatory DQO Optimization Report (24590-WTP-
42 RPT-MGT-04-001, Rev 0), and has received no further additions. Further additions
43 require the Permittees to resample and reanalyze, unless an exception is approved by
44 Ecology on a case-by-case basis. Only mixed waste meeting the definition of "new
45 batch", or granted an exception as discussed above, are authorized for transfer to the

1 WTP Unit. Water additions for the purposes of waste transfer are not considered
2 additions for the purposes of this Permit Condition.

3 **III.10.C.3.e.iii** Identify and include operating parameters to be monitored/controlled and limitations for
4 these parameters for pre-process, in-process, and post-process operations addressing on a
5 unit specific basis treatment effectiveness, as specified in Tables [III.10.E.E](#) through [H](#)
6 and [S](#), [III.10.G.C](#), [III.10.H.C](#), [III.10.I.C](#), [III.10.J.C](#), [III.10.K.C](#), waste compatibility, safe
7 operation, and compatibility with unit materials of construction. Amend the sampling,
8 analysis, and Quality Assurance/Quality Control (QA/QC) procedures to include these
9 parameters and the monitoring frequency.

10 **III.10.C.3.e.iv** Requirements that the Permittees will, for Type I (primary) sumps if liquids are detected,
11 and for Type II (secondary) sumps, as defined in Operating Unit Group 10, Chapter 4, if
12 liquid levels are outside normal operating parameters, either collect the liquid and return
13 to the treatment process, or designate the sump contents for proper management and
14 disposal prior to removal.

15 **III.10.C.3.e.v** For ILAW containers and IHLW canisters, a description of the procedures used for
16 removal of mixed dangerous waste from exterior container surfaces, including a
17 description of how contamination removal will be measured.

18 **III.10.C.3.e.vi** Requirement that wastes generated at the WTP Unit meet the receiving authorized TSD
19 facility waste acceptance criteria prior to a waste stream transfer.

20 **III.10.C.3.e.vii** The frequency with which analysis of each waste will be reviewed, or repeated, to ensure
21 that the analysis is accurate and current, including requirements and criteria for
22 reevaluation of the sampling and analysis frequency for all waste streams.

23 **III.10.C.3.e.viii** Documentation demonstrating methods for obtaining samples of wastes are
24 representative as discussed in [WAC 173-303-110\(2\)](#).

25 **III.10.C.3.e.ix** Where applicable, the methods for meeting the additional waste analysis requirements for
26 specific waste management methods, as specified in [WAC 173-303-140\(4\)](#),
27 [173-303-395\(1\)](#), [173-303-630](#) through [173-303-695](#).

28 **III.10.C.3.e.x** For waste transferred from other permitted TSDs, the procedures for confirming that each
29 dangerous waste received matches the identity of the waste specified on the
30 accompanying waste profile documentation. This includes the procedure for identifying
31 each waste movement at the Facility.

32 **III.10.C.4 Recordkeeping**

33 **III.10.C.4.a** The unit specific portion of the Hanford Facility Operating Record will include the
34 documentation specified in Permit Attachment 6, Permit Condition II.I, (applicable to
35 the WTP Unit), and other documentation specified in Operating Unit Group 10. Permit
36 Attachment 6 provides a list of required records, and the methods of submittal for the
37 facility and each unit group.

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

39 **III.10.C.5.a** The Permittees will design, construct, and operate the WTP Unit in compliance with
40 Operating Unit Group 10, Chapter 6, Section 6.1.

41 **III.10.C.5.b** The WTP Unit fire protection systems will be constructed to the applicable codes listed in
42 Operating Unit Group 10, Chapter 6, Section 6.3.1.4. Prior to the initial receipt of
43 dangerous and/or mixed waste in the WTP Unit, the Permittees will update Operating
44 Unit Group 10, Chapter 6, Sections 6.3, 6.4, and 6.5 to be consistent with design details,
45 and resubmit for approval as a permit modification pursuant to Permit Conditions

1 [III.10.C.2.e](#) and [III.10.C.2.f](#), and Operating Unit Group 10, Appendix 1.0. In addition to
 2 the stand-by diesel generator for the LAW and HLW melters, updated Section 6.4.4. will
 3 include descriptions of the essential loads and critical systems supplied with back-up, un-
 4 interruptible, and standby power.

5 **III.10.C.5.c** The Permittees will inspect the WTP Unit to prevent malfunctions and deterioration,
 6 operator errors, and discharges that may cause or lead to the release of dangerous waste
 7 constituents to the environment, or a threat to human health. Inspections must be
 8 conducted in accordance with the WTP Unit Inspection Plan, Operating Unit Group 10,
 9 Chapter 6, Section 6.2, and Chapter 6A. Prior to the receipt of dangerous and/or mixed
 10 waste in the WTP Unit, the Permittees will update and resubmit to Ecology for review
 11 and approval Chapter 6, Section 6.2 and the Inspection Plan in Chapter 6A as a permit
 12 modification pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#), and Compliance
 13 Schedule in Operating Unit Group 10, Appendix 1.0. The revised schedule will include,
 14 but not be limited to the requirements in [WAC 173-303-320\(2\)](#) and [III.10.C.5.c.i](#) through
 15 [v](#), below.

16 **III.10.C.5.c.i** Detailed dangerous and/or mixed waste management unit specific and general inspection
 17 schedules and description of procedures pursuant to [WAC 173-303-395\(1\)\(d\)](#), [173-303-](#)
 18 [630\(6\)](#), [173-303-640\(4\)\(a\)\(i\)](#) and (6), [173-303-670\(7\)\(b\)](#) in accordance with [173-303-](#)
 19 [680\(3\)](#), and [173-303-695](#). The inspection schedule will be presented in the form of a
 20 table that includes a description of the inspection requirements, inspection frequency, and
 21 types of problems to look for during the inspections.

22 **III.10.C.5.c.ii** The proposed locations (scaled drawing with layout) and capabilities of camera(s)
 23 (i.e., zoom angles, field of view, etc.) to be used for remote inspections.

24 **III.10.C.5.c.iii** Schedule and program description for performing integrity assessments as specified in
 25 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.](#),
 26 [III.10.J.5.e.i.](#), and [III.10.K.1.a.v.](#)

27 **III.10.C.5.c.iv** Inspection schedules for leak detection system and control instrumentation to include, but
 28 not limited to, valves pressure devices, flow devices, measuring devices, as specified in
 29 Permit Conditions [III.10.E.9.e.xi](#), [III.10.F.3.c.](#) and [III.10.G.10.e.xii](#), and Permit
 30 Conditions [III.10.H.5.f.xvi](#), and [III.10.J.5.f.xvi](#).

31 **III.10.C.5.c.v** Inspection schedule will include inspections for all dangerous and/or mixed waste
 32 management units specified in Permit Sections [III.10.D.](#), [E.](#), [F.](#), [G.](#), [H.](#), [I.](#), [J.](#), and [K.](#)

33 **III.10.C.5.d** The Permittees will equip the WTP Unit with the equipment specified in Operating Unit
 34 Group 10, Chapter 6, as required by Permit Condition II.B.1.

35 **III.10.C.5.e** The Permittees will test and maintain the equipment specified in Operating Unit Group
 36 10, Chapter 6 and Chapter 6A, as necessary, to assure proper operation in the event of
 37 emergency.

38 **III.10.C.5.f** The Permittees will maintain access to communications or alarms as provided in the
 39 Contingency Plan, Operating Unit Group 10, Chapter 7 and Permit Condition II.B.2.

40 **III.10.C.6 Contingency Plan**

41 **III.10.C.6.a** The Permittees will immediately carry out applicable provisions of Permit Condition
 42 II.A.1 and the Contingency Plan, Operating Unit Group 10, Chapter 7 whenever there is a

- 1 release of dangerous and/or mixed waste or dangerous waste constituents, or other
2 emergency circumstance, any of which threatens human health or the environment.
- 3 **III.10.C.6.b** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the
4 Permittees will update the Contingency Plan, Operating Unit Group 10, Chapter 7, to be
5 consistent with design details and [WAC 173-303-350\(3\)](#), incorporated by reference, and
6 resubmit as a permit modification pursuant to Permit Conditions [III.10.C.2.e](#) and
7 [III.10.C.2.f](#), in compliance with [WAC 173-303-350\(5\)\(c\)](#), and Operating Unit Group 10,
8 Appendix 1.0.
- 9 **III.10.C.6.c** After initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
10 will review and amend, if necessary, the applicable portions of the Contingency Plan the,
11 Operating Unit Group 10, Chapter 7 in accordance with the provision of
12 [WAC 173-303-350\(5\)](#). Chapter 7 will be amended as a permit modification pursuant to
13 Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).
- 14 **III.10.C.6.d** RESERVED
- 15 **III.10.C.6.e** RESERVED
- 16 **III.10.C.7 Personnel Training**
- 17 **III.10.C.7.a** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the
18 Permittees will update and resubmit, to Ecology for review and approval, the Training
19 Program description in Operating Unit Group 10, Chapter 8 as a permit modification
20 pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#), and Compliance Schedule in
21 Operating Unit Group 10, Appendix 1.0. The revised Training Program description will
22 include but not be limited to:
- 23 **III.10.C.7.a.i** Detailed unit specific and general Training Program descriptions) as required to
24 demonstrate compliance with [WAC 173-303-330](#) and to include:
- 25 **III.10.C.7.a.i.A** Job titles and descriptions for each dangerous waste management position (e.g. waste
26 designator, waste operator, laboratory technician, etc.);
- 27 **III.10.C.7.a.i.B** Outline of the training program updated to discuss initial, refresher, and on-the-job
28 training; correlated to each dangerous waste management position;
- 29 **III.10.C.7.a.i.C** Table 8-1 in Operating Unit Group 10, Chapter 8, updated to include the type and amount
30 of introductory, refresher, and on-the-job training required for each dangerous waste
31 management position [[WAC 173-303-806\(4\)\(a\)\(xii\)](#)].
- 32 **III.10.C.7.a.ii** Sufficient detail to document that the training and qualification program for all categories
33 of personnel whose activities may reasonably be expected to directly affect emissions
34 from the LAW, HLW, and EMF Systems, except control room operators, is appropriately
35 consistent with [40 CFR 63.1206\(c\)\(6\)\(ii\)](#), and for control room operators, is appropriately
36 consistent with [40 CFR 63.1206\(c\)\(6\)\(i\)](#) and [63.1206\(c\)\(6\)\(iii\)](#) through [63.1206\(c\)\(6\)\(vi\)](#)
37 [[WAC 173-303-680\(2\)](#)].
- 38 **III.10.C.7.b** The Permittees will ensure that the LAW, HLW, and EMF Systems are operated and
39 maintained, at all times, by persons who are trained and qualified to perform these and
40 any other duties that may reasonably be expected to directly affect emissions from the
41 LAW, HLW, and EMF Systems [[WAC 173-303-680\(2\)](#)].
- 42 **III.10.C.7.c** The Permittees will conduct personnel training in accordance with the approved
43 description of the WTP Dangerous Waste Training Plan, Operating Unit Group 10,

- 1 Chapter 8, pursuant to [WAC 173-303-330](#). The Permittees will maintain documents in
2 accordance with Permit Condition II.C.1 and [WAC 173-303-330](#)(2) and (3).
- 3 **III.10.C.7.d** RESERVED.
- 4 **III.10.C.7.e** The Permittees will submit, under separate cover, the actual detailed WTP Dangerous
5 Waste Training Plan in accordance with the Compliance Schedule in Operating Unit
6 Group 10, Appendix 1.0. The WTP Dangerous Waste Training Plan will be reviewed for
7 compliance with the outline of the training program in Operating Unit Group 10,
8 Chapter 8 and requirements of [WAC 173-303-330](#). The Training Plan will be
9 incorporated into the Administrative Record.
- 10 **III.10.C.8 Closure**
- 11 **III.10.C.8.a** The Permittees must conduct closure of the WTP Unit according to the Closure Plan in
12 Operating Unit Group 10, Chapter 11, and Permit Condition [III.10.C.8](#). The closure plan
13 will be modified according to provisions of Permit Condition I.C.3.
- 14 **III.10.C.8.b** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
15 will update and resubmit the Closure Plan, Operating Unit Group 10, Chapter 11 for
16 approval as a permit modification pursuant to Permit Condition [III.10.C.2.g](#), to be
17 consistent with design details and schedule described in Operating Unit Group 10,
18 Appendix 1.0. The updated Closure Plan must be consistent with the closure
19 performance standards specified in [WAC 173-303-610](#)(2)(a)-(b), [WAC 173-340](#) and, in
20 addition for Containment Buildings, consistent with [40 CFR 264.1102](#)(b) as referenced
21 by [WAC 173-303-695](#).
- 22 **III.10.C.8.c** The Permittees will submit, for Ecology review and approval, an update to the Closure
23 Plan, Operating Unit Group 10, Chapter 11, including all documentation required by
24 Permit Condition II.D, within one hundred eighty (180) days prior to commencing partial
25 closure, as a permit modification pursuant to Permit Conditions [III.10.C.2.e](#) and
26 [III.10.C.2.f](#).
- 27 **III.10.C.8.d** One hundred eighty (180) days prior to commencing final closure of Operating Unit
28 Group 10, the Permittees must submit to Ecology, for review and approval, a revised
29 Closure Plan, including all documentation required by Permit Condition II.D, as a permit
30 modification pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).
- 31 **III.10.C.8.e** RESERVED
- 32 **III.10.C.8.f** To achieve clean closure, the Permittees will remove dangerous waste, dangerous waste
33 constituents, and dangerous waste residues throughout the closing unit and throughout
34 any areas affected by releases from the closing unit to concentrations that do not exceed
35 numeric cleanup levels determined using residential exposure assumptions according to
36 the Model Toxics Control Act (MTCA) Regulations, [Chapter 173-340 WAC](#) and all
37 structures, equipment, bases, liners, and other materials containing or contaminated with
38 dangerous waste, constituents, or residues have met specific waste removal and
39 decontamination standards approved by Ecology, in accordance with
40 [WAC 173-303-610](#)(2)(b)(i)-(ii).
- 41 **III.10.C.8.g** RESERVED.
- 42 **III.10.C.8.h** Documentation supporting the independent registered professional engineer's
43 certification of closure must be submitted to Ecology with the closure certification
44 required by [WAC 173-303-610](#)(6). In addition to the items in Operating Unit Group 10,

1 Chapter 11, the documentation must include the following and other information Ecology
2 may request.

- 3 **III.10.C.8.h.i** Sampling procedures that were followed;
- 4 **III.10.C.8.h.ii** Soil and concrete locations that were sampled;
- 5 **III.10.C.8.h.iii** Sample labeling and handling procedures that were followed, including chain of custody
6 procedures;
- 7 **III.10.C.8.h.iv** Description of procedures that were followed to decontaminate concrete or metal to meet
8 the clean closure standards approved by Ecology, in accordance with the closure
9 performance standards of [WAC 173-303-610\(2\)\(a\)\(ii\)](#) and in a manner that minimizes or
10 eliminates post-closure escape of dangerous waste constituents, or to achieve a “clean
11 debris surface” as specified in [40 CFR 268.45](#), Table 1, concrete surfaces, as incorporated
12 by reference in [WAC 173-303-140](#).
13 [[WAC 173-303-610\(2\)\(b\)\(ii\)](#)].
- 14 **III.10.C.8.h.v** Laboratory and field data, including supporting QA/QC summary;
- 15 **III.10.C.8.h.vi** Report that summarizes closure activities;
- 16 **III.10.C.8.h.vii** Copy of all field notes taken by the independent registered professional engineer; and
- 17 **III.10.C.8.h.viii** Copy of all contamination survey results.

18 **III.10.C.9 Critical Systems**

- 19 **III.10.C.9.a** The WTP Unit critical systems, as defined in the definition section of Operating Unit 10
20 and are identified in Operating Unit Group 10, Appendix 2.0.
- 21 **III.10.C.9.b** As the design proceeds, Ecology will modify this Permit for reasons described in the
22 [WAC 173-303-830\(3\)](#) to add additional systems to the Critical Systems in Operating Unit
23 Group 10, Appendix 2.0.
- 24 **III.10.C.9.c** The Permittees will conduct all construction subject to this Permit in accordance with the
25 approved designs, plans, and specifications that are required by this Permit, except as
26 specified in Conditions [III.10.C.9.d](#), or [III.10.C.9.e](#). For purposes of Conditions
27 [III.10.C.9.d](#), and [III.10.C.9.e](#), the Ecology representative will be an Ecology construction
28 inspector, project manager, or other designated representative of Ecology.
- 29 **III.10.C.9.d** The Permittees will submit a nonconformance report (NCR) or construction deficiency
30 report (CDR) to the Ecology representative (s), as applicable, within seven (7) calendar
31 days of the Permittees becoming aware of incorporation of minor nonconformance or
32 construction deficiency from the approved designs, plans, and specifications into the
33 construction of critical systems, as defined in the Hanford Site-wide Permit definition
34 section. Such minor nonconformance or construction deficiency will be defined, for the
35 purposes of this Permit Condition, as nonconformance or construction deficiency that is
36 necessary to accommodate proper construction and the substitution or the use of
37 equivalent or superior materials or equipment that do not substantially alter the Permit
38 conditions or reduce the capacity of the facility to protect human health or the
39 environment. Such minor nonconformance or construction deficiency will not be
40 considered a modification of this Permit. If Ecology determines that the nonconformance
41 or construction deficiency is not minor, it will notify the Permittees in writing that a
42 permit modification is required for the deviation and whether prior approval is required

- 1 from Ecology before work proceeds which affect the nonconforming or construction
2 deficiency item.
- 3 **III.10.C.9.e** The Permittees will formally document, with a nonconformance report (NCR) or
4 construction deficiency report (CDR), as applicable, incorporation of minor
5 nonconformance or construction deficiency from the approved designs, plans, and
6 specifications into the construction of non-critical systems subject to this Permit. Such
7 minor nonconformance or construction deficiency will not be considered a modification
8 of this Permit. All NCR's and CDR's will be maintained in the WTP Unit Operating
9 Record and will be made available to Ecology upon request or during the course of an
10 inspection. If Ecology determines that the nonconformance or construction deficiency is
11 not minor, it will notify the Permittees in writing that a permit modification is required
12 for the deviation and whether prior approval is required from Ecology before work
13 proceeds which affect the nonconforming or construction deficiency item.
- 14 **III.10.C.9.f** For each Critical System identified in Operating Unit Group 10, Appendix 2.0, the
15 Permittees will submit to Ecology for review and approval, following the schedule in
16 Operating Unit Group 10, Appendix 1.0, the information identified in Permit Conditions
17 [III.10.D.10.](#), [III.10.E.9.](#), [III.10.F.7.](#), [III.10.G.10.](#), [III.10.H.5.](#), [III.10.J.5.](#), and [III.10.M.9.](#)
18 Information Ecology determines to incorporate into the Permit will follow the Permit
19 Condition [III.10.C.2.g.](#) process, unless stated otherwise within the specific permit
20 condition. Information Ecology determines necessary to support design basis will be
21 incorporated into the Administrative Record.
- 22 **III.10.C.9.g** Upon completion of the WTP Unit construction subject to this Permit, the Permittees
23 will produce as-built drawings of the project which incorporate the design and
24 construction modifications resulting from all change documentation as well as
25 modifications made pursuant to Permit Conditions [III.10.C.2.e.](#), [III.10.C.2.f.](#), and
26 [III.10.C.2.g.](#) The Permittees will place the as-built drawings into the operating record
27 within twelve (12) months of completing construction.
- 28 **III.10.C.9.h** The Permittees will formally document changes to approved designs, plans, and
29 specifications with design change documentation [e.g., Design Change Notice (DCN),
30 Field Change Request (FCR), Field Change Notice (FCN), Specification Change Notice
31 (SCN), and Supplier Deviation Disposition Request (SDDR)]. All design change
32 documentation will be maintained in the WTP Unit-specific Operating Record and will
33 be made available to Ecology upon request or during the course of an inspection. For any
34 design change documentation affecting any critical systems, the Permittees will provide
35 copies to Ecology within seven (7) calendar days. Identification of critical systems will
36 be included by the Permittees in each WTP Unit-specific dangerous waste permit
37 application, closure plan, or permit modification, as appropriate. If Ecology determines
38 that the design change is not minor, it will notify the Permittees in writing that a permit
39 modification is required for the design change and whether prior approval is required
40 from Ecology before work affected by the design change may proceed.
- 41 **III.10.C.9.i** Ventilation system duct work is not required to be doubly contained within the WTP
42 Unit. However, upon discovery of accumulation of liquids within the duct work, a
43 compliance plan will be submitted within sixty (60) days of discovery to correct the
44 problem.
- 45 **III.10.C.10 Equivalent Materials**
- 46 **III.10.C.10.a** If certain equipment, materials, and administrative information (such as names, phone
47 numbers, addresses, formatting) are specified in this Permit, the Permittees may use

1 equivalent or superior substitutes. Use of such equivalent or superior items within the
 2 limits (e.g., ranges, tolerances, and alternatives) already clearly specified in sufficient
 3 detail in Operating Unit Group 10, are not considered a Permit modification. However,
 4 the Permittees must place documentation of the substitution, accompanied by a narrative
 5 explanation and the date the substitution became effective in the operating record within
 6 seven (7) days of putting the substitution into effect, and submit documentation of the
 7 substitution to Ecology, for approval. Upon review of the documentation of the
 8 substitution, if deemed necessary, Ecology may require the Permittees to submit a permit
 9 modification in accordance with Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).

10 **III.10.C.10.b** If Ecology determines that a substitution was not equivalent to the original, they will
 11 notify the Permittees that the Permittees' claim of equivalency has been denied, of the
 12 reasons for the denial, and that the original material or equipment must be used. If the
 13 product substitution is denied, the Permittees will comply with the original approved
 14 product specification, find an acceptable substitution, or apply for a permit modification
 15 in accordance with Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).

16 **III.10.C.11 Risk Assessment**

17 **III.10.C.11.a** The Permittees will submit a permit modification pursuant to Permit Conditions
 18 [III.10.C.2.e](#) and [III.10.C.2.f](#), in accordance with Operating Unit Group 10,
 19 Appendix 1.0, to Ecology to incorporate revisions to the "Environmental Risk
 20 Assessment Work Plan, Appendix 6.1. The revised document will be submitted for
 21 incorporation into Appendix 6.2 as the Final Risk Assessment Workplan. The Permittee
 22 will make revisions in consultation with Ecology to address the comments documented in
 23 Operating Unit Group 10, Appendix 6.1 and updated to address the following:

24 **III.10.C.11.a.i** EPA guidance for performance of Human Health and Ecological Risk Assessments for
 25 Hazardous Waste Combustion Facilities current at the time of the submittal, assuming
 26 both residential and non-residential use scenarios;

27 **III.10.C.11.a.ii** Toxicity data current at the time of the submittal;

28 **III.10.C.11.a.iii** Compounds newly identified or updated emissions data from current waste
 29 characterization and emission testing;

30 **III.10.C.11.a.iv** Air modeling updated to include stack gas parameters based on most current
 31 emissions testing and WTP Unit design;

32 **III.10.C.11.a.v** Physical/transport properties of constituents, current at the time of the submittal;

33 **III.10.C.11.a.vi** Process Description based on most current WTP Unit design;

34 **III.10.C.11.a.vii** Emissions data and all supporting calculations based on most current WTP Unit;
 35 and

36 **III.10.C.11.a.viii** Update of receptor locations based on land use or land use zoning changes, if
 37 any.

38 **III.10.C.11.b** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
 39 will submit for Ecology review and approval as a permit modification pursuant to Permit
 40 Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#), a Pre-Demonstration Test Risk Assessment

- 1 Report as Appendix 6.3. The Pre-Demonstration Test Risk Assessment Report will
2 address and include the following:
- 3 **III.10.C.11.b.i** Direct and indirect human health and ecological risk assessments performed pursuant to
4 the Final Risk Assessment Work Plan in Permit Condition [III.10.C.11.a](#).
- 5 **III.10.C.11.b.ii** Submittal of projected stack emissions data for Tables [III.10.G.D.](#), [III.10.H.E.](#), and
6 [III.10.J.E.](#) and;
- 7 **III.10.C.11.b.iii** Submittal of the Basis and Assumptions (for incorporation into Appendix 6.3) for
8 these emissions, including but not limited to, projected operating conditions, feed-rates,
9 and treatment effectiveness, consistent with information provided and approved pursuant
10 to Permit Conditions [III.10.G.6.](#), [III.10.G.10.](#), [III.10.H.1.](#), [III.10.H.5.](#), [III.10.J.1.](#), and
11 [III.10.J.5](#).
- 12 **III.10.C.11.c** Within ninety (90) days of Ecology approval of the Demonstration Report(s) submitted
13 pursuant to Permit Condition [III.10.H.3.d.i](#), the Permittees will submit a Final Risk
14 Assessment Report as Operating Unit Group 10, Appendix 6.4, incorporating the
15 emission test results from the Demonstration Report(s). The Final Risk Assessment
16 Report will be prepared in accordance with the Final Risk Assessment Work Plan in
17 Appendix 6.2, (as approved pursuant to Permit Condition [III.10.C.11.a](#)), except the
18 following updates are hereby incorporated. The Permittees will also submit with this
19 Final Risk Assessment Report, Permit Tables [III.10.G.D.](#) and [III.10.I.E.](#) and Operating
20 Unit Group 10, Appendix 6.4 (Basis and Assumptions) updated to incorporate the
21 emissions data from this Final Risk Assessment Report(s), as a permit modification
22 pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).
- 23 **III.10.C.11.c.i** Toxicity data current at the time of the submittal;
- 24 **III.10.C.11.c.ii** Compounds newly identified or updated emissions data from current waste
25 characterization and emission testing;
- 26 **III.10.C.11.c.iii** Air modeling updated to include stack gas parameters based on most current
27 emissions testing;
- 28 **III.10.C.11.c.iv** Physical/transport properties of constituents current at the time of the submittal;
- 29 **III.10.C.11.c.v** Update of receptor locations based on land use or land use zoning changes, if any;
- 30 **III.10.C.11.c.vi** Process description based on current WTP Unit design;
- 31 **III.10.C.11.c.vii** Emissions data and all supporting calculations based on current WTP Unit; and
- 32 **III.10.C.11.c.viii** Data from final risk assessment report pursuant to Permit Condition
33 [III.10.C.11.d](#), if available first, or simultaneously.
- 34 **III.10.C.11.d** Within ninety (90) days of Ecology approval of the Demonstration Report(s) submitted
35 pursuant to Permit Condition [III.10.J.3.d.i](#), the Permittees will submit a Final Risk
36 Assessment Report as Operating Unit Group 10, Appendix 6.4, incorporating the
37 emission test results from the Demonstration Report(s). The Final Risk Assessment
38 Report will be prepared in accordance with the Final Risk Assessment Work Plan in
39 Appendix 6.2, (as approved by Ecology pursuant to Permit Condition [III.10.C.11.a](#)),
40 except the following updates are hereby incorporated. The Permittees will also submit
41 with this Final Risk Assessment Report, Permit Tables [III.10.G.D.](#) and [III.10.K.E.](#) and
42 Operating Unit Group 10, Appendix 6.4 (Basis and Assumptions) updated to incorporate
43 the emissions data from this Final Risk Assessment Report, as a permit modification
44 pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).

- 1 **III.10.C.11.d.i** Toxicity data current at the time of the submittal;
- 2 **III.10.C.11.d.ii** Compounds newly identified or updated emissions data from current waste
3 characterization and emission testing;
- 4 **III.10.C.11.d.iii** Air modeling updated to include stack gas parameters based on most current
5 emissions testing;
- 6 **III.10.C.11.d.iv** Physical/transport properties of constituents current at the time of the submittal;
- 7 **III.10.C.11.d.v** Update of receptor locations based on land use or land use zoning changes, if any;
- 8 **III.10.C.11.d.vi** Process description based on current WTP Unit design;
- 9 **III.10.C.11.d.vii** Emissions data and all supporting calculations based on current WTP Unit; and
- 10 **III.10.C.11.d.viii** Data from final risk assessment report pursuant to Permit Condition
11 [III.10.C.11.c](#), if available first, or simultaneously.
- 12 **III.10.C.11.e** The Final Risk Assessment Report(s) required by Permit Conditions [III.10.C.11.c](#), and
13 [III.10.C.11.d](#), may be combined, or provided separately, as appropriate.
- 14 **III.10.C.12 RESERVED**
- 15 **III.10.C.13 Remote Data Access**
- 16 Onsite, unrestricted, twenty-four (24) hour access to key WTP Unit operating data and
17 emissions monitoring data will be provided to Ecology. This onsite, unrestricted access
18 will include providing and maintaining for Ecology only use a computer terminal and
19 printer with access to key WTP Unit operating data bases and emissions monitoring data
20 bases. This terminal will be equipped with all necessary software and hardware to
21 monitor, retrieve, and trend this data. Additional remote access will be provided on
22 Ecology request if security concerns can be addressed.
- 23 **III.10.C.14 Interim Period of Operation during Post Demonstration Test Period prior to
24 receiving Ecology approval of the complete Demonstration Test Reports
25 and the Final Risk Assessment Report.**
- 26 **III.10.C.14.a** During this Interim Period of Operation, the Permittees are authorized to treat dangerous
27 waste and mixed waste feed meeting the waste acceptance criteria of the Waste Analysis
28 Plan in Chapter 3, subject to the following conditions:
- 29 **III.10.C.14.a.i** Obtain receipt of Ecology's approval for the LAW Vitrification System according to
30 Permit condition [III.10.H.3.d.iii](#), prior to receiving dangerous or mixed waste feed into
31 the LAW Vitrification System
- 32 **III.10.C.14.a.ii** Obtain receipt of Ecology's approval for the HLW Vitrification System according to
33 Permit condition [III.10.J.3.d.iii](#), prior to receiving dangerous or mixed waste feed into
34 the HLW Vitrification System
- 35 **III.10.C.14.a.iii** Accept and treat up to 3 million gallons of Hanford tank waste feed in WTP.
- 36 **III.10.C.15 Support Systems**
- 37 **III.10.C.15.a Mechanical Handling Systems**
- 38 **III.10.C.15.a.i** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), in
39 accordance with the Compliance Schedule, as specified in Operating Unit Group 10,
40 Appendix 1.0, engineering information as specified below, for incorporation into
41 Appendices 9.6, 9.10, 10.6, and 10.10, or into the Administrative Record where noted.

- 1 A. System Descriptions for each Mechanical Handling system identified in Permit
 2 Table [III.10.C.A.](#), for incorporation into the Administrative Record (Compliance
 3 Schedule Item 36).
- 4 B. Mechanical Handling Diagrams and Mechanical Handling Data Sheets for the
 5 following pieces of equipment (Compliance Schedule Item 37):
- 6 a. HDH-CRN-00005
 7 b. HEH-CRN-00003
 8 c. HPH-CRN-00001
 9 d. HPH-CRN-00002
 10 e. HSH-CRN-00001
 11 f. HSH-CRN-00014
 12 g. LEH-CRN-00003
 13 h. LPH-CRN-00002
 14 i. HEH-CRN-00001
- 15 C. Permit condition [III.10.C.15.a.](#) does not require:
- 16 a. Additional submittals beyond those described in permit condition
 17 [III.10.C.15.a.](#);
- 18 b. IQRPE reports for equipment identified in [III.10.C.15.a.i](#) (B);
- 19 c. Installation inspections for equipment identified in [III.10.C.15.a.i](#)(B); and
- 20 d. Other inspection, verification, operability, maintenance, or records
 21 management beyond that which is specified elsewhere in this permit, for
 22 equipment identified in [III.10.C.15.a.i](#) (B), or by conditions [III.10.C.15.a.ii](#)
 23 and [III.10.C.15.a.iii](#).

24 **III.10.C.15.a.ii** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
 25 to initial receipt of dangerous waste and/or mixed waste in the WTP Unit, engineering
 26 information as identified below for incorporation into Appendices 9.13, 9.18, 10.13, and
 27 10.18.

- 28 A. Equipment instrument logic narrative description related to safe operation of
 29 equipment covered by [III.10.C.15.a.i](#)(B), including but not limited to allowed
 30 travel path for bridge and trolley, upper and lower hook travel limits, two-
 31 blocking prevention, hook load limits, wire rope misreeling, and overspeed
 32 protection (Compliance Schedule Item 38).
- 33 B. Descriptions of operational procedures demonstrating appropriate controls and
 34 practices are in place to ensure equipment covered by [III.10.C.15.a.i](#)(B) will be
 35 operated in a safe and reliable manner that will not result in damage to regulated
 36 tank systems, miscellaneous unit systems, or canisters of vitrified waste
 37 (Compliance Schedule Item 39).

38 **III.10.C.15.a.iii** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the
 39 Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), the
 40 following for incorporation into Chapter 4: Updated Narrative Description and figures
 41 for all Mechanical Handling Systems identified in Permit Table [III.10.C.A.](#), to include
 42 but not limited to travel path, fail safe conditions, fail safe logic control, safety features
 43 and controls that minimize the potential for release of dangerous/mixed waste during
 44 normal operations, and lifting and/or load capabilities of each crane specified in
 45 [III.10.C.15.a.i](#)(B).

Tables III.10.C.A – Mechanical Handling Systems		
Pretreatment Building		
	Pretreatment Filter Cave Handling System	PFH
	Pretreatment In-Cell Handling System	PIH
	Radioactive Solid Waste Handling System	RWH
Low-Activity Waste Building		
	Radioactive Solid Waste Handling System	RWH
	LAW Melter Equipment Support Handling System	LSH
	LAW Container Pour Handling System	LPH
	LAW Container Finishing Handling System	LFH
	LAW Melter Handling System	LMH
	LAW Canister Export Handling System	LEH
High-Level Waste Building		
	HLW Melter Cave Support Handling System	HSH
	HLW Canister Export Handling System	HEH
	HLW Filter Cave Handling System	HFH
	HLW Canister Pour Handling System	HPH
	HLW Canister Decontamination Handling System	HDH
	HLW Melter Handling System	HMH
	Radioactive Solid Waste Handling System	RWH

III.10.C.16 Secondary Containment Devices

III.10.C.16.a According to WAC 173-303-640(4)(d), WTP tank systems and miscellaneous units, regulated as tank systems in accordance with WAC 173-303-680, may utilize secondary containment that include one or more of the following devices:

- A liner (external to the tank);
- A vault installed with chemical resistant water stops at all joints, in compliance with WAC 173-303-640(4)(e)(ii)(C), and an impermeable interior coating or lining that is compatible with the stored waste and will prevent the migration of waste into the concrete, in compliance with WAC 173-303-640(4)(e)(ii)(D);
- A double walled tank;
- An equivalent device approved by the department.

III.10.C.16.a.i Special protective coating systems, as defined in the *Engineering Specification for Field Applied Special Protective Coatings for Secondary Containment Areas* and incorporated into Appendix 7.7, have been approved by Ecology for use as equivalent devices on a case-by-case basis, allowable under WAC 173-303-640(4)(d)(iv).

III.10.C.16.a.ii The secondary containment areas located in Table III.10.C.B are approved to use special protective coating systems as an equivalent device.

III.10.C.16.a.iii Approved special protective coating systems satisfy containment requirements found in permit conditions III.10.E.5.h, III.10.G.5.i, III.10.H.1.a.xxii, III.10.I.1.a.xvi, and III.10.K.1.a.xvi.

III.10.C.16.a.iv Fully welded stainless steel liners or chemical resistant water stops are not required when an equivalent device is approved for use, with the exception of concrete secondary containment for regulated tanks located in outdoor areas, which must be provided with chemical resistant water stops when the approved special protective coating system is used.

III.10.C.16.a.v Fully welded stainless steel liners are considered a liner external to the tank (otherwise defined as an external liner system), as described in WAC 173-303-640(4)(d)(i) and are designed and operated in accordance with WAC 173-303-640(4)(e)(i).

III.10.C.16.a.vi Revisions to Table III.10.C.B will be submitted to Ecology for review and approval pursuant to permit conditions III.10.C.2.e and III.10.C.2.f.

Table III.10.C.B- Secondary Containment Locations Approved for Equivalent Device Use

Row Number	Room Number	Room/Area Description	Building	Elevation (feet)	Additional Requirements
<u>1.</u>	P-0105	Bulge area	PTF	0	Daily visual inspection ^c
<u>2.</u>	P-0105A	Bulge area	PTF	0	Daily visual inspection ^c
<u>3.</u>	P-0105B	Bulge area	PTF	0	Daily visual inspection ^c
<u>4.</u>	P-0105C	Bulge area	PTF	0	Daily visual inspection ^c
<u>5.</u>	P-B005	Fire water collection pit	PTF	-19	Daily visual inspection ^c
<u>6.</u>	P-0304	Waste feed evaporation room	PTF	56	Daily visual inspection ^c
<u>7.</u>	P-0325	Treated LAW evaporation room	PTF	56	Daily visual inspection ^c
<u>8.</u>	P-0320	Ion exchange evaporator	PTF	56	Daily visual inspection ^c
<u>9.</u>	P-0430	CNP evaporator condenser room	PTF	77	Portable, impermeable berm ^a Daily visual inspection ^c
<u>10.</u>	P-0110F	CXP C3/C5 process enclosure	PTF	0	Portable, impermeable berm ^a Continuous leak detection ^b
<u>11.</u>	P-0110H	TLP C3/C5 process enclosure	PTF	0	Portable, impermeable berm ^a Continuous leak detection ^b
<u>12.</u>	P-0116A	TCP C3/C5 process enclosure	PTF	0	Portable, impermeable berm ^a Continuous leak detection ^b
<u>13.</u>	L-0218	Caustic scrubber blow down pump room	LAW	28	Daily visual inspection ^c
<u>14.</u>	L-0304F	Caustic scrubber (LVP-SCB-0001) area	LAW	48	Daily visual inspection ^c
<u>15.</u>	H-B039A	Bogie maintenance/canister rinse room	HLW	-21	Daily visual inspection ^c

Footnotes:

^a Requires the use of a portable, impermeable berm or a similar device at the base of all doors.

^b Requires the use of continuous leak detection, in accordance with permit conditions III 10 E 5 b and III 10 G 5 c.

^c Inspections of all secondary containment areas will occur in accordance with the WTP Inspection Schedule, Operating Unit Group 10, Addendum E this Permit.

- 1 **III.10.D CONTAINERS**
- 2 **III.10.D.1 Container Storage Areas and Storage Limits**
- 3 **III.10.D.1.a** The Permittees may store dangerous and/or mixed waste meeting the waste acceptance
4 criteria for containerized waste in the WAP, Operating Unit Group 10, Chapter 3, (as
5 approved pursuant to Permit Conditions [III.10.C.3](#) and [III.10.C.2](#)), for storage in
6 dangerous and/or mixed waste container storage units identified in [Tables III.10.D.A](#)
7 through [C](#).
- 8 **III.10.D.1.b** The Permittees may store containerized dangerous and mixed waste only in container
9 storage areas listed in Permit Tables [III.10.D.A](#) (as approved/modified pursuant to Permit
10 Condition [III.10.D.10](#)), in accordance with Permit Section [III.10.D](#), and in accordance
11 with Operating Unit Group 10, Chapters 1.0 and 4.0, and Appendices 9.4, 9.5, 9.7, 9.8,
12 9.9, 9.18, 10.4, 10.5, 10.7, 10.8, 10.9, 10.18, 12.4, 12.5, 12.7, 12.8, 12.9, and 12.15, as
13 approved pursuant to Permit Conditions [III.10.D.10.b](#) through [d](#). The Permittees will
14 limit the total volume of waste to quantities specified for the individual container storage
15 areas listed in Permit Table [III.10.D.A](#).
- 16 **III.10.D.1.c** The Permittees must maintain a free volume (i.e., free volume = total capacity of
17 containment system minus volume occupied by equipment and containers within
18 containment systems) within containment systems identified in Permit Tables [III.10.D.B](#)
19 and [III.10.D.C](#) (as approved/modified pursuant to Permit Condition [III.10.D.10](#)), equal to
20 ten percent (10%) of the total volume of dangerous and mixed waste stored within the
21 containment system, or the volume of the largest container stored within the containment
22 system, whichever is greater.
- 23 **III.10.D.1.d** The Permittees will maintain documentation in the operating record for each container
24 storage area listed in Permit Table [III.10.D.A](#) (as approved/modified pursuant to Permit
25 Condition [III.10.D.10](#)), in accordance with [WAC 173-303-380](#).
- 26 **III.10.D.1.e** For the purpose of determining compliance with container storage area capacity limits
27 and containment system requirements, every waste container will be considered to be
28 full.
- 29 **III.10.D.1.f** RESERVED
- 30 **III.10.D.2 Container Storage Areas Design and Construction**
- 31 **III.10.D.2.a** The Permittees will construct container storage areas identified in Permit Tables
32 [III.10.D.A](#) through [III.10.D.C](#), as specified in all applicable drawings and specifications
33 in Operating Unit Group 10, Appendices 9.4, 9.5, 9.7, 9.8, 9.9, 10.4, 10.5, 10.7, 10.8,
34 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9, as approved pursuant to Permit Condition
35 [III.10.D.10.b](#).
- 36 **III.10.D.2.b** RESERVED
- 37 **III.10.D.2.c** All container storage areas identified in Permit Tables [III.10.D.A](#) through [III.10.D.C](#)
38 (as approved/modified pursuant to Permit Condition [III.10.D.10](#)), must be constructed to
39 protect containers from contact with accumulated liquids (e.g., leaks, spills, precipitation,

- 1 fire water, liquids from damaged or broken pipes) [[WAC 173-303-630\(7\)\(a\)\(i\)](#) and
2 [WAC 173-303-630\(7\)\(c\)\(ii\)](#)].
- 3 **III.10.D.2.d** Modifications to approved design, plans, and specifications for the container storage
4 areas identified in Permit Tables [III.10.D.A](#) through [III.10.D.C](#) must be made in
5 accordance with Permit Conditions [III.10.C.2.e](#), [f](#), and [g](#), or [III.10.C.9.d](#), [e](#), and [h](#).
- 6 **III.10.D.3 Container Storage Area Installation**
- 7 **III.10.D.3.a** RESERVED
- 8 **III.10.D.3.b** The Permittees will obtain and place in the WTP Unit operating record, within thirty
9 (30) days of completion of each container storage area identified in Permit Tables
10 [III.10.D.A](#), through [III.10.D.C](#) (as approved/modified pursuant to Permit Condition
11 [III.10.D.10](#)), written statements by a qualified, installation inspector or a qualified
12 registered, professional engineer, attesting that these areas were installed in compliance
13 with [WAC 173-303-630\(7\)\(a\)](#), (b), and (c) [[WAC 173-303-630\(7\)](#),
14 [WAC 173-303-806\(4\)\(b\)\(i\)](#)].
- 15 **III.10.D.4 Container Management Practices**
- 16 **III.10.D.4.a** RESERVED
- 17 **III.10.D.4.b** The Permittees will manage all waste in container storage areas identified in Permit
18 Tables [III.10.D.A](#) through [III.10.D.C](#) (as approved/modified pursuant to Permit
19 Condition [III.10.D.10](#)), in accordance with procedures described in Operating Unit Group
20 10, Chapter 4, Appendices 9.18, 10.18, and 12.15, as approved pursuant to Permit
21 Condition [III.10.D.10.c](#), and the following conditions:
- 22 **III.10.D.4.b.i** The operating records and waste tracking procedures will indicate all times at which
23 containerized dangerous and mixed waste were removed from and returned to designated
24 staging, storage, segregation, and treatment areas as approved pursuant to Permit
25 Condition [III.10.D.10.c.vi](#). ([WAC 173-303-380](#)).
- 26 **III.10.D.4.b.ii** The physical arrangement (i.e., spacing) of dangerous and mixed waste containers will be
27 as specified in [WAC 173-303-630\(5\)\(c\)](#), except for the immobilized LAW containers and
28 IHLW waste canisters, which must be as described in Operating Unit Group 10, Chapter
29 4, Sections 4E.1.2.1, 4F.1.2.1, as updated pursuant to Permit Condition [III.10.D.10.c.i](#).
- 30 **III.10.D.4.b.iii** All container storage areas must be operated to protect containers from contact with
31 accumulated liquids resulting from leaks, spills, or precipitation
32 [[WAC 173-303-630\(7\)\(a\)\(i\)](#) and (c)(ii)].
- 33 **III.10.D.4.b.iv** At all times, the Permittees will place and store ignitable and/or reactive dangerous
34 and/or mixed waste in accordance with the procedures described in Operating Unit
35 Group 10, Appendix 8.18, 9.18, 10.18, 11.18, 12.18, and 13.18 as approved pursuant to
36 Permit Condition [III.10.D.10.c.xi](#).
- 37 **III.10.D.4.b.v** At all times, the Permittees will place and store incompatible dangerous and/or mixed
38 waste in accordance with the procedures described in Operating Unit Group 10,
39 Appendix 8.18, 9.18, 10.18, 11.18, 12.18, and 13.18 as approved pursuant to Permit
40 Condition [III.10.D.10.c.xii](#).
- 41 **III.10.D.4.b.vi** At all times, storage containers holding dangerous and/or mixed waste that contain free
42 liquids and/or exhibit either the characteristic of ignitability or reactivity as described in

1 [WAC 173-303-090](#)(5) or (7), must be provided with a containment system in accordance
2 with [WAC 173-303-630](#)(7)(a)(i) through (iii) [[WAC 173-303-630](#)(7)(c)].

3 **III.10.D.4.b.vii** At all times, containers holding dangerous and/or mixed waste in container storage areas
4 must be closed, except when it is necessary to add or remove waste
5 [[WAC 173-303-630](#)(5)(a)].

6 **III.10.D.4.b.viii** At all times, containers holding dangerous and/or mixed waste must not be
7 opened, handled, or stored in a manner which may rupture the container or cause it to
8 leak [[WAC 173-303-630](#)(5)(b)].

9 **III.10.D.4.b.ix** A storage container holding a dangerous and/or mixed waste that is incompatible, as
10 defined in [WAC 173-303-040](#), with any waste or other materials stored nearby in other
11 containers, piles, open tanks, or surface impoundments must be separated from the other
12 waste or materials or protected from them by means of a dike, berm, or wall. [[WAC 173-
13 303-630](#)(9)(c)].

14 **III.10.D.4.b.x** If a container holding dangerous and/or mixed waste is not in good condition
15 (e.g., exhibits severe rusting, apparent structural defects, or any other condition that could
16 lead to container rupture or leakage) or is leaking, the Permittees will manage the
17 container in accordance with procedures described in Operating Unit Group 10,
18 Appendices 8.15, 9.18, 10.18, 11.15, and 12.15, as approved pursuant to Permit
19 Condition [III.10.D.10.c.viii](#). [[WAC 173-303-630](#)(2)].

20 **III.10.D.4.b.xi** RESERVED

21 **III.10.D.4.b.xii** The Permittees will ensure that all containers used for dangerous and/or mixed waste
22 management, are made of or lined with materials which will not react with and are
23 otherwise compatible with the waste to be stored [[WAC 173-303-630](#)(4)].

24 **III.10.D.4.b.xiii** Except for lab packs assembled in compliance with [WAC 173-303-161](#)
25 requirements, the Permittees will not place incompatible wastes, or incompatible wastes
26 and materials, in the same container, unless [WAC 173-303-395](#)(1)(b) is complied with
27 [[WAC 173-303-630](#)(9)(a)].

28 **III.10.D.4.b.xiv** The Permittees will not place dangerous and/or mixed waste in an unwashed
29 container that previously held an incompatible waste or material
30 [[WAC 173-303-630](#)(9)(b)].

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

32 **III.10.D.5.a** Pursuant to [WAC 173-303-630](#)(3), the Permittees will ensure that all dangerous and/or
33 mixed waste containers (except as otherwise specified in Operating Unit Group 10,
34 Chapter 4, Sections 4D.1.3, 4E.1.3, 4F.1.3, 4H.1.3, 4I.1.3, as updated pursuant to Permit
35 Condition [III.10.D.10.c.i.](#), for containers of ILAW and IHLW) are labeled in a manner
36 that adequately identifies the major risk(s) associated with the contents. For purposes of
37 container labeling, major risk(s) could include but are not limited to the following:

38 **III.10.D.5.a.i** PERSISTENT (if a WP01 or WP02 waste code);

39 **III.10.D.5.a.ii** TOXIC (if a WT01, WT02, or D waste code other than D001, D002, or D003);

40 **III.10.D.5.a.iii** IGNITABILITY (if a D001 and other waste codes);

- 1 **III.10.D.5.a.iv** CORROSIVE (if a D002 and other waste codes);
- 2 **III.10.D.5.a.v** REACTIVE (if a D003 and other waste codes).
- 3 **III.10.D.5.b** For all dangerous and mixed waste containers (except as otherwise specified in Operating
4 Unit Group 10, Chapter 4, Sections 4D.1.3, 4E.1.3, 4F.1.3, 4H.1.3, 4I.1.3, as updated
5 pursuant to Permit Condition [III.10.D.10.c.i.](#), for containers of ILAW and canisters of
6 IHLW), the Permittees will ensure that:
- 7 **III.10.D.5.b.i** Labels are not obscured or otherwise unreadable;
- 8 **III.10.D.5.b.ii** Waste containers are oriented so as to allow inspection of the labels identified in Permit
9 Conditions [III.10.D.5.a](#) and [III.10.D.5.b](#), the container tracking number, and, to the extent
10 possible, any labels which the generator placed upon the container; and
- 11 **III.10.D.5.b.iii** Empty dangerous and mixed waste containers, as defined by [WAC 173-303-160](#)(2), must
12 have their dangerous and/or mixed waste labels destroyed or otherwise removed
13 immediately upon being rendered empty.
- 14 **III.10.D.5.c** The Permittees will post entrances and access points to all ILAW containers and IHLW
15 canister storage areas, and any other areas where containers of ILAW and IHLW are
16 handled, with signs that, in addition to meeting the requirements of
17 [WAC 173-303-310](#)(2)(a), clearly identify the major risk(s) associated with the containers
18 of ILAW and IHLW.
- 19 **III.10.D.6 Containment Systems**
- 20 Containerized dangerous and mixed waste, and other materials that are incompatible,
21 will not be staged, segregated, or stored within the same containment system as
22 identified in Permit Table [III.10.D.C.](#), as approved/modified pursuant to Permit
23 Condition [III.10.D.10](#). (e.g., metal pan, concrete berm, portable containment system)
24 [[WAC 173-303-630](#)(9)(c)].
- 25 **III.10.D.6.a** The integrity of containment systems identified in Permit Table [III.10.D.C.](#)
26 (as approved/modified pursuant to Permit Condition [III.10.D.10](#).) must be maintained so
27 that cracks, gaps, loss of integrity, deterioration, corrosion, or erosion of containment
28 pads, joints in containment pads, berms, curbs, trenches, sumps, and coatings are repaired
29 in accordance with Operating Unit Group 10, Chapter 6, as approved/modified pursuant
30 to Permit Conditions [III.10.D.10.c.vii.](#), [III.10.C.5.b.](#), and [III.10.C.5.c.](#) [[WAC 173-303-](#)
31 [320](#), [WAC 173-303-630](#)(7)(a)(i)].
- 32 **III.10.D.6.b** An impermeable coating, as specified in Operating Unit Group 10, Appendices 9.4, 9.5,
33 9.7, 9.8, 9.9, 10.4, 10.5, 10.7, 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9 will be
34 maintained for all concrete containment systems and will meet the following performance
35 standards [[WAC 173-303-630](#)(7)(a)]:
- 36 **III.10.D.6.b.i** The coating must seal the containment system surface such that no cracks, seams, or
37 other pathways through which liquid could migrate are present;
- 38 **III.10.D.6.b.ii** The coating must be of adequate thickness and strength to withstand the normal operation
39 of equipment and personnel within the given area such that degradation or physical
40 damage to the coating or lining can be identified and remedied before waste could
41 migrate from the containment system; and
- 42 **III.10.D.6.b.iii** The coating must be compatible with the waste managed in the containment system.
- 43 **III.10.D.6.c** The Permittees must inspect all containment systems specified in Permit Table [III.10.D.C](#)
44 in accordance with the inspection schedules and requirements in Operating Unit Group

1 10, Chapter 6, as approved/modified pursuant to Permit Conditions [III.10.D.10.c.vii](#), and
2 [III.10.C.5.c](#), and take the following actions if liquid is detected in these containment
3 systems:

4 **III.10.D.6.c.i** Remove the liquid from the containment system in accordance with procedures described
5 in Operating Unit Group 10, Chapter 6, (as modified pursuant to Permit Conditions
6 [III.10.C.5.b](#), and [III.10.C.5.c](#)), Permit Condition [III.10.C.6.a](#), and Operating Unit Group
7 10, Chapter 7 (as modified pursuant to Permit Condition [III.10.C.6.b](#) and [III.10.C.6.c](#)).
8 The liquid removed from containment systems will be managed as dangerous and/or
9 mixed waste, except for liquids from the Non-Radioactive Dangerous Waste Container
10 Storage Area which will be managed as dangerous waste, unless the Permittees
11 demonstrate through designation, (in accordance with [WAC 173-303-070](#), incorporated
12 by reference), that the liquid is no longer dangerous.

13 **III.10.D.6.c.ii** Determine the source of the liquid.

14 **III.10.D.6.c.iii** If the source of the liquid is determined to be a leak in a container, the Permittees must
15 follow the procedures specified in Permit Condition [III.10.D.4.b.x](#).

16 **III.10.D.6.c.iv** The Permittees must take action to ensure the incident that caused liquid to enter the
17 containment system will not reoccur.

18 **III.10.D.6.c.v** The Permittees will document in the WTP Unit operating record actions/procedures taken
19 to comply with [i](#). through [iv](#). above in accordance with [WAC 173-303-630](#)(6).

20 **III.10.D.6.c.vi** The Permittees will notify and report releases to the environment to Ecology in
21 accordance with Permit Condition [III.10.C.6.a](#).

22 **III.10.D.7 Inspections**

23 **III.10.D.7.a** The Permittees will inspect the container storage areas in accordance with the Inspection
24 Schedules in Operating Unit Group 10, Chapter 6 of this Permit, as modified pursuant to
25 Permit Condition [III.10.C.5.c](#).

26 **III.10.D.7.b** The inspection data for the container storage areas will be recorded, and the records will
27 be placed in the WTP Unit operating record in accordance with Permit Condition
28 [III.10.C.4](#).

29 **III.10.D.8 Recordkeeping ([WAC 173-303-380](#))**

30 For the container storage areas, the Permittees will record and maintain in the WTP Unit
31 operating record, all monitoring, recording, maintenance, calibration, test data, and
32 inspection data compiled under the conditions of this Permit, in accordance with Permit
33 Condition [III.10.C.4](#), and [III.10.C.5](#).

34 **III.10.D.9 Closure**

35 The Permittees will close the container storage areas identified in Permit Tables
36 [III.10.D.A](#) through [III.10.D.C](#) in accordance with Operating Unit Group 10, Chapter 11
37 of this Permit, as approved pursuant to Permit Condition [III.10.C.8](#).

38 **III.10.D.10 Compliance Schedules**

39 **III.10.D.10.a** All information identified for submittal to Ecology in [III.10.D.10.b](#). through
40 [III.10.D.10.d](#). of this compliance schedule must be signed in accordance with
41 requirements in [WAC 173-303-810](#)(12).

42 **III.10.D.10.b** The Permittees will submit to Ecology, consistent with the schedule described in
43 Operating Unit Group 10, Appendix 1.0, for review and approval, prior to construction of

1 container storage area and associated containment systems as identified in Permit Tables
2 [III.10.D.A](#) and [III.10.D.B](#) respectively, engineering information as specified below, for
3 incorporation into Operating Unit Group 10, Appendices 9.4, 9.5, 9.7, 9.8, 9.9, 10.4, 10.5,
4 10.7, 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9 of this Permit. In order to incorporate
5 engineering information specified below into Operating Unit Group 10, Appendices 9.4,
6 9.5, 9.7, 9.8, 9.9, 10.4, 10.5, 10.7, 10.8, 10.9, 12.4, 12.5, 12.7, 12.8, and 12.9, Permit
7 Condition [III.10.C.2.g](#), process will be followed. At a minimum, container storage area
8 and containment system drawings and specifications will show the following pursuant to
9 [WAC 173-303-806](#)(4)(b):

10 **III.10.D.10.b.i** Design drawings (General Arrangement Drawings - in plan) and specifications including
11 references to specific building codes (e.g., UBC, ASCE) for each container storage areas'
12 foundation and associated containment system. These items should show basic design
13 parameters and dimensions, and location of the container storage areas and associated
14 containment systems; how containment system design promotes positive drainage control
15 (such as a locked drainage valve) to prevent release of contaminated liquids and so that
16 uncontaminated liquids can be drained promptly for convenience of operation; capacity
17 of the containment system relative to the volume of the largest container to be stored;
18 how the base underlying the containers is sloped (i.e., floor slopes to sumps) or the
19 containment system is otherwise designed and operated to drain and remove liquids
20 resulting from leaks, spills, or other liquids, or how containers are kept from contact with
21 standing liquids in the containment system (i.e., elevated or are otherwise protected); for
22 container storage areas without associated containment systems, a description of how the
23 storage area is designed or operated to drain and remove liquids or how containers are
24 kept from contact with standing liquids;

25 **III.10.D.10.b.ii** Containment systems materials selection documentation (including, but not limited to,
26 materials of construction, coatings and liner materials for concrete portions of
27 containment systems);

28 **III.10.D.10.b.iii** Sketches, drawings, or data demonstrating compliance with [WAC 173-303-](#)
29 [630](#)(8) (location of buffer zone and containers holding ignitable or reactive waste) and
30 [WAC 173-303-630](#)(9)(c) (location of incompatible waste), where applicable;

31 **III.10.D.10.b.iv** Submit Permit Table [III.10.D.B](#), completed to provide for all containment
32 systems, the information as specified in each column heading, consistent with
33 information to be provided in [III.10.D.10.b.i](#), through [iii](#), above.

34 **III.10.D.10.c** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
35 will update and submit to Ecology, consistent with the schedule described in Operating
36 Unit Group 10, Appendix 1.0, for review and approval, the following, as specified below,
37 for incorporation into Operating Unit Group 10, Chapter 4, and Appendices 9.18, 10.18,
38 and 12.15, except Permit Condition [III.10.D.10.c.vii](#), which will be incorporated into
39 Operating Unit Group 10, Chapter 6. In order to incorporate the following information
40 (specified below) into Operating Unit Group 10, Appendix 9.18, 10.18, and 12.18, Permit
41 Condition [III.10.C.2.g](#), will be followed. All information provided under this permit
42 condition must be consistent with information provided pursuant to Permit Conditions
43 [III.10.D.10.b.](#), [III.10.D.10.c.](#), and [III.10.D.10.d.](#) as approved by Ecology, and will include
44 at a minimum, the following information as required pursuant to [WAC 173-303-630](#) and
45 [WAC 173-303-340](#):

46 **III.10.D.10.c.i** Operating Unit Group 10, Chapter 4, Narrative Descriptions, updated;

47 **III.10.D.10.c.ii** Descriptions of procedures for addition and removal of waste from containers;

- 1 **III.10.D.10.c.iii** Descriptions of procedures for opening and closing of containers, including any
2 inspections performed prior to opening;
- 3 **III.10.D.10.c.iv** Descriptions of procedures for handling and transport of containers within the
4 WTP Unit;
- 5 **III.10.D.10.c.v** Description of the tracking system used to track containers throughout the WTP Unit
6 pursuant to [WAC 173-303-380](#). The tracking system, at a minimum, will do the
7 following:
- 8 A. Track the location of containers within the WTP Unit;
- 9 B. Track which containers have been shipped off-facility and/or off-site, and to
10 where they have been shipped;
- 11 C. For containers intended for transport off-site, include information in accordance
12 with the requirements specified in [WAC 173-303-190\(3\)\(b\)](#);
- 13 D. Record the date container is placed in the container storage area;
- 14 E. Record the nature of the waste in any given container, including dangerous waste
15 designation codes, any associated land disposal restriction treatment requirements,
16 and the major risk(s) associated with the waste (as described in Permit Conditions
17 [III.10.D.5.a](#), and [III.10.D.5.c](#)).
- 18 **III.10.D.10.c.vi** Descriptions of procedures for container spacing, stacking, and labeling pursuant
19 to [WAC 173-303-630\(3\)](#), [WAC 173-303-630\(5\)\(c\)](#), [WAC 173-303-340\(3\)](#),
20 [WAC 173-303-630\(6\)](#);
- 21 **III.10.D.10.c.vii** Descriptions of procedures for investigating container storage areas and
22 investigating and repairing containment systems [[WAC 173-303-320](#), [WAC 173-303-](#)
23 [630\(6\)](#)];
- 24 **III.10.D.10.c.viii** Descriptions of procedures for responding to damaged (e.g., severe rusting,
25 apparent structural defects) or leaking containers [[WAC 173-303-630\(2\)](#)];
- 26 **III.10.D.10.c.ix** Descriptions of operational procedures demonstrating how accumulated liquids
27 can be analyzed and removed from containment systems to prevent overflow
28 [[WAC 173-303-806\(4\)\(b\)\(i\)\(E\)](#)];
- 29 **III.10.D.10.c.x** For portable containment systems, vendor information, design drawings, or sketches
30 showing the following information. These items will include as a minimum basic design
31 parameters, dimensions, and materials of construction; how the design promotes positive
32 drainage control (such as a locked drainage valve) to prevent release of contaminated
33 liquids and so that uncontaminated liquids can be drained promptly for convenience of
34 operation; how the base underlying the containers is sloped (i.e., floor slopes to sumps) or
35 the containment system is otherwise designed and operated to drain and remove liquids
36 resulting from leaks, spills, or other liquids, or how containers are kept from contact with
37 standing liquids in the containment system (i.e., elevated or are otherwise protected); and
38 capacity of the containment system relative to the volume of the largest container to be
39 stored;
- 40 **III.10.D.10.c.xi** Where ignitable and reactive waste are stored or otherwise managed in
41 containers, a description of the procedures used to ensure compliance with
42 [WAC 173-303-630\(8\)\(a\)](#) and (b);
- 43 **III.10.D.10.c.xii** Where incompatible waste are stored or otherwise managed in containers, a
44 description of the procedures used to ensure compliance with
45 [WAC 173-303-630\(9\)\(a\)](#) and (b), and [173-303-395\(1\)\(b\)](#) and (c);

- 1 **III.10.D.10.c.xiii** Submit Permit Table [III.10.D.C](#) completed to provide for all portable
2 containment systems, the information as specified in each column heading, consistent
3 with information to be provided in [III.10.D.10.c.i](#), through [xii](#), above;
- 4 **III.10.D.10.c.xiv** Test procedures and results or other documentation or information to show that
5 the waste do not contain free liquids, as applicable.
- 6 **III.10.D.10.d** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
7 will submit to Ecology, consistent with the schedule described in Operating Unit Group
8 10, Appendix 1.0, for review and approval, completed Permit Tables [III.10.D.A](#),
9 [III.10.D.B](#), and [III.10.D.C](#), for incorporation into Operating Unit Group 10, Chapter 4,
10 and Appendices 8.18, 9.18, and 10.18 of this Permit. In order to incorporate the
11 information into Operating Unit Group 10, Chapter 4, and Appendices 8.18, 9.18, and
12 10.18 of this Permit, Permit Condition [III.10.C.2.g](#), process will be followed.
- 13

1 **Table III.10.D.A –Container Storage/Containment Building Areas Description**

Dangerous and Mixed Waste Container Storage Areas	Maximum Capacity Gallons (Solids)(ft³)^d	Maximum Operating Volume (Liquid^e)
HLW Vitrification Plant		
IHLW Canister Storage Cave ^a (Room H-0132)	163,599 gal. (21,870 ft ³)	NA
HLW East Corridor El. 0' (Rooms HC-0108/09/10)	183,721 gal. (24,560 ft ³)	NA
HLW Loading Area (Room H-0130)	142,204 gal. (19,010 ft ³)	NA
Other Areas		
Non-Radioactive Dangerous Waste Container Storage Area ^b	56,104 gal. (7,500 ft ³)	RESERVED
Failed Melter Storage Facility (Building 32) ^f	403,947 gal. (54,000 ft ³)	RESERVED
Lab Waste Management Area (Rooms A-0139, A-0139A/B/C/D)	139,586 gal. (18,660 ft ³)	RESERVED
Containment Buildings/Container Storage	Maximum Capacity Gallons (Solids)(ft³)^d	Maximum Operating Volume (Liquid^e)
Pretreatment Plant		
P-0123 Pretreatment Hotcell Containment Building	RESERVED	RESERVED
Pretreatment Maintenance Containment Building	RESERVED	RESERVED
PM0124 Hotcell Crane Maintenance Area	RESERVED	RESERVED
P-0121A Spent Resin Dewatering	RESERVED	RESERVED
P-0421A General Filter Room	RESERVED	RESERVED
P-0122A Waste Packaging Area	RESERVED	RESERVED
P-0123A Remote Decontamination Maintenance Cave	RESERVED	RESERVED
P-0124 C3 Workshop	RESERVED	RESERVED
P-0124A C3 Workshop	RESERVED	RESERVED
P-0125 Filter Cask Airlock	RESERVED	RESERVED
P-0125A Filter Cask Area	RESERVED	RESERVED
P-0128A MSM Repair Area	RESERVED	RESERVED
P-0128 Temporary Storage Room	RESERVED	RESERVED
P-0223 Pretreatment Filter Package Maintenance Containment Building		
P-0335 Pretreatment Filter Cave Room	RESERVED	RESERVED

P-0335A Decon Chamber	RESERVED	RESERVED
P-0431A General Filter Room	RESERVED	RESERVED
LAW Vitrification Plant		
L-0112 LAW LSM Gallery Containment Building	RESERVED	RESERVED
LAW Container Finishing Containment Building	RESERVED	RESERVED
L-0109B Swabbing Area Line 2	RESERVED	RESERVED
L-0109C Decontamination Area Line 2	RESERVED	RESERVED
L-0109D Inert Fill Area Line 2	RESERVED	RESERVED
L-0115B Swabbing Area Line 1	RESERVED	RESERVED
L-0115C Decontamination Area Line 1	RESERVED	RESERVED
L-0115D Inert Fill Area Line 1	RESERVED	RESERVED
L-0109E Container Monitoring/Export Area	RESERVED	RESERVED
L-0115E Container Monitoring/Export Area	RESERVED	RESERVED
L-0119B LAW Consumable Import/Export Containment Building	RESERVED	RESERVED
L-0226A LAW C3 Workshop Containment Building	RESERVED	RESERVED
LAW Pour Cave Containment Building	RESERVED	RESERVED
L-B015A Melter 1 Pour Cave	RESERVED	RESERVED
L-B013C Melter 1 Pour Cave	RESERVED	RESERVED
L-B013B Melter 2 Pour Cave	RESERVED	RESERVED
L-B011C Melter 2 Pour Cave	RESERVED	RESERVED
L-B011B Future Melter 3 Pour Cave	RESERVED	RESERVED
L-B009B Future Melter 3 Pour Cave	RESERVED	RESERVED
LAW Buffer Container Containment Building	RESERVED	RESERVED
L-B025C Container Buffer Store	RESERVED	RESERVED
L-B025D Container Rework	RESERVED	RESERVED
HLW Vitrification Plant		
HLW Melter Cave 1 Containment Building:	RESERVED	RESERVED
H-0117 Melter Cave 1		
H-0116B Melter Cave 1 C3/C5 Airlock		
H-0310A Melter Cave 1 Equipment Decon Pit		
HLW Melter Cave 2 Containment Building:	RESERVED	RESERVED
H-0106 Melter Cave 2		
H-0105B Melter Cave 2 C3/C5 Airlock		
H-0304A Melter Cave 2 Equipment Decon Pit		
H-0136 IHLW Canister Handling Cave Containment Building	RESERVED	RESERVED
H-0133 IHLW Canister Swab and Monitoring Cave Containment Building	RESERVED	RESERVED
HLW C3 Workshop Containment Building:	RESERVED	RESERVED
H-0311A C3 Workshop		

H-0311B C3 MSM Maintenance Workshop		
H-0104 HLW Filter Cave Containment Building	RESERVED	RESERVED
H-B032 HLW Pour Tunnel 1 Containment Building	RESERVED	RESERVED
H-B005A HLW Pour Tunnel 2 Containment Building	RESERVED	RESERVED
HLW Waste Handling Area Containment Building:	RESERVED	RESERVED
H-0410B E&I Room		
H0411 Waste Handling Room		
HLW Drum Swabbing and Monitoring Area Containment Building:	RESERVED	RESERVED
H-0126A Crane Maintenance Room		
H-0126B Swabbing and Monitoring Area		
H-B028 Cask Transfer Tunnel		
<p>^aCapacity is for immobilized glass waste storage</p> <p>^bCapacity is for dangerous and/or mixed waste storage</p> <p>^cAll material within the containment systems will be considered waste for the purposes of calculating free volume, where free volume is the amount of space available in containment systems (i.e., free volume = total capacity of containment systems [which includes total capacity of portable containment systems] minus volume occupied by equipment and containers within containment systems)</p> <p>^dGallons converted to cubic feet using a conversion factor of 1 gallon (liquid) x 0.134 = 1ft³ (rounded to the nearest whole number)</p> <p>^eLocation and capacities of containers stored within portable containment systems specified on Table III.10.D.C are limited to the dangerous and mixed waste container storage areas and capacities specified above</p> <p>^fThe dimension for height (H) is based on the height of the largest waste container stored in the area (i.e., LAW container is 7.5 ft, HLW canister is 15 ft, melters are assumed to be 16 ft, and a B-25 box is 5 ft – stacked a maximum of two high is 10ft)</p>		

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

Container Storage Areas	Permanent Containment System Description – Drawing #s	Permanent Containment System Sump/Floor Drain ID#	Permanent Containment System Dimensions ^a (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).
Failed Melter Storage Facility (Building 32)	24590-BOF-P1-32-00001, Rev. 2	N/A	45' x 75' x 16' ^b	403,947 gal. (54,000 ft ³)
<p>^aDimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)</p> <p>^bThe dimension for height (H) is based on the height of the largest waste container stored in the area (i.e., LAW container is 7.5 ft, HLW canister is 15 ft, melters are assumed to be 16 ft, and a B-25 box is 5 ft – stacked a maximum of two high is 10 ft)</p>				

1 **Table III.10.D.C – Container Storage Area Portable Containment Systems^a**

Portable Containment System Description – Specifications and Vendor Information	Portable Containment System Container Storage Area(s) Location(s)	Portable Containment System Dimensions^b (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
^a 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 . ^b Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)			

2

1 **III.10.E TANK SYSTEMS**

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

3 **III.10.E.1.a** The Permittees may store in tank systems all dangerous and/or mixed waste listed in the
4 Part A Forms, Operating Unit Group 10, Chapter 1 of this Permit and in accordance with
5 the Waste Analysis Plan, Operating Unit Group 10, Chapter 3 as approved pursuant to
6 Permit Condition [III.10.C.3](#), of this Permit. Total tank system dangerous and/or mixed
7 waste storage at the Facility will not exceed the volume(s) specified in the Part A Form 3
8 Permit Application, Chapter 1 of this permit.

9 **III.10.E.1.b** The Permittees may store and manage dangerous and/or mixed waste only in approved
10 tank systems listed in Permit Tables [III.10.E.A](#) through [D](#), [I](#), [K](#), [M](#), [O](#), and [R](#) as
11 approved/modified pursuant to Permit Condition [III.10.E.9](#)., in accordance with Permit
12 Section [III.10.E](#) of this Permit, and in accordance with Operating Unit Group 10, Chapter
13 1 and 4, and Operating Unit Group 10, Appendices 8.1 through 8.15, 9.1 through 9.14,
14 9.18, 10.1 through 10.14, 10.18, 11.1 through 11.15, and 13.1 through 13.18 of this
15 Permit, as approved pursuant to Permit Conditions [III.10.E.9.b](#) through [e](#). The Permittees
16 will limit the total volume of waste to quantities specified for the individual units listed in
17 Permit Tables [III.10.E.A](#) through [D](#), [I](#), [K](#), [M](#), [O](#), and [R](#).

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

23 **III.10.E.1.d** The Permittees will ensure all certifications required by specialists (e.g., independent,
24 qualified, registered professional engineer; independent corrosion expert; independent,
25 qualified installation inspector; etc.) use the following statement or equivalent pursuant to
26 Permit Condition [III.10.C.10](#) of this Permit:

27 “I, (Insert Name) have (choose one or more of the following: overseen, supervised,
28 reviewed, and/or certified) a portion of the design or installation of a new tank system or
29 component located at (address), and owned/operated by (name(s)). My duties were:
30 (e.g., installation inspector, testing for tightness, etc.), for the following tank system
31 components (e.g., the tank, venting piping, etc.), as required by the Dangerous Waste
32 Regulations, namely, [WAC 173-303-640](#)(3) (applicable paragraphs (i.e., (a) through (g)).

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

39 **III.10.E.1.e** In all future permit submittals, the Permittees will include tank names with the tank
40 designation (e.g., Process Condensate Vessels located in the RLD System are designated
41 V45028A and V45028B, respectively).

42 **III.10.E.2 Tank System Design and Construction**

43 **III.10.E.2.a** The Permittees will construct the tank systems identified in Permit Tables [III.10.E.A](#)
44 through [D](#), [I](#), [K](#), [M](#), [O](#), and [R](#) as approved/modified pursuant to Permit Condition
45 [III.10.E.9](#)., as specified in Operating Unit Group 10, Appendices 8.1 through 8.14, 9.1
46 through 9.14, 10.1 through 10.14, 11.1 through 11.14, and 13.1 through 13.14 of this

1 Permit, as approved pursuant to Permit Conditions [III.10.E.9.b.](#), [III.10.E.9.c.](#), and
2 [III.10.E.9.d.](#)

3 **III.10.E.2.b** The Permittees will construct all secondary containment systems identified in Permit
4 Tables [III.10.E.A](#) through [D](#), and [I](#) through [S](#), as approved/modified pursuant to Permit
5 Condition [III.10.E.9.](#), as specified in Operating Unit Group 10, Appendices 8.2, 8.4
6 through 8.15, 9.2, 9.4 through 9.14, 9.18, 10.2, 10.4 through 10.14, 10.18, 11.2, 11.4
7 through 11.14, 11.18, and 13.2, 13.4 through 13.14, and 13.18 of this Permit, as approved
8 pursuant to Permit Conditions [III.10.E.9.b.](#), [III.10.E.9.c.](#), and [III.10.E.9.d.](#)

9 **III.10.E.2.c** Modifications to approved design, plans, and specifications in Operating Unit Group 10
10 of this Permit for the WTP Unit Tank Systems will be allowed only in accordance with
11 Permit Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#), [III.10.C.9.d.](#), [e.](#), and [h.](#)

12 **III.10.E.2.d** The Permittees will maintain construction access to the internal portions of installed tanks
13 with pulse jet mixers until Ecology has provided written approval of the tank system
14 designs for wear allowance pursuant to [WAC 173-303-640\(3\)\(a\)](#).

15 **III.10.E.2.d.i** The Permittees will not install the following tanks in the WTP Unit until Ecology has
16 provided written approval of the tank system designs for wear allowance pursuant to
17 [WAC 173-303-640\(3\)\(a\)](#):

- 18 • Plant Wash Vessel, PWD-VSL-00044.
- 19 • Acidic Waste Vessel, RLD-VSL-00007.
- 20 • Plant Wash and Drains Vessel, RLD-VSL-00008.
- 21 • HLW Feed Receipt Vessel, HLP-VSL-00022.
- 22 • HLW Lag Storage Vessels, HLP-VSL-00027A and HLP-VSL-00027B.
- 23 • HLW Feed Blend Vessel, HLP-VSL-00028.
- 24 • Ultrafiltration Feed Preparation Vessels, UFP-VSL-00001A and
25 UFP-VSL-00001B.
- 26 • Ultrafiltration Feed Vessels, UFP-VSL-00002A and UFP-VSL-00002B.

27 **III.10.E.2.d.ii** Except where exempted in writing by Ecology on the basis that wear allowance
28 provisions will not be affected, fabrication and assembly of the following tanks and their
29 internal components will be suspended until Ecology has provided written approval of the
30 tank system designs for wear allowance pursuant to
31 [WAC 173-303-640\(3\)\(a\)](#).

- 32 • HLW Feed Receipt Vessel, HLP-VSL-00022.
- 33 • HLW Lag Storage Vessels, HLP-VSL-00027A and HLP-VSL-00027B.
- 34 • HLW Feed Blend Vessel, HLP-VSL-00028.
- 35 • Ultrafiltration Feed Vessels, UFP-VSL-00002A and UFP-VSL-00002B.

36 **III.10.E.3 Tank System Installation and Certification**

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

- 1 **III.10.E.3.a.i** Weld breaks;
- 2 **III.10.E.3.a.ii** Punctures;
- 3 **III.10.E.3.a.iii** Scrapes of protective coatings;
- 4 **III.10.E.3.a.iv** Cracks;
- 5 **III.10.E.3.a.v** Corrosion;
- 6 **III.10.E.3.a.vi** Other structural damage or inadequate construction/installation.
- 7 All discrepancies must be remedied before the tank system is covered, enclosed, or
- 8 placed in use [[WAC 173-303-640\(3\)\(c\)](#)].
- 9 **III.10.E.3.b** For tank systems or components that are placed underground and that are back-filled, the
- 10 Permittees must provide a backfill material that is a non-corrosive, porous, homogeneous
- 11 substance. The backfill must be installed so that it is placed completely around the tank
- 12 and compacted to ensure that the tank and piping are fully and uniformly supported
- 13 [[WAC 173-303-640\(3\)\(d\)](#)].
- 14 **III.10.E.3.c** The Permittees must test for tightness all new tanks and ancillary equipment prior to
- 15 these components being covered, enclosed, or placed into use. If a tank system is found
- 16 not to be tight, all repairs necessary to remedy the leak(s) in the system must be
- 17 performed prior to the tank system being covered, enclosed, or placed in use
- 18 [[WAC 173-303-640\(3\)\(e\)](#)].
- 19 **III.10.E.3.d** The Permittees must ensure ancillary equipment is supported and protected against
- 20 physical damage and excessive stress due to settlement, vibration, expansion, or
- 21 contraction [[WAC 173-303-640\(3\)\(f\)](#)].
- 22 **III.10.E.3.e** The Permittees must provide the type and degree of corrosion protection recommended
- 23 by an independent corrosion expert, based on the information provided in Operating Unit
- 24 Group 10, Appendices 8.9, 8.11, 9.9, 9.11, 10.9, 10.11, 11.9, 11.11, and 13.11 of this
- 25 Permit, as approved pursuant to Permit Conditions [III.10.E.9.b.i.](#), [III.10.E.9.b.iv.](#),
- 26 [III.10.E.9.b.v.](#), [III.10.E.9.c.i.](#), [III.10.E.9.c.iv.](#), [III.10.E.9.c.v.](#), [III.10.E.9.d.i.](#),
- 27 [III.10.E.9.d.iv.](#), and [III.10.E.9.d.v.](#) or other corrosion protection if the Ecology believes
- 28 other corrosion protection is necessary to ensure the integrity of the tank system during
- 29 use of the tank system. The installation of a corrosion protection system that is field
- 30 fabricated must be supervised by an independent corrosion expert to ensure proper
- 31 installation [[WAC 173-303-640\(3\)\(g\)](#)].
- 32 **III.10.E.3.f** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
- 33 will obtain, and keep on file in the WTP Unit operating record, written statements by
- 34 those persons required to certify the design of the tank system and supervise the
- 35 installation of the tank system in accordance with the requirements of
- 36 [WAC 173-303-640\(3\)\(b\)](#), (c), (d), (e), (f), and (g), attesting that each tank system and
- 37 corresponding containment system listed in Permit Tables [III.10.E.A](#) through [D](#) and
- 38 [III.10.E.1](#) through [S](#), as approved/modified pursuant to Permit Condition [III.10.E.9.](#), were
- 39 properly designed and installed, and that repairs, pursuant to [WAC 173-303-640\(3\)\(c\)](#)
- 40 and (e) were performed [[WAC 173-303-640\(3\)\(a\)](#) [WAC 173-303-640\(3\)\(h\)](#)].
- 41 **III.10.E.3.g** The independent tank system installation inspection and subsequent written statements
- 42 will be certified pursuant to Permit Condition [III.10.E.1.d.](#), comply with all requirements
- 43 of [WAC 173-303-640\(3\)\(h\)](#) and will consider, but not be limited to, the following tank
- 44 system installation documentation:

- 1 **III.10.E.3.g.i** Field installation report with date of installation;
- 2 **III.10.E.3.g.ii** Approved welding procedures;
- 3 **III.10.E.3.g.iii** Welder qualifications and certification;
- 4 **III.10.E.3.g.iv** Hydro-test reports, as applicable, in accordance with the American Society of Mechanical
5 Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1, American
6 Petroleum Institute (API) Standard 620, or Standard 650 as applicable;
- 7 **III.10.E.3.g.v** Tester credentials;
- 8 **III.10.E.3.g.vi** Field inspector credentials;
- 9 **III.10.E.3.g.vii** Field inspector reports;
- 10 **III.10.E.3.g.viii** Field waiver reports; and
- 11 **III.10.E.3.g.ix** Non-compliance reports and corrective action (including field waiver reports) and repair
12 reports.
- 13 **III.10.E.4 Integrity Assessments**
- 14 **III.10.E.4.a** The Permittees will ensure periodic integrity assessments are conducted on the WTP Unit
15 Tank Systems listed in Permit Tables [III.10.E.A](#) through [D](#), [I](#), [K](#), [M](#), [O](#), and [R](#) as
16 approved/modified pursuant to Permit Condition [III.10.E.9.](#), over the term of this Permit
17 as specified in [WAC 173-303-640\(3\)\(b\)](#), following the description of the integrity
18 assessment program and schedule in Operating Unit Group 10, Chapter 6 of this Permit,
19 as approved pursuant to Permit Conditions [III.10.E.9.e.i.](#) and [III.10.C.5.c.](#) Results of the
20 integrity assessments will be included in the WTP Unit operating record until ten (10)
21 years after post-closure, or corrective action is complete and certified, whichever is later.
- 22 **III.10.E.4.b** The Permittees will address problems detected during the tank integrity assessments
23 specified in Permit Condition [III.10.E.4.a.](#) following the integrity assessment program in
24 Operating Unit Group 10, Chapter 6 of this Permit, as approved pursuant to Permit
25 Conditions [III.10.E.9.e.i.](#) and [III.10.C.5.c.](#)
- 26 **III.10.E.4.c** The Permittees must immediately and safely remove from service any Tank System or
27 secondary containment system which through an integrity assessment is found to be
28 “unfit for use” as defined in [WAC 173-303-040](#), following Permit Conditions
29 [III.10.E.5.i.i](#) through [iv.](#), [vi.](#), and [vii.](#) The affected tank system or secondary containment
30 system must be either repaired or closed in accordance with Permit Condition
31 [III.10.E.5.i.v.](#) [[WAC 173-303-640\(7\)\(e\)](#) and (f), [WAC 173-303-640\(8\)](#)].
- 32 **III.10.E.5 Tank Management Practices**
- 33 **III.10.E.5.a** No dangerous and/or mixed waste will be managed in the WTP Unit Tank System unless
34 the operating conditions, specified under Permit Condition [III.10.E.5](#) are complied with.
- 35 **III.10.E.5.b** The Permittees will install and test all process and leak detection system
36 monitoring/instrumentation, as specified in Permit Tables [III.10.E.E](#) through [H](#), and [S](#) as
37 approved/modified pursuant to Permit Condition [III.10.E.9.](#), in accordance with
38 Operating Unit Group 10, Appendices 8.1, 8.2, 8.14, 9.1, 9.2, 9.14, 10.1, 10.2, 10.14,

1 11.1, 11.2, 11.14, and 13.1, 13.2, and 13.14 of this Permit, as approved pursuant to
 2 Permit Conditions [III.10.E.9.e.ix.](#) and [III.10.E.9.d.x.](#)

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

6 **III.10.E.5.d** The Permittees will operate the WTP Unit Tank System to prevent spills and overflows
 7 using the description of controls and practices as required under [WAC 173-303-640\(5\)\(b\)](#)
 8 described in Permit Condition [III.10.C.5.](#), and Operating Unit Group 10, Appendices
 9 8.16, 9.18, 10.18, 11.18, and 13.18 of this Permit, as approved pursuant to Permit
 10 Condition [III.10.E.9.e.iv.](#) [[WAC 173-303-640\(5\)\(b\)](#), [WAC 173-303-806\(4\)\(c\)\(ix\)](#)].

11 **III.10.E.5.e** For routinely non-accessible WTP Unit Tank Systems, as specified in Operating Unit
 12 Group 10, Chapter 4 of this Permit, as updated pursuant to Permit Condition
 13 [III.10.E.9.e.vi.](#), the Permittees will mark all routinely non-accessible tank system access
 14 points with labels or signs to identify the waste contained in the tanks. The label, or sign,
 15 must be legible at a distance of at least fifty (50) feet and must bear a legend that
 16 identifies the waste in a manner which adequately warns employees, emergency response
 17 personnel, and the public of the major risk(s) associated with the waste being stored or
 18 treated in the tank system(s). For the purposes of this Permit condition, “routinely
 19 non-accessible” means personnel are unable to enter these areas while waste is being
 20 managed in them [[WAC 173-303-640\(5\)\(d\)](#)].

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

28 **III.10.E.5.g** The Permittees will ensure that the secondary containment systems for the WTP Unit
 29 Tank Systems listed in Permit Tables [III.10.E.A](#) through [D](#), [I](#), [K](#), [M](#), [O](#), and [R](#) as
 30 approved/modified pursuant to Permit Condition [III.10.E.9.](#), are free of cracks or gaps to
 31 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
 32 system to the soil, ground water, or surface water at any time that waste is in the tank
 33 system. Any indication that a crack or gap may exist in the containment systems will be
 34 investigated and repaired in accordance with Operating Unit Group 10, Appendices 8.18,
 35 9.18, 10.18, 11.18, and 13.18 of this Permit, as approved pursuant to Permit Condition
 36 [III.10.E.9.e.v](#) [[WAC 173-303-320](#), [WAC 173-303-640\(4\)\(b\)\(i\)](#), [WAC 173-303-](#)
 37 [640\(4\)\(e\)\(i\)\(C\)](#), [WAC 173-303-640\(6\)](#), and [WAC 173-303-806\(4\)\(c\)\(vii\)](#)].

38 **III.10.E.5.h** An impermeable coating, as specified in Operating Unit Group 10, Appendices 8.4, 8.5,
 39 8.7, 8.9, 8.11, 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,
 40 11.5, 11.7, 11.9, 11.11, 11.12, and 13.4, 13.5, 13.7, 13.9, 13.11 and 13.12 of this Permit,
 41 as approved pursuant to Permit Condition [III.10.E.9.b.v.](#), will be maintained for all
 42 concrete containment systems and concrete portions of containment systems for each
 43 WTP Unit Tank System listed in Permit Tables [III.10.E.A](#) through [D](#), [I](#) through [P](#), and [R](#)
 44 through [T](#) as approved/modified pursuant to Permit Condition [III.10.E.9.](#) Concrete
 45 containment systems that do not have a liner and have construction joints, must meet the
 46 requirements of [WAC 173-303-640\(4\)\(e\)\(ii\)\(C\)](#) and [-806\(4\)\(c\)\(vii\)](#). The coating will

1 prevent migration of any dangerous and/or mixed waste into the concrete. All coatings
2 will meet the following performance standards:

- 3 **III.10.E.5.h.i** The coating must seal the containment surface such that no cracks, seams, or other
4 avenues through which liquid could migrate are present;
- 5 **III.10.E.5.h.ii** The coating must be of adequate thickness and strength to withstand the normal operation
6 of equipment and personnel within the given area such that degradation or physical
7 damage to the coating or lining can be identified and remedied before dangerous and/or
8 mixed waste could migrate from the system; and
- 9 **III.10.E.5.h.iii** The coating must be compatible with the dangerous and/or mixed waste, treatment
10 reagents, or other materials managed in the containment system
11 [[WAC 173-303-640](#)(4)(e)(ii)(D), [WAC 173-303-806](#)(4)(c)(vii)].
- 12 **III.10.E.5.i** The Permittees will inspect all secondary containment systems for WTP Unit Tank
13 Systems listed in Permit Tables [III.10.E.A](#) through [D](#), [I](#) through [P](#), and [R](#) through [T](#) as
14 approved/modified pursuant to Permit Condition [III.10.E.9](#)., in accordance with the
15 Inspection Plan specified in Operating Unit Group 10, Chapter 6A of this Permit, as
16 approved pursuant to Permit Conditions [III.10.E.9.e.v.](#) and [III.10.C.5](#)., and take the
17 following actions if a leak or spill of dangerous and/or mixed waste is detected in these
18 containment systems [[WAC 173-303-320](#), [WAC 173-303-640](#)(5)(c), [WAC 173-303-](#)
19 [640](#)(6), [WAC 173-303-640](#)(7), [WAC 173-303-806](#)(4)(a)(v)]:
- 20 **III.10.E.5.i.i** Immediately and safely stop the flow of dangerous and/or mixed waste into the tank
21 system or secondary containment system, in accordance with procedures based on all
22 applicable safety analysis documentation;
- 23 **III.10.E.5.i.ii** Determine the source of the dangerous and/or mixed waste;
- 24 **III.10.E.5.i.iii** Remove the waste from the secondary containment area pursuant to
25 [WAC 173-303-640](#)(7)(b). The waste removed from containment areas of WTP Unit
26 Tank Systems will be managed as dangerous and/or mixed waste;
- 27 **III.10.E.5.i.iv** If the cause of the release was a spill that has not damaged the integrity of the tank
28 system, the Permittees may return the tank system to service pursuant to
29 [WAC 173-303-640](#)(7)(e)(ii). In such a case, the Permittees will take action to ensure the
30 incident that caused liquid to enter the containment systems of these tank systems will not
31 reoccur [[WAC 173-303-320](#)(3)];
- 32 **III.10.E.5.i.v** If the source of the dangerous waste and/or mixed waste is determined to be a leak from a
33 primary WTP Unit Tank System, or the system is unfit for use as determined through an
34 integrity assessment or other inspection, the Permittees must comply with the
35 requirements of [WAC 173-303-640](#)(7) and take the following actions
36 [[WAC 173-303-640](#)(5)(c)]:
- 37 A. Close the tank system according to procedures in [WAC 173-303-640](#)(7)(e)(i),
38 and Operating Unit Group 10, Chapter 11 of this Permit, as approved pursuant to
39 Permit Condition [III.10.C.8](#).; or
- 40 B. Repair and re-certify (in accordance with [WAC 173-303-810](#)(13)(a) as modified
41 pursuant to Permit Condition [III.10.E.1.d.](#)) the tank system in accordance with
42 Operating Unit Group 10, Appendices 8.18, 9.18, 10.18, 11.18, and 13.18 of this
43 Permit, as approved pursuant to Permit Condition [III.10.E.9.e.v.](#) before the tank
44 system is placed back into service [[WAC 173-303-640](#)(7)(e) and (f), and
45 [WAC 173-303-806](#)(4)(c)(vii)];

- 1 **III.10.E.5.i.vi** The Permittees will document in the operating record actions/procedures taken to comply
 2 with [III.10.E.5.i.i.](#) through [v.](#) above in accordance with
 3 [WAC 173-303-640\(6\)\(d\)](#);
- 4 **III.10.E.5.i.vii** The Permittees will notify and report releases to the environment to Ecology in
 5 accordance with [WAC 173-303-640\(7\)\(d\)](#).
- 6 **III.10.E.5.j** If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire water
 7 liquids from damaged or broken pipes) cannot be removed from the secondary
 8 containment system within twenty-four (24) hours, Ecology will be verbally notified
 9 within twenty-four (24) hours of discovery. The notification will provide the information
 10 in A, B, and C listed below. The Permittees will provide Ecology with a written
 11 demonstration within seven (7) business days, identifying at a minimum
 12 [[WAC 173-303-640\(4\)\(c\)\(iv\)](#), [WAC 173-303-640\(7\)\(b\)\(ii\)](#),
 13 [WAC 173-303-806\(4\)\(c\)\(vii\)](#)]:
 14 A. Reasons for delayed removal;
 15 B. Measures implemented to ensure continued protection of human health and the
 16 environment;
 17 C. Current actions being taken to remove liquids from secondary containment.
- 18 **III.10.E.5.k** The Permittees will operate the WTP Unit Tank System in accordance with Operating
 19 Unit Group 10, Chapter 4 as updated pursuant to Permit Condition [III.10.E.9.e.vi.](#) and
 20 Appendices 8.18, 9.18, 10.18, 11.18, and 13.18 of this Permit, as approved pursuant to
 21 Permit Condition [III.10.E.9.e.](#), and the following:
- 22 **III.10.E.5.k.i** The Permittees will operate the WTP Unit Tank System in order to maintain the systems
 23 and process parameters listed in Permit Tables [III.10.E.E](#) through [H](#), as
 24 approved/modified pursuant to Permit Condition [III.10.E.9.](#), within the operating trips
 25 and operating ranges specified in Permit Tables [III.10.E.E](#) through [H](#), and consistent with
 26 assumptions and basis which are reflected in Operating Unit Group 10, Appendix, 6.3. as
 27 approved pursuant to Permit Condition [III.10.C.11.b.](#)
 28 [[WAC 173-303-815\(2\)\(b\)\(ii\)](#) and [WAC 173-303-640\(5\)\(b\)](#)]. For the purposes of this
 29 permit condition, Operating Unit Group 10, Appendix 6.3 will be superseded by
 30 Appendix 6.4 upon its approval pursuant to either Permit Conditions [III.10.C.11.c.](#) or
 31 [III.10.C.11.d.](#);
- 32 **III.10.E.5.k.ii** The Permittees will calibrate/function test the instruments listed on Permit Tables
 33 [III.10.E.E](#) through [H](#) and [S](#) in accordance with Operating Unit Group 10, Appendices
 34 8.18, 9.18, 10.18, 11.18, and 13.18 of this Permit, as approved pursuant to Permit
 35 Condition [III.10.E.9.e.xi.](#)
- 36 **III.10.E.5.l** Tank systems that have the potential for formation and accumulation of hydrogen gases
 37 must be operated to maintain hydrogen levels below the lower explosive limit
 38 [[WAC 173-303-815\(2\)\(b\)\(ii\)](#)].
- 39 **III.10.E.5.m** For each tank system holding dangerous waste which are acutely or chronically toxic by
 40 inhalation, operate the system to prevent escape of vapors, fumes or other emissions into
 41 the air [[WAC 173-303-640\(5\)\(e\)](#), [WAC 173-303-806\(4\)\(c\)\(xii\)](#)].

- 1 **III.10.E.6 Inspections [WAC 173-303-640(6)]**
- 2 **III.10.E.6.a** The Permittees will inspect the WTP Unit Tank Systems in accordance with the
3 Inspection Plan in Operating Unit Group 10, Chapter 6A of this Permit, as modified
4 pursuant to Permit Condition [III.10.C.5.c](#).
- 5 **III.10.E.6.b** The inspection data for the WTP Unit Tank Systems will be recorded, and the records
6 will be placed in the WTP Unit operating record, in accordance with Permit Condition
7 [III.10.C.4](#).
- 8 **III.10.E.7 Recordkeeping (WAC 173-303-380)**
- 9 For the WTP Unit Tank Systems, the Permittees will record and maintain in the WTP
10 Unit operating record, all monitoring, calibration, recording, maintenance, test data, and
11 inspection data compiled under the conditions of this Permit, in accordance with Permit
12 Conditions [III.10.C.4](#) and [III.10.C.5](#).
- 13 **III.10.E.8 Closure**
- 14 The Permittees will close the WTP Unit Tank Systems in accordance with Operating Unit
15 Group 10, Chapter 11 of this Permit, as approved pursuant to Permit Condition
16 [III.10.C.8](#).
- 17 **III.10.E.9 Compliance Schedule**
- 18 **III.10.E.9.a** All information identified for submittal to Ecology in b. through e. of this compliance
19 schedule must be signed and certified in accordance with requirements in
20 [WAC 173-303-810](#)(12), as modified in accordance with Permit Condition [III.10.E.1.d](#).
21 [[WAC 173-303-806](#)(4)].
- 22 **III.10.E.9.b** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), prior
23 to construction of each secondary containment and leak detection system for the WTP
24 Unit Tank System (per level, per WTP Unit building and outside the WTP Unit
25 buildings) as identified in Permit Tables [III.10.E.A](#) through [D](#), [J](#), [L](#), [N](#), [P](#), and [S](#)
26 engineering information as specified below, for incorporation into Operating Unit Group
27 10, 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,
28 10.5, 10.7, 10.8, 10.9, 10.11, 11.4, 11.5, 11.7, 11.8, 11.9, 11.11, and 13.4, 13.5, 13.7,
29 13.8, 13.9 and 13.11 of this Permit. At a minimum, engineering information specified
30 below will show the following as required pursuant to [WAC 173-303-640](#) (the
31 information specified below will include dimensioned engineering drawings and
32 information on sumps and floor drains):
- 33 **III.10.E.9.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak detection
34 system) will include review of design drawings, calculations, and other information on
35 which the certification report is based and will include as applicable, but not limited to,
36 review of such information described below. Information (drawings, specifications, etc.)
37 already included in Operating Unit Group 10, Appendices 8.0 through 11.0 of this
38 Permit, may be included in the report by reference and should include drawing and
39 document numbers. IQRPE Reports will be consistent with the information separately
40 provided in Permit Conditions [III.10.E.9.b.ii](#) through [ix](#) below. The IQRPE Report(s)
41 (specific to foundation, secondary containment and leak detection system) for the LAW
42 and HLW buildings (-21 foot elevation only) will be submitted with the first IQRPE

- 1 Report for tanks, identified in Permit Condition [III.10.E.9.c.i.](#) [[WAC 173-303-640](#)(3)(a),
2 [WAC 173-303-806](#)(4)(c)(i)];
- 3 **III.10.E.9.b.ii** Design drawings (General Arrangement Drawings in plan) and specifications for the
4 foundation, secondary containment, including, liner installation details, and leak
5 detection methodology [Note: leak detection systems for areas where daily, direct, or
6 remote visual inspection is not feasible, will be continuous in accordance with
7 [WAC 173-303-640](#)(4)(e)(iii)(C)]. These items should show the dimensions, volume
8 calculations, and location of the secondary containment system, and should include items
9 such as floor/pipe slopes to sumps, tanks, floor drains [[WAC 173-303-640](#)(4)(b) through
10 (f), [WAC 173-303-640](#)(3)(a), [WAC 173-303-806](#)(4)(c)(i)];
- 11 **III.10.E.9.b.iii** The Permittees will provide the design criteria (references to codes and standards, load
12 definitions, and load combinations, materials of construction, and analysis/design
13 methodology) and typical design details for the support of the secondary containment
14 system. This information will demonstrate the foundation will be capable of providing
15 support to the secondary containment system, resistance to pressure gradients above and
16 below the system, and capable of preventing failure due to settlement, compression, or
17 uplift [[WAC 173-303-640](#)(4)(c)(ii),
18 [WAC 173-303-806](#)(4)(c)(vii)];
- 19 **III.10.E.9.b.iv** A description of materials and equipment used to provide corrosion protection for
20 external metal components in contact with soil, including factors affecting the potential
21 for corrosion as required under [WAC 173-303-640](#)(3)(a)(iii)(B)
22 [[WAC 173-303-806](#)(4)(c)(v)];
- 23 **III.10.E.9.b.v** Secondary containment/foundation and leak detection system materials selection
24 documentation (including, but not limited to, concrete coatings and water stops, and liner
25 materials as applicable) [[WAC 173-303-806](#)(4)(c)(i)];
- 26 **III.10.E.9.b.vi** Detailed description of how the secondary containment for each tank system will be
27 installed in compliance with [WAC 173-303-640](#)(3)(c) [[WAC 173-303-806](#)(4)(c)(vi)];
- 28 **III.10.E.9.b.vii** Submit Permit Tables [III.10.E.J](#), [L](#), [N](#), [P](#), and [S](#) completed to provide for all secondary
29 containment sumps and floor drains, the information as specified in each column heading,
30 consistent with information to be provided in Permit Conditions [III.10.E.9.b.i.](#) through [vi.](#)
31 above;
- 32 **III.10.E.9.b.viii** Documentation that secondary containment and leak detection systems will not
33 accumulate hydrogen gas levels above the lower explosive limit and in accordance with
34 Appendix 7.15 for incorporation into the Administrative Record
35 [[WAC 173-303-340](#)].
- 36 **III.10.E.9.b.ix** A detailed description of how tank system design provides access for conducting future
37 tank integrity assessments [[WAC 173-303-640](#)(3)(b), [WAC 173-303-806](#)(4)(c)(vi)];
- 38 **III.10.E.9.c** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
39 to installation of each tank as identified in Permit Tables [III.10.E.A](#) through [D](#), and [I](#), [K](#),
40 [M](#), [O](#), and [R](#) engineering information as specified below, for incorporation into Operating
41 Unit Group 10, Appendices 8.1 through 8.9, 8.11 through 8.14, 9.1 through 9.9, 9.11
42 through 9.14, 10.1 through 10.9, 10.11 through 10.14, 11.1 through 11.9, 11.11 through
43 11.14, 13.1 through 13.9, and 13.11 through 13.14 of this Permit. Tanks will include
44 primary sumps. At a minimum, engineering information specified below will show the

1 following as required pursuant to [WAC 173-303-640](#) (the information specified below
2 will include dimensioned engineering drawings):

- 3 **III.10.E.9.c.i** IQRPE Reports (specific to tanks) will include review of design drawings, calculations,
4 and other information on which the certification report is based and will include as
5 applicable, but not limited to, review of such information described below. Information
6 (drawings, specifications, etc.) already included in Operating Unit Group 10, Appendices
7 8.0 through 13.0 of this Permit, may be included in the report by reference and should
8 include drawing and document numbers. The IQRPE Reports will be consistent with the
9 information separately provided in Permit Conditions [III.10.E.9.c.ii](#), through [xii](#), below
10 and the IQRPE Report specified in Permit Condition [III.10.E.9.b.i](#), [[WAC 173-303-](#)
11 [640](#)(3)(a), [WAC 173-303-806](#)(4)(c)(i)];
- 12 **III.10.E.9.c.ii** Design drawings (General Arrangement Drawings in plan , Process Flow Diagrams,
13 Piping and Instrumentation Diagrams [including pressure control systems], Mechanical
14 Drawings) and specifications, and other information, specific to tanks (to show location
15 and physical attributes of each tank) [[WAC 173-303-640](#)(3)(a),
16 [WAC 173-303-806](#)(4)(c)(i) through (iv)];
- 17 **III.10.E.9.c.iii** The Permittees will provide the design criteria (references to codes and standards, load
18 definitions, and load combinations, materials of construction, and analysis/design
19 methodology) and typical design details for the support of the tank(s). Structural support
20 calculations specific to off-specification, non-standard, and field fabricated tanks will be
21 submitted for incorporation into the Administrative Record [[WAC 173-303-640](#)(3)(a),
22 [WAC 173-303-806](#)(4)(c)(i)];
- 23 **III.10.E.9.c.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 potential
25 for corrosion as required under [WAC 173-303-640](#)(3)(a)(iii)(B)
26 [[WAC 173-303-806](#)(4)(c)(v)];
- 27 **III.10.E.9.c.v** Tank materials selection documentation (e.g., physical and chemical tolerances)
28 [[WAC 173-303-640](#)(3)(a), [WAC 173-303-806](#)(4)(c)(i)];
- 29 **III.10.E.9.c.vi** Tank vendor information (including, but not limited to required performance warranties,
30 as available), consistent with information submitted under ii. above, will be submitted for
31 incorporation into the Administrative Record [[WAC 173-303-640](#), and [WAC 173-303-](#)
32 [806](#)(4)(c)];
- 33 **III.10.E.9.c.vii** System Descriptions related to tanks will be submitted for incorporation into the
34 Administrative Record;
- 35 **III.10.E.9.c.viii** Mass balance for each projected operating condition, including assumptions and formulas
36 used to complete the mass balance, so that they can be independently verified, and will
37 be submitted for incorporation into the Administrative Record;
- 38 **III.10.E.9.c.ix** A detailed description of how the tanks will be installed in compliance with
39 [WAC 173-303-640](#)(3)(c), (d), and (e) [[WAC 173-303-806](#)(4)(c)(vi)];
- 40 **III.10.E.9.c.x** Submit Permit Tables [III.10.E.I](#), [K](#), [M](#), [O](#), and [R](#) completed to provide for all primary
41 containment sumps and floor drains, the information as specified in each column heading,

- 1 consistent with information to be provided in Permit Conditions [III.10.E.9.c.i.](#) through
2 [ix.](#);
- 3 **III.10.E.9.c.xi** Documentation that tanks are designed to prevent the accumulation of hydrogen gas
4 levels above the lower explosive limit for incorporation into the Administrative Record
5 [\[WAC 173-303-340\]](#);
- 6 **III.10.E.9.c.xii** Documentation that tanks are designed to prevent escape of vapors and emissions of
7 acutely or chronically toxic (upon inhalation) Extremely Hazardous Waste limit and in
8 accordance with Appendix 7.15 for incorporation into the Administrative Record
9 [\[WAC 173-303-640\(5\)\(e\), WAC 173-303-806\(4\)\(c\)\(xii\)\]](#);
- 10 **III.10.E.9.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
11 to installation of ancillary equipment for each tank system, as identified in Permit Tables
12 [III.10.E.A.](#), through [D](#), [I](#) through [P](#), and [R](#) through [T](#) not addressed in Permit Condition
13 [III.10.E.9.c.](#), engineering information as specified below, for incorporation into Operating
14 Unit Group 10, Appendices 8.1 through 8.9, 8.11 through 8.14, 9.1 through 9.9, 9.11
15 through 9.14, 10.1 through 10.9, 10.11 through 10.14, 11.1 through 11.9, 11.11 through
16 11.14, 13.1 through 13.9, and 13.11 through 13.14 of this Permit. At a minimum,
17 engineering information specified below will show the following as required pursuant to
18 [WAC 173-303-640](#) (the information specified below will include dimensioned
19 engineering drawings):
- 20 **III.10.E.9.d.i** IQRPE Reports (specific to ancillary equipment) will include a review of design
21 drawings, calculations, and other information as applicable, on which the certification
22 report is based. The reports will include, but not be limited to, review of such
23 information described below. Information (drawings, specifications, etc.) already
24 included in Operating Unit Group 10, Appendix 8.0 through 13.0 of this Permit, may be
25 included in the report by reference and should include drawing and document numbers.
26 The IQRPE Reports will be consistent with the information provided separately in Permit
27 Conditions [III.10.E.9.d.ii.](#) through [xiii.](#), below and the IQRPE Reports specified in Permit
28 Conditions [III.10.E.9.b](#) and [III.10.E.9.c.](#)
29 [\[WAC 173-303-640\(3\)\(a\), WAC 173-303-806\(4\)\(c\)\(i\)\]](#);
- 30 **III.10.E.9.d.ii** Design drawings (Process Flow Diagrams, Piping and Instrumentation Diagrams
31 [including pressure control systems], etc.) specifications (including required performance
32 warranties), and other information specific to ancillary equipment (these drawings should
33 include all equipment such as pipe, valves, fittings, pumps, instruments, etc.) [\[WAC 173-](#)
34 [303-640\(3\)\(a\), WAC 173-303-806\(4\)\(c\)\(i\), \(iii\), \(iv\)\]](#);
- 35 **III.10.E.9.d.iii** The Permittees will provide the design criteria (references to codes and standards, load
36 definitions, and load combinations, materials of construction, and analysis/design
37 methodology) and typical design details for the support of the ancillary equipment [\[WAC](#)
38 [173-303-640\(3\)\(a\), WAC 173-303-640\(3\)\(f\),](#)
39 [WAC 173-303-806\(4\)\(c\)\(i\)\]](#);
- 40 **III.10.E.9.d.iv** A description of materials and equipment used to provide corrosion protection for
41 external metal components in contact with soil and water, including factors affecting the
42 potential for corrosion as required under [WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#)
43 [\[WAC 173-303-806\(4\)\(c\)\(v\)\]](#);
- 44 **III.10.E.9.d.v** Materials selection documentation for ancillary equipment (e.g., physical and chemical
45 tolerances) [\[WAC 173-303-640\(3\)\(a\), WAC 173-303-806\(4\)\(c\)\(i\)\]](#);

- 1 **III.10.E.9.d.vi** Vendor information, consistent with information submitted under [ii](#), above, will be
 2 submitted for incorporation into the Administrative Record [[WAC 173-303-640](#), and
 3 [WAC 173-303-806](#)(4)(c)];
- 4 **III.10.E.9.d.vii** Tank, ancillary equipment, and leak detection system instrument control logic narrative
 5 description (e.g., descriptions of fail-safe conditions, etc.);
- 6 **III.10.E.9.d.viii** System Descriptions related to ancillary equipment and system descriptions
 7 related to leak detection systems, , for incorporation into the Administrative Record;
- 8 **III.10.E.9.d.ix** A detailed description of how the ancillary equipment will be installed and tested
 9 [[WAC 173-303-640](#)(3)(c) through (e), [WAC 173-303-640](#)(4)(b) and (c), and
 10 [WAC 173-303-806](#)(4)(c)(vi)];
- 11 **III.10.E.9.d.x** For process monitoring, control, and leak detection system instrumentation for the WTP
 12 Unit Tank System as identified in Permit Tables [III.10.E.E](#) through [H](#), and [R](#) through [S](#), a
 13 detailed description of how the process monitoring, control, and leak detection system
 14 instrumentation will be installed and tested [[WAC 173-303-640](#)(3)(c) through (e), [WAC](#)
 15 [173-303-640](#)(4)(b) and (c), [WAC 173-303-806](#)(4)(c)(vi)];
- 16 **III.10.E.9.d.xi** Mass balance for projected normal operating condition used in developing the process
 17 and instrumentation diagrams, including assumptions and formulas used to complete the
 18 mass balance, so that they can be independently verified, for incorporation into the
 19 Administrative Record;
- 20 **III.10.E.9.d.xii** Documentation that ancillary equipment is designed to prevent the accumulation of
 21 hydrogen gas levels above the lower explosive limit for incorporation into the
 22 Administrative Record [[WAC 173-303-340](#)].
- 23 **III.10.E.9.d.xiii** Leak detection system documentation (e.g. vendor information, etc.) consistent
 24 with information submitted under Permit Condition [III.10.E.9.c.ii](#), and Permit Conditions
 25 [III.10.E.9.d.ii](#), [vii](#), [viii](#), and [x](#), above, will be submitted for incorporation into the
 26 Administrative Record.
- 27 **III.10.E.9.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
 28 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), the following as
 29 specified below for incorporation into Operating Unit Group 10, Appendices 8.18, 9.18,
 30 10.18, 11.18, and 13.18 of this Permit, except Permit Condition [III.10.E.9.e.v](#), which will
 31 be incorporated into Operating Unit Group 10, Chapter 6 of this Permit. All information
 32 provided under this permit condition must be consistent with information provided
 33 pursuant to Permit Conditions [III.10.E.9.b](#), [c](#), [d](#), and [e](#), [III.10.C.3.e](#), and [III.10.C.11.b](#),
 34 as approved by Ecology.
- 35 **III.10.E.9.e.i** Integrity assessment program and schedule for all WTP Unit tanks will address the
 36 conducting of periodic integrity assessments on all WTP Unit tanks over the life of the
 37 tank, in accordance with [III.10.E.9.b.ix](#), and [WAC 173-303-640](#)(3)(b), and descriptions
 38 of procedures for addressing problems detected during integrity assessments. The
 39 schedule must be based on past integrity assessments, age of the tank system, materials of
 40 construction, characteristics of the waste, and any other relevant factors [[WAC 173-303-](#)
 41 [640](#)(3)(b), [WAC 173-303-806](#)(4)(c)(vi)];
- 42 **III.10.E.9.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated so
 43 that it will detect the failure of either the primary or secondary containment structure or
 44 the presence of any release of dangerous and/or mixed waste, or accumulated liquid in
 45 the secondary containment system within twenty-four (24) hours [[WAC 173-303-](#)
 46 [640](#)(4)(c)(iii)]. Detection of a leak of at least 0.1 gallons per hour within twenty-four

(24) hours is defined as being able to detect a leak within twenty-four (24) hours. Any exceptions to this criteria must be approved by Ecology [[WAC 173-303-640\(4\)\(c\)\(iii\)](#), [WAC 173-303-806\(4\)\(c\)\(vii\)](#)];

- A. Dangerous waste pipe penetrations that require a penetration seal in accordance with the International Building Code (IBC) and DOE-STD-1066, DOE Standard for Fire Protection Design Criteria, or to meet ventilation sealing requirements identified in [Table III.10.E.Q](#), are not required to meet the 0.1 gallons per hour within twenty-four (24) hours leak detection rate for those sections of piping that are in contact with approved silicone or equivalent low-permeability seal material.
- B. Piping on either side of the penetration seal must meet the requirements of III.10.E.9.e.ii.
- C. Revisions (including additions or deletions to [Table III.10.E.Q](#) will be submitted to Ecology for review and approval pursuant to Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#). Addition of penetration seal locations to [Table III.10.E.Q](#). will be approved by Ecology prior to installation of the penetration seals.

Table III.10.E.Q Tank System Penetration Seal Locations

Facility	Room No	Orientation	Discipline	Penetration Sequence No
Reserved	Reserved	Reserved	Reserved	Reserved

III.10.E.9.e.iii Detailed operational plans and descriptions, demonstrating that spilled or leaked waste and accumulated liquids can be removed from the secondary containment system within twenty-four (24) hours [[WAC 173-303-806\(4\)\(c\)\(vii\)](#)];

III.10.E.9.e.iv Descriptions of operational procedures demonstrating appropriate controls and practices are in place to prevent spills and overflows from tanks or containment systems in compliance with [WAC 173-303-640\(5\)\(b\)\(i\)](#) through (iii) [[WAC 173-303-640\(5\)\(b\)](#), [WAC 173-303-806\(4\)\(c\)\(ix\)](#)];

III.10.E.9.e.v Description of procedures for investigation and repair of tank systems [[WAC 173-303-320](#), [WAC 173-303-640\(6\)](#), [WAC 173-303-640\(7\)\(e\)](#) and (f), [WAC 173-303-806\(4\)\(a\)\(v\)](#), [WAC 173-303-806\(4\)\(c\)\(vii\)](#)];

III.10.E.9.e.vi Updated Chapter 4, Narrative Descriptions, Tables and Figures as identified in Permit Tables [III.10.E.A](#) through [D](#) (as modified pursuant to Permit Condition [III.10.E.9.e.xii](#)) and updated to identify routinely non-accessible tank systems;

III.10.E.9.e.vii Description of procedures for management of ignitable and reactive, and incompatible dangerous and/or mixed waste in accordance with [WAC 173-303-640\(9\)](#) and (10) [[WAC 173-303-806\(4\)\(c\)\(x\)](#)].

III.10.E.9.e.viii A description of the tracking system used to track dangerous and/or mixed waste throughout the WTP Unit Tank System, pursuant to [WAC 173-303-380](#).

III.10.E.9.e.ix Permit Tables [III.10.E.E](#) through [H](#), and [R](#) through [S](#), will be completed for WTP Unit Tank System process and leak detection system monitors and instruments (to include but not limited to: instruments and monitors measuring and/or controlling flow, pressure, temperature, density, pH, level, humidity, and emission) to provide the information as specified in each column heading. Process and leak detection system monitors and

1 instruments for critical systems as specified in Operating Unit Group 10, Appendix 2.0
 2 and as updated pursuant to Permit Condition [III.10.C.9.b.](#) and for operating parameters as
 3 required to comply with Permit Condition [III.10.C.3.e.iii.](#) will be addressed. Process
 4 monitors and instruments for non-waste management operations (e.g., utilities, raw
 5 chemical storage, non-contact cooling waters, etc.) are excluded from this permit
 6 condition.

7 **III.10.E.9.e.x** Supporting documentation for operating trips and expected operating range as specified
 8 in Permit Tables [III.10.E.E](#) through [H](#), and [R](#) through [S](#), as approved pursuant to Permit
 9 Condition [III.10.E.9.e.ix.](#)

10 **III.10.E.9.e.xi** Documentation of process and leak detection instruments and monitors (as listed in
 11 Permit Tables [III.10.E.E](#) through [H](#), and [R](#) through [S](#)) for the WTP Unit Tank Systems
 12 are to include but not be limited to the following:

- 13 A. Procurement specifications.
- 14 B. Location used.
- 15 C. Range, precision, and accuracy.
- 16 D. Detailed descriptions of calibration/functionality test procedures (e.g., method
 17 number [ASTM]) or provide a copy of manufacturer's recommended calibration
 18 procedures.
- 19 E. Calibration/functionality test, inspection, and routine maintenance schedules and
 20 checklists, including justification for calibration, inspection and maintenance
 21 frequencies, criteria for identifying instruments found to be significantly out of
 22 calibration, and corrective action to be taken for instruments found to be
 23 significantly out of calibration (e.g., increasing frequency of calibration,
 24 instrument replacement, etc.).
- 25 F. Equipment instrument control logic narrative description (e.g., descriptions of
 26 failsafe conditions, etc.), as identified in Permit Tables [III.10.E.E](#) through [H](#), and
 27 [R](#) through [S](#), not addressed in Permit Condition [III.10.E.9.d.](#)

28 **III.10.E.9.e.xii** Permit Tables [III.10.E.A](#) through [D](#), and [R](#) amended as follows:

- 29 A. Under column 1, update and complete list of dangerous and/or mixed waste tank
 30 systems, including plant items that comprise each system (listed by item
 31 number).
- 32 B. Under column 2, update and complete system designations.
- 33 C. Under column 3, replace the 'reserved' with the Operating Unit Group 10,
 34 Appendices 8.0, 9.0, 10.0, and 11.0, subsections specific to tank systems as listed
 35 in column 1.
- 36 D. Under column 4, update and complete list of narrative description tables and
 37 figures.
- 38 E. Under column 5, update and complete maximum capacity, for each tank.

39 **III.10.E.9.e.xiii** Permit Tables [III.10.E.I](#), [K](#), [M](#), [O](#), and [S](#) amended as follows:

- 40 A. Under column 1, replace the 'reserved' with the updated and complete list of
 41 sump numbers and room location.
- 42 B. Under column 2, replace the 'reserved' with the updated and complete maximum
 43 sump capacities in gallons.
- 44 C. Under column 3, replace the 'reserved' with the updated and complete sump
 45 dimensions and materials of construction.

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Waste Treatment and Immobilization Plant

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D. Under column 4, replace the 'reserved' with the updated and complete list of engineering descriptions (drawing numbers, specifications, etc.).

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)
<p><u>Waste Feed Receipt Process System</u></p> <p>FRP-VSL-00002A (Waste Feed Receipt Vessel)</p> <p>FRP-VSL-00002B (Waste Feed Receipt Vessel)</p> <p>FRP-VSL-00002C (Waste Feed Receipt Vessel)</p> <p>FRP-VSL-00002D (Waste Feed Receipt Vessel)</p>	<p>FRP</p>	<p><u>24590-PTF</u></p> <p>-M2-FRP-P0001, Rev 2</p> <p>-M2-FRP-P0002, Rev 2</p> <p>-M2-FRP-P0003, Rev 2</p> <p>-M2-FRP-P0004, Rev 4</p> <p>-M5-V17T-00003, Rev 2</p> <p>-M6-FRP-00001001, Rev 0</p> <p>-M6-FRP-00001002, Rev 0</p> <p>-M6-FRP-00002001, Rev 0</p> <p>-M6-FRP-00002002, Rev 0</p> <p>-M6-FRP-00003001, Rev 0</p> <p>-M6-FRP-00003002, Rev 0</p> <p>-M6-FRP-00003003, Rev 0</p> <p>-M6-FRP-00003004, Rev 0</p> <p>-M6-FRP-00003005, Rev 0</p> <p>-M6-FRP-00005001, Rev 0</p> <p>-M6-FRP-00005002, Rev 0</p> <p>-M6-FRP-00005003, Rev 0</p> <p>-M6-FRP-00005004, Rev 0</p> <p>-M6-FRP-00005005, Rev 0</p> <p>-M6-FRP-00005006, Rev 0</p> <p>-M6-FRP-00005007, Rev 0</p> <p>-M6-FRP-00005008, Rev 0</p> <p>-M6-FRP-00006001, Rev 0</p> <p>-M6-FRP-00006002, Rev 0</p>	<p>Section 4D.2.1; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2, and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>FRP-VSL-00002A = 472,900</p> <p>FRP-VSL-00002B = 472,900</p> <p>FRP-VSL-00002C = 472,900</p> <p>FRP-VSL-00002D = 472,900</p>

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)
		-M6-FRP-00006003, Rev 0 -M6-FRP-00006004, Rev 0 -M6-FRP-00006005, Rev 0 -M6-FRP-00006006, Rev 0 -M6-FRP-00006007, Rev 0 -M6-FRP-00006008, Rev 0 -M6-FRP-00007001, Rev 0 -M6-FRP-00007002, Rev 0 -M6-FRP-00007003, Rev 0 -M6-FRP-00007004, Rev 0 -M6-FRP-00007005, Rev 0 -M6-FRP-00007006, Rev 0 -M6-FRP-00007007, Rev 0 -M6-FRP-00007008, Rev 0 -M6-FRP-00008001, Rev 0 -M6-FRP-00008002, Rev 0 -M6-FRP-00008003, Rev 0 -M6-FRP-00008004, Rev 0 -M6-FRP-00008005, Rev 0 -M6-FRP-00008006, Rev 0 -M6-FRP-00008007, Rev 0 -M6-FRP-00009001, Rev 0 -M6-FRP-00010001, Rev 0 -M6-FRP-00020001, Rev 0 -M6-FRP-00020002, Rev 0		

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)
		-M6-FRP-00020003, Rev 0 -M6-FRP-00020004, Rev 0 -M6-FRP-00020005, Rev 0 -M6-FRP-00020006, Rev 0 -M6-FRP-00020007, Rev 0 -MVD-FRP-00005, Rev 12 -MVD-FRP-00006, Rev 12 -MVD-FRP-00007, Rev 12 -MVD-FRP-00008, Rev 12 -N1D-FRP-00001, Rev 7 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Waste Feed Evaporation Process System</u> FEP-VSL-00005 (Waste Feed Evaporator Condensate Vessel)	FEP	<u>24590-PTF</u> -3PS-MEVV-T0001, Rev 3 -M5-V17T-00004001, Rev 3 -M6-FEP-00001001, Rev 1 -M6-FEP-00001002, Rev 0 -M6-FEP-00001003, Rev 0 -M6-FEP-00001004, Rev 0	Section 4D.2.2; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2, and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	FEP-VSL-00005 = 5,022 FEP-VSL-00017A = 85,496 FEP-VSL-00017B = 85,496

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)
<p>FEP-VSL-00017A (Waste Feed Evaporator Feed Vessel)</p> <p>FEP-VSL-00017B (Waste Feed Evaporator Feed Vessel)</p>		<p>-M6-FEP-00003001, Rev 0</p> <p>-M6-FEP-00003002, Rev 0</p> <p>-M6-FEP-00006001, Rev 1</p> <p>-M6-FEP-00006002, Rev 1</p> <p>-M6-FEP-00006003, Rev 1</p> <p>-M6-FEP-00006004, Rev 1</p> <p>-M6-FEP-00006005, Rev 0</p> <p>-M6-FEP-00007001, Rev 1</p> <p>-M6-FEP-00007002, Rev 1</p> <p>-M6-FEP-00007003, Rev 1</p> <p>-M6-FEP-00007004, Rev 1</p> <p>-M6-FEP-00007005, Rev 0</p> <p>-M6-FEP-00008001, Rev 0</p> <p>-M6-FEP-00008002, Rev 0</p> <p>-MVD-FEP-P0001, Rev 2</p> <p>-MVD-FEP-P0002, Rev 2</p> <p>-MVD-FEP-00003, Rev 1</p> <p>-MV-FEP-P0001, Rev 0</p> <p>-MV-FEP-P0002, Rev 0</p> <p>-N1D-FEP-00002, Rev 6</p> <p>-N1D-FEP-P0003, Rev 1</p> <p>-P1-P01T-00001, Rev 8</p> <p>-P1-P01T-P0002, Rev 7</p> <p>-P1-P01T-00003, Rev. 4</p>		

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)
		<u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Ultrafiltration Process System</u> UFP-VSL-00001A (Ultrafiltration Feed Preparation Vessel) UFP-VSL-00001B (Ultrafiltration Feed Preparation Vessel) UFP-VSL-00002A (Ultrafiltration Feed Vessel) UFP-VSL-00002B (Ultrafiltration Feed Vessel) UFP-VSL-00062A (Ultrafilter Permeate Collection Vessel) UFP-VSL-00062B (Ultrafilter Permeate Collection Vessel)	UFP	<u>24590-PTF</u> -M5-V17T-00009, Rev 2 -M5-V17T-00011, Rev 2 -M6-UFP-00001001, Rev 0 -M6-UFP-00001002, Rev 0 -M6-UFP-00001003, Rev 0 -M6-UFP-00001004, Rev 0 -M6-UFP-00001005, Rev 0 -M6-UFP-00001006, Rev 0 -M6-UFP-00001007, Rev 0 -M6-UFP-00002001, Rev 0 -M6-UFP-00002002, Rev 0 -M6-UFP-00002003, Rev 0 -M6-UFP-00002004, Rev 0 -M6-UFP-00002005, Rev 0 -M6-UFP-00002006, Rev 0 -M6-UFP-00002007, Rev 1 -M6-UFP-00002008, Rev 0 -M6-UFP-00003001, Rev 0 -M6-UFP-00003002, Rev 0	Section 4D.2.3; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	UFP-VSL-00001A = 75,594 UFP-VSL-00001B = 75,594 UFP-VSL-00002A = 39,629 UFP-VSL-00002B = 40,378 UFP-VSL-00062A = 34,700 UFP-VSL-00062B = 34,700 UFP-VSL-00062C = 34,700 UFP-FILT-00001A = 474 UFP-FILT-00001B = 474 UFP-FILT-00002A = 474

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)
UFP-VSL-00062C (Ultrafilter Permeate Collection Vessel)		-M6-UFP-00003003, Rev 0		UPF-FILT-00002B = 474
UFP-FILT-00001A (Ultrafilter)		-M6-UFP-00003004, Rev 0		UPF-FILT-00003A = 474
UFP-FILT-00001B (Ultrafilter)		-M6-UFP-00003005, Rev 0		UPF-FILT-00003B = 474
UFP-FILT-00002A (Ultrafilter)		-M6-UFP-00003006, Rev 0		UPF-FILT-00004A = 380
UFP-FILT-00002B (Ultrafilter)		-M6-UFP-00003007, Rev 1		UPF-FILT-00004B = 380
UFP-FILT-00003A (Ultrafilter)		-M6-UFP-00003008, Rev 0		UPF-FILT-00005A = 380
UFP-FILT-00003B (Ultrafilter)		-M6-UFP-00004001, Rev 1		UPF-FILT-00005B = 380
UFP-FILT-00004A (Ultrafilter)		-M6-UFP-00004002, Rev 1		
UFP-FILT-00004B (Ultrafilter)		-M6-UFP-00004003, Rev 1		
UFP-FILT-00005A (Ultrafilter)		-M6-UFP-00005001, Rev 0		
UFP-FILT-00005B (Ultrafilter)		-M6-UFP-00005002, Rev 0		
UFP-FILT-00006001, Rev 0		-M6-UFP-00005003, Rev 0		
UFP-FILT-00006002, Rev 0		-M6-UFP-00005004, Rev 0		
UFP-FILT-00006003, Rev 0		-M6-UFP-00005005, Rev 0		
UFP-FILT-00006004, Rev 0		-M6-UFP-00005006, Rev 0		
UFP-FILT-00006005, Rev 0		-M6-UFP-00005007, Rev 0		
UFP-FILT-00006006, Rev 0		-M6-UFP-00006001, Rev 0		
UFP-FILT-00006007, Rev 0		-M6-UFP-00006002, Rev 0		
UFP-FILT-00007001, Rev 1		-M6-UFP-00006003, Rev 0		
UFP-FILT-00007002, Rev 1		-M6-UFP-00006004, Rev 0		

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)
		-M6-UFP-00007003, Rev 1 -M6-UFP-00007004, Rev 1 -M6-UFP-00007005, Rev 1 -M6-UFP-00007006, Rev 1 -M6-UFP-00007007, Rev 1 -M6-UFP-00009001, Rev 0 -M6-UFP-00009002, Rev 0 -M6-UFP-00009003, Rev 0 -M6-UFP-00009004, Rev 0 -M6-UFP-00009005, Rev 0 -M6-UFP-00009006, Rev 0 -M6-UFP-00010001, Rev 0 -M6-UFP-00010002, Rev 0 -M6-UFP-00010003, Rev 0 -M6-UFP-00010004, Rev 0 -M6-UFP-00010005, Rev 0 -M6-UFP-00010006, Rev 0 -M6-UFP-00010007, Rev 0 -M6-UFP-00011001, Rev 0 -M6-UFP-00011002, Rev 0 -M6-UFP-00011003, Rev 0 -M6-UFP-00011004, Rev 0 -M6-UFP-00011005, Rev 0 -M6-UFP-00015001, Rev 0 -M6-UFP-00015002, Rev 0		

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)
		-M6-UFP-00016001, Rev 0 -M6-UFP-00017001, Rev 0 -M6-UFP-00021001, Rev 0 -M6-UFP-00021002, Rev 0 -M6-UFP-00022001, Rev 0 -M6-UFP-00022002, Rev 0 -M6-UFP-00027001, Rev 0 -M6-UFP-00027002, Rev 0 -M6-UFP-00027003, Rev 0 -M6-UFP-00027004, Rev 0 -M6-UFP-00027005, Rev 0 -M6-UFP-00027006, Rev 0 -M6-UFP-00027007, Rev 0 -MLD-UFP-P0007, Rev 1 -MVD-UFP-00001, Rev 12 -MVD-UFP-00014, Rev 11 -MVD-UFP-00015, Rev 11 -MVD-UFP-00002, Rev 12 -MVD-UFP-00005, Rev 11 -MVD-UFP-00006, Rev 11 -MVD-UFP-00007, Rev 11 -MV-UFP-00001001, Rev 1 -MV-UFP-00001002, Rev 1 -MV-UFP-00001003, Rev 1 -MV-UFP-00002001, Rev 1		

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)
		-MV-UFP-00002002, Rev 1 -MV-UFP-00002003, Rev 1 -MV-UFP-00003, Rev 6 -MV-UFP-00004, Rev 6 -MV-UFP-P0005, Rev 0 -MV-UFP-P0006, Rev 0 -MV-UFP-P0007, Rev 0 -MV-UFP-00016, Rev 3 -MV-UFP-00017, Rev 3 -MV-UFP-00018, Rev 3 -MV-UFP-00028, Rev 1 -MV-UFP-00029, Rev 1 -MV-UFP-00030, Rev 1 -MV-UFP-00031, Rev 1 -N1D-UFP-P0001, Rev 2 -N1D-UFP-P0002, Rev 2 -N1D-UFP-00003, Rev 5 -N1D-UFP-P0004, Rev 3 -N1D-UFP-P0005, Rev 2 -N1D-UFP-P0008, Rev 2 -N1D-UFP-00009, Rev 2 -P1-P01T-00001, Rev 8 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9		

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)
		-3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<p><u>HLW Lag Storage and Feed Blending Process System</u></p> <p>HLP-VSL-00022 (HLW Feed Receipt Vessel)</p> <p>HLP-VSL-00027A (HLW Lag Storage Vessel)</p> <p>HLP-VSL-00027B (HLW Lag Storage Vessel)</p> <p>HLP-VSL-00028 (HLW Feed Blend Vessel)</p>	HLP	<p><u>24590-PTF</u></p> -M5-V17T-00007, Rev 2 -M5-V17T-00008, Rev 3 -M6-HLP-00001001, Rev 0 -M6-HLP-00001002, Rev 0 -M6-HLP-00001003, Rev 1 -M6-HLP-00001004, Rev 0 -M6-HLP-00002001, Rev 0 -M6-HLP-00002002, Rev 1 -M6-HLP-00003001, Rev 0 -M6-HLP-00003002, Rev 1 -M6-HLP-00003003, Rev 1 -M6-HLP-00005001, Rev 0 -M6-HLP-00005002, Rev 0 -M6-HLP-00005003, Rev 0 -M6-HLP-00005004, Rev 0 -M6-HLP-00005005, Rev 0 -M6-HLP-00005006, Rev 0 -M6-HLP-00005007, Rev 0 -M6-HLP-00006001, Rev 0 -M6-HLP-00006002, Rev 0 -M6-HLP-00006003, Rev 0	Section 4D.2.4; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	<p>HLP-VSL-00022 = 268,800</p> <p>HLP-VSL-00027A = 127,260</p> <p>HLP-VSL-00027B = 127,260</p> <p>HLP-VSL-00028 = 142,200</p>

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)
		-M6-HLP-00006004, Rev 0 -M6-HLP-00006005, Rev 0 -M6-HLP-00006006, Rev 0 -M6-HLP-00006007, Rev 0 -M6-HLP-00007001, Rev 0 -M6-HLP-00007002, Rev 0 -M6-HLP-00007003, Rev 0 -M6-HLP-00007004, Rev 0 -M6-HLP-00007005, Rev 0 -M6-HLP-00007006, Rev 0 -M6-HLP-00007007, Rev 0 -M6-HLP-00009001, Rev 0 -M6-HLP-00009002, Rev 0 -M6-HLP-00009003, Rev 0 -M6-HLP-00010001, Rev 0 -M6-HLP-00010002, Rev 0 -M6-HLP-00010003, Rev 0 -M6-HLP-00027001, Rev 0 -M6-HLP-00027002, Rev 0 -M6-HLP-00027003, Rev 0 -M6-HLP-00027004, Rev 0 -M6-HLP-00027005, Rev 0 -M6-HLP-00027006, Rev 0 -M6-HLP-00028004, Rev 0 -M6-HLP-00028005, Rev 0		

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)
		-M6-HLP-00028006, Rev 0 -MVD-HLP-00006, Rev 8 -MVD-HLP-00007, Rev 8 -MVD-HLP-00008, Rev 9 -MVD-HLP-00009, Rev 8 -MV-HLP-00003001, Rev 1 -MV-HLP-00004, Rev 3 -MV-HLP-00005, Rev 3 -MV-HLP-00006, Rev 3 -N1D-HLP-00001, Rev 6 -N1D-HLP-P0003, Rev 1 -N1D-HLP-00007, Rev 6 -N1D-HLP-00010, Rev 6 -P1-P01T-00001, Rev 8 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0003, Rev 3		

<p>Cesium Ion Exchange Process System</p> <p>CXP-VSL-00004 (Cesium Ion Exchange Feed)</p> <p>CXP-VSL-00026A (Cesium Ion Exchange Treated LAW Collection Vessel)</p> <p>CXP-VSL-00026B (Cesium Ion Exchange Treated LAW Collection Vessel)</p> <p>CXP-VSL-00026C (Cesium Ion Exchange Treated LAW Collection Vessel)</p> <p>CXP-IXC-00001 (Cesium Ion Exchange Column)</p> <p>CXP-IXC-00002 (Cesium Ion Exchange Column)</p> <p>CXP-IXC-00003 (Cesium Ion Exchange Column)</p> <p>CXP-IXC-00004 (Cesium Ion Exchange Column)</p>	<p>CXP</p>	<p>24590-PTF</p> <p>-M5-V17T-00012001, Rev 0</p> <p>-M5-V17T-00012002, Rev 0</p> <p>-M5-V17T-00013, Rev 3</p> <p>-M5-V17T-00025, Rev 1</p> <p>-M6-CXP-00001002, Rev 1</p> <p>-M6-CXP-00001003, Rev 1</p> <p>-M6-CXP-00001004, Rev 2</p> <p>-M6-CXP-00001006, Rev 0</p> <p>-M6-CXP-00001007, Rev 0</p> <p>-M6-CXP-00002001, Rev 1</p> <p>-M6-CXP-00002002, Rev 1</p> <p>-M6-CXP-00003001, Rev 1</p> <p>-M6-CXP-00003002, Rev 1</p> <p>-M6-CXP-00003003, Rev 0</p> <p>-M6-CXP-00005001, Rev 1</p> <p>-M6-CXP-00005002, Rev 1</p> <p>-M6-CXP-00005003, Rev 1</p> <p>-M6-CXP-00005004, Rev 0</p> <p>-M6-CXP-00007, Rev 2</p> <p>-M6-CXP-000100001, Rev 0</p> <p>-M6-CXP-000100002, Rev 0</p> <p>-M6-CXP-000100003, Rev 0</p> <p>-M6-CXP-000100004, Rev 0</p> <p>-M6-CXP-00011001, Rev 0</p> <p>-M6-CXP-00011002, Rev 0</p> <p>-M6-CXP-00011003, Rev 0</p> <p>-M6-CXP-00011004, Rev 0</p> <p>-M6-CXP-00011005, Rev 0</p>	<p>Section 4D.2.5; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>CXP-VSL-00004 = 10,633</p> <p>CXP-VSL-00026A = 38,000</p> <p>CXP-VSL-00026B = 38,000</p> <p>CXP-VSL-00026C = 38,000</p> <p>CXP-IXC-00001 = 680</p> <p>CXP-IXC-00002 = 680</p> <p>CXP-IXC-00003 = 680</p> <p>CXP-IXC-00004 = 680</p>
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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)
		-M6-CXP-00011006, Rev 0 -M6-CXP-00011007, Rev 0 -M6-CXP-00012001, Rev 0 -M6-CXP-00012002, Rev 0 -M6-CXP-00012003, Rev 0 -M6-CXP-00012004, Rev 0 -M6-CXP-00013, Rev 2 -MV-CXP-P0002, Rev 0 -MV-CXP-P0008, Rev 0 -MV-CXP-P0009, Rev 0 -MV-CXP-P0010, Rev 0 -MVD-CXP-P0015, Rev 0 -MVD-CXP-P0021, Rev 1 -MVD-CXP-P0022, Rev 1 -MVD-CXP-P0023, Rev 1 -N1D-CXP-P0003, Rev 1 -N1D-CXP-P0007, Rev 1 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		

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)
<p><u>Cesium Nitric Acid Recovery Process System</u></p> <p>CNP-VSL-00001 (Cesium Evaporator Eluant Lute Pot)</p> <p>CNP-VSL-00003 (Eluate Contingency Storage Vessel)</p> <p>CNP-VSL-00004 (Cesium Evaporator Recovered Nitric Acid Vessel)</p>	<p>CNP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00014, Rev 2</p> <p>-M6-CNP-00001001, Rev 0</p> <p>-M6-CNP-00001002, Rev. 0</p> <p>-M6-CNP-00001003, Rev. 0</p> <p>-M6-CNP-00002001, Rev 0</p> <p>-M6-CNP-00002002, Rev 0</p> <p>-M6-CNP-00002003, Rev 0</p> <p>-M6-CNP-00003001, Rev 0</p> <p>-M6-CNP-00003002, Rev 0</p> <p>-M6-CNP-00003003, Rev 0</p> <p>-M6-CNP-00003004, Rev 0</p> <p>-M6-CNP-00004, Rev 3</p> <p>-M6-CNP-00005, Rev 2</p> <p>-MV-CNP-P0001, Rev 0</p> <p>-MV-CNP-P0002, Rev 1</p> <p>-MV-CNP-P0005, Rev 0</p> <p>-MVD-CNP-P0003, Rev 1</p> <p>-MVD-CNP-P0007, Rev 2</p> <p>-MVD-CNP-P0010, Rev 0</p> <p>-N1D-CNP-P0006, Rev 3</p> <p>-N1D-CNP-P0009, Rev 1</p> <p>-N1D-CNP-P0011, Rev 1</p> <p>-P1-P01T-00001, Rev 7</p>	<p>Section 4D.2.6; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>CNP-VSL-00001 = 109</p> <p>CNP-VSL-00003 = 21,713</p> <p>CNP-VSL-00004 = 11,115</p>

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)
<p><u>Treated LAW Concentrate Storage Process System</u></p> <p>TCP-VSL-00001 (Treated LAW Concentrate Storage Vessel)</p>	TCP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00006, Rev 1 -M6-TCP-00001001, Rev 1 -M6-TCP-00001002, Rev 1 -M6-TCP-00001003, Rev 0 -M6-TCP-00002001, Rev 0 -M6-TCP-00002002, Rev 0 -M6-TCP-00002003, Rev 0 -M6-TCP-00002004, Rev 0 -M6-TCP-00002005, Rev 0 -MV-TCP-P0002, Rev 1 -MVD-TCP-P0002, Rev 2 -N1D-TCP-P0001, Rev 2 -P1-P01T-00001, Rev 8</p> <p><u>24590-WTP</u></p> <p>-3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3</p>	Section 4D.2.12; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	TCP-VSL-00001 = 146,740
<p><u>Treated LAW Evaporation Process System</u></p> <p>TLP-VSL-00002 (Treated LAW Evaporator Condensate Vessel)</p>	TLP	<p><u>24590-PTF</u></p> <p>-3PS-MEVV-T0001, Rev 3 -M5-V17T-00005, Rev 2 -M6-TLP-00001, Rev 3 -M6-TLP-00002001, Rev 0</p>	Section 4D.2.11; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	<p>TLP-VSL-00002 = 2,227</p> <p>TLP-VSL-00009A = 130,010</p> <p>TLP-VSL-00009B = 130,010</p>

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)
<p>TLP-VSL-00009A (LAW SBS Condensate Receipt Vessel)</p> <p>TLP-VSL-00009B (LAW SBS Condensate Receipt Vessel)</p>		<p>-M6-TLP-00002002, Rev 0 -M6-TLP-00002003, Rev 0 -M6-TLP-00002004, Rev 0 -M6-TLP-00003001, Rev 0 -M6-TLP-00003002, Rev 0 -M6-TLP-00003003, Rev 0 -M6-TLP-00003004, Rev 0 -M6-TLP-00005001, Rev 0 -M6-TLP-00005002, Rev 0 -M6-TLP-00005003, Rev 0 -M6-TLP-00005004, Rev 0 -M6-TLP-00005005, Rev 0 -M6-TLP-00006001, Rev 0 -M6-TLP-00006002, Rev 0 -M6-TLP-00006003, Rev 0 -M6-TLP-00006004, Rev 0 -M6-TLP-00006005, Rev 0 -MVD-TLP-P0001, Rev 2 -MVD-TLP-P0002, Rev 2 -MVD-TLP-00004, Rev 1 -MV-TLP-P0001, Rev 1 -MV-TLP-P0002, Rev 1 -N1D-TLP-P0001, Rev 2 -N1D-TLP-P0006, Rev 1 -P1-P01T-00001, Rev 8</p>		

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)
		-P1-P01T-00002, Rev 7 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Spent Resin and Dewatering Process System</u> RDP-VSL-00002A (Spent Resin Slurry Vessel) RDP-VSL-00002B (Spent Resin Slurry Vessel) RDP-VSL-00002C (Spent Resin Slurry Vessel) RDP-VSL-00004 (Spent Resin Dewatering Moisture Separation Vessel)	RDP	<u>24590-PTF</u> -3PS-MWD0-TP003, Rev 1 -M5-V17T-00020, Rev 2 -M6-RDP-00001001, Rev 0 -M6-RDP-00001002, Rev 0 -M6-RDP-00001003, Rev 0 -M6-RDP-00001004, Rev 0 -M6-RDP-00001005, Rev 0 -M6-RDP-00002, Rev 4 -M6-RDP-00006, Rev 3 -MVD-RDP-P0005, Rev 1 -MVD-RDP-P0006, Rev 1 -MVD-RDP-P0007, Rev 3 -MVD-RDP-P0008, Rev 0 -MV-RDP-P0001, Rev 0 -MV-RDP-P0002, Rev 0 -MV-RDP-P0003, Rev 0 -P1-P01T-00001, Rev 8	Section 4D.2.13; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	RDP-VSL-00002A = 15,230 RDP-VSL-00002B = 15,230 RDP-VSL-00002C = 15,230 RDP-VSL-00004 = 101

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)
		<u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Pretreatment Plant Radioactive Liquid Waste Disposal System</u> RLD-TK-00006A (Process Condensate Tank) RLD-TK-00006B (Process Condensate Tank) RLD-VSL-00017A (Alkaline Effluent Vessel) RLD-VSL-00017B (Alkaline Effluent Vessel)	RLD	<u>24590-PTF</u> -M5-V17T-00022003, Rev 2 -M5-V17T-00022004, Rev 3 -M6-RLD-00001001, Rev 0 -M6-RLD-00001002, Rev 0 -M6-RLD-00001003, Rev 0 -M6-RLD-00001004, Rev 0 -M6-RLD-00002001, Rev 0 -M6-RLD-00002002, Rev 0 -M6-RLD-00002003, Rev 0 -M6-RLD-00003001, Rev 0 -M6-RLD-00003002, Rev 0 -M6-RLD-00003003, Rev 0 -M6-RLD-00004, Rev 2 -M6-RLD-00005, Rev 3 -M6-RLD-00006, Rev 3 -M6-RLD-00007001, Rev 0 -MVD-RLD-P0005, Rev 3 -MVD-RLD-P0006, Rev 3 -MV-RLD-P0001, Rev 0	Section 4D.2.16; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	RLD-TK-00006A = 343,734 RLD-TK-00006B = 343,734 RLD-VSL-00017A = 34,340 RLD-VSL-00017B = 34,340

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)
		-MV-RLD-P0002, Rev 0 -N1D-RLD-P0002, Rev 2 -P1-P01T-00001, Rev 8 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Pretreatment Plant Wash and Disposal System</u> PWD-VSL-00015 (Acidic/Alkaline Effluent Vessel) PWD-VSL-00016 (Acidic/Alkaline Effluent Vessel) PWD-VSL-00033 (Ultimate Overflow Vessel) PWD-VSL-00043 (HLW Effluent Transfer Vessel) PWD-VSL-00044 (Plant Wash Vessel)	PWD	<u>24590-PTF</u> -M5-V17T-00022001, Rev 2 -M5-V17T-00022002, Rev 2 -M6-PWD-00001, Rev 2 -M6-PWD-00002001, Rev 0 -M6-PWD-00002002, Rev 0 -M6-PWD-00003001, Rev 0 -M6-PWD-00003002, Rev 0 -M6-PWD-00003003, Rev 0 -M6-PWD-00003004, Rev 0 -M6-PWD-00005, Rev 3 -M6-PWD-00006, Rev 2 -M6-PWD-00007, Rev 3 -M6-PWD-00008, Rev 3 -M6-PWD-00009, Rev 3 -M6-PWD-00010, Rev 3	Section 4D.2.15; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	PWD-VSL-00015 = 119,150 PWD-VSL-00016 = 119,150 PWD-VSL-00033 = 41,650 PWD-VSL-00043 = 41,650 PWD-VSL-00044 = 103,024 PWD-VSL-00046 = 4,982

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)
PWD-VSL-00046 (C3 Floor Drain Collection Vessel)		-M6-PWD-00011, Rev 2 -M6-PWD-00012, Rev 2 -M6-PWD-00014, Rev 3 -M6-PWD-P0018, Rev 0 -M6-PWD-P0019, Rev 0 -M6-PWD-00020001, Rev 0 -M6-PWD-00020002, Rev 0 -M6-PWD-00020003, Rev 0 -M6-PWD-00020004, Rev 0 -M6-PWD-00020005, Rev 0 -M6-PWD-00020006, Rev 0 -M6-PWD-00021001, Rev 0 -M6-PWD-00021002, Rev 0 -M6-PWD-00021003, Rev 0 -M6-PWD-00021004, Rev 0 -M6-PWD-00021005, Rev 0 -M6-PWD-00021006, Rev 0 -M6-PWD-00023001, Rev 0 -M6-PWD-00023002, Rev 0 -M6-PWD-00023003, Rev 0 -M6-PWD-00023004, Rev 0 -M6-PWD-00023005, Rev 0 -M6-PWD-00024001, Rev 0 -M6-PWD-00024002, Rev 0 -M6-PWD-00024003, Rev 0		

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)
		-M6-PWD-00024004, Rev 0 -M6-PWD-00024005, Rev 0 -M6-PWD-00024006, Rev 0 -M6-PWD-00024007, Rev 0 -M6-PWD-00025001, Rev 0 -M6-PWD-00025002, Rev 0 -M6-PWD-00025003, Rev 0 -M6-PWD-00025004, Rev 0 -M6-PWD-00026, Rev 2 -M6-PWD-00029, Rev 3 -M6-PWD-00033, Rev 2 -M6-PWD-00041, Rev 3 -M6-PWD-00043, Rev3 -M6-PWD-00044, Rev 3 -M6-PWD-00046, Rev 2 -M6-PWD-00050, Rev 2 -M6-PWD-00051, Rev 2 -M6-PWD-00057, Rev 4 -M6-PWD-00058001, Rev 0 -M6-PWD-00058002, Rev 0 -MVD-PWD-P0001, Rev 3 -MVD-PWD-00002, Rev 8 -MVD-PWD-P0003, Rev 2 -MVD-PWD-P0010, Rev 1 -MVD-PWD-P0011, Rev 3		

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)
		-MVD-PWD-P0012, Rev 3 -MV-PWD-P0001001, Rev 1 -MV-PWD-P0001002, Rev 1 -MV-PWD-P0003001 , Rev 1 -MV-PWD-P0003002, Rev 1 -MV-PWD-P0005, Rev 1 -MV-PWD-P0006, Rev 1 -MV-PWD-P0007, Rev 1 -MV-PWD-P0010, Rev 1 -N1D-PWD-P0001, Rev 1 -N1D-PWD-00002, Rev 5 -N1D-PWD-P0003, Rev 3 -N1D-PWD-P0005, Rev 2 -N1D-PWD-P0006, Rev 2 -P1-P01T-00001, Rev 8 -P1-P01T-00006, Rev 4		
<p><u>Pretreatment Vessel Vent Process System</u></p> <p>PVP-VSL-00001 (Vessel Vent HEME Drain Collection Vessel)</p>	PVP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021002, Rev 2 -M5-V17T-00021004, Rev 2 -M6-PVP-00002, Rev 3 -M6-PVP-00004001, Rev 0 -M6-PVP-00004002, Rev 0 -M6-PVP-00017001, Rev 0 -M6-PVP-00017002, Rev 0</p>	<p>Section 4D.4.2; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	PVP-VSL-00001 = 1,969

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)
		-M6-PVP-00017003, Rev 0 -M6-PVP-00018001, Rev 1 -M6-PVP-00018002, Rev 0 -MVD-PVP-P0001, Rev 0 -MV-PVP-P0002, Rev 1 -N1D-PVP-P0002, Rev 1 -P1-P01T-00001, Rev 8 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Pretreatment In-Cell Handling System</u> PIH-TK-00001 (Decontamination Soak Tank)	PIH	<u>24590-PTF</u> -M6-PIH-00001001, Rev 0 -M6-PIH-00001002, Rev 0 -P1-P01T-00001, Rev 8 <u>24590-WTP</u> -3PS-HD00-T0001, Rev 4	Section 4.D.2.14; Tables 4D-1 and 4D-3; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	PIH-TK-00001 = 1504

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

Dangerous and/or Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
<p><u>LAW Concentrate Receipt Process System</u></p> <p>LCP-VSL-00001 (LAW Melter 1 Concentrate Receipt Vessel)</p> <p>LCP-VSL-00002 (LAW Melter 2 Concentrate Receipt Vessel)</p>	LCP	<p><u>24590-LAW</u></p> <p>-M5-V17T-00001, Rev 6</p> <p>-M5-V17T-00002, Rev 6</p> <p>-M6-LCP-00001002, Rev 0</p> <p>-M6-LCP-00001003, Rev 0</p> <p>-M6-LCP-00002003, Rev 0</p> <p>-M6-LCP-00002004, Rev 0</p> <p>-MV-LCP-P0001, Rev 0</p> <p>-MV-LCP-P0002, Rev 0</p> <p>-MVD-LCP-P0004, Rev 1</p> <p>-MVD-LCP-P0005, Rev 1</p> <p>-N1D-LCP-P0001, Rev 1</p> <p>-P1-P01T-00002, Rev 7</p>	Section 4E.2.1; Tables 4E-1 and 4E-3; and Figures 4A-1 and 4A-3 of Operating Unit Group 10, Chapter 4 of this Permit.	<p>LCP-VSL-00001 = 18,130</p> <p>LCP-VSL-00002 = 18,130</p>
<p><u>LAW Melter Feed Process System</u></p> <p>LFP-VSL-00001 (Melter 1 Feed Preparation Vessel)</p> <p>LFP-VSL-00002 (Melter 1 Feed Vessel)</p> <p>LFP-VSL-00003 (Melter 2 Feed Preparation Vessel)</p>	LFP	<p><u>24590-LAW</u></p> <p>-M5-V17T-00001, Rev 6</p> <p>-M5-V17T-00002, Rev 6</p> <p>-M6-LFP-00001001, Rev 0</p> <p>-M6-LFP-00001002, Rev 0</p> <p>-M6-LFP-00001003, Rev 0</p> <p>-M6-LFP-00001004, Rev 0</p> <p>-M6-LFP-00001005, Rev 0</p> <p>-M6-LFP-00001006, Rev 0</p> <p>-M6-LFP-00003001, Rev 0</p> <p>-M6-LFP-00003002, Rev 0</p>	Section 4E.2.1; Tables 4E-1 and 4E-3; and Figures 4A-1 and 4A-3 of Operating Unit Group 10, Chapter 4 of this Permit.	<p>LFP-VSL-00001 = 9,123</p> <p>LFP-VSL-00002 = 9,123</p> <p>LFP-VSL-00003 = 9,123</p> <p>LFP-VSL-00004 = 9,123</p>

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

Dangerous and/or Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
LFP-VSL-00004 (Melter 2 Feed Vessel)		-M6-LFP-00003003, Rev 0 -M6-LFP-00003004, Rev 0 -M6-LFP-00003005, Rev 0 -M6-LFP-00003006, Rev 0 -MV-LFP-P0001, Rev 0 -MV-LFP-P0002, Rev 0 -MV-LFP-P0004, Rev 0 -MV-LFP-P0005, Rev 0 -MVD-LFP-P0007, Rev 1 -MVD-LFP-P0008, Rev 1 -MVD-LFP-P0010, Rev 1 -MVD-LFP-P0011, Rev 1 -P1-P01T-00002, Rev 7 -N1D-LFP-00004, Rev 2 -N1D-LFP-00006, Rev 0		
<u>LAW Secondary Off-gas/Vessel Vent Process System</u> LVP-TK-00001 (LAW Caustic Collection Tank)	LVP	<u>24590-LAW</u> -M5-V17T-00011, Rev 6 -P1-P01T-00004, Rev 6 -VDCN-M-13-00001 -MTD-LVP-00001, Rev 1 -N1D-LVP-00002, Rev 2	Section 4E.4.2.2; Tables 4E-1 and 4E-3; and Figures 4A-1 and 4A-3 of Operating Unit Group 10, Chapter 4 of this Permit.	LVP-TK-00001 = 14,232
<u>LAW Primary Off-gas Process System</u>	LOP	<u>24590-LAW</u> -M5-V17T-P0007, Rev 0 -M5-V17T-P0008, Rev 0	Section 4E.4.2.1; Tables 4E-1 and 4E-3; and Figures 4A-1 and 4A-3 of Operating Unit Group 10, Chapter 4 of this Permit.	LOP-VSL-00001 = 9,056 LOP-VSL-00002 = 9,056

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

Dangerous and/or Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
LOP-VSL-00001 (LAW Melter 1 SBS Condensate Vessel) LOP-VSL-00002 (LAW Melter 2 SBS Condensate Vessel)		-M6-LOP-00001001, Rev 0 -M6-LOP-00001002, Rev 0 -MV-LOP-P0001, Rev 0 -MV-LOP-P0002, Rev 0 -MVD-LOP-00004, Rev 6 -MVD-LOP-00005, Rev 6 -N1D-LOP-P0002, Rev 1 -P1-P01T-00002, Rev 7		
<u>LAW Vitrification Plant Radioactive Liquid Waste Disposal System</u> RLD-VSL-00003 (Plant Wash Vessel) RLD-VSL-00004 (C3/C5 Drains/Sump Collection Vessel) RLD-VSL-00005 (SBS Condensate Collection Vessel)	RLD	<u>24590-LAW</u> -M5-V17T-00014, Rev 6 -M6-RLD-00001001, Rev 0 -M6-RLD-00001002, Rev 0 -M6-RLD-00001003, Rev 0 -M6-RLD-00001004, Rev 0 -M6-RLD-00001005, Rev 0 -M6-RLD-00001006, Rev 0 -M6-RLD-00002001, Rev 0 -M6-RLD-00002002, Rev 0 -M6-RLD-00002003, Rev 0 -M6-RLD-00002004, Rev 0 -M6-RLD-00002005, Rev 0 -M6-RLD-00003001, Rev 0 -M6-RLD-00003002, Rev 2	Section 4E.2.3; Tables 4E-1 and 4E-3; and Figures 4A-1 and 4A-3 of Operating Unit Group 10, Chapter 4 of this Permit.	RLD-VSL-00003 = 25,780 RLD-VSL-00004 = 7696 RLD-VSL-00005 = 25,780

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

Dangerous and/or Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
		-M6-RLD-00003003, Rev 2 -MVD-RLD-P0001, Rev 1 -MVD-RLD-P0006, Rev 2 -MVD-RLD-P0007, Rev 2 -MV-RLD-P0001, Rev 2 -MV-RLD-P0002, Rev 1 -MV-RLD-P0003, Rev 1 -P1-P01T-00001, Rev 4 -P1-P01T-00002, Rev 7 -N1D-RLD-00001, Rev 5 -N1D-RLD-00002, Rev 3 -N1D-RLD-00005, Rev 4		

Table III.10.E.C – HLW 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)
<p><u>HLW Concentrate Receipt Process System</u></p> <p>The HCP System has ancillary equipment only</p>	HCP	<p><u>24590-HLW</u> -M5-V17T-P0001, Rev 4 -M6-HCP-00001001, Rev 1 -M6-HCP-00002001, Rev 1</p>	Section 4F.2.1; Tables 4F-4; Figures 4A-1 and 4A-4 of Operating Unit Group 10, Chapter 4 of this Permit.	
<p><u>HLW Melter Feed Process System</u></p> <p>HFP-VSL-00001 (Melter 1 Feed Preparation Vessel)</p>	HFP	<p><u>24590-HLW</u> -3YD-HFP-00001^a -M5-V17T-00001, Rev 5 -P1-P01T-00002, Rev 7 -M6-HFP-00001001, Rev 0 -M6-HFP-00001002, Rev 0 -M6-HFP-00001003, Rev 0 -M6-HFP-00001004, Rev 0 -M6-HFP-00007001, Rev 0</p> <p><u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3</p>	Section 4F.2.1; Tables 4F-4; Figures 4A-1, 4A-4 and 4A-53 of Operating Unit Group 10, Chapter 4 of this Permit.	HFP-VSL-00001 = 8,311
<p><u>Melter Feed Process System cont.</u></p> <p>HFP-VSL-00002 (Melter 1 Feed Vessel)</p>	HFP	<p><u>24590-HLW</u> -3YD-HFP-00001^a -M5-V17T-P0001, Rev 4 -P1-P01T-00002, Rev 7 -M6-HFP-00002001, Rev 0</p>	Section 4F.2.1; Tables 4F-1 and 4F-3; Figures 4A-1, 4A-4 and 4A-53 of Operating Unit Group 10, Chapter 4 of this Permit.	HFP-VSL-00002 = 8,311

Table III.10.E.C – HLW 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)
		-M6-HFP-00002002, Rev 0 -M6-HFP-00002003, Rev 0 -M6-HFP-00008001, Rev 0 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>Melter Feed Process System cont.</u> HFP-VSL-00005 (Melter 2 Feed Preparation Vessel)	HFP	<u>24590-HLW</u> -3YD-HFP-00001 ^a -M5-V17T-P0001, Rev 4 -P1-P01T-00002, Rev 7 -M6-HFP-20001001, Rev 0 -M6-HFP-20001002, Rev 0 -M6-HFP-20001003, Rev 0 -M6-HFP-20001004, Rev 0 -M6-HFP-20007001, Rev 0 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3	Section 4F.2.1; Tables 4F-1 and 4F-3; Figures 4A-1, 4A-4 and 4A-53 of Operating Unit Group 10, Chapter 4 of this Permit.	HFP-VSL-00005 = 8,311

Table III.10.E.C – HLW 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)
<p><u>Melter Feed Process System cont.</u></p> <p>HFP-VSL-00006 (Melter 2 Feed Vessel)</p>	HFP	<p><u>24590-HLW</u> -3YD-HFP-00001^a -M5-V17T-P0001, Rev 4 -P1-P01T-00002, Rev 7 -M6-HFP-20002001, Rev 0 -M6-HFP-20002002, Rev 0 -M6-HFP-20002003, Rev 0 -M6-HFP-20008001, Rev 0</p> <p><u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3</p>	Section 4F.2.1; Tables 4F-1 and 4F-3; Figures 4A-1, 4A-4 and 4A-53 of Operating Unit Group 10, Chapter 4 of this Permit.	HFP-VSL-00006 = 8,311
<p><u>Melter Off-gas Treatment Process System</u></p> <p>HOP-VSL-00903 (Melter 1 SBS Condensate Receiver Vessel)</p> <p>HOP-VSL-00904 (Melter 2 SBS Condensate Receiver Vessel)</p>	HOP	<p><u>24590-HLW</u> -3YD-HOP-00001^a -M5-V17T-P0003, Rev 1 -M5-V17T-P20003, Rev 1 -M6-HOP-00004, Rev 4 -M6-HOP-00006001, Rev 0 -M6-HOP-00006002, Rev 0 -M6-HOP-20004, Rev 5 -M6-HOP-20006001, Rev 6 -M6-HOP-20006002, Rev 6 -MVD-HOP-P0001, Rev 2</p>	Section 4F.4.2; Tables 4F-1 and 4F-3; Figures 4A-1 and 4A-4 C1-1 and C1-4 of Operating Unit Group 10, Chapter 4 of this Permit.	HOP-VSL-00903 = 9891 HOP-VSL-00904 = 9891

Table III.10.E.C – HLW 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)
		-MVD-HOP-P0012, Rev 1 -MV-HOP-P0001, Rev 2 -MV-HOP-P0003, Rev 2 -N1D-HOP-P0009, Rev 2 -P1-P01T-00001, Rev 9 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>HLW Canister Decontamination Handling System</u> HDH-VSL-00001 (Canister Rinse Vessel) HDH-VSL-00002 (Canister Decon Vessel 1) HDH-VSL-00003 (Waste Neutralization Vessel) HDH-VSL-00004 (Canister Decon Vessel 2)	HDH	<u>24590-HLW</u> -M5-V17T-00006, Rev 6 -M6-HDH-00001001, Rev 1 -M6-HDH-00002001, Rev 1 -M6-HDH-00002002, Rev 0 -M6-HDH-00002003, Rev 1 -M6-HDH-20001001, Rev 1 -M6-HDH-20001002, Rev 0 -M0-HDH-P0012001, Rev 1 -M0-HDH-P0012002, Rev 1 -MV-HDH-00003, Rev 1 -MVD-HDH-00003, Rev 5 -MVD-HDH-00006, Rev 5 -MVD-HDH-P0009, Rev 0	Section 4F.2.4; Tables 4F-1 and 4F-3; Figures 4A-1 and 4A-4 of Operating Unit Group 10, Chapter 4 of this Permit.	HDH-VSL-00001 = 3314 HDH-VSL-00002 = 630 HDH-VSL-00003 = 5315 HDH-VSL-00004 = 630

Table III.10.E.C – HLW 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)
		-N1D-HDH-00003, Rev 8 -N1D-HDH-P0005, Rev 1 -N1D-HDH-P0007, Rev 1 -P1-P01T-00001, Rev 9 -P1-P01T-00002, Rev 7 -3YD-HDH-00002 ^a <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
<u>HLW Melter Cave Support Handling System</u> HSH-TK-00001 (Decontamination Tank Melter Cave 1) HSH-TK-00002 (Decontamination Tank Melter Cave 2)	HSH	<u>24590-HLW</u> -M6-HSH-00004001, Rev 1 -M6-HSH-00004001, Rev 1 -M6-HSH-20004001, Rev 1 -M6-HSH-20004002, Rev 1 -M0-HSH-P0072, Rev 1 -N1D-HSH-P0001, Rev 1 -P1-P01T-00002, Rev 7 <u>24590-WTP</u> -3PS-HD00-T0001, Rev 4	Section 4F.2.4; Tables 4F-1 and 4F-4; Figures 4A-1 and 4A-4 of Operating Unit Group 10, Chapter 4 of this Permit.	HSH-TK-00001 = 4,000 HSH-TK-00002 = 4,000
<u>HLW Vitrification Plant Radioactive Liquid Waste Disposal System</u>	RLD	<u>24590-HLW</u> -3YD-RLD-00001 ^a	Section 4H.2.1; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of	RLD-VSL-00002 = 334

Table III.10.E.C – HLW 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)
<p>RLD-VSL-00002 (Off-gas Drains Collection Vessel)</p> <p>RLD-VSL-00007 (Acidic Waste Vessel)</p> <p>RLD-VSL-00008 (Plant Wash & Drain Vessel)</p>		<p>-M5-V17T-P0007001, Rev 1</p> <p>-M5-V17T-P0007002, Rev 1</p> <p>-M6-RLD-00001001, Rev 0</p> <p>-M6-RLD-00001002, Rev. 0</p> <p>-M6-RLD-00001003, Rev 0</p> <p>-M6-RLD-00002001, Rev 0</p> <p>-M6-RLD-00002002, Rev 0</p> <p>-M6-RLD-00002003, Rev 0</p> <p>-M6-RLD-00002004, Rev 0</p> <p>-M6-RLD-00006, Rev 4</p> <p>-M6-RLD-00007, Rev 4</p> <p>-M6-RLD-00014, Rev 5</p> <p>-MV-RLD-00002, Rev 2</p> <p>-MV-RLD-P0003, Rev 0</p> <p>-MV-RLD-00025001 Rev 0</p> <p>-MV-RLD-00025002, Rev 0</p> <p>-MV-RLD-00025003, Rev 0</p> <p>-MV-RLD-00025004, Rev 0</p> <p>-MVD-RLD-00005, Rev 9</p> <p>-MVD-RLD-00007, Rev 7</p> <p>-MVD-RLD-00008, Rev 4</p> <p>-N1D-RLD-P0001, Rev 0</p> <p>-N1D-RLD-P0006, Rev 0</p> <p>-N1D-RLD-P0013, Rev 0</p> <p>-P1-P01T-00001, Rev 9</p>	<p>Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>RLD-VSL-00007 = 18,145</p> <p>RLD-VSL-00008 = 13,774</p>

Table III.10.E.C – HLW 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)
		-P1-P01T-00002, Rev 7 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
^a System Descriptions are maintained in the Administrative Record, and are listed here for information only				

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)
<p><u>Radioactive Liquid Waste Disposal System</u></p> <p>RLD-VSL-00164 (Laboratory Area Sink Drain Collection Vessel)</p> <p>RLD-VSL-00165 (Hotcell Drain Collection Vessel)</p>	<p>RLD</p>	<p><u>24590-LAB</u></p> <p>-3YD-RLD-00001^a</p> <p>-M5-V17T-00029, Rev 4</p> <p>-M6-RLD-00001001, Rev 1</p> <p>-M6-RLD-00001002, Rev 0</p> <p>-M6-RLD-00001003, Rev 0</p> <p>-M6-RLD-00001004, Rev 0</p> <p>-M6-RLD-00002001, Rev 1</p> <p>-M6-RLD-00002003, Rev 0</p> <p>-M6-RLD-00006001, Rev 0</p> <p>-M6-RLD-00006002, Rev 0</p> <p>-M6-RLD-00006003, Rev 0</p> <p>-M6-RLD-00007001, Rev 0</p> <p>-M6-RLD-00007002, Rev 0</p> <p>-M6-RLD-00008001, Rev 0</p> <p>-M6-RLD-00008002, Rev 0</p> <p>-MVD-RLD-P0164, Rev 1</p> <p>-MVD-RLD-P0165, Rev 1</p> <p>-MV-RLD-P0001, Rev 0</p> <p>-N1D-RLD-P0002, Rev 1</p> <p>-N1D-RLD-P0003, Rev 1</p> <p>-P1-60-00007, Rev 3</p> <p>-P1-60-00008, Rev 3</p>	<p>Section 4H.2-4; Table 4H-15 of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>RLD-VSLVSL-00164 = 3180</p> <p>RLD-VSL-00165 = 9100</p>

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)
		<u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0002, Rev 3 -3PS-MV00-T0003, Rev 3		
*System Descriptions are maintained in the Administrative Record, and are listed here for information only				

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

Tank System Name and Locator (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 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00040 ^a	Not Applicable	Bubbler Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00001 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00001A ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00002 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00002A ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00003 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00004 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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-00005 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00006 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00007 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00008 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00009 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00010 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00011 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00012 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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-00013 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00026 ^c	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00026 ^b	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00028 ^c	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00028 ^b	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00029 ^c	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00029 ^b	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00031 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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-00032 ^c	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00032 ^b	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00033 ^c	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00033 ^b	Not Applicable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00034 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00035 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00036 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-SUMP-00037 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00003 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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
PVP-BULGE-00001	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PVP-BULGE-00002	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
TCP-BULGE-00004	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
DIW-BULGE-00001	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
DIW-BULGE-00002	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
CRP-BULGE-00001	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
CXP-BULGE-00004	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
UFP-BULGE-00001	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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
UFP-BULGE-00002	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
UFP-BULGE-00005	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
UFP-BULGE-00006	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00001	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00002	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00003	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00004	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00005	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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-LDB-00006	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00007	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00008	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00009	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00010	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00011	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00012	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00013	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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-LDB-00014	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00015	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00016	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00017	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00018	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
PWD-LDB-00019	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00012	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00013	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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

Tank System Name and Locator (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
ASX Sampler 00013 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
ASX Sampler 00017 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
ASX Sampler 00019 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
ASX Sampler 00020 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
ASX Sampler 00025 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

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

Tank System Name and Locator (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
<p>^aLocator (including P&ID designator) is located on Permit Table III 10 E J – Pretreatment Plant Tank Systems Secondary Containment Systems Including Sumps and Floor Drains</p> <p>^bLocator (including P&ID designator) is located on Permit Table III 10 E I – Pretreatment Plant Tank Systems Primary Containment Systems</p> <p>^cLeak detection instruments for secondary containment to a primary containment sump</p>									

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

Tank System Name and Locator (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-00028 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00029 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00030 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00031 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00032 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00035 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00036 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
LVP-FD-00001 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
Melter 1 Encasement	Not Applicable	Conductivity Cable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

Assembly Drain									
Melter 2 Encasement Assembly Drain	Not Applicable	Conductivity Cable	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
ASX Sampler 00012 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
ASX Sampler 00013 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
		RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
		RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
*Locator (including P&ID designator) is located on Permit Table III 10 E L - LAW Vitrification Plant Tank Systems Secondary Containment Systems Including Sumps and Floor Drains									

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

Tank System Name and Locator (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 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00001 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HOP-SUMP-00003 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HOP-SUMP-00008 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HDH-SUMP-00001 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HDH-SUMP-00002 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HDH-SUMP-00003 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HFP-SUMP-00002 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HFP-SUMP-00005 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00003 ^a	Not Applicable	Bubbler	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00007 ^a	Not Applicable	Bubbler	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

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HSH-SUMP-00008 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HSH-SUMP-00009 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HPH-SUMP-00001 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HPH-SUMP-00003 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
HPH-SUMP-00005 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
ASX Sampler 00028 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
ASX Sampler 00029 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
ASX Sampler 00042 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

^aLocator (including P&ID designator) is located on Permit Table [III 10 E N](#) - HLW Vitrification Plant Tank Systems Secondary Containment Systems Including Sumps, and Floor Drains

Table III.10.E.H- Laboratory Tank System Process and Leak Detection System Instruments and Parameters

<u>Tank System Name and Location</u>	<u>Maximum Capacity (gallons)</u>	<u>Type of Measuring or Leak Detection Instrument</u>	<u>Location of Measuring Instrument and Tag No.</u>	<u>Approximate Dimensions/ Materials of Construction</u>	<u>Instrument Action Alarm</u>	<u>Alarm Action Level or Setpoint</u>	<u>Fail States</u>	<u>Instrument Accuracy</u>
<u>RLD-SUMP-00041^a</u> <u>A-B003</u>	<u>30</u>	<u>Radar Leak Detector</u>	<u>A-0160</u> <u>RLD-LT-6211</u>	<u>30" Dia. x ~13" Deep</u> <u>Stainless Steel</u> <u>(6% Molybdenum)</u>	<u>Level High Alarm (LAH) or Leak Rate Alarm (LKY)</u>	<u>1.74 in (LAH)</u> <u>2.4 gal per day for leak detection rate (LKY)</u>	<u>Fail Last</u>	<u>+/- .394 in</u>
<u>RLD-SUMP-00042^a</u> <u>A-B004</u>	<u>30</u>	<u>Radar Leak Detector</u>	<u>A-0167</u> <u>RLD-LT-6115</u>	<u>30" Dia. x ~13" Deep</u> <u>Stainless Steel</u> <u>(6% Molybdenum)</u>	<u>Level High Alarm (LAH) or Leak Rate Alarm (LKY)</u>	<u>1.74 in (LAH)</u> <u>2.4 gal per day for leak detection rate (LKY)</u>	<u>Fail Last</u>	<u>+/- .394 in</u>
<u>RLD-SUMP-00043A^a</u> <u>A-B007</u>	<u>1.6</u>	<u>Radar Leak Detector</u>	<u>A-0167</u> <u>RLD-LT-6116</u>	<u>1'6" x 3'0" x 0.5"</u> <u>Stainless Steel</u> <u>(6% Molybdenum)</u>	<u>Level High Alarm (LAH)</u>	<u>1.25 in</u>	<u>Fail Last</u>	<u>+/- .394 in</u>
<u>RLD-SUMP-00043B^a</u> <u>A-B005</u>	<u>1.6</u>	<u>Radar Leak Detector</u>	<u>A-0167</u> <u>RLD-LT-6124</u>	<u>1'6" x 3'0" x 0.5"</u> <u>Stainless Steel</u> <u>(6% Molybdenum)</u>	<u>Level High Alarm (LAH)</u>	<u>1.25 in</u>	<u>Fail Last</u>	<u>+/- .394 in</u>
<u>RLD-SUMP-00044^a</u> <u>A-B006</u>	<u>1.6</u>	<u>Radar Leak Detector</u>	<u>A-0167</u> <u>RLD-LT-6123</u>	<u>2'0" x 2'6" x 0.5"</u> <u>Stainless Steel</u> <u>(6% Molybdenum)</u>	<u>Level High Alarm (LAH)</u>	<u>1.25 in</u>	<u>Fail Last</u>	<u>+/- .394 in</u>
<u>RLD-SUMP-00045^a</u> <u>A-B002</u>	<u>1.6</u>	<u>Radar Leak Detector</u>	<u>A-0160</u> <u>RLD-LT-6212</u>	<u>2'0" x 2'6" x 0.5"</u> <u>Stainless Steel</u> <u>(6% Molybdenum)</u>	<u>Level High Alarm (LAH)</u>	<u>1.25 in</u>	<u>Fail Last</u>	<u>+/- .394 in</u>

Table III.10.E.H- Laboratory Tank System Process and Leak Detection System Instruments and Parameters

<u>Tank System Name and Location</u>	<u>Maximum Capacity (gallons)</u>	<u>Type of Measuring or Leak Detection Instrument</u>	<u>Location of Measuring Instrument and Tag No.</u>	<u>Approximate Dimensions/ Materials of Construction</u>	<u>Instrument Action Alarm</u>	<u>Alarm Action Level or Setpoint</u>	<u>Fail States</u>	<u>Instrument Accuracy</u>
<u>RLD-LDB-00002^a A-B004</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0167 RLD-LSH-6120</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>
<u>RLD-LDB-00004^a A-B004</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0167 RLD-LSH-6118</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>
<u>RLD-LDB-00005^a A-B003</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0160 RLD-LSH-6215</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>
<u>RLD-LDB-00006^a A-B003</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0160 RLD-LSH-6701</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>
<u>RLD-LDB-00007^a A-B003</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0160 RLD-LSH-6702</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>
<u>RLD-LDB-00008^a A-B003</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0160 RLD-LSH-6703</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>

Table III.10.E.H- Laboratory Tank System Process and Leak Detection System Instruments and Parameters

<u>Tank System Name and Location</u>	<u>Maximum Capacity (gallons)</u>	<u>Type of Measuring or Leak Detection Instrument</u>	<u>Location of Measuring Instrument and Tag No.</u>	<u>Approximate Dimensions/ Materials of Construction</u>	<u>Instrument Action Alarm</u>	<u>Alarm Action Level or Setpoint</u>	<u>Fail States</u>	<u>Instrument Accuracy</u>
<u>RLD-LDB-00009^a A-B004</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0167 RLD-LSH-6801</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>
<u>RLD-LDB-00011^a A-B003</u>	<u>6</u>	<u>Thermal Dispersion Level Switch</u>	<u>A-0160 RLD-LSH-6704</u>	<u>8" Dia. x 24" Length Stainless Steel (316L)</u>	<u>Level High Alarm (LAH)</u>	<u>1.0 in</u>	<u>NO (alarm state)</u>	<u>+/- 0.25 in</u>

^a Locator (including P&ID designator) is located on Permit Table III 10 E P - Laboratory Tank Systems Secondary Containment 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 Name and Locator (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 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00042 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00043A ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00043B ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00044 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-SUMP-00045 ^a	Not Applicable	Radar Leak Detector	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00002 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00004 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00005 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00006 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED

Table III.10.E.H—Laboratory Tank System Process and Leak Detection System Instruments and Parameters

Tank System Name and Locator (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-LDB-00007 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00008 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00009 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RLD-LDB-00011 ^a	Not Applicable	Thermal Dispersion Level Switch	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	Not Applicable	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

^aLocator (including P&ID designator) is located on Permit Table III.10.E.P—Laboratory Tank Systems Secondary Containment Systems Including Sumps and Floor Drains

Table III.10.E.I – Pretreatment Plant Tank Systems Primary^a Containment Sump Systems

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^b (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
PWD-SUMP-00026 P-0123 (Hotcell El. 0)	RESERVED	RESERVED	RESERVED
PWD-SUMP-00028 P-0123 (Hotcell El. 0)	RESERVED	RESERVED	RESERVED
PWD-SUMP-00029 P-0123 (Hotcell El. 0)	RESERVED	RESERVED	RESERVED
PWD-SUMP-00032 P-0123A (Maintenance Cave, El. 0)	RESERVED	RESERVED	RESERVED
PWD-SUMP-00033 P-0123A (Maintenance Cave, El. 0)	RESERVED	RESERVED	RESERVED

^a 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](#)

^bDimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions ^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-SUMP-00071 P-B005 (Pit-19, El. -19')	60	Dry Sump	30" Dia x 18" Deep Epoxy	<u>24590-PTF</u> -M6-PWD-00041, Rev 3 -P1-P01T-00006, Rev 4

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-SUMP-00040 P-B002 (Pit-45, El. -45')	233.7	Dry Sump	60"x30"x30" Stainless Steel	<u>24590-PTF</u> -M6-PWD-00012, Rev 2 -P1-P01T-00006, Rev 4
PWD-SUMP-00001 P-0108B (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00008, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00001A P-0108C (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00010, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00002 P-0108A (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00008, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00002A P-0108 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00010, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00003 P-0106 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00008, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00004 P-0104 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00008, Rev 3 -P1-P01T-00001, Rev 8

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-SUMP-00005 P-0102A (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00008, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00006 P-0102 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00008, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00007 P-0109 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00009, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00008 P-0111 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00009, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00009 P-0112 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00009, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00010 P-0113 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00009, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00011 P-0114 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00009, Rev 3 -P1-P01T-00001, Rev 8

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-SUMP-00012 P-0117 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00009, Rev 3 -P1-P01T-00001, Rev 8
PWD-SUMP-00013 P-0117A (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00014, Rev 3 -P1-P01T-00001, Rev 8
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00031 P-0119 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00010, Rev 3 -P1-P01T-00001, Rev 8
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00034 P-0121A (Spent Resin Dewatering, El. 0')	75	Dry Sump	30" Dia. x 27" Deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00012, Rev 2
PWD-SUMP-00035 P-0122A (Waste Packaging Area, El. 0')	75	Dry Sump	30" Dia. x 27" Deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00012, Rev 2

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-SUMP-00036 P-0118 (El. 0')	75	Dry Sump	30" Dia. By ~27" deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-P0012, Rev 2 -P1-P01T-00001, Rev 8
PWD-SUMP-00037 P-0124A	7.5		30" Dia. x 27" Deep Stainless Steel	<u>24590-PTF</u> -M6-PWD-00012, Rev 2
RLD-SUMP-00003 P-0150 (Radioactive Liquid Waste Disposal Area, El. 0', outdoor)	583	Dry Sump	78" x 48" x 36" Deep Epoxy coating	<u>24590-PTF</u> -M6-RLD-00002003, Rev 0
PVP-ZY-00037-S11B-03, P-0105 (PVP-BULGE-00001, El. 0')			3" Stainless Steel	<u>24590-PTF</u> -M6-PVP-00017002, Rev 0
PVP-ZY-00036-S11B-03, P-0101A (PVP-BULGE-00002, El. 0')			3" Stainless Steel	<u>24590-PTF</u> -M6-PVP-00018002, Rev 0
TCP-ZF-00032-S11B-03 Drain Line, P-0116 (TCP-BULGE-00004, El. 0')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-TCP-00001002, Rev 1
DIW-ZF-01511-S11B-03 Drain Line, P-0320 (DIW-BULGE-00001, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-DIW-00004001
DIW-ZF-01510-S11B-03, P-0320 Drain Line (DIW-BULGE-00002, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-DIW-00004001

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-FD-00005 PWD-ZF-03000-S11B-06 P-0123 (Hotcell, El.0')	939	N/A	6" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00011, Rev 2
PWD-FD-00006 PWD-ZF-03001-S11B-06 P-0123 (Hotcell, El.0')	939	N/A	6" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00011, Rev 2
PWD-FD-00435 P-0105		NA	3" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00349 P-0105		NA	6" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00436 P-0105		NA	3" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00438 P-0105A		NA	6" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00348 P-0105A		NA	6" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00437 P-0105B		NA	3" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-347 P-0105B		NA	6" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-346 P-0105C		NA	4" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00044, Rev 3

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-FD-00293 P-0426 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00298 P-0425 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00309 P-0402 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00310 P-0402 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00311 P-0402 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00312 P-0402 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00376 P-0415 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00377 P-0415 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00378 P-0415 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00379 P-0415 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00380 P-0415A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-FD-00381 P-0415A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00382 P-0415A Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00383 P-0415A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00557 P-0430 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00559 P-0430 Drain, El. 77'	665	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00561 P-0430 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00563 P-0411 Drain, El. 77'	665	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00564 P-0411 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00565 P-0410 Drain, El. 77'	665	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00566 P-0410 Drain, El. 77'	665	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00571 P-0410 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-FD-00572 P-0410 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00573 P-0410 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00574 P-0410 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00575 P-0410 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00576 P-0410 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00583 P-0422A Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00584 P-0422A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00589 P-0402 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00590 P-0423 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00591 P-0423 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00592 P-0423 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-FD-00593 P-0423 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00594 P-0423 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00595 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00596 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00597 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00598 P-0431A Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00599 P-0431A Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00600 P-0431A Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00604 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00605 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00606 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-FD-00607 P-0431A Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00629 P-0425 Drain, El. 77'	655	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00630 P-0425 Drain, El. 77'	140	N/A	8" Dia 304L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
CRP-ZF-00002-S11B-03, P-0317 Drain Line (CRP-BULGE-00001 drain, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-CRP-00003001, Rev 0
CXP-ZF-00012-S11B-03 Drain Line, P-0317 (CXP-BULGE-00004, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-CXP-00003003, Rev 0
UFP-ZF-00043-S11B-03 Drain Line, P-0301 (UFP-BULGE-00001, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-UFP-00016001, Rev 0
UFP-ZF-00042-S11B-03 Drain Line, P-0301 (UFP-BULGE-00002, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-UFP-00017001, Rev 0
UFP-ZY-00002-S11B-03 Drain Line, P-0311 (UFP-BULGE-00005, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M56-UFP-00031001, Rev 0
UFP-ZY-00001-S11B-03 Drain Line, P-0311A (UFP-BULGE-00006, El. 56')	N/A	N/A	3" Stainless Steel	<u>24590-PTF</u> -M6-UFP-00032001, Rev 0

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-LDB-00001 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00002 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00003 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00004 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00005 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00006 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00007 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00008 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-LDB-00009 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00010 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00011 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00050, Rev 2
PWD-LDB-00012 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
PWD-LDB-00013 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
PWD-LDB-00014 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
PWD-LDB-00015 P-B001 (Inter Facility Transfer Line Tunnel, El.-45')	6	N/A	8" Dia. x 24" Length Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
PWD-LDB-00016 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
PWD-LDB-00017 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
PWD-LDB-00018 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
PWD-LDB-00019 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-PTF</u> -M6-PWD-00051, Rev 2
RLD-LDB-00012 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 34" Length/ Stainless Steel	<u>24590-PTF</u> -M6-PWD-00058001, Rev 0 and 00058002, Rev 0
RLD-LDB-00013 P-B001 (Inter Facility Transfer Line Tunnel, El. -45')	6	N/A	8" Dia. x 34" Length/ Stainless Steel	<u>24590-PTF</u> -M6-PWD-00058001, Rev 0 and 00058002, Rev 0
ASX Sampler 00017 Lower Containment Trough/Dam (P-0311B, El. 56')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00007, Rev 3
ASX Sampler 00019 Lower Containment Trough/Dam (P-0302, El. 56')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00007, Rev 3
ASX Sampler 00020 Lower Containment Trough/Dam (P-0301, El. 56')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-PTF</u> -M6-PWD-00007, Rev 3

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

Sump, Bulge or Drain Line I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Type/Nominal Operating Volume (gallons)	Sump, Bulge or Drain Line Dimensions ^a (inches) & Materials of Construction	Engineering Description (Drawing No.'s, Specifications No.'s, etc.)
ASX Sampler 00025 Lower Containment Trough/Dam (P-0307, El. 56')	N/A	N/A	3" Dia. Stainless Steel	24590-PTF -M6-PWD-00007, Rev 3
^a Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD) Note #1: These are special cases due to their location in equipment berms. The capacity for these drain lines is based on a unique bounding case for liquid spillage.				

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Table III.10.E.K - LAW Vitrification Plant Tank Systems Primary^a Containment Sump Systems

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^b (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED
^a 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 ^b Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)			

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Table III.10.E.L - LAW Vitrification Plant Tank Systems Secondary Containment Systems, Including Sumps, Bulges, Autosamplers, 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 ^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-SUMP-00028	59	Dry Sump	24" Dia. By 30" deep Stainless Steel (6% Mo)	24590-LAW -M6-RLD-00002005, Rev 0 -P1-P01T-00001, Rev 4

**Table III.10.E.L - LAW Vitrification Plant Tank Systems Secondary Containment Systems,
Including Sumps, Bulges, Autosamplers, 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 ^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
L-B001B (C3/C5 Drains/Sump Collection Vessel Cell, El. -21')				
RLD-SUMP-00029 L-0123 (Process Cell, El. +3')	37	Dry Sump	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002, Rev 7
RLD-SUMP-00030 L-0123 (Process Cell, El. +3')	37	Dry Sump	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002, Rev 7
RLD-SUMP-00031 L-0124 Process Cell Sump, El. +3')	37	Dry Sump	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002, Rev 7
RLD-SUMP-00032 L-0124 (Process Cell, El. +3')	37	Dry Sump	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002, Rev 7
RLD-SUMP-00035 L-0126 (Effluent Cell, El. +3')	37	Dry Sump	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003003, Rev 2 -P1-P01T-00002, Rev 7
RLD-SUMP-00036 L-0126 (Effluent Cell, El. +3')	37	Dry Sump	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003003, Rev 2 -P1-P01T-00002, Rev 7

**Table III.10.E.L - LAW Vitrification Plant Tank Systems Secondary Containment Systems,
Including Sumps, Bulges, Autosamplers, 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^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
Drain Line ID# = RLD-FD-00001 L-B001B (RLD-BULGE-00001 Drain, El. -21')	N/A	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-RLD-00002003, Rev 0
Drain Line ID# = RLD-FD-00035 L-0126 (RLD-BULGE-0000-4 Drain El. +3')	N/A	N/A	2" Dia. 6% Mo	<u>24590-LAW</u> -M6-RLD-00001005, Rev 0
Drain Line ID# = LOP-FD-00001 L-0123 (LOP-BULGE-00001 drain El. +3)	N/A	N/A	2" Dia. 6% Mo	<u>24590-LAW</u> -M6-LOP-0001003, Rev 0
Drain Line ID# = LCP-FD-00001 L-0123 (LCP-BULGE-00001 Drain, El. +3')	N/A	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LCP-00001001, Rev 0
Drain Line ID# = LCP-FD-00002 L-0123 (LCP-BULGE-00002 Drain, El. +3')	N/A	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LCP-00001004, Rev 0 -M6-LCP-00001005, Rev 0
Drain Line ID# = RLD-WS-20037-S11B-01 L-0123 (Melter 1 Encasement Assembly Drain, El. +3')	N/A	N/A	1" Dia. 316L	<u>24590-LAW</u> -M6-LMP-00012001, Rev 0

**Table III.10.E.L - LAW Vitrification Plant Tank Systems Secondary Containment Systems,
Including Sumps, Bulges, Autosamplers, 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^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
Drain Line ID# = LFP-FD-00001 L-0123 (LFP-BULGE-00001 Drain, El. +3)	N/A	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LFP-00001005, Rev 0
Drain Line ID# = LOP-FD-00002 L-0124 (LOP-BULGE-00002 Drain, El. +3)	N/A	N/A	2" Dia. 6% Mo	<u>24590-LAW</u> -M6-LOP-00002003, Rev 0
Drain Line ID# = LCP-FD-00003 L-0124 (LCP-BULGE-00003 Drain, El. +3)	N/A	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LCP-00002001, Rev 0 -M6-LCP-00002002, Rev 0
Drain Line ID# = LFP-FD-00002 L-0124 (LFP-BULGE-00002 Drain, El. +3)	N/A	N/A	2" Dia. 316L	<u>24590-LAW</u> -M6-LFP-00003005, Rev 0
Drain Line ID# = RLD-WS-20033-S11B-01 L-0124 (Melter 2 Encasement Assembly Drain, El. +3')	N/A	N/A	1" Dia. 316L	<u>24590-LAW</u> -M6-LMP-00042001, Rev 0
LVP-FD-00001 L-0218 (Berm floor drain for LVP-TK-00001, El. 28') ^b	N/A	N/A	4" Dia. 316L	<u>24590-LAW</u> -M6-LVP-00002003, Rev 0

Table III.10.E.L - LAW Vitrification Plant Tank Systems Secondary Containment Systems, Including Sumps, Bulges, Autosamplers, 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 ^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-FD-00025 L-0304F (Curb floor drain for Caustic Scrubber, El. 48') ^b	N/A	N/A	4" Dia. 316L	<u>24590-LAW</u> -M6-RLD-00003001, Rev 0
ASX Sampler 00012 Lower Containment Trough/Dam (L-0301, El. 48')	N/A	N/A	3" Dia. Stainless Steel (316L)	<u>24590-LAW</u> -M6-RLD-00003001, Rev 0
ASX Sampler 00013 Lower Containment Trough/Dam (L-0301, El. 48')	N/A	N/A	3" Dia. Stainless Steel (316L)	<u>24590-LAW</u> -M6-RLD-00003001, Rev 0
^a Dimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)				
^b This sump is routinely accessible for inspections and maintenance				

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Table III.10.E.M - HLW Vitrification Plant Tank Systems Primary^a Containment Sump Systems

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^b (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED
^a 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			
^b Dimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)			

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

Sump or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type	Sump or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
HCP-SUMP-00001 H-B014 (Wet Process Cell, El. -21')	75	Dry Sump	30" Dia. x 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00015001, Rev 0 -P1-P01T-00001, Rev 9
RLD-SUMP-00001 H-B014 (Wet Process Cell, El. -21')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00015001, Rev 0 -P1-P01T-00001, Rev 9
HOP-SUMP-00003 H-B021 (SBS Drain Collection Cell 1, El. -21')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00015001, Rev 0 -P1-P01T-00001, Rev 9
HOP-SUMP-00008 H-B005 (SBS Drain Collection Cell 2, El. -21')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-20004001, Rev 0 -P1-P01T-00001, Rev 9
HDH-SUMP-00001 H-B039B (Canister Rinse Tunnel, El. -16.5')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00016001, Rev 0 -P1-P01T-00001, Rev 9
HDH-SUMP-00002 H-B039A (Canister Rinse Bogie Maintenance Room, El. -16')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00016001, Rev 0 -P1-P01T-00001, Rev 9
HDH-SUMP-00003 H-B035 (Canister Decon Cave, El. -16')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00004002, Rev 0 -P1-P01T-00001, Rev 9
HFP-SUMP-00002 H-0117 (Melter Cave 1, El. 5')	50	Dry Sump	20.5" X 20.5" X 16" Stainless Steel	<u>24590-HLW</u> -M6-RLD-00008002, Rev 0 -P1-P01T-00002, Rev 7

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

Sump or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type	Sump or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
HFP-SUMP-00005 H-0106 (Melter Cave 2 El. 5')	50	Dry Sump	20.5" X 20.5" X 16" Stainless Steel	<u>24590-HLW</u> -M6-RLD- 20005001, Rev 0 -P1-P01T-00002, Rev 7
HSH-SUMP-00003 H-0117 (Melter Cave 1, El. 3')	50	Dry Sump	20.5" X 20.5" X 16" Stainless Steel	<u>24590-HLW</u> -M6-RLD-00008002, Rev 0 -P1-P01T-00002, Rev 7
HSH-SUMP-00007 H-0106 (Melter Cave 2, El. 3')	50	Dry Sump	20.5" X 20.5" X 16" Stainless Steel	<u>24590-HLW</u> -M6-RLD-20005001, Rev 0 -P1-P01T-00002, Rev 7
HSH-SUMP-00008 H-310A (Melter 1 Equip. Decon. Pit Area, El. 0')	50	Dry Sump	30" X 24" X 16" Stainless Steel	<u>24590-HLW</u> -M6-RLD-00003001, Rev 0 -P1-P01T-00002, Rev 7
HSH-SUMP-00009 H-0304A (Melter 2 Equip. Decon. Pit Area, El. 0')	50	Dry Sump	30" X 24" X 16" Stainless Steel	<u>24590-HLW</u> -M6-RLD-20003001, Rev 0 -P1-P01T-00002, Rev 7
HPH-SUMP-00001 H-0136 (Canister Handling Cave, El. -3')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00016001, Rev 0
HPH-SUMP-00005 H-0136 (Canister Handling Cave, El. -3')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00004001, Rev. 0
HPH-SUMP-00003 H-B032 (Pour Tunnel 1, El. -21')	75	Dry Sump	30" Dia. X 18" Deep Stainless Steel	<u>24590-HLW</u> -M6-RLD-00016001, Rev 0

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

Sump or Drain Line I.D.# & Room Location	Maximum Sump (gallons) Capacity	Sump Type	Sump or Drain Line Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-ZF-03330-S11B-03 H-B021 (SBS Drain Collection Cell 1)	N/A	N/A	Line Size Pipe Dia 3" 316L Stainless Steel	<u>24590-HLW</u> -M6-RLD-00015001, Rev 0
RLD-ZF-03447-S11B-03 H-B005 (SBS Drain Collection Cell 2)	N/A	N/A	Line Size Pipe Dia 3" 316L Stainless Steel	<u>24590-HLW</u> -M6-RLD-20004001, Rev 0
RLD-FD-0186 H-0308 (Melter 1 - Active Services Cell, El. 37')	N/A	N/A	Line Size Pipe Dia 6" Stainless Steel	<u>24590-HLW</u> -M6-RLD-00015001, Rev 0
RLD-FD-0187 H-0302 (Melter 2 - Active Services Cell, El. 37')	N/A	N/A	Line Size Pipe Dia 6" Stainless Steel	<u>24590-HLW</u> -M6-RLD-20004001, Rev 0
ASX Sampler 00028 Lower Containment Trough/Dam (H-0305A, El. 37')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-HLW</u> -M6-RLD-00002002, Rev 0
ASX Sampler 00029 Lower Containment Trough/Dam (H-0315, El. 37')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-HLW</u> -M6-RLD-00002002, Rev 0
ASX Sampler 00042 Lower Containment Trough/Dam (H-0318, El. 37')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-HLW</u> -M6-RLD-00002002, Rev 0
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

^aDimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)

Table III.10.E.O – Laboratory Tank Systems Primary^a Containment Sump Systems

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

^a 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](#)

^b Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)

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Table III.10.E.P – Laboratory Tank Systems Secondary Containment Systems, Including Sumps, Leak Detection Boxes, and Floor Drains

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Type/Nominal Operating Volume (gallons)	Sump Dimensions ^a (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 ~13" Deep Stainless Steel	<u>24590-LAB</u> -M6-RLD-00002001, Rev 1 -P1-60-00007, Rev 3
RLD-SUMP-00042 A-B004 (C5 Effluent Vessel Cell, El. -19'2")	30	Dry	30" Dia. X ~13" Deep Stainless Steel	<u>24590-LAB</u> -M6-RLD-00001001, Rev 1 -P1-60-00007, Rev 3
RLD-SUMP-00045 A-B002 (C3 Pump Pit Sump, EL -6'-81/2"LP)	1. 5660	Dry	2'-0" X 2'-6" X 1/2" <u>Stainless Steel</u>	<u>24590-LAB</u> -M6-RLD-0000200 4 <u>3</u> , Rev 2 -P1-60-00007, Rev 3
RLD-SUMP-00043A A-B007 (C5 Pump Pit Sump, EL -6'-7"LP)	1. 4060	Dry	1'-6" X 3'-0" X 1/2" Stainless Steel	<u>24590-LAB</u> -M6-RLD-0000100 2 <u>1</u> , Rev 0 -P1-60-00007, Rev 3

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

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Type/Nominal Operating Volume (gallons)	Sump Dimensions ^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-SUMP-00043B A-B005 (C5 Pump Pit Sump, EL -6'-7" LP)	1. 40 60	Dry	1'-6" X 3'-0" X 1/2" Stainless Steel	24590-LAB -M6-RLD-0000100 4 3, Rev 4 0 -P1-60-00007, Rev 3
RLD-SUMP-00044 A-B006 (C5 Piping Pit Sump, EL -6'-7" LP)	1. 56 60	Dry	2'-0" X 2'-6" X 1/2" Stainless Steel	24590-LAB -M6-RLD- 0000100 4 4, Rev 4 0 -P1-60-00007, Rev 3
RLD-WU-02207-S11E-04 A-B003, (C3 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	24590-LAB -M6-RLD-00002001, Rev 1
RLD-ZN-02203-S11E-04 A-B004, (C5 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	24590-LAB -M6-RLD- 00001001, Rev 1
RLD-ZN-03393-S11E-04 A-B004, (C5 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	24590-LAB -M6-RLD- 00001001, Rev 1
RLD-ZN-03394-S11E-04 A-B004, (C5 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	24590-LAB -M6-RLD- 00001001, Rev 1
RLD-LDB-00002 A-B004 (C5 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	24590-LAB -M6-RLD-00008001, Rev 0
RLD-LDB-00004 A-B004 (C5 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	24590-LAB -M6-RLD-00008001, Rev 0

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

Sump I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Type/Nominal Operating Volume (gallons)	Sump Dimensions^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
RLD-LDB-00005 A-B003 (C3 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD-00007001, Rev 0
RLD-LDB-00006 A-B003 (C3 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD- 00007001, Rev 0
RLD-LDB-00007 A-B003 (C3 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD- 00007001, Rev 0
RLD-LDB-00008 A-B003 (C3 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD- 00007001, Rev 0
RLD-LDB-00009 A-B004 (C5 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD- 00008001, Rev 0
RLD-LDB-00011 A-B003 (C3 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD-00007001, Rev 0
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
^a Dimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)				

Table III.10.E.R - EMF Plant Tank Systems Description

Dangerous and/or Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
DEP-VSL-00001 ED-B001 Low-point drain vessel	DEP	Reserved	Section 4G.2.1; Table 4G-1	18,000
DEP-VSL-00002 E-0105 Evaporator feed vessel	DEP	Reserved	Section 4G.2.2; Table 4G-1	42,300
DEP-VSL-00003A E-0105 Evaporator feed vessel	DEP	Reserved	Section 4G.2.3; Table 4G-1	14,805
DEP-VSL-00003B E-0105 Evaporator feed vessel	DEP	Reserved	Section 4G.2.3; Table 4G-1	14,805
DEP-VSL-00003C E-0105 Evaporator feed vessel	DEP	Reserved	Section 4G.2.3; Table 4G-1	14,805
DEP-VSL-00004A E-0106 Overhead sampling vessel	DEP	Reserved	Section 4G.2.4; Table 4G-1	40,800
DEP-VSL-00004B E-0106 Overhead sampling vessel	DEP	Reserved	Section 4G.2.4; Table 4G-1	40,800
DEP-VSL-00005A E-0106 Process condensate lag storage vessel	DEP	Reserved	Section 4G.2.5; Table 4G-1	127,260

Dangerous and/or Mixed Waste Tank Systems Name	Unit Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
DEP-VSL-00005B E-0106 Process condensate lag storage vessel	DEP	Reserved	Section 4G.2.5; Table 4G-1	127,260

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2 **Table III.10.E.S - EMF Plant Tank Systems Secondary Containment Systems, including Sumps, Leak Detection Boxes, Drain**
3 **Lines, and Floor Drains**

Sump/Leak Detection Box, or Floor Drain/Line I.D.# and Room#	Maximum Sump/Leak Detection Box Capacity (gallons)	Sump/Leak Detection Box Level Detection Type	Sump, Leak Detection Box or Floor Drain/Line Dimensions (approximate) and Materials of Construction	Piping and Instrumentation Diagram Number
Effluent Management Facility				
Sumps				
DEP-SUMP-00001 ED-B001	~58	Radio Frequency (RF) Capacitance	24 in. Dia. x 30 in. Length 304L SS	24590-BOF -M6-DEP-00001002
DEP-SUMP-00002A E-0103	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS	24590-BOF -M6-DEP-00009001
DEP-SUMP-00002B E-0103	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS	24590-BOF -M6-DEP-00009001
DEP-SUMP-00003A E-0102	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS	24590-BOF -M6-DEP-00009004
DEP-SUMP-00003B E-0102	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS	24590-BOF -M6-DEP-00009004
DEP-SUMP-00004A	~58	RF Capacitance	24 in. Dia. x 30 in. Length	24590-BOF

E-0105			304L SS		-M6-DEP-00009002
DEP-SUMP-00004B E-0105	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS		24590-BOF -M6-DEP-00009002
DEP-SUMP-00005A E-0106	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS		24590-BOF -M6-DEP-00009005
DEP-SUMP-00005B E-0106	~58	RF Capacitance	24 in. Dia. x 30 in. Length 304L SS		24590-BOF -M6-DEP-00009005
Leak Detection Boxes					
DEP-LDB-00001 ED-B001	~7	Conductivity Switch	8 in. Dia. x 41 in. Length 316L SS		24590-BOF -M6-DEP-00011001
DEP-LDB-00002 ED-B001	~7	Conductivity Switch	8 in. Dia. x 41 in. Length 316L SS		24590-BOF -M6-DEP-00011001
DEP-LDB-00003 ED-B001	~7	Conductivity Switch	8 in. Dia. x 41 in. Length 316L SS		24590-BOF -M6-DEP-00011001
DEP-LDB-00004 ED-B001	~7	Conductivity Switch	8 in. Dia. x 41 in. Length 316L SS		24590-BOF -M6-DEP-00011001
DEP-LDB-00005 ED-B001	~7	Conductivity Switch	8 in. Dia. x 41 in. Length 316L SS		24590-BOF -M6-DEP-00011001
DEP-LDB-00006 ED-B001	~7	Conductivity Switch	8 in. Dia. x 41 in. Length 316L SS		24590-BOF -M6-DEP-00011001
Drain Lines					
BOF-DEP-ZS-20282-W11A-011/02-01 ED-CH01	NA	NA	4 in. Dia. 316L SS	Containment pipe	24590-BOF -M6-DEP-00001001
			1 ½ in. Dia. AL6XN	Process pipe	
BOF-DEP-ZS-20236-W31A-02-01	NA	NA	4 in. Dia. Carbon Steel	Containment pipe	24590-BOF -M6-DEP-00001001

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ED-CH01			2 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZS-20245 -W11A- 04-01ED-CH01	NA	NA	6 in. Dia. 3166 SS	Containment pipe	24590-BOF -M6-DEP-00001001
			4 in. Dia. AL6XN	Process pipe	
BOF-DEP-ZS-20231-W31A- 03-01 ED-CH01	NA	NA	6 in. Dia. Carbon Steel	Containment pipe	24590-BOF -M6-DEP-00001001
			3 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZS-20242-W31A- 10-01 ED-CH01	NA	NA	14 in. Dia. Carbon Steel	Containment pipe	24590-BOF -M6-DEP-00001001
			10 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZS-20249-W31A- 03-01 ED-CH01	NA	NA	6 in. Dia. Carbon Steel	Containment pipe	24590-BOF -M6-DEP-00001001
			3 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZS-20225-W31A- 02-01 ED-CH01	NA	NA	4 in. Dia. Carbon steel	Containment pipe	24590-BOF -M6-DEP-00001002
			2 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZS-20219-W31A- 02-01	NA	NA	4 in. Dia. Carbon steel	Containment pipe	24590-BOF -M6-DEP-00001002

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ED-CH01			2 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZS-20222-W31A-02-01 ED-CH01	NA	NA	4 in. Dia. Carbon Steel	Containment pipe	24590-BOF -M6-DEP-00001002
			2 in. Dia 316L SS.	Process pipe	
BOF-DEP-ZS-20252-W11A-03-01 ED-CH01	NA	NA	6 in. Dia. 316L SS	Containment pipe	24590-BOF -M6-DEP-00010001
			3 in. Dia. AL6XN	Process pipe	
BOF-DEP-ZS-20265-W31A-03-01 ED-CH01	NA	NA	6 in. Dia. Carbon Steel	Containment Pipe	24590-BOF -M6-DEP-00002006
			3 in. Dia. 316L SS	Process pipe	
BOF-DEP-ZY-00181-W31A-03-01 ED-CH01	NA	NA	6 in. Dia. Carbon Steel	Containment Pipe	24590-BOF -M6-DEP-00001001
			3 in. Dia. 316L SS	Process pipe	
BOF-DEP-WU-00008-W31A-03-01 ED-CH01	NA	NA	6 in. Dia. Carbon steel	Containment pipe	24590-BOF -M6-DEP-00001001
			3 in. Dia. 316L SS	Process pipe	
BOF-DVP-GV-00026-W31A-03-01 ED-CH01	NA	NA	6 in. Dia. Carbon steel	Containment Pipe	24590-BOF -M6-DEP-00001001
			3 in. Dia. 316L SS	Process pipe	

1
2 **Table III.10.E.T - EMF Plant Secondary Containment Rooms/Areas**

Room/Area	Approximate Room/Area Dimensions (LxW, in feet)	Miscellaneous Treatment Units or Tanks in Room/Area (Largest Plant Item)	Volume of Largest Plant Item in Room/Area (US Gallons)	Minimum Secondary Containment Height (feet)
E-0102 east evaporator process area	62 ft x 94 ft 6 in.	Process condensate lag storage vessel	127,260	4 ft 6 in.
E-0103 west evaporator process area	62 ft x 56 ft 6 in.	Evaporator feed vessel	42,300	3 ft 5 in.
ED-B001 low-point drain vessel area	28 ft x 33 ft	Low-point drain vessel	18,000	4 ft 2 in.
E-0105-evaporator feed vessel area	45 ft 6 in. x 39 ft	Evaporator feed vessel	42,300	5 ft 2 in.
E-0106 process condensate lag storage vessel area	45 ft 6 in. x 84 ft 4 in.	Process condensate lag storage vessel	127,260	6 ft 10 in.

3
4

- 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 **III.10.F.1.a.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, Operating Unit Group 10, Chapter 1 of this Permit,
 7 except for those wastes outside the waste acceptance criteria specified in the WAP,
 8 Operating Unit Group 10, Chapter 3, as approved pursuant to Permit Condition
 9 [III.10.C.3.](#) Total dangerous and mixed waste storage at the containment building units
 10 will not exceed the sum of the capacities in column 7 of Permit Table [III.10.F.A.](#), as
 11 modified pursuant to Permit Condition [III.10.F.7.d.iv.](#)
- 12 **III.10.F.1.a.ii** The Permittees may place and store dangerous and mixed waste only in the containment
 13 building units listed in Permit Table [III.10.F.A.](#), as modified pursuant to Permit
 14 Condition [III.10.F.7.d.iv.](#), in accordance with Permit Condition [III.10.F.](#), and in
 15 accordance with Operating Unit Group 10, Chapters 1.0 and 4.0, and Operating Unit
 16 Group 10, Appendices 8.1, 8.2, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2, 9.4 through 9.10,
 17 9.13, 9.18, 10.1, 10.2, 10.4 through 10.10, 10.13, and 10.18 of this Permit, as approved
 18 pursuant to Permit Conditions [III.10.F.7.c.](#) and [III.10.F.7.d.](#) The Permittees will limit the
 19 volume of dangerous and mixed waste to quantities specified for the individual areas
 20 listed in 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 will manage any ignitable, reactive, or incompatible waste in these units
 23 in accordance with [WAC 173-303-395](#)(1). Any containment building units specified in
 24 Permit Table [III.10.F.A.](#) in which ignitable, reactive, or incompatible waste are managed
 25 will meet the requirements specified in [WAC 173-303-640](#)(9) and (10), in accordance
 26 with [WAC 173-303-680](#)(2).
- 27 **III.10.F.1.c** The Permittees must maintain documentation in the operating record of the description
 28 and 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 will ensure all certifications required by specialists (e.g., qualified,
 32 registered, professional engineer, etc.) use the following statement or equivalent pursuant
 33 to Permit Condition [III.10.C.10.](#):
- 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
 43 of those individuals immediately responsible for obtaining the information, I believe that
 44 the information is true, accurate, and complete. I am aware that there are significant

1 penalties for submitting false information, including the possibility of fine and
2 imprisonment.”

3 **III.10.F.2 Containment Building Unit Design and Construction**

4 **III.10.F.2.a** The Permittees will design and construct the containment building units identified in
5 Permit Table [III.10.F.A.](#), as modified pursuant to Permit Condition [III.10.F.7.d.iv.](#), as
6 specified in Operating Unit Group 10, Appendices 8.1, 8.2, 8.4 through 8.10, 8.13, 8.15,
7 9.1, 9.2, 9.4 through 9.10, 9.13, 9.18, 10.1, 10.2, 10.4 through 10.10, 10.13, and 10.18 of
8 this Permit, as approved in accordance with Permit Condition [III.10.F.7.a.](#) and
9 [WAC 173-303-695.](#)

10 **III.10.F.2.b** The Permittees will design and construct all applicable containment building units’
11 secondary containment systems for each unit listed in Permit Table [III.10.F.A.](#), as
12 specified in Operating Unit Group 10, Appendices 8.4 through 8.9, 8.15, 9.4 through 9.9,
13 9.18, 10.4 through 10.9, and 10.18 of this Permit, as approved in accordance with Permit
14 Condition [III.10.F.7.a.](#) and [WAC 173-303-695.](#)

15 **III.10.F.2.c** Modifications to approved design plans and specifications, in Operating Unit Group 10,
16 Appendices 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,
17 10.1, 10.2, 10.4 through 10.10, 10.13, and 10.18 of this permit, for the containment
18 building units will be allowed only in accordance with Permit Conditions [III.10.C.2.e.](#)
19 and [III.10.C.2.f.](#), or [III.10.C.2.g.](#), [III.10.C.9.d.](#) and [III.10.C.9.e.](#)

20 **III.10.F.3 Containment Building Unit Management Practices**

21 **III.10.F.3.a** The Permittees will manage all dangerous and mixed waste in containment building units
22 in accordance with procedures described in Operating Unit Group 10, Appendices 8.15,
23 9.18, 10.18 and Chapter 4 of this Permit, as approved pursuant to Permit Condition
24 [III.10.F.7.d.iv.](#)

25 **III.10.F.3.b** The Permittees will follow the description of operating procedures described in Operating
26 Unit Group 10, Appendices 8.15, 9.18, 10.18 and Chapter 4, of this permit, as approved
27 pursuant to Permit Condition [III.10.F.7.d.iv.](#) and Permit Condition [III.10.F.3.](#), and as
28 specified below:

29 **III.10.F.3.b.i** Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other
30 deterioration that could cause dangerous and mixed waste to be released from the primary
31 barrier;

32 **III.10.F.3.b.ii** Maintain the level of stored/treated dangerous and mixed waste within the containment
33 building unit walls so that the height of the wall is not exceeded;

34 **III.10.F.3.b.iii** Take measures to prevent the tracking of dangerous and mixed waste out of the unit by
35 personnel or by equipment used in handling the waste. An area must be designated to
36 decontaminate equipment and any rinsate must be collected and properly managed;

37 **III.10.F.3.b.iv** Maintain the containment building unit at all times to prevent the spread of airborne
38 dangerous and/or mixed waste contamination into less contaminated or uncontaminated
39 areas. All air pollution control devices for exhaust from containment building unit must
40 be properly maintained and operational when storing or treating dangerous and mixed
41 waste in the containment building units;

42 **III.10.F.3.b.v** Collect and remove liquids and waste to minimize hydraulic head on the containment
43 system at the earliest practicable time.

44 **III.10.F.3.c** The Permittees will inspect the containment building units per requirements in the
45 Operating Unit Group 10, Appendix 6A of this permit, as approved pursuant to Permit

1 Condition [III.10.C.5.](#), [40 CFR 264.1101\(c\)\(4\)](#), in accordance with [WAC 173-303-695](#) and
 2 [WAC 173-303-320](#) and record in the Facility's operating record, at least once every
 3 seven (7) days, data gathered from monitoring equipment and leak detection equipment
 4 as well as the containment building unit and area immediately surrounding the
 5 containment building unit to detect signs of releases of dangerous and mixed waste.

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

10 **III.10.F.3.d.i** Upon detection of a condition that has led to the release of dangerous and/or mixed waste
 11 (e.g., upon detection of leakage from the primary barrier) the Permittees must:

- 12 A. Enter a record of the discovery in the facility operating record;
- 13 B. Immediately remove the portion of the containment building unit affected by the
 14 condition from service;
- 15 C. Determine what steps must be taken to repair the containment building unit,
 16 remove any leakage from the secondary collection system, and establish a
 17 schedule for accomplishing the cleanup and repairs; and
- 18 D. Within seven (7) days after the discovery of the condition, notify Ecology of the
 19 condition, and within fourteen (14) working days, provide a written notice to
 20 Ecology with a description of the steps taken to repair the containment building
 21 unit, and the schedule for accomplishing the work.

22 **III.10.F.3.d.ii** Ecology will review the information submitted, make a determination regarding whether
 23 the containment building unit must be removed from service completely or partially until
 24 repairs and cleanup are complete, and notify the Permittees of the determination and
 25 underlying rationale in writing.

26 **III.10.F.3.d.iii** Upon completing all repairs and cleanup the Permittees must notify Ecology in writing
 27 and provide verification, signed by a qualified, registered, professional engineer, that
 28 repairs have been completed according to the written notice submitted in accordance with
 29 Permit Condition [III.10.F.3.d.i.D.](#)

30 **III.10.F.4 Inspections [\[WAC 173-303-640\(6\)\]](#)**

31 **III.10.F.4.a** The Permittees will inspect the containment building units in accordance with the
 32 Inspection Plan in Operating Unit Group 10, Chapter 6 of this Permit, as modified
 33 pursuant to Permit Condition [III.10.C.5.c.](#)

34 **III.10.F.4.b** The inspection data for the containment building units will be recorded, and the records
 35 will be placed in the WTP Unit operating record, in accordance with Permit Condition
 36 [III.10.C.4.](#)

37 **III.10.F.5 Recordkeeping [\(WAC 173-303-380\)](#)**

38 For the containment building units, the Permittees will record and maintain in the WTP
 39 Unit operating record, all monitoring, calibration, recording, maintenance, test data, and
 40 inspection data compiled under the conditions of this Permit, in accordance with Permit
 41 Conditions [III.10.C.4.](#) and [III.10.C.5.](#)

42 **III.10.F.6 Closure**

43 The Permittees will close the containment building units in accordance with Operating
 44 Unit Group 10, Chapter 11 of this Permit, as approved pursuant to Permit Condition
 45 [III.10.C.8.](#)

1 **III.10.F.7 Compliance Schedule**

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

6 **III.10.F.7.b** Prior to initial receipt of dangerous and/or mixed waste, the Permittees will submit to
7 Ecology a certification by a qualified, registered, professional engineer that the
8 containment building units design meets the requirements of Permit Conditions
9 [III.10.F.1.](#) and [III.10.F.2.](#) in accordance with Permit Condition [III.10.F.7.a.](#) The
10 certification will also be stored in the WTP Unit operating record. For containment
11 buildings units in Permit Table [III.10.F.A.](#), as modified pursuant to Permit Condition
12 [III.10.F.7.d.iv.](#), identified as allowed to manage free liquids, the certification will include
13 an additional demonstration that the containment building meets the requirements
14 specified in [40 CFR 264.1101](#)(b), in accordance with [WAC 173-303-695](#).

15 **III.10.F.7.c** The Permittees submit to Ecology pursuant to Permit Condition [III.10.C.9.f.](#), prior to
16 construction of the containment building unit containment system, and as appropriate,
17 leak detection system for each containment building unit (per level, per WTP Unit
18 building) as identified in Permit Condition [III.10.F.1.](#), Permit Tables [III.10.F.A.](#),
19 engineering information as specified below, for incorporation, as appropriate, into
20 Operating Unit Group 10, Appendices 8.1, 8.2, 8.3, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2,
21 9.4 through 9.10, 9.13, 9.18, 10.1, 10.2, 10.4 through 10.10, 10.13, and 10.18 of this
22 Permit. At a minimum, engineering information specified below will show the following
23 as required in accordance with [WAC 173-303-695](#) (the information specified below will
24 include dimensioned engineering drawings showing floors, walls, and ceilings/roof of the
25 containment building units and other information on floor drains and sumps):

26 **III.10.F.7.c.i** Design drawings (General Arrangement Drawings in plan) and specifications for the
27 foundation, containment, including liner/coating installation details and leak detection
28 methodology, as appropriate [\[40 CFR 264.1101\(a\)\(1\) and \(b\)](#), in accordance with [WAC](#)
29 [173-303-695\]](#).

30 **III.10.F.7.c.ii** The Permittees provide the design criteria (references to codes and standards, load
31 definitions and load combinations, materials of construction, and analysis/design
32 methodology) and typical design details for the support of the containment system. This
33 information demonstrate the foundation will be capable of providing support to the
34 secondary containment system, resistance to pressure gradients above and below the
35 system, and capable of preventing failure due to settlement, compression, or uplift [\[40](#)
36 [CFR 264.1101\(a\)\(2\)](#) in accordance with [WAC 173-303-695](#), in accordance with [WAC](#)
37 [173-303-695\]](#).

38 **III.10.F.7.c.iii** The Permittees provide documentation addressing how coatings will withstand the
39 movement of personnel, waste, and equipment during the operating life of the
40 containment building per [40 CFR 264.1101\(a\)\(2\)](#), (a)(4), and (b) in accordance with
41 [WAC 173-303-695](#).

42 **III.10.F.7.c.iv** Containment/foundation and, as appropriate, for leak detection systems, materials
43 selection documentation (including, but not limited to, concrete coatings and water stops,
44 and liner materials as applicable [e.g. physical and chemical tolerances])
45 [\[40 CFR 264.1101\(a\)\(4\) and \(b\)](#) in accordance with [WAC 173-303-695\]](#).

46 **III.10.F.7.c.v** A detailed description of how the containment/foundation and, as appropriate, leak
47 detection systems, will be installed.

- 1 **III.10.F.7.c.vi** Submit Permit Tables [III.10.F.B](#) and [III.10.F.C](#), completed to provide for all secondary
2 containment sumps and floor drains, the information as specified in each column heading,
3 consistent with the information to be provided in i. through viii.
- 4 **III.10.F.7.c.vii** A detailed description of how fugitive emissions will be controlled such that any
5 openings (e.g., doors, windows, vents, cracks, etc.) exhibit no visible emissions
6 [[40 CFR 264.1101](#)(c)(1)(iv) in accordance with [WAC 173-303-695](#)].
- 7 **III.10.F.7.c.viii** Prior to installation, the Permittees will submit coating vendor information specific to
8 containment buildings for incorporation into the Administrative Record
9 [[40 CFR 264.1101](#)(a)(4) and (b) in accordance with [WAC 173-303-695](#)].
- 10 **III.10.F.7.c.ix** Prior to installation, leak detection system documentation (e.g. vendor information, etc.)
11 consistent with information submitted under i. above, will be submitted for incorporation
12 into the Administrative Record;
- 13 **III.10.F.7.c.x** Prior to installation, the Permittees will submit leak detection system instrumentation
14 control logic narrative description (e.g., descriptions of fail-safe conditions, etc.);
- 15 **III.10.F.7.c.xi** Prior to installation, system descriptions related to leak detection systems will be
16 submitted for incorporation into the Administrative Record;
- 17 **III.10.F.7.c.xii** For leak detection system instrumentation for containment buildings as identified in
18 Permit Tables [III.10.F.D](#)., a detailed description of how the leak detection system
19 instrumentation will be installed and tested [[40 CFR 264.1101](#)(b)(3) in accordance with
20 [WAC 173-303-695](#)] will be submitted prior to installation.
- 21 Information pertaining to leak detection systems in Permit Conditions [III.10.F.7.c.ix](#).
22 through [xii](#). Will be submitted pursuant to Permit Conditions [III.10.E.9.d.vii](#)., [viii](#).,
23 [x](#)., and [xiii](#).
- 24 **III.10.F.7.d** Prior to initial receipt of dangerous and mixed waste, in the WTP Unit, the Permittees
25 will submit the following, as specified below, for incorporation into Operating Unit
26 Group 10. The information specified below into Operating Unit Group 10, and
27 incorporated pursuant to Permit Condition [III.10.C.2.g](#). will be followed:
- 28 **III.10.F.7.d.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 Operating
31 Record [[40 CFR 264.1101](#)(c)(2)];
- 32 **III.10.F.7.d.ii** Updated Chapter 4, Sections 4D.1, 4E.1, 4F.1, 4H.1, 4I.1, and the figures for containment
33 building units identified in Permit Table [III.10.F.A](#). (as modified pursuant to Permit
34 Condition [III.10.F.7.d.iv](#)., consistent with Operating Unit Group 10, Appendices 8.1, 8.2,
35 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
36 through 10.10, 10.13, and 10.18, as approved pursuant Permit Conditions [III.10.F.7.a](#).
37 through [d](#).);
- 38 **III.10.F.7.d.iii** Description of operating procedures demonstrating compliance with
39 [40 CFR 264.1101](#)(c) and (d) in accordance with [WAC 173-303-695](#);
- 40 **III.10.F.7.d.iv** Permit Table [III.10.F.A](#)., amended as follows:
- 41 A. Under column 1, update and complete list of dangerous and mixed waste
42 containment building units including room location and number.
- 43 B. Under column 2, update unit dimensions.

- 1 C. Under column 3, replace the ‘Reserved’ with the Operating Unit Group 10,
 2 Appendices 8.0, 9.0, and 10.0, subsections specific to containment building units
 3 as listed in 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 operating volume for
 13 each containment building unit, to include the container storage capacity specified
 14 in Permit Table [III.10.D.A.](#), tank capacity specified in Permit Tables [III. 10.E.A-](#)
 15 [D.](#) and update the total capacity for the containment building units.
- 16 H. Under column 8, update the status of each containment building unit.
- 17 **III.10.F.7.d.v** Permit Table [III.10.F.D.](#) will be completed for Containment Building leak detection
 18 system instrumentation and parameters to provide the information as specified in each
 19 column heading. Leak detection system monitors and instruments for critical systems as
 20 specified in Operating Unit Group 10, Appendix 2.0 and as updated pursuant to Permit
 21 Condition [III.10.C.9.b.](#) will 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
 24 by Ecology.
 25

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

Mixed Waste Containment Building Units ^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas ^b	Tank Systems ^c	Containment Building Capacity (cu ft)	Manage Free Liquids
Pretreatment Plant							
P-0123 Pretreatment Hotcell Containment Building	350x51x52	RESERVED	Section 4D.3.1; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
Pretreatment Maintenance Containment Building							
PM0124 Hotcell Crane Maintenance Mezzanine	27 x 51 x 33	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0121A Spent Resin Dewatering	28 x 18 x 28	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0122A Waste Packaging Area	26 x 51 x 28	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0123A Remote Decontamination Maintenance Cell	55 x 51 x 52	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0124 C3 Workshop	(24 x 24 x 16) + (34 x 24 x 15)	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No

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

Mixed Waste Containment Building Units^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas^b	Tank Systems^c	Containment Building Capacity (cu ft)	Manage Free Liquids
P-0124A C3 Workshop	(73 + 15 × 15) + (16 × 15 + 15)	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0125 Cask Lidding Airlock & Equipment Chase	24 × 20 × 28	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0125A Cask Lidding Room	28 × 18 × 25	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0128A MSM Repair Area	24 × 18 × 28	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0128 MSM Testing Room	24 × 17 × 27	RESERVED	Section 4D.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0223 Spent Filter Drum Handling Area Containment Building	54 x 18 x 26	RESERVED	Section 4D.3.3; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0335 Filter Cave Containment Building	198 x 51 x 52	RESERVED	Section 4D.3.4; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED

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

Mixed Waste Containment Building Units^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas^b	Tank Systems^c	Containment Building Capacity (cu ft)	Manage Free Liquids
P-0431A General Filter Rm	RESERVED	RESERVED	Section 4D.3.5; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
LAW Vitrification Plant							
L-0112 LAW LSM Gallery Containment Building	150x62x24	RESERVED	Section 4E.3.1; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	Yes
LAW Container Finishing Containment Building		RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
L-0109B Swabbing Area Line 2	21x15x24	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0109C Decontamination Area Line 2	18x15x24	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0109D Inert Fill Area Line 2	55x15x24	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0115B Swabbing Area Line 1	21x15x24	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED

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

Mixed Waste Containment Building Units^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas^b	Tank Systems^c	Containment Building Capacity (cu ft)	Manage Free Liquids
L-0115C Decontamination Area Line 1	18×15×24	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0115D Inert Fill Area Line 1	55×15×24	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0109E Container/Monitoring/Export Area	19×18×14	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0115E Container/Monitoring/Export Area	19×18×14	RESERVED	Section 4E.3.2; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0119B LAW Consumable Import/Export Containment Building	30x28x17	RESERVED	Section 4E.3.3; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	Yes
L-226A LAW C3 Workshop Containment Building	34x22x19	RESERVED	Section 4E.3.4; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
LAW Pour Cave Containment Building		RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED

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

Mixed Waste Containment Building Units^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas^b	Tank Systems^c	Containment Building Capacity (cu ft)	Manage Free Liquids
L-B015A Melter 1 Pour Cave	16.5×20×23	RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B013C Melter 1 Pour Cave	16.5×20×23	RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B013B Melter 2 Pour Cave	16.5×20×23	RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B011C Melter 2 Pour Cave	16.5×20×23	RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B011B Future Melter 3 Pour Cave	16.5×20×23	RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B009B Future Melter 3 Pour Cave	16.5×20×23	RESERVED	Section 4E.3.5; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
LAW Buffer Container Containment Building		RESERVED	Section 4E.3.6; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED

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

Mixed Waste Containment Building Units^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas^b	Tank Systems^c	Containment Building Capacity (cu ft)	Manage Free Liquids
L-B025C Container Buffer Store	22x22x23	RESERVED	Section 4E.3.6; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B025D Container Rework	22x14x23	RESERVED	Section 4E.3.6; Table 4E-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
HLW Vitrification Plant							
HLW Melter Cave 1 Containment Building: H-0117 Melter Cave 1 H-0116B Melter Cave 1 C3/C5 Airlock H-0310A Melter Cave 1 Equipment Decon Pit	75 x 32 x 54 24 x 25 x 54 20 x 9 x 10	RESERVED	Section 4F.3.1; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
HLW Melter Cave 2 Containment Building: H-0106 Melter Cave 2 H-0105B Melter Cave 2 C3/C5 Airlock H-0304A Melter Cave 2 Equipment Decon Pit	75 x 32 x 54 24 x 25 x 54 20 x 9 x 10	RESERVED	Section 4F.3.1; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
H-0136 IHLW Canister Handling Cave Containment Building	18 x 140 x 54	RESERVED	Section 4F.3.2; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No

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

Mixed Waste Containment Building Units^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas^b	Tank Systems^c	Containment Building Capacity (cu ft)	Manage Free Liquids
H-0133 IHLW Canister Swab and Monitoring Cave Containment Building	41 x 11 x 54	RESERVED	Section 4F.3.3; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
HLW C3 Workshop Containment Building: H-0311A C3 Workshop H-0311B MSM Maintenance Workshop	19 x 30 x 22 58 x 69 x 22	RESERVED	Section 4F.3.4; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
H-0104 HLW Filter Cave Containment Building	105 x 36 x 36	RESERVED	Section 4F.3.5; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
H-B032 HLW Pour Tunnel 1 Containment Building	85 x 11 x 30	RESERVED	Section 4F.3.6; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
H-B005A HLW Pour Tunnel2 Containment Building	85 x 11 x 30	RESERVED	Section 4F.3.6; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	No
HLW Waste Handling Area Containment Building: H-0410B E&I Room H-0411 Waste Handling Room	17 x 20 x 10 25 x 54 x 10	RESERVED	Section 4F.3.8; Table 4D-5; and Fig. 4A-59 (Sheets 1-2) of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
HLW Drum Swabbing and Monitoring Area:		RESERVED	Section 4F.3.7; Table 4D-5; and Fig. 4A-59 (Sheets 1-2)	RESERVED	RESERVED	RESERVED	RESERVED

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

Mixed Waste Containment Building Units ^a & Systems	Dimensions (LxWxH) (in feet)	Unit Description	Narrative Description and Figures	Container Storage Areas ^b	Tank Systems ^c	Containment Building Capacity (cu ft)	Manage Free Liquids
H-0126A Crane Maintenance Room	15 x 20 x 31		of Operating Unit Group 10, Chapter 4 of this Permit.				
H-0126B Swabbing and Monitoring Room	30 x 18 x 31						
H-028 Cask Import/Export Room	15 x 45 x 43						
^a Containment Building Units include associated process systems and equipment ^b Requirements pertaining to the containers in the Containment Building Units are specified in Section III 10 D of this Permit ^c Requirements pertaining to the tanks in the Containment Building Units are specified in Section III 10 E of this Permit							

1

Table III.10.F.B – Containment Building Primary^a Containment Sump Systems

Sump I.D.# & Room Location	Maximum Capacity (gallons)	Dimensions ^b (feet) & Materials of Construction	Maximum Allowable Liquid Height (inches)	Secondary Containment Volume (gallons)	Unit Description Drawings
PWD-SUMP-00026 P-0123 (El. 0')	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00028 P-0123 (El. 0')	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00029 P-0123 (El. 0')	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00032 P-0123A	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PWD-SUMP-00033 P-0123A (El. 0')	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

Table III.10.F.B – Containment Building Primary^a Containment Sump Systems

Sump I.D.# & Room Location	Maximum Capacity (gallons)	Dimensions ^b (feet) & Materials of Construction	Maximum Allowable Liquid Height (inches)	Secondary Containment Volume (gallons)	Unit Description Drawings
^a 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					
^b Dimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)					

1

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 ^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications No.'s, etc.)
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
^a Dimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)				

2

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
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
^a Locator (including P&ID designator) is located on Permit Table III 10 F C – Containment Building Secondary Containment Systems Including Sumps and Floor Drains							

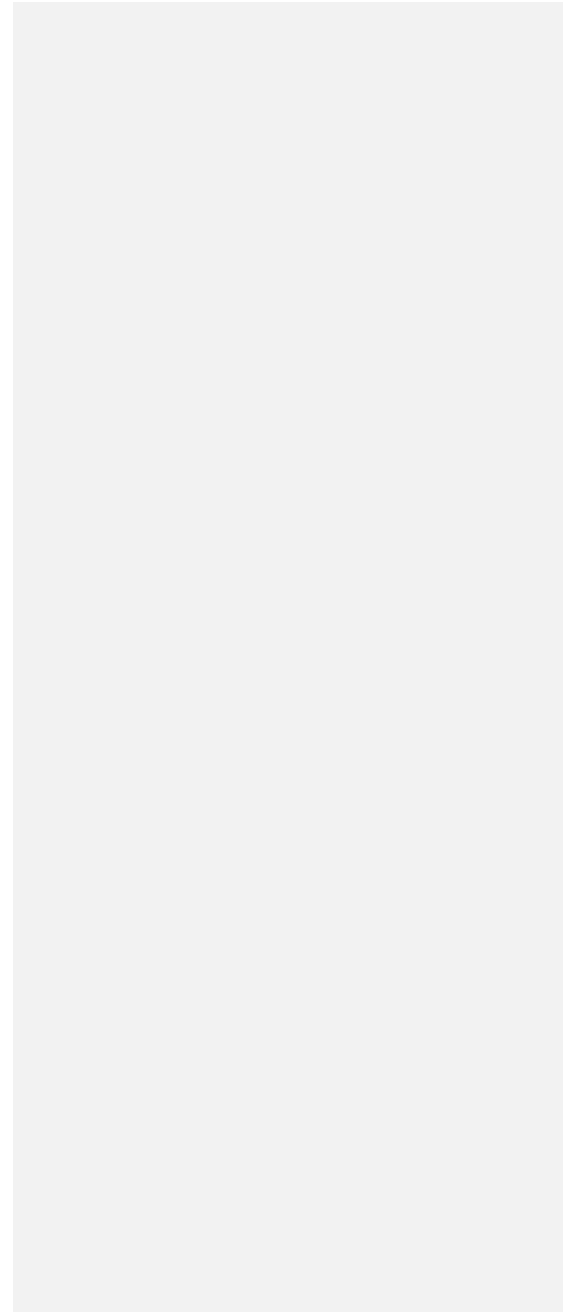
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Waste Treatment and Immobilization Plant

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

2 Unless otherwise noted in Table [III.10.G.A](#), for purposes of Permit Section [III.10.G](#),
 3 where reference is made to [WAC 173-303-640](#), the following substitutions apply:
 4 substitute the terms “Pretreatment Plant Miscellaneous Unit System(s)” for “tank
 5 system(s),” “miscellaneous unit(s)” for “tank(s),” “equipment” for “ancillary equipment,”
 6 and “miscellaneous unit(s) or equipment of a Pretreatment Plant Miscellaneous Unit
 7 System” for “component(s)” in accordance with [WAC 173-303-680](#). Miscellaneous unit
 8 systems, exempt from the [WAC-173-303-640](#) requirements in Permit Section III.10.G are
 9 noted as exempt in Table [III.10.G.A](#).

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

11 **III.10.G.1.a** The Permittees may process, in the Pretreatment Plant Miscellaneous Unit Systems listed
 12 in Permit Table [III.10.G.A](#), as approved/modified pursuant to Permit Condition
 13 [III.10.G.10](#), all dangerous and mixed waste listed in the Part A Forms, Operating Unit
 14 Group 10, Chapter 1 of this Permit, and in accordance with in the WAP, Operating Unit
 15 Group 10, Chapter 3 of this Permit, as approved pursuant to Permit Condition [III.10.C.3](#).
 16 Total Pretreatment Plant Miscellaneous Unit dangerous and mixed waste storage at the
 17 Facility will not exceed the limits specified in Permit Table [III.10.G.A](#).

18 **III.10.G.1.b** The Permittees may process dangerous and mixed waste only in approved Pretreatment
 19 Plant Miscellaneous Unit Systems listed in Permit Table [III.10.G.A](#) in accordance with
 20 Permit Section [III.10.G](#) and in accordance with Operating Unit Group 10, Chapters 1.0
 21 and 4.0 of this Permit, and Operating Unit Group 10, Appendices 8.1 through 8.15 of this
 22 Permit, as approved pursuant to Permit Conditions [III.10.G.10.b](#) through [e](#). The
 23 Permittees will limit the total volume of wastes to quantities specified for the individual
 24 miscellaneous units listed in Permit Table [III.10.G.A](#).

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

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

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 miscellaneous
 36 unit system or component located at (address), and owned/operated by (name(s)). My
 37 duties were: (e.g., installation inspector, testing for tightness, etc.), for the following
 38 miscellaneous unit system components (e.g., the venting piping, etc.), as required by the
 39 Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3) (applicable paragraphs
 40 (i.e., (a) through (g)) in accordance with [WAC 173-303-680](#)).

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
 43 of those individuals immediately responsible for obtaining the information, I believe that
 44 the information is true, accurate, and complete. I am aware that there are significant
 45 penalties for submitting false information, including the possibility of fine and
 46 imprisonment.”

- 1 **III.10.G.1.e** In all future narrative permit submittals, the Permittees will include miscellaneous unit
 2 system names with the unit designation (e.g., Waste Feed Evaporator Separator Vessels
 3 are designated V11002A and V11002B, respectively).
- 4 **III.10.G.2** **Miscellaneous Unit Systems Design and Construction [WAC 173-303-640,**
 5 **in accordance with WAC 173-303-680(2) and WAC 173-303-340].**
- 6 **III.10.G.2.a** The Permittees will construct the Pretreatment Plant Miscellaneous Unit Systems
 7 identified in Permit Table [III.10.G.A](#), as specified in Operating Unit Group 10,
 8 Appendices 8.1 through 8.14 of this Permit, as approved pursuant to Permit Conditions
 9 [III.10.G.10.b](#), [III.10.G.10.c](#), and [III.10.G.10.d](#).
- 10 **III.10.G.2.b** The Permittees will construct secondary containment systems for the Pretreatment Plant
 11 Miscellaneous Unit Systems identified in Permit Tables [III.10.G.A](#) and [III.10.G.B](#), as
 12 specified in Operating Unit Group 10, Appendices 8.2, 8.4 through 8.14 of this Permit, as
 13 approved pursuant to Permit Conditions [III.10.G.10.b](#), [III.10.G.10.c](#), and [III.10.G.10.d](#).
- 14 **III.10.G.2.c** Modifications to approved design, plans, and specifications in Operating Unit Group 10
 15 of this Permit for the Pretreatment Plant Miscellaneous Unit Systems will be allowed
 16 only in accordance with Permit Conditions [III.10.C.2.e](#) and [f](#)., or [III.10.C.2.g](#).,
 17 [III.10.C.9.d](#)., [e](#)., and [h](#).
- 18 **III.10.G.3** **Miscellaneous Unit System Installation and Certification [WAC 173-303-640,**
 19 **in accordance with WAC 173-303-680(2) and (3), and WAC 173-303-340].**
- 20 **III.10.G.3.a** The Permittees must ensure that proper handling procedures are adhered to in order to
 21 prevent damage to Pretreatment Plant Miscellaneous Unit Systems during installation.
 22 Prior to covering, enclosing, or placing a new Pretreatment Plant Miscellaneous Unit
 23 System(s) or component(s) in use, an independent, qualified, installation inspector or an
 24 independent, qualified, registered professional engineer, either of whom is trained and
 25 experienced in the proper installation of similar systems or components, must inspect the
 26 system for the presence of any of the following items:
- 27 **III.10.G.3.a.i** Weld breaks;
- 28 **III.10.G.3.a.ii** Punctures;
- 29 **III.10.G.3.a.iii** Scrapes of protective coatings;
- 30 **III.10.G.3.a.iv** Cracks;
- 31 **III.10.G.3.a.v** Corrosion;
- 32 **III.10.G.3.a.vi** Other structural damage or inadequate construction/installation;
- 33 **III.10.G.3.a.vii** All discrepancies must be remedied before the Pretreatment Plant Miscellaneous Unit
 34 Systems are covered, enclosed, or placed in use [\[WAC 173-303-640\(3\)\(c\)](#) in accordance
 35 with [WAC 173-303-680\(2\)](#) and (3)].
- 36 **III.10.G.3.b** For Pretreatment Plant Miscellaneous Unit Systems or components that are placed
 37 underground and that are back-filled, the Permittees must provide a backfill material that
 38 is a non-corrosive, porous, homogeneous substance. The backfill must be installed so
 39 that it is placed completely around the miscellaneous unit and compacted to ensure that
 40 the miscellaneous unit and piping are fully and uniformly supported
 41 [\[WAC 173-303-640\(3\)\(d\)](#), in accordance with [WAC 173-303-680\(2\)](#) and (3)].
- 42 **III.10.G.3.c** The Permittees must test for tightness all new Pretreatment Plant miscellaneous units and
 43 equipment, prior to being covered, enclosed, or placed into use. If the Pretreatment Plant
 44 Miscellaneous Unit Systems are found not to be tight, all repairs necessary to remedy the

1 leak(s) in the system must be performed prior to the Pretreatment Plant Miscellaneous
2 Units Systems being covered, enclosed, or placed in use [[WAC 173-303-640\(3\)\(e\)](#)], in
3 accordance with [WAC 173-303-680\(2\)](#) and (3)].

4 **III.10.G.3.d** The Permittees must ensure Pretreatment Plant Miscellaneous Unit Systems equipment is
5 supported and protected against physical damage and excessive stress due to settlement,
6 vibration, expansion, or contraction [[WAC 173-303-640\(3\)\(f\)](#)], in accordance with
7 [WAC 173-303-680\(2\)](#) and (3)].

8 **III.10.G.3.e** The Permittees must provide the type and degree of corrosion protection recommended
9 by an independent corrosion expert, based on the information provided in Operating Unit
10 Group 10, Appendices 8.9 and 8.11 as approved pursuant to Permit Conditions
11 [III.10.G.10.b.i.](#), [III.10.G.10.b.iv.](#), [III.10.G.10.b.v.](#), [III.10.G.10.c.i.](#), [III.10.G.10.c.iv.](#),
12 [III.10.G.10.c.v.](#), and [III.10.G.10.d.i.](#), [III.10.G.10.d.iv.](#), [III.10.G.10.d.v.](#), or other corrosion
13 protection if Ecology believes other corrosion protection is necessary to ensure the
14 integrity of the Pretreatment Plant Miscellaneous Unit Systems during use of the
15 Pretreatment Plant Miscellaneous Unit Systems. The installation of a corrosion
16 protection system that is field fabricated must be supervised by an independent corrosion
17 expert to ensure proper installation [[WAC 173-303-640\(3\)\(g\)](#)], in accordance with
18 [WAC 173-303-680\(2\)](#) and (3)].

19 **III.10.G.3.f** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
20 will obtain, and keep on file in the WTP Unit operating record, written statements by
21 those persons required to certify the design of the Pretreatment Plant Miscellaneous Unit
22 Systems and supervise the installation of the Pretreatment Plant Miscellaneous Unit
23 Systems, as specified in [WAC 173-303-640\(3\)\(b\)](#), (c), (d), (e), (f), and (g), in accordance
24 with [WAC 173-303-680](#), attesting that each Pretreatment Plant Miscellaneous Unit
25 System and corresponding containment system listed in Permit Tables [III.10.G.A](#) and
26 [III.10.G.B](#), as approved/modified pursuant to Permit Condition [III.10.G.10.](#), were
27 properly designed and installed, and that repairs, in accordance with
28 [WAC 173-303-640\(3\)\(c\)](#) and (e), were performed [[WAC 173-303-640\(3\)\(a\)](#),
29 [WAC 173-303-640\(3\)\(h\)](#)], in accordance with [WAC 173-303-680\(3\)](#)].

30 **III.10.G.3.g** The independent Pretreatment Plant Miscellaneous Unit System installation inspection
31 and subsequent written statements will be certified in accordance with
32 [WAC 173-303-810\(13\)\(a\)](#) as modified pursuant to Permit Condition [III.10.G.1.d.](#),
33 comply with all requirements of [WAC 173-303-640\(3\)\(h\)](#), in accordance with
34 [WAC 173-303-680](#), and will consider, but not be limited to, the following miscellaneous
35 unit system installation documentation:

36 **III.10.G.3.g.i** Field installation report with date of installation;

37 **III.10.G.3.g.ii** Approved welding procedures;

38 **III.10.G.3.g.iii** Welder qualifications and certification;

39 **III.10.G.3.g.iv** Hydro-test reports, as applicable, in accordance with the American Society of Mechanical
40 Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1, American
41 Petroleum Institute (API) Standard 620, or Standard 650 as applicable;

- 1 **III.10.G.3.g.v** Tester credentials;
- 2 **III.10.G.3.g.vi** Field inspector credentials;
- 3 **III.10.G.3.g.vii** Field inspector reports;
- 4 **III.10.G.3.g.viii** Field waiver reports; and
- 5 **III.10.G.3.g.ix** Non-compliance reports and corrective action (including field waiver reports) and repair
- 6 reports.
- 7 **III.10.G.4 Integrity Assessments** [[WAC 173-303-340](#) and [WAC 173-303-640](#), in
- 8 accordance with [WAC 173-303-680\(2\)](#) and (3)].
- 9 **III.10.G.4.a** The Permittees will ensure periodic integrity assessments are conducted on the
- 10 Pretreatment Plant Miscellaneous Unit Systems listed in Permit Table III.10.G.A, as
- 11 approved/modified pursuant to Permit Condition III.10.G.10., over the term of this Permit
- 12 in accordance with [WAC 173-303-680\(2\)](#) and (3) as specified in
- 13 [WAC 173-303-640\(3\)\(b\)](#), following the description of the integrity assessment program
- 14 and schedule in Operating Unit Group 10, Addendum E of this Permit, as approved
- 15 pursuant to Permit Conditions [III.10.G.10.e.i](#) and [III.10.C.5.c](#). Results of the integrity
- 16 assessments will be included in the WTP Unit operating record until ten (10) years after
- 17 post-closure, or corrective action is complete and certified, whichever is later.
- 18 **III.10.G.4.b** The Permittees will address problems detected during Pretreatment Plant Miscellaneous
- 19 Unit Systems integrity assessments specified in Permit Condition [III.10.G.4.a](#), following
- 20 the integrity assessment program in Operating Unit Group 10, Addendum E of this
- 21 Permit, as approved pursuant to Permit Conditions [III.10.G.10.e.i](#) and [III.10.C.5.c](#).
- 22 **III.10.G.4.c** The Permittees must immediately and safely remove from service any Pretreatment Plant
- 23 Miscellaneous Unit System or secondary containment system which through an integrity
- 24 assessment is found to be "unfit for use" as defined in [WAC 173-303-040](#), following
- 25 Permit Condition [III.10.G.5.j.i](#) through [iv.](#), and [vi.](#) The affected Pretreatment Plant
- 26 Miscellaneous Unit or secondary containment system must be either repaired or closed in
- 27 accordance with Permit Condition [III.10.G.5.j.v](#), [[WAC 173-303-640\(7\)\(e\)](#) and (f) and
- 28 [WAC 173-303-640\(8\)](#)], in accordance with [WAC 173-303-680\(3\)](#)].
- 29 **III.10.G.5 Miscellaneous Unit Management Practices**
- 30 **III.10.G.5.a** No dangerous and/or mixed waste will be managed in the Pretreatment Plant
- 31 Miscellaneous Unit Systems unless the operating conditions, specified under Permit
- 32 Condition [III.10.G.5](#), are complied with.
- 33 **III.10.G.5.b** The Permittees will install and test all process and leak detection system
- 34 monitoring/instrumentation, as specified in Permit Table [III.10.G.C](#), as
- 35 approved/modified pursuant to Permit Condition [III.10.G.10](#), in accordance with
- 36 Operating Unit Group 10, Appendices 8.1, 8.2, and 8.14 of this Permit, as approved
- 37 pursuant to Permit Condition [III.10.G.10.d.x](#).
- 38 **III.10.G.5.c** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or other
- 39 materials in the Pretreatment Plant Miscellaneous Unit Systems if these substances could
- 40 cause the systems to rupture, leak, corrode, or otherwise fail [[WAC 173-303-640\(5\)\(a\)](#)], in
- 41 accordance with [WAC 173-303-680\(2\)](#)].
- 42 **III.10.G.5.d** The Permittees will operate the Pretreatment Plant Miscellaneous Unit Systems to
- 43 prevent spills and overflows using the description of controls and practices, as required
- 44 under [WAC 173-303-640\(5\)\(b\)](#), described in Permit Condition [III.10.C.5](#), and Operating
- 45 Unit Group 10, Appendix 8.18 of this Permit, as approved pursuant to Permit Condition

1 [III.10.G.10.e.iv](#) [[WAC 173-303-640\(5\)\(b\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and
2 (3) and [WAC 173-303-806\(4\)\(c\)\(ix\)](#)].

3 **III.10.G.5.e** For routinely non-accessible Pretreatment Plant Miscellaneous Unit Systems, as specified
4 in Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit
5 Condition [III.10.G.10.e.vi](#), the Permittees will mark all routinely non-accessible
6 Pretreatment Plant Miscellaneous Unit System access points with labels or signs to
7 identify the waste contained in the units. The label, or sign, must be legible at a distance
8 of at least fifty (50) feet and must bear a legend which identifies the waste in a manner
9 which adequately warns employees, emergency response personnel, and the public of the
10 major risk(s) associated with the waste being stored or treated in the miscellaneous unit
11 system(s). For the purposes of this Permit condition, "routinely non-accessible" means
12 personnel are unable to enter these areas while waste is being managed in them
13 [[WAC 173-303-640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

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

22 **III.10.G.5.g.** The Permittees will ensure that the secondary containment systems for Pretreatment Plant
23 Miscellaneous Unit Systems listed in Permit Tables [III.10.G.A](#) and [III.10.G.B](#), as
24 approved/modified pursuant to Permit Condition [III.10.G.10](#), are free of cracks or gaps to
25 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
26 system to the soil, ground water, or surface water at any time waste is in the Pretreatment
27 Plant Miscellaneous Units System. Any indication that a crack or gap may exist in the
28 containment systems will be investigated and repaired in accordance with Operating Unit
29 Group 10, Appendix 8.18 of this Permit, as approved pursuant to Permit Condition
30 [III.10.G.10.e.v](#). [[WAC 173-303-640\(4\)\(b\)\(i\)](#)], [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), and
31 [WAC 173-303-640\(6\)](#) in accordance with [WAC 173-303-680\(2\)](#) and (3),
32 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and [WAC 173-303-320](#)].

33 **III.10.G.5.i.** An impermeable coating, as specified in Operating Unit Group 10, Appendices 8.4,
34 8.5, 8.7, 8.9, 8.11, and 8.12 of this Permit, as approved pursuant to Permit Condition
35 [III.10.G.10.b.v](#), of this Permit, will be maintained for all concrete containment systems
36 and concrete portions of containment systems for each Pretreatment Plant Miscellaneous
37 Unit System listed in Permit Tables [III.10.G.A](#) and [III.10.G.B](#), as approved/modified
38 pursuant to Permit Condition [III.10.G.10](#) [concrete containment systems that do not have
39 a liner pursuant to [WAC-173-303-640\(4\)\(e\)\(i\)](#)], in accordance with
40 [WAC 173-303-680\(2\)](#), and have construction joints, will meet the requirements of
41 [WAC 173-303-640\(4\)\(e\)\(ii\)\(C\)](#), in accordance with [WAC 173-303-680\(2\)](#)].
42 The coating will prevent migration of any dangerous and mixed waste into the concrete.
43 All coatings will meet the following performance standards:

44 **III.10.G.5.i.i.** The coating must seal the containment surface such that no cracks, seams, or other
45 avenues through which liquid could migrate are present;

46 **III.10.G.5.i.ii.** The coating must be of adequate thickness and strength to withstand the normal operation
47 of equipment and personnel within the given area such that degradation or physical

1 damage to the coating or lining can be identified and remedied before dangerous and
2 mixed waste could migrate from the system; and

3 **III.10.G.5.i.iii.** The coating must be compatible with the dangerous and mixed waste, treatment reagents,
4 or other materials managed in the containment system [[WAC 173-303-640\(4\)\(e\)\(ii\)\(D\)](#)],
5 in accordance with [WAC 173-303-680\(2\)](#) and (3) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)].

6 **III.10.G.5.j.** The Permittees will inspect all secondary containment systems for the Pretreatment Plant
7 Miscellaneous Unit Systems listed in Permit Tables [III.10.G.A](#) and [III.10.G.B.](#), as
8 approved/modified pursuant to Permit Condition [III.10.G.10.](#), in accordance with the
9 Inspection Plan specified in Operating Unit Group 10, Chapter 6 of this Permit, as
10 approved pursuant to Permit Conditions [III.10.G.10.e.i.](#) and [III.10.C.5.c.](#), and take the
11 following actions if a leak or spill of dangerous and/or mixed waste is detected in these
12 containment systems [[WAC 173-303-640\(5\)\(c\)](#) and [WAC 173-303-640\(6\)](#)], in accordance
13 with [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-320](#), and
14 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)]:

15 **III.10.G.5.j.i.** Immediately and safely stop the flow of dangerous and/or mixed waste into the
16 miscellaneous unit system or secondary containment system;

17 **III.10.G.5.j.ii.** Determine the source of the dangerous and/or mixed waste;

18 **III.10.G.5.j.iii.** Remove the waste from the containment area in accordance with [WAC 173-303-680\(2\)](#)
19 and (3), as specified in [WAC 173-303-640\(7\)\(b\)](#). The dangerous and/or mixed waste
20 removed from containment areas of miscellaneous unit systems will be, as a minimum,
21 managed as dangerous and/or mixed waste;

22 **III.10.G.5.j.iv.** If the cause of the release was a spill that has not damaged the integrity of the
23 miscellaneous unit system, the Permittees may return the miscellaneous unit system to
24 service in accordance with [WAC 173-303-680\(2\)](#) and (3), as specified in
25 [WAC 173-303-640\(7\)\(e\)\(ii\)](#). In such a case, the Permittees will take action to ensure the
26 incident that caused liquid to enter the containment system will not reoccur
27 [[WAC 173-303-320\(3\)](#)];

28 **III.10.G.5.j.v.** If the source of the dangerous and/or mixed waste is determined to be a leak from the
29 primary Pretreatment Plant Miscellaneous Unit System into the secondary containment
30 system, or the system is unfit for use as determined through an integrity assessment or
31 other inspection, the Permittees must comply with the requirements of
32 [WAC 173-303-640\(7\)](#), and take the following actions:

33 A. Close the miscellaneous unit following procedures in [WAC 173-303-640\(7\)\(e\)\(i\)](#) and
34 in accordance with [WAC 173-303-680](#), and Operating Unit Group 10, Chapter 11 of
35 this Permit, as approved pursuant to Permit Condition [III.10.C.8](#); or

36 B. Repair and re-certify (in accordance with [WAC 173-303-810\(13\)\(a\)](#), as modified
37 pursuant to Permit Condition [III.10.G.1.d.](#)) the Pretreatment Plant Miscellaneous
38 Unit System in accordance with Operating Unit Group 10, Appendix 8.18 of this
39 Permit, as approved pursuant to Permit Condition [III.10.G.10.e.v.](#), before the
40 Pretreatment Plant Miscellaneous Unit System is placed back into service
41 [[WAC 173-303-640\(7\)\(e\)\(iii\)](#) and [WAC 173-303-640\(7\)\(f\)](#)], in accordance with
42 [WAC 173-303-680](#)].

43 **III.10.G.5.j.vi.** The Permittees will document, in the operating record, actions/procedures taken to
44 comply with i. through v. above, as specified in [WAC 173-303-640\(6\)\(d\)](#) and in
45 accordance with [WAC 173-303-680\(2\)](#) and (3).

- 1 **III.10.G.5.j.vii.** In accordance with [WAC 173-303-680](#)(2) and (3), the Permittees will notify and report
2 releases to the environment to Ecology as specified in [WAC 173-303-640](#)(7)(d).
- 3 **III.10.G.5.k.** If liquids (e.g., Dangerous and/or mixed waste leaks and spills, precipitation, fire water,
4 liquids from damaged or broken pipes) cannot be removed from the secondary
5 containment system within twenty-four (24) hours, Ecology will be verbally notified
6 within twenty-four (24) hours of discovery. The notification will provide the information
7 in A., B., and C. listed below. The Permittees will provide Ecology with a written
8 demonstration, within seven (7) business days, identifying at a minimum
9 [\[WAC 173-303-640](#)(4)(c)(iv) and [WAC 173-303-640](#)(7)(b)(ii), in accordance with
10 [WAC 173-303-680](#)(3) and [WAC 173-303-806](#)(4)(i)(i)(B)]:
- 11 A. Reasons for delayed removal.
- 12 B. Measures implemented to ensure continued protection of human health and the
13 environment.
- 14 C. Current actions being taken to remove liquids from secondary containment.
- 15 **III.10.G.5.l.** The Permittees will operate the Pretreatment Plant Miscellaneous Unit Systems in
16 accordance with Operating Unit Group 10, Chapter 4 as updated pursuant to Permit
17 Condition [III.10.G.10.e.vi.](#) and Appendix 8.18 of this Permit, as approved pursuant to
18 Permit Condition [III.10.G.10.e.](#), and the following:
- 19 **III.10.G.5.l.i.** The Permittees will operate the Pretreatment Plant Miscellaneous Unit Systems in order
20 to maintain the systems and process parameters listed in Permit Table [III.10.G.C.](#) as
21 approved/modified pursuant to Permit Condition [III.10.G.10.](#), within the operating trips
22 and operating ranges specified in Permit Table [III.10.G.C.](#), and consistent with
23 assumptions and basis which are reflected in Operating Unit Group 10, Appendix 6.3, as
24 approved pursuant to Permit Condition [III.10.C.11.b.](#) [[WAC 173-303-815](#)(2)(b)(ii) and
25 [WAC 173-303-680](#)(2) and (3)]. For the purposes of this Permit Condition, Operating
26 Unit Group 10, Appendix 6.3. will be superseded by Appendix 6.4. upon its approval
27 pursuant to either Permit Conditions [III.10.C.11.c.](#) or [III.10.C.11.d.](#)
- 28 **III.10.G.5.l.ii.** The Permittees will calibrate/function test the instruments listed in Permit Table
29 [III.10.G.C.](#), in accordance with Operating Unit Group 10, Appendix 8.18, as approved
30 pursuant to Permit Condition [III.10.G.10.e.xii.](#)
- 31 **III.10.G.5.m.** For any portion of the Pretreatment Plant Miscellaneous Unit Systems which have the
32 potential for formation and accumulation of hydrogen gases, the Permittees will operate
33 the portion to maintain hydrogen levels below the lower explosive limit
34 [\[WAC 173-303-815](#)(2)(b)(ii)].
- 35 **III.10.G.5.n.** For each miscellaneous unit holding dangerous waste which are acutely or chronically
36 toxic by inhalation, the Permittees will operate the system to prevent escape of vapors,
37 fumes, or other emissions into the air [[WAC 173-303-806](#)(4)(i)(i)(B) and
38 [WAC 173-303-640](#)(5)(e), in accordance with [WAC 173-303-680](#)].
- 39 **III.10.G.6 Air Emissions**
- 40 **III.10.G.6.a** Treatment effectiveness, feed-rates, and operating rates for dangerous and mixed waste
41 systems and sub-systems contained in the Pretreatment Plant (as specified in Permit
42 Tables [III.10.E.A.](#), [III.10.F.A.](#), and [III.10.G.A.](#), as approved/modified pursuant to Permit
43 Conditions [III.10.E.9.](#), [III.10.F.5.](#), [III.10.G.10.](#), respectively) will be as specified in
44 Permit Sections [III.10.E.](#), [III.10.F.](#), and [III.10.G.](#) and consistent with the assumptions and
45 basis reflected in Operating Unit Group 10, Appendix 6.3 of this Permit, as approved

pursuant to Permit Condition [III.10.C.11.b](#). For the purposes of this permit condition, Operating Unit Group 10, Appendix 6.3 will be superseded by Appendix 6.4, upon its approval, pursuant to either Permit Condition [III.10.C.11.c](#), or [III.10.C.11.d](#), [[WAC 173-303-680](#)(2) and (3), and [WAC 173-303-815](#)(2)(b)(ii)].

III.10.G.6.b Compliance with Permit Condition [III.10.G.6.a](#), of this Permit will be regarded as operating within the emission limits specified in Permit Table [III.10.G.D](#), as approved pursuant to Permit Conditions [III.10.C.11.b](#), [III.10.C.11.c](#), or [III.10.C.11.d](#), of this Permit.

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

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

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

III.10.G.7.a The Permittees will inspect the Pretreatment Plant Miscellaneous Unit Systems in accordance with the Inspection Plan in Operating Unit Group 10, Chapter 6A of this Permit, as modified in accordance with Permit Condition [III.10.C.5.c](#).

III.10.G.7.b The inspection data for Pretreatment Plant Miscellaneous Unit Systems will be recorded, and the records will be placed in the WTP Unit operating record for the Pretreatment Plant Miscellaneous Unit Systems, in accordance with Permit Condition [III.10.C.4](#).

III.10.G.8 Recordkeeping

The Permittees will record and maintain in the WTP Unit operating record for the Pretreatment Plant Miscellaneous Unit Systems, all monitoring, calibration, 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.G.9 Closure

The Permittees will close the Pretreatment Plant Miscellaneous Unit Systems in accordance with Operating Unit Group 10, Chapter 11, as approved pursuant to Permit Condition [III.10.C.8](#).

1 **III.10.G.10 Compliance Schedule**

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

6 **III.10.G.10.b** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
 7 to construction of each secondary containment and leak detection system for the
 8 Pretreatment Plant Miscellaneous Unit Systems (per level) as identified in Permit Tables
 9 [III.10.G.A](#) and [III.10.G.B](#), engineering information as specified below, for incorporation
 10 into Operating Unit Group 10, Appendices 8.2, 8.4, 8.5, 8.7, 8.8, 8.9, 8.11, and 8.12 of
 11 this Permit. At a minimum, engineering information specified below will show the
 12 following as described in [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#)
 13 (the information specified below will include dimensioned engineering drawings and
 14 information on sumps and floor drains):

15 **III.10.G.10.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak detection
 16 system) will include review of design drawings, calculations, and other information on
 17 which the certification report is based and will include as applicable, but not limited to,
 18 review of such information described below. Information (drawings, specifications, etc.)
 19 already included in Operating Unit Group 10, Appendix 8.0 of this Permit may be
 20 included in the report by reference and should include drawing and document numbers.
 21 IQRPE Reports will be consistent with the information separately provided in ii. through
 22 ix. below [\[WAC 173-303-640\(3\)\(a\)\]](#), in accordance with [WAC 173-303-680](#) and [WAC](#)
 23 [173-303-806\(4\)\(i\)\(i\)](#)];

24 **III.10.G.10.b.ii** Design drawings (General Arrangement Drawings, in plan) and specifications for the
 25 foundation, secondary containment, including, liner installation details, and leak
 26 detection methodology [Note: leak detection systems for areas where daily, direct, or
 27 remote visual inspection is not feasible, will be continuous in accordance with
 28 [WAC 173-303-640\(4\)\(e\)\(iii\)\(C\)](#)]. These items should show the dimensions, volume
 29 calculations, and location of the secondary containment system, and should include items
 30 such as floor/pipe slopes to sumps, tanks, floor drains [\[WAC 173-303-640\(4\)\(b\)](#) through
 31 (f) and [WAC 173-303-640\(3\)\(a\)](#), in accordance with
 32 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)](#)];

33 **III.10.G.10.b.iii** The Permittees will provide the design criteria (references to codes and
 34 standards, load definitions, and load combinations, materials of construction, and
 35 analysis/design methodology) and typical design details for the support of the secondary
 36 containment system. This information will demonstrate the foundation will be capable
 37 of providing support to the secondary containment system, resistance to pressure
 38 gradients above and below the system, and capable of preventing failure due to
 39 settlement, compression, or uplift [\[WAC 173-303-640\(4\)\(c\)\(ii\)\]](#), in accordance with [WAC](#)
 40 [173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];

41 **III.10.G.10.b.iv** A description of materials and equipment used to provide corrosion protection
 42 for external metal components in contact with soil, including factors affecting the
 43 potential for corrosion [\[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)\]](#), in accordance with
 44 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];

- 1 **III.10.G.10.b.v** Secondary containment/foundation and leak detection systems materials selection
 2 documentation (including, but not limited to, concrete coatings and water stops, and liner
 3 materials), as applicable [[WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];
- 4 **III.10.G.10.b.vi** Detailed description of how the secondary containment for each miscellaneous
 5 unit system will be installed in compliance with [WAC 173-303-640\(3\)\(c\)](#), in accordance
 6 with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B);
- 7 **III.10.G.10.b.vii** Submit Permit Table [III.10.G.B.](#) completed to provide for all secondary
 8 containment sumps and floor drains, the information as specified in each column heading,
 9 consistent with information to be provided in [i.](#) through [vi.](#) above;
- 10 **III.10.G.10.b.viii** Documentation that secondary containment and leak detection systems will not
 11 accumulate hydrogen gas levels above the lower explosive limit for incorporation into the
 12 Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#), and [WAC](#)
 13 [173-303-806\(4\)\(i\)\(v\)](#)];
- 14 **III.10.G.10.b.ix** A detailed description of how miscellaneous unit design provides access for
 15 conducting future miscellaneous unit integrity assessments [[WAC 173-303-640\(3\)\(b\)](#) and
 16 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)].
- 17 **III.10.G.10.c** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
 18 to installation of each Pretreatment Plant Miscellaneous Unit System as identified in
 19 Permit Tables [III.10.G.A](#) and [III.10.G.B](#), engineering information as specified below, for
 20 incorporation into Operating Unit Group 10, Appendix 8.1 through 8.18 of this Permit.
 21 At a minimum, engineering information specified below will show the following as
 22 required pursuant to [WAC 173-303-640](#) and in accordance with [WAC 173-303-680](#)
 23 (the information specified below will include dimensioned engineering drawings):
- 24 **III.10.G.10.c.i** IQRPE Reports (specific to miscellaneous unit) will include review of design drawings,
 25 calculations, and other information on which the certification report is based and will
 26 include as applicable, but not limited to, review of such information described below.
 27 Information (drawings, specifications, etc.) already included in Operating Unit Group 10,
 28 Appendix 8.0 of this Permit may be included in the report by reference and should
 29 include drawing and document numbers. The IQRPE Reports will be consistent with the
 30 information separately provided in [ii.](#) through [xi.](#) below and the IQRPE Report specified
 31 in Permit Condition [III.10.G.10.b.i.](#)
 32 [[WAC 173-303-640\(3\)\(a\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and
 33 [WAC 173-303-806\(4\)\(i\)\(i\)](#)];
- 34 **III.10.G.10.c.ii** Design drawings (General Arrangement Drawings in plan , Process Flow Diagrams,
 35 Piping and Instrumentation Diagrams [including pressure control systems], and
 36 Mechanical Drawings) and specifications, and other information specific to
 37 miscellaneous units (to show location and physical attributes of each miscellaneous unit),
 38 [[WAC 173-303-640\(3\)\(a\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and
 39 [WAC 173-303-806\(4\)\(i\)\(i\)](#)];
- 40 **III.10.G.10.c.iii** Miscellaneous unit design criteria (references to codes and standards, load
 41 definitions, and load combinations, materials of construction, and analysis/design
 42 methodology) and typical design details for the support of the miscellaneous unit(s).
 43 Structural support calculations specific to off-specification, non-standard, and field
 44 fabricated miscellaneous units will be submitted for incorporation into the Administrative

Record [[WAC 173-303-640](#)(3)(a), in accordance with
[WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(B)];

III.10.G.10.c.iv A description of materials and equipment used to provide corrosion protection for external metal components in contact with water, including factors affecting the potential for corrosion [[WAC 173-303-640](#)(3)(a)(iii)(B), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(A) through (B)];

III.10.G.10.c.v Miscellaneous unit materials selection documentation (e.g., physical and chemical tolerances) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(A)];

III.10.G.10.c.vi Miscellaneous unit vendor information (including, but not limited to, required performance warranties, as available), consistent with information submitted under ii. above, will be submitted for incorporation into the Administrative Record [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)];

III.10.G.10.c.vii System Description related to miscellaneous units will be submitted for incorporation into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)].

III.10.G.10.c.viii Mass and energy balance for normal projected operating conditions used in developing the Piping and Instrumentation Diagrams and the Process Flow Diagrams, including assumptions and formulas used to complete the mass and energy balance, so that they can be independently verified for incorporation into the Administrative Record [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(B), and [WAC 173-303-806](#)(4)(i)(v)];

III.10.G.10.c.ix A detailed description of how the miscellaneous unit will be installed in compliance with [WAC 173-303-640](#)(3)(c), (d), and (e), in accordance with [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(B);

III.10.G.10.c.x Documentation that miscellaneous units are designed to prevent the accumulation of hydrogen gas levels above the lower explosive limit for incorporation into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(A), and [WAC 173-303-806](#)(4)(i)(v)];

III.10.G.10.c.xi Documentation that miscellaneous units are designed to prevent escape of vapors and emissions of acutely or chronically toxic (upon inhalation) Extremely Hazardous Waste, for incorporation into the Administrative Record [[WAC 173-303-640](#)(5)(e), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(B)];

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

III.10.G.10.d.i IQRPE Reports (specific to equipment) will include a review of design drawings, calculations, and other information as applicable, on which the certification report is based. The reports will include, but not be limited to, review of such information described below. Information (drawings, specifications, etc.) already included in

1 Operating Unit Group 10, Appendix 8.0 of this Permit may be included in the report by
 2 reference and should include drawing and document numbers. The IQRPE Reports will
 3 be consistent with the information provided separately in [ii.](#) through [xiii.](#) below and the
 4 IQRPE Reports specified in Permit Conditions [III.10.G.10.b.](#) and [III.10.G.10.c.](#), [\[WAC](#)
 5 [173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#) and [WAC 173-303-](#)
 6 [806\(4\)\(i\)\(i\)\(A\)](#) through (B)];

7 **III.10.G.10.d.ii** Design drawings (Process Flow Diagrams, Piping and Instrumentation Diagrams
 8 [including pressure control systems]) specifications and other information specific to
 9 equipment (these drawings should include all equipment such as pipe, valves, fittings,
 10 pumps, instruments, etc.) [\[WAC 173-303-640\(3\)\(a\)](#), in accordance with
 11 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];

12 **III.10.G.10.d.iii** The Permittees will provide the design criteria (references to codes and
 13 standards, load definitions, and load combinations, materials of construction, and
 14 analysis/design methodology) and typical design details for the support of the equipment
 15 [\[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-640\(3\)\(f\)](#), in accordance with [WAC 173-](#)
 16 [303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];

17 **III.10.G.10.d.iv** A description of materials and equipment used to provide corrosion protection
 18 for external metal components in contact with soil and water, including factors affecting
 19 the potential for corrosion [\[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#), in accordance with
 20 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)];

21 **III.10.G.10.d.v** Materials selection documentation for equipment (e.g., physical and chemical tolerances)
 22 [\[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-680\(2\)](#) and
 23 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)];

24 **III.10.G.10.d.vi** Vendor information (including, but not limited to, required performance
 25 warranties, as available), consistent with information submitted under [ii.](#) above, for
 26 equipment will be submitted for incorporation into the Administrative Record
 27 [\[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#),
 28 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(iv\)](#)];

29 **III.10.G.10.d.vii** Miscellaneous unit, equipment, and leak detection system instrument control
 30 logic narrative description (e.g., descriptions of fail-safe conditions, etc.)
 31 [\[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and
 32 [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

33 **III.10.G.10.d.viii** System Descriptions related to equipment and system descriptions related to leak
 34 detection systems, for incorporation into the Administrative Record
 35 [\[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and
 36 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];

37 **III.10.G.10.d.ix** A detailed description of how the equipment will be installed and tested
 38 [\[WAC 173-303-640\(3\)\(c\)](#) through (e) and [WAC 173-303-640\(4\)\(b\)](#) and (c), in
 39 accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];

40 **III.10.G.10.d.x** For process monitoring, control, and leak detection system instrumentation for the WTP
 41 Unit Miscellaneous Unit Systems as identified in Permit Table [III.10.G.C.](#), a detailed
 42 description of how the process monitoring, control, and leak detection system
 43 instrumentation will be installed and tested [\[WAC 173-303-640\(3\)\(c\)](#) through (e), [WAC](#)

1 [173-303-640\(4\)\(b\)](#) and (c), [WAC 173-303-806\(4\)\(c\)\(vi\)](#), and
2 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

3 **III.10.G.10.d.xi** Mass and energy balance for projected normal operating conditions, used in
4 developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,
5 including assumptions and formulas used to complete the mass and energy balance, so
6 that they can be independently verified, for incorporation into the Administrative Record
7 [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
8 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];

9 **III.10.G.10.d.xii** Documentation that miscellaneous units are designed to prevent the accumulation
10 of hydrogen gas levels above the lower explosive limit for incorporation into the
11 Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(A\)](#), and
12 [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

13 **III.10.G.10.d.xiii** Leak detection system documentation (e.g. vendor information, etc.) consistent
14 with information submitted under Permit Condition [III.10.G.10.c.ii](#) and Permit
15 Conditions [III.10.G.10.d.ii](#), [vii](#), [viii](#), and [x](#) above, will be submitted for incorporation
16 into the Administrative Record.

17 **III.10.G.10.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
18 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), the following as
19 specified below for incorporation into Operating Unit Group 10, Appendix 8.18, except
20 Permit Condition [III.10.G.10.e.i](#), which will be incorporated into Operating Unit Group
21 10, Chapter 6, of this Permit. All information provided under this permit condition must
22 be consistent with information provided pursuant to Permit Conditions [III.10.G.10.b](#), [c](#),
23 [d](#), and [e](#), [III.10.C.3.e](#), and [III.10.C.11.b](#), as approved by Ecology.

24 **III.10.G.10.e.i** Integrity assessment program and schedule for the Pretreatment Plant Miscellaneous Unit
25 Systems will address the conducting of periodic integrity assessments on the Pretreatment
26 Plant Miscellaneous Unit Systems over the life of the systems, as specified in Permit
27 Condition [III.10.G.10.b.ix](#) and [WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-](#)
28 [303-680](#), and descriptions of procedures for addressing problems detected during
29 integrity assessments. The schedule must be based on past integrity assessments, age of
30 the system, materials of construction, characteristics of the waste, and any other relevant
31 factors [[WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#) and [WAC 173-](#)
32 [303-806\(4\)\(i\)\(B\)](#)];

33 **III.10.G.10.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated so
34 that it will detect the failure of either the primary or secondary containment structure or
35 the presence of any release of dangerous and/or mixed waste or accumulated liquid in the
36 secondary containment system within twenty-four (24) hours [WAC 173-303-](#)
37 [640\(4\)\(c\)\(iii\)](#). Detection of a leak of at least 0.1 gallons per hour within twenty-four (24)
38 hours is defined as being able to detect a leak within twenty-four (24) hours. Any
39 exceptions to this criteria must be approved by Ecology in accordance with [WAC 173-](#)
40 [303-680](#), [WAC 173-303-640\(4\)\(c\)\(iii\)](#), and
41 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

42 **III.10.G.10.e.iii** Detailed operational plans and descriptions, demonstrating that spilled or leaked
43 waste and accumulated liquids can be removed from the secondary containment system
44 within twenty-four (24) hours [[WAC 173-303-806\(4\)\(i\)\(B\)](#)];

45 **III.10.G.10.e.iv** Descriptions of operational procedures demonstrating appropriate controls and
46 practices are in place to prevent spills and overflows from the Pretreatment Plant
47 Miscellaneous Unit Systems, or containment systems, in compliance with

1 [WAC 173-303-640](#)(5)(b)(i) through (iii), in accordance with [WAC 173-303-680](#)
2 [\[WAC 173-303-806](#)(4)(i)(B)];

3 **III.10.G.10.e.v** Description of procedures for investigation and repair of the Pretreatment Plant
4 Miscellaneous Unit Systems [\[WAC 173-303-640](#)(6) and [WAC 173-303-640](#)(7)(e) and
5 (f), in accordance with [WAC 173-303-680](#), [WAC 173-303-320](#),
6 [WAC 173-303-806](#)(4)(a)(v), and [WAC 173-303-806](#)(4)(i)(B)];

7 **III.10.G.10.e.vi** Updated Chapter 4, Narrative Descriptions, Tables and Figures as identified in
8 Permit Tables [III.10.G.A](#) and [III.10.G.B](#), as modified pursuant to Permit Condition
9 [III.10.G.10.e.ix](#), and updated to identify routinely non-accessible Pretreatment Plant
10 Miscellaneous Unit Systems [\[WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(A)
11 through (B)];

12 **III.10.G.10.e.vii** Descriptions of procedures for management of ignitable and reactive, and
13 incompatible dangerous and/or mixed waste, in accordance with
14 [WAC 173-303-640](#)(9) and (10), in accordance with [WAC 173-303-680](#) and
15 [WAC 173-303-806](#)(4)(i)(B).

16 **III.10.G.10.e.viii** A description of the tracking system used to track dangerous and/or mixed waste
17 generated throughout the Pretreatment Plant Miscellaneous Unit Systems, pursuant to
18 [WAC 173-303-380](#).

19 **III.10.G.10.e.ix** Permit Table [III.10.G.A](#), amended as follows [\[WAC 173-303-680](#) and
20 [WAC 173-303-806](#)(4)(i)(A) through (B)]:

- 21 A. Under column 1, update and complete list of dangerous and mixed waste
22 Pretreatment Plant Miscellaneous Unit Systems, including plant items which
23 comprise each system (listed by item number).
- 24 B. Under column 2, update and complete system designations.
- 25 C. Under column 3, replace the 'Reserved' with the Operating Unit Group 10,
26 Appendix 8.0 subsections specific to miscellaneous unit systems as listed in
27 column 1.
- 28 D. Under column 4, update and complete list of narrative description tables and
29 figures.
- 30 E. Under column 5, update and complete maximum operating volume for each
31 miscellaneous unit, as applicable.
- 32 F. Permit Table [III.10.G.A.i](#), amended as follows:
- 33 1. Under column 1, update and complete list of plant items that comprise the
34 Pretreatment Plant Vessel Vent System (listed by item number).
 - 35 2. Under column 2, update and complete designations.
 - 36 3. Under column 3, replace the 'Reserved' with the Operating Unit Group 10,
37 Appendix 8.0, subsections (e.g., 9.1, 9.2, etc.) specific to systems as listed in
38 column 1.
 - 39 4. Under column 4, update and complete list of narrative description tables and
40 figures.

41 **III.10.G.10.e.x** Permit Table [III.10.G.C](#) will be completed for Pretreatment Plant Miscellaneous Unit
42 System process and leak detection system monitors and instruments (to include, but not
43 be limited to: instruments and monitors measuring and/or controlling flow, pressure,
44 temperature, density, pH, level, humidity, and emissions) to provide the information as
45 specified in each column heading. Process and leak detection system monitors and

1 instruments for critical systems as specified in Operating Unit Group 10, Appendix 2.0
2 and as updated pursuant to Permit Condition [III.10.C.9.b.](#) and for operating parameters as
3 required to comply with Permit Condition [III.10.C.3.e.iii.](#) will be addressed. Process
4 monitors and instruments for non-waste management operations (e.g., utilities, raw
5 chemical storage, non-contact cooling waters, etc.) are excluded from this permit
6 condition [[WAC 173-303-680](#),
7 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)];

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

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

- 16 A. Procurement Specifications.
- 17 B. Location used.
- 18 C. Range, precision, and accuracy.
- 19 D. Detailed descriptions of calibration/functionality test procedures (e.g., method
20 number [ASTM]) or provide a copy of manufacturer's recommended calibration
21 procedures.
- 22 E. Calibration/functionality test, inspection, and routine maintenance schedules and
23 checklists, including justification for calibration, inspection and maintenance
24 frequencies, criteria for identifying instruments found to be significantly out of
25 calibration, and corrective action to be taken for instruments found to be
26 significantly out of calibration (e.g., increasing frequency of calibration,
27 instrument replacement, etc.).
- 28 F. Equipment instrument control logic narrative description (e.g., descriptions of
29 fail-safe conditions, etc.) [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#),
30 and [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
<p><u>Waste Feed Evaporation Process System</u></p> <p>FEP-SEP-00001A (Waste Feed Evaporator Separator Vessel)</p> <p>FEP-SEP-00001B (Waste Feed Evaporator Separator Vessel)</p>	<p>FEP</p>	<p><u>24590-PTF</u></p> <p>-3PS-MEVV-T0001, Rev 3</p> <p>-M5-V17T-00004001, Rev 3</p> <p>-M5-V17T-00004002, Rev 3</p> <p>-M6-FEP-00001001, Rev 1</p> <p>-M6-FEP-00001002, Rev 0</p> <p>-M6-FEP-00001003, Rev 0</p> <p>-M6-FEP-00002001, Rev 0</p> <p>-M6-FEP-00002002, Rev 1</p> <p>-M6-FEP-00002003, Rev 0</p> <p>-M6-FEP-00003001, Rev 0</p> <p>-M6-FEP-00003002, Rev 0</p> <p>-M6-FEP-00004001, Rev 0</p> <p>-M6-FEP-00004002, Rev 1</p> <p>-M6-FEP-00004003, Rev 0</p> <p>-M6-FEP-00005001, Rev 0</p> <p>-MVD-FEP-P0001, Rev 2</p> <p>-MVD-FEP-P0002, Rev 2</p> <p>-MVD-FEP-00003, Rev 1</p> <p>-MVD-FEP-00006, Rev 5</p> <p>-MVD-FEP-00007, Rev 5</p> <p>-MV-FEP-P0001, Rev 0</p> <p>-MV-FEP-P0002, Rev 0</p> <p>-N1D-FEP-00002, Rev 6</p>	<p>Section 4D.2.2.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>FEP-SEP-00001A = 14,512</p> <p>FEP-SEP-00001B = 14, 512</p>

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
		-N1D-FEP-P0003, Rev 1 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7		
<p><u>Waste Feed Evaporation Process System (Cont.)</u></p> <p>FEP-COND-00001A (Waste Evaporator Primary Condenser)</p> <p>FEP-COND-00001B (Waste Evaporator Primary Condenser)</p> <p>FEP-COND-00002A (Waste Evaporator Intercondenser)</p> <p>FEP-COND-00002B (Waste Evaporator Intercondenser)</p> <p>FEP-COND-00003A (Waste Evaporator Aftercondenser)</p> <p>FEP-COND-00003B (Waste Evaporator Aftercondenser)</p>	FEP	<p><u>24590-PTF</u></p> <p>-3PS-MEVV- T0001, Rev 3</p> <p>-M5-V17T-00004001, Rev 3</p> <p>-M5-V17T-00004002, Rev 3</p> <p>-M6-FEP-00003002, Rev 0</p> <p>-M6-FEP-00005001, Rev 0</p> <p>-MED-FEP-P0003, Rev 0</p> <p>-MED-FEP-P0004, Rev 0</p> <p>-MED-FEP-P0005, Rev 0</p> <p>-MED-FEP-P0006, Rev 0</p> <p>-MED-FEP-P0007, Rev 0</p> <p>-MED-FEP-P0008, Rev 0</p> <p>-N1D-FEP-P0008, Rev 0</p> <p>-N1D-FEP-00009, Rev 3</p> <p>-N1D-FEP-00010, Rev 3</p> <p>-P1-P01T-00001, Rev 8</p> <p>-P1-P01T-00002, Rev 7</p>	Section 4D.2.2.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	N/A
<p><u>Waste Feed Evaporation Process System (Cont.)</u></p> <p>FEP-RBLR-00001A (Waste Feed Evaporator Reboiler)</p>	FEP	<p><u>24590-PTF</u></p> <p>-3PS-MEVV-T0001, Rev 3</p> <p>-M5-V17T-00004001, Rev 3</p> <p>-M5-V17T-00004002, Rev 3</p>	Section 4D.2.2.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit	N/A

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
FEP-RBLR-00001B (Waste Feed Evaporator Reboiler)		-MED-FEP-00010, Rev 4 -N1D-FEP-P0008, Rev 0 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7	Group 10, Chapter 4 of this Permit.	
<p><u>Cesium Nitric Acid Recovery Process System</u></p> <p>CNP-EVAP-00001 (Cesium Evaporator Separator Vessel)</p>	CNP	<p><u>24590-PTF</u></p> -3PS-MEVV-T0002, Rev 4 -M5-V17T-00014, Rev 2 -M6-CNP-00001001, Rev 0 -M6-CNP-00001002, Rev. 0 -M6-CNP-00001003, Rev. 0 -M6-CNP-00002001, Rev 0 -M6-CNP-00002002, Rev 0 -M6-CNP-00002003, Rev 0 -M6-CNP-00008001, Rev 0 -M6-CNP-00008002, Rev 0 -M6-CNP-00010001, Rev 0 -M6-CNP-00010002, Rev 0 -MV-CNP-P0001, Rev 0 -MV-CNP-P0002, Rev 1 -MV-CNP-P0005, Rev 0 -MVD-CNP-P0003, Rev 1 -MVD-CNP-P0010, Rev 0 -MVD-CNP-00006, Rev 6 -N1D-CNP-P0005, Rev 1	Section 4D.2.6.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	CNP-EVAP-00001 = RESERVED

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
		-N1D-CNP-P0006, Rev 3 -N1D-CNP-P0009, Rev 1 -N1D-CNP-P0011, Rev 1 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6		
<p><u>Cesium Nitric Acid Recovery Process System (Cont.)</u></p> <p>CNP-HX-00001 (Cesium Evaporator Concentrate Reboiler)</p>	<p>CNP</p>	<p><u>24590-PTF</u></p> <p>-3PS-MEVV-T0002, Rev 4 -M5-V17T-P0014, Rev 2 -M6-CNP-00001001, Rev 0 -M6-CNP-00001002, Rev 0 -M6-CNP-00001003, Rev 0 -M6-CNP-00002001, Rev 0 -M6-CNP-00002002, Rev 0 -M6-CNP-00002003, Rev 0 -M6-CNP-00008, Rev 2 -MED-CNP-00003, Rev 4 -MED-CNP-00004, Rev 5 -MED-CNP-00010, Rev 3 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	<p>Section 4D.2.6.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>N/A</p>

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
<p><u>Cesium Nitric Acid Recovery Process System (Cont.)</u></p> <p>CNP-DISTC-00001 (Cesium Evaporator Nitric Acid Rectifier Column)</p>	CNP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00014, Rev 2 -M6-CNP-00010001, Rev 0 -N1D-CNP-00001, Rev 1 -P1-P01T-00003, Rev 4 -3PS-MEVV-T0002, Rev 4</p>	Section 4D.2.6.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	RESERVED
<p><u>Cesium Nitric Acid Recovery Process System (Cont.)</u></p> <p>CNP-HX-00002 (Cesium Evaporator Primary Condenser)</p> <p>CNP-HX-00003 (Cesium Evaporator Inter-Condenser)</p> <p>CNP-HX-00004 (Cesium Evaporator After-Condenser)</p>	CNP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00014, Rev 2 -M6-CNP-00001001, Rev 0 -M6-CNP-00001002, Rev 0 -M6-CNP-00001003, Rev 0 -M6-CNP-00002001, Rev 0 -M6-CNP-00002002, Rev 0 -M6-CNP-00002003, Rev 0 -M6-CNP-00008001, Rev 0 -M6-CNP-00010001, Rev 0 -MED-CNP-00003, Rev 4 -MED-CNP-00004, Rev 5 -MED-CNP-00005, Rev 4 -MED-CNP-00010, Rev 3 -N1D-CNP-P0002, Rev 1 -N1D-CNP-P0003, Rev 1 -N1D-CNP-P0012, Rev 1</p>	Section 4D.2.6.; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	<p>N/A</p> <p>N/A</p> <p>N/A</p>

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
		-P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6 -3PS-MEVV-T0002, Rev 4		
<p><u>Treated LAW Evaporation Process System</u></p> <p>TLP-SEP-00001 (Treated LAW Evaporator Separator Vessel)</p>	<p>TLP</p>	<p><u>24590-PTF</u></p> <p>-3PS-MEVV- T0001, Rev 3 -M5-V17T-00005, Rev 2 -M6-TLP-00001, Rev 3 -M6-TLP-00002001, Rev 0 -M6-TLP-00002002, Rev 0 -M6-TLP-00002003, Rev 0 -M6-TLP-00002004, Rev 0 -M6-TLP-00003001, Rev 0 -M6-TLP-00003002, Rev 0 -M6-TLP-00003003, Rev 0 -M6-TLP-00003004, Rev 0 -M6-TLP-00005001, Rev 0 -M6-TLP-00005002, Rev 0 -M6-TLP-00005003, Rev 0 -M6-TLP-00005004, Rev 0 -M6-TLP-00005005, Rev 0 -M6-TLP-00006001, Rev 0 -M6-TLP-00006002, Rev 0</p>	<p>Section 4D.2.11; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>TLP-SEP-00001 = 13,359</p>

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
		-M6-TLP-00006003, Rev 0 -M6-TLP-00006004, Rev 0 -M6-TLP-00006005, Rev 0 -MVD-TLP-P0001, Rev 2 -MVD-TLP-P0002, Rev 2 -MVD-TLP-00004, Rev 1 -MVD-TLP-00005, Rev 7 -MV-TLP-P0001, Rev 1 -MV-TLP-P0002, Rev 1 -N1D-TLP-P0001, Rev 2 -N1D-TLP-P0005, Rev 3 -N1D-TLP-P0006, Rev 1 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4		
<p><u>Treated LAW Evaporation Process System (Cont.)</u></p> <p>TLP-COND-00001 (Treated LAW Primary Condenser)</p> <p>TLP-COND-00002 (Treated LAW Inter-condenser)</p> <p>TLP-COND-00003 (Treated LAW After-condenser)</p>	<p>TLP</p>	<p><u>24590-PTF</u></p> <p>-3PS-MEVV- T0001, Rev 3 -M5-V17T-00005, Rev 2 -M6-TLP-00002001, Rev 0 -M6-TLP-00002002, Rev 0 -M6-TLP-00002003, Rev 0 -M6-TLP-00002004, Rev 0 -M6-TLP-00003001, Rev 0 -M6-TLP-00003002, Rev 0</p>	<p>Section 4D.2.11; Table 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>	<p>N/A</p>

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
		-M6-TLP-00003003, Rev 0 -M6-TLP-00003004, Rev 0 -M6-TLP-00005001, Rev 0 -M6-TLP-00005002, Rev 0 -M6-TLP-00005003, Rev 0 -M6-TLP-00005004, Rev 0 -M6-TLP-00005005, Rev 0 -M6-TLP-00006001, Rev 0 -M6-TLP-00006002, Rev 0 -M6-TLP-00006003, Rev 0 -M6-TLP-00006004, Rev 0 -M6-TLP-00006005, Rev 0 -MED-TLP-P0001, Rev 0 -MED-TLP-00002, Rev 4 -MED-TLP-00003, Rev 4 -MV-TLP-P0001, Rev 1 -MV-TLP-P0002, Rev 1 -N1D-TLP-P0002, Rev 0 -N1D-TLP-P0003, Rev 4 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4		
<u>Treated LAW Evaporation Process System (Cont.)</u>	TLP	<u>24590-PTF</u> -3PS-MEVV- T0001, Rev 3	Section 4D.2.11; Table 4D-2; and Figures 4A-1,	N/A

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

Miscellaneous Unit System Description ^a	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables, & Figures	Maximum Capacity (gallons)
TLP-RBLR-00001 (Treated LAW Evaporator Reboiler)		-M5-V17T-00005, Rev 2 -MV-TLP-P0001, Rev 1 -MV-TLP-P0002, Rev 1 -N1D-TLP-P0011, Rev 1 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4	4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.	
<p><u>Spray Decontamination and Sizing System</u></p> <p><u>PIH-TTBL-00001 (Spray Decontamination Turntable)</u> <u>PIH-TTBL-00002 (Remote Repair Turntable)</u> <u>PIH-BENCH-00003 (Size Reduction Table)</u></p> <p>This miscellaneous unit is exempt from the requirements of WAC-173-303-640.</p>	PIH	RESERVED	Section 4D.3.2.1; Table 4D-2; and Figure 4A-128 of Operating Unit 10, Chapter 4 of this Permit.	N/A
<p><u>Hotcell Waste Management Unit</u></p> <p><u>Hotcell Floor</u></p> <p>This miscellaneous unit is exempt from the requirements of WAC-173-303-640.</p>	NA	RESERVED	Section 4D.3.1; Table 4D-2; and Figure 4A-128 of Operating Unit 10, Chapter 4 of this Permit.	RESERVED
<p>^a The Pretreatment Vessel Vent Process (PVP), Process Vessel Vent Systems (PVV), Pulse Jet Mixer Exhaust System (PJV), and Pretreatment Treated LAW Evaporator Separator Vessel System (TLP) specified in Permit Table III 10 G A i is 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 Pretreatment Vessel Vent Process (PVP), Process Vessel Vent Systems (PVV), Pulse Jet Mixer Exhaust System (PJV), and Pretreatment Treated LAW Evaporator Separator Vessel System (TLP) Systems. Any reference in this Permit to Permit Table III 10 G A i is also a reference to Permit Table III 10 G A i.</p>				

Table III.10.G.A.i – Pretreatment Plant Vessel Vent Systems Associated with Pretreatment Plant Miscellaneous Unit Systems

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
<p><u>Pretreatment Vessel Vent Process System</u></p> <p>PVP-SCB-00002 (Vessel Vent Caustic Scrubber)</p>	<p>PVP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -M6-PVP-00002, Rev 3 -M6-PVP-00017001, Rev 0 -M6-PVP-00017002, Rev 0 -M6-PVP-00017003, Rev 0 -M6-PWD-00044, Rev 3 -MKD-PVP-00002, Rev 11 -MVD-PVP-P0001, Rev 0 -MV-PVP-P0002, Rev 0 -N1D-PVP-P0001, Rev 1 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	<p>Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u></p> <p>PVP-HEME-00001A (Vessel Vent HEME, Mist eliminator)</p> <p>PVP-HEME-00001B (Vessel Vent HEME, Mist Eliminator)</p> <p>PVP-HEME-00001C (Vessel Vent HEME, Mist Eliminator)</p>	<p>PVP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	<p>Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>

Table III.10.G.A.i – Pretreatment Plant Vessel Vent Systems Associated with Pretreatment Plant Miscellaneous Unit Systems

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u></p> <p>PVP-HX-00002 (Vessel Vent Scrubbing Liquid Cooler)</p>	<p>PVP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M6-PVP-00017001, Rev 0 -M6-PVP-00017002, Rev 0 -M6-PVP-00017003, Rev 0 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	<p>Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u></p> <p>PVP-OXID-00001 (Vessel Vent VOC Oxidizer Unit)</p>	<p>PVP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -M6-PVP-00017001, Rev 0 -M6-PVP-00017002, Rev 0 -M6-PVP-00017003, Rev 0 -M6-PVP-000018001, Rev 1 -M6-PVP-000018002, Rev 0 -N1D-PVP-P0002, Rev 1 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	<p>Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u></p> <p>PVP-CLR-00001 (Vessel Vent Aftercooler)</p>	<p>PVP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00001, Rev 8</p>	<p>Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>

Table III.10.G.A.i – Pretreatment Plant Vessel Vent Systems Associated with Pretreatment Plant Miscellaneous Unit Systems

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
		-P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6	
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u></p> <p>PVP-ADBR-00001A (Vessel Vent Carbon Bed Absorber)</p> <p>PVP-ADBR-00001B (Vessel Vent Carbon Bed Absorber)</p>	PVP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00001, Rev 8 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u></p> <p>PVP-FILT-00001 (Vessel Vent Adsorber Outlet Filter)</p>	PVP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>Process Vessel Vent System</u></p> <p>PVV-HEPA-00001A (Vessel Vent Primary HEPA Filter)</p> <p>PVV-HEPA-00001B (Vessel Vent Primary HEPA Filter)</p>	PVV	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -P1-P01T-00002, Rev 7</p>	Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.G.A.i – Pretreatment Plant Vessel Vent Systems Associated with Pretreatment Plant Miscellaneous Unit Systems

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
PVV-HEPA-00002A (Vessel Vent Secondary HEPA Filter) PVV-HEPA-00002B (Vessel Vent Secondary HEPA Filter)			
<u>Process Vessel Vent System (Cont.)</u> PVV-FAN-00001A (Vessel Vent Exhaust Fan) PVV-FAN-00001B (Vessel Vent Exhaust Fan)	PVV	<u>24590-PTF</u> -M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6	Section 4D.4.2; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.
<u>Pretreatment Pulse Jet Mixer Exhaust Vent System</u> PJV-HEPA-00001A (PJV Primary Exhaust HEPA Filter) PJV-HEPA-00001B (PJV Primary Exhaust HEPA Filter) PJV-HEPA-00001C (PJV Primary Exhaust HEPA Filter) PJV-HEPA-00001D (PJV Primary Exhaust HEPA Filter)	PJV	<u>24590-PTF</u> -M5-V17T-00021002, Rev 2 -M6-PJV-00001, Rev 3 -M6-PJV-00002, Rev 3 -M6-PJV-00004001, Rev 0 -N1D-PJV-P0001, Rev 1 -P1-P01T-00001, Rev 8	Section 4D.4.3; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.G.A.i – Pretreatment Plant Vessel Vent Systems Associated with Pretreatment Plant Miscellaneous Unit Systems

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
PJV-HEPA-00001E (PJV Primary Exhaust HEPA Filter)			
PJV-HEPA-00001F (PJV Primary Exhaust HEPA Filter)			
PJV-HEPA-00001G (PJV Primary Exhaust HEPA Filter)			
PJV-HEPA-00002A (PJV Secondary Exhaust HEPA Filter)			
PJV-HEPA-00002B (PJV Secondary Exhaust HEPA Filter)			
PJV-HEPA-00002C (PJV Secondary Exhaust HEPA Filter)			
PJV-HEPA-00002D (PJV Secondary Exhaust HEPA Filter)			
PJV-HEPA-00002E (PJV Secondary Exhaust HEPA Filter)			
PJV-HEPA-00002F (PJV Secondary Exhaust HEPA Filter)			

Table III.10.G.A.i – Pretreatment Plant Vessel Vent Systems Associated with Pretreatment Plant Miscellaneous Unit Systems

Description	Designation	Description Drawings	Narrative Description, Tables & Figures
<p><u>Pretreatment Pulse Jet Mixer Exhaust Vent System (Cont.)</u></p> <p>PJV-FAN-00001A (PJV Exhaust Fan)</p> <p>PJV-FAN-00001B (PJV Exhaust Fan)</p> <p>PJV-FAN-00001C (PJV Exhaust Fan)</p>	<p>PJV</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021002, Rev 2</p> <p>-M6-PJV-00001, Rev 3</p> <p>-M6-PJV-00002, Rev 3</p> <p>-M6-PJV-00004001, Rev 0</p> <p>-N1D-PJV-P0001, Rev 1</p> <p>-P1-P01T-00001, Rev 8</p>	<p>Section 4D.4.3; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Pretreatment Pulse Jet Mixer Exhaust Vent System (Cont.)</u></p> <p>PJV-DMST-00002A (PJV Demister)</p> <p>PJV-DMST-00002B (PJV Demister)</p> <p>PJV-DMST-00002C (PJV Demisters)</p>	<p>PJV</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021002, Rev 2</p> <p>-M6-PJV-00001, Rev 3</p> <p>-M6-PJV-00002, Rev 3</p> <p>-M6-PJV-00004001, Rev 0</p> <p>-N1D-PJV-P0001, Rev 1</p> <p>-P1-P01T-00003, Rev 4</p>	<p>Section 4D.4.3; Table 4F-2, 4D-2; and Figures 4A-1, 4A-2 and 4A-2A of Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p>^a The Pretreatment Vessel Vent Process (PVP), Process Vessel Vent Systems (PVV), and Pulse Jet Mixer Exhaust System (PJV) 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 Pretreatment Vessel Vent Process (PVP), Process Vessel Vent Systems (PVV), and Pulse Jet Mixer Exhaust System (PJV) 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.</p>			

Table III.10.G.B – Pretreatment Plant Miscellaneous Unit Secondary Containment Systems Including Sumps, Bulges, and Floor Drains

Sump, Bulge or Floor Drain 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 ^a (inches) & Materials of Construction	Engineering Description (Drawings No.'s, Specification No.'s etc.)
PVP-ZY-00037-S11B-03, P-0105 (PVP-BULGE-00001, El. 0')			3" Stainless Steel	<u>24590-PTF</u> -M6-PVP-00017002, Rev 0
PVP-ZY-00036-S11B-03, P-0101A (PVP-BULGE-00002, El. 0')			3" Stainless Steel	<u>24590-PTF</u> -M6-PVP-00018002, Rev 0
PVP-ZY-00056-S11B-03, P-0302 (PVP-BULGE-00014, El. 56')			3" Stainless Steel	<u>24590-PTF</u> -M6-PVP-00017003, Rev 0
PWD-FD-00323P-0304 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00324 P-0304 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00325 P-0304 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00326 P-0304 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00327 P-0304 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00044, Rev 3
PWD-FD-00512 P-0320 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00513 P-0320 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3

PWD-FD-00514 P-0320 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00515 P-0325 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00516 P-0325 Drain, El. 56'	140	N/A	6" Dia 316L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00517 P-0325 Drain, El. 56'	655	N/A	8" Dia 316L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00557 P-0430 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
PWD-FD-00561 P-0430 Drain, El. 77'	140	N/A	6" Dia 304L	<u>24590-PTF</u> -M6-PWD-00043, Rev 3
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
^a Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)				

Table III.10.G.C. – Pretreatment Plant Miscellaneous Unit System Process and Leak Detection Instruments and Parameters

Miscellaneous Unit System Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Failure State	Expected Range	Instrument Accuracy	Operating Trips (Description & Numerical Limits)	Instrument Calibration Method No. and Range
PVP-BULGE-00001 ^a	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
PVP-BULGE-00014 ^a	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

^aSump locator (including P&ID designator) is located on Permit Table [III 10 G B](#) – Pretreatment Plant Miscellaneous Unit Secondary Containment Systems Including Sumps, Bulges, and Floor Drains

1

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

Chemicals	CAS Number	Emission Rates (grams/second)
RESERVED	RESERVED	RESERVED

2

1 **III.10.H LAW VITRIFICATION SYSTEM – SHORT TERM MISCELLANEOUS**
 2 **THERMAL TREATMENT UNIT-SHAKEDOWN, DEMONSTRATION TEST, AND**
 3 **POST DEMONSTRATION TEST**

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

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

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

13 **III.10.H.1.a.i** The Permittees will construct the LAW Vitrification System (listed in Permit Tables
 14 [III.10.H.A](#) and [B](#), as approved/modified pursuant to Permit Condition [III.10.H.5](#).) as
 15 specified in Permit Condition [III.10.H.1](#). and Operating Unit Group 10, Chapter 4 of this
 16 Permit, and Operating Unit Group 10, Appendices 9.1 through 9.15 and 9.17 of this
 17 Permit, as approved pursuant to Permit Conditions [III.10.H.5.a](#). through [d.](#), and
 18 [III.10.H.5.f](#).

19 **III.10.H.1.a.ii** The Permittees will construct all containment systems for the LAW Vitrification System
 20 as specified in Operating Unit Group 10, Chapter 4 of this Permit, and Operating Unit
 21 Group 10, Appendices 9.2 and 9.4 through 9.14 of this Permit, as approved pursuant to
 22 Permit Conditions [III.10.H.5.a](#). through [d](#).

23 **III.10.H.1.a.iii** The Permittees will ensure all certifications required by specialists (e.g., independent,
 24 qualified registered professional engineer, independent corrosion expert, independent,
 25 qualified installation inspector, etc.) use the following statement or equivalent pursuant to
 26 Permit Condition [III.10.C.10](#):

27 “I, (Insert Name) have (choose one or more of the following: overseen, supervised,
 28 reviewed, and/or certified) a portion of the design or installation of a new LAW
 29 Vitrification System or component located at (address), and owned/operated by
 30 (name(s)). My duties were: (e.g., installation inspector, testing for tightness, etc.), for
 31 the following LAW Vitrification System components (e.g., the venting piping, etc.),
 32 as required by the Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3)
 33 (applicable paragraphs (i.e., (a) through (g)) in accordance with [WAC 173-303-680](#)).

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

40 **III.10.H.1.a.iv** The Permittees must ensure that proper handling procedures are adhered to in order to
 41 prevent damage to the LAW Vitrification System during installation. Prior to covering,
 42 enclosing, or placing the new LAW Vitrification System or component in use, an
 43 independent, qualified, installation inspector or an independent, qualified, registered
 44 professional engineer, either of whom is trained and experienced in the proper installation
 45 of similar systems or components, must inspect the system for the presence of any of the
 46 following items:

- 1 A. Weld breaks.
- 2 B. Punctures.
- 3 C. Scrapes of protective coatings.
- 4 D. Cracks.
- 5 E. Corrosion.
- 6 F. Other structural damage or inadequate construction/installation.

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

10 **III.10.H.1.a.v** For the LAW Vitrification System or components that are placed underground and that
 11 are back-filled, the Permittees must provide a backfill material that is a non-corrosive,
 12 porous, homogeneous substance. The backfill must be installed so that it is placed
 13 completely around the LAW Vitrification System and compacted to ensure that the LAW
 14 Vitrification System is fully and uniformly supported
 15 [[WAC 173-303-640\(3\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and (3)].

16 **III.10.H.1.a.vi** The Permittees must test for tightness the LAW Vitrification System or components,
 17 prior to being covered, enclosed, or placed into use. If the LAW Vitrification System or
 18 components are found not to be tight, all repairs necessary to remedy the leak(s) in the
 19 system must be performed prior to the LAW Vitrification System being covered,
 20 enclosed, or placed in use [[WAC 173-303-640\(3\)\(e\)](#)], in accordance with
 21 [WAC 173-303-680\(2\)](#) and (3)].

22 **III.10.H.1.a.vii** The Permittees must ensure the LAW Vitrification System equipment is supported and
 23 protected against physical damage and excessive stress due to settlement, vibration,
 24 expansion, or contraction [[WAC 173-303-640\(3\)\(f\)](#)], in accordance with
 25 [WAC 173-303-680\(2\)](#) and (3)].

26 **III.10.H.1.a.viii** The Permittees must provide the type and degree of corrosion protection
 27 recommended by an independent corrosion expert, based on the information provided in
 28 Operating Unit Group 10, Appendices 9.9 and 9.11 of this Permit, as approved pursuant
 29 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.](#),
 30 [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
 31 other corrosion protection if Ecology believes other corrosion protection is necessary to
 32 ensure the integrity of the LAW Vitrification System during use of the LAW Vitrification
 33 System. The installation of a corrosion protection system that is field fabricated must be
 34 supervised by an independent corrosion expert to ensure proper installation [[WAC 173-](#)
 35 [303-640\(3\)\(g\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and (3)].

36 **III.10.H.1.a.ix** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
 37 will obtain and keep on file in the WTP Unit operating record, written statements by
 38 those persons required to certify the design of the LAW Vitrification System and
 39 supervise the installation of the LAW Vitrification System, as specified in [WAC 173-](#)
 40 [303-640\(3\)\(b\)](#), (c), (d), (e), (f), and (g), in accordance with
 41 [WAC 173-303-680](#), attesting that the LAW Vitrification System and corresponding
 42 containment system listed in Permit Tables [III.10.H.A](#) and [III.10.H.B](#), as
 43 approved/modified pursuant to Permit Condition [III.10.H.5.](#), were properly designed and
 44 installed, and that repairs, in accordance with [WAC 173-303-640\(3\)\(c\)](#) and (e) were
 45 performed [[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-640\(3\)\(h\)](#)], in accordance with
 46 [WAC 173-303-680\(3\)](#)].

- 1 **III.10.H.1.a.x** The independent LAW Vitrification System installation inspection and subsequent
2 written statements will be certified in accordance with [WAC 173-303-810](#)(13)(a), as
3 modified pursuant to Permit Condition [III.10.H.1.a.iii.](#), comply with all requirements of
4 [WAC 173-303-640](#)(3)(h) in accordance with [WAC 173-303-680](#), and will consider, but
5 not be limited to, the following LAW Vitrification System installation documentation:
- 6 A. Field installation report with date of installation.
 - 7 B. Approved welding procedures.
 - 8 C. Welder qualification and certifications.
 - 9 D. Hydro-test reports, as applicable, in accordance with the American Society of
10 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1;
11 American Petroleum Institute (API) Standard 620, or Standard 650, as applicable.
 - 12 E. Tester credentials.
 - 13 F. Field inspector credentials.
 - 14 G. Field inspector reports.
 - 15 H. Field waiver reports.
 - 16 I. Non-compliance reports and corrective action (including field waiver reports) and
17 repair reports.
- 18 **III.10.H.1.a.xi** The Permittees will ensure periodic integrity assessments are conducted on the LAW
19 Vitrification System, listed in Permit Table [III.10.H.A](#), as approved/modified pursuant to
20 Permit Condition [III.10.H.5.](#), over the term of this Permit in accordance with [WAC 173-](#)
21 [303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(3)(b), following the description of
22 the integrity assessment program and schedule in Operating Unit Group 10, Chapter 6 of
23 this Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#)
24 Results of the integrity assessments will be included in the WTP Unit operating record
25 until ten (10) years after post-closure, or corrective action is complete and certified,
26 whichever is later.
- 27 **III.10.H.1.a.xii** The Permittees will address problems detected during the LAW Vitrification System
28 integrity assessments specified in Permit Condition [III.10.H.1.a.xi.](#) following the integrity
29 assessment program in Operating Unit Group 10, Chapter 6 of this Permit, as approved
30 pursuant to Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#)
- 31 **III.10.H.1.a.xiii** All process monitors/instruments, as specified in Permit Table [III.10.H.F](#), as
32 approved/modified pursuant to Permit Condition [III.10.H.5.](#), will be equipped with
33 operational alarms to warn of deviation, or imminent deviation from the limits specified
34 in Permit Table [III.10.H.F](#).
- 35 **III.10.H.1.a.xiv** The Permittees will install and test all process and leak detection system
36 monitors/instrumentation as specified in Permit Tables [III.10.H.C](#) and [III.10.H.F](#), as
37 approved/modified pursuant to Permit Condition [III.10.H.5](#), in accordance with
38 Operating Unit Group 10, Appendices 9.1, 9.2, and 9.14 of this Permit, as approved
39 pursuant to Permit Conditions [III.10.H.5.d.x.](#) and [III.10.H.5.f.xvi.](#)
- 40 **III.10.H.1.a.xv** Except during periods of LAW Vitrification System startup and shutdown, no dangerous
41 and/or mixed waste will be treated in the LAW Vitrification System unless the operating
42 conditions, specified under Permit Condition [III.10.H.1.c.](#) are complied with.
- 43 **III.10.H.1.a.xvi** The Permittees will not place dangerous and/or mixed waste, treatment reagents,
44 or other materials in the LAW Vitrification System if these substances could cause the
45 subsystem, subsystem equipment, or the containment system to rupture, leak, corrode, or

1 otherwise fail [[WAC 173-303-640\(5\)\(a\)](#)], in accordance with
 2 [WAC 173-303-680\(2\)](#)]. This condition is not applicable to corrosion of LAW
 3 Vitrification System sub-system or sub-system equipment that are expected to be
 4 replaced as part of normal operations (e.g., melters).

5 **III.10.H.1.a.xvii** The Permittees will operate the LAW Vitrification System to prevent spills and
 6 overflows using controls and practices as required under [WAC 173-303-640\(5\)\(b\)](#)
 7 described in Permit Condition [III.10.C.5](#) and Operating Unit Group 10, Appendix 9.18 of
 8 this Permit, as approved pursuant to Permit Condition [III.10.H.5.e](#).
 9 [\[WAC 173-303-640\(5\)\(b\)](#), in accordance with [WAC 173-303-680\(2\)](#) and (3), and
 10 [WAC 173-303-806\(4\)\(c\)\(ix\)](#)].

11 **III.10.H.1.a.xviii** For routinely non-accessible LAW Vitrification System sub-systems, as specified
 12 in Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit
 13 Condition [III.10.H.5.e.vi.](#), the Permittees will mark all routinely non-accessible LAW
 14 Vitrification System sub-systems access points with labels, or signs, to identify the waste
 15 contained in each LAW Vitrification System sub-system. The label, or sign, must be
 16 legible at a distance of at least fifty (50) feet, and must bear a legend which identifies the
 17 waste in a manner which adequately warns employees, emergency response personnel,
 18 and the public of the major risk(s) associated with the waste being stored or treated in the
 19 LAW Vitrification System sub-systems. For the purposes of this permit condition,
 20 "routinely non-accessible" means personnel are unable to enter these areas while waste is
 21 being managed in them
 22 [\[WAC 173-303-640\(5\)\(d\)](#), in accordance with [WAC 173-303-680\(2\)](#)].

23 **III.10.H.1.a.xix** For all LAW Vitrification System sub-systems not addressed in Permit Condition
 24 [III.10.H.1.a.xviii.](#), the Permittees will mark all these LAW Vitrification System sub-
 25 systems holding dangerous and/or mixed waste with labels, or signs, to identify the waste
 26 contained in the LAW Vitrification System sub-systems. The labels, or signs, must be
 27 legible at a distance of at least fifty (50) feet, and must bear a legend which identifies the
 28 waste in a manner which adequately warns employees, emergency response personnel,
 29 and the public of the major risk(s) associated with the waste being stored or treated in the
 30 LAW Vitrification System sub-systems
 31 [\[WAC 173-303-640\(5\)\(d\)](#), in accordance with [WAC 173-303-680\(2\)](#)].

32 **III.10.H.1.a.xx** The Permittees will ensure that the secondary containment systems for the LAW
 33 Vitrification System sub-systems listed in Permit Tables [III.10.H.A.](#) and [III.10.H.B.](#), as
 34 approved/modified pursuant to Permit Condition [III.10.H.5](#), are free of cracks or gaps to
 35 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
 36 system to the soil, groundwater, or surface water at any time during use of the LAW
 37 Vitrification System sub-systems. Any indication that a crack or gap may exist in the
 38 containment systems will be investigated and repaired in accordance with Operating Unit
 39 Group 10, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
 40 [III.10.H.5.e.v.](#) [\[WAC 173-303-640\(4\)\(b\)\(i\)](#),
 41 [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), and [WAC 173-303-640\(6\)](#), in accordance with
 42 [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and
 43 [WAC 173-303-320](#)].

44 **III.10.H.1.a.xxi** The Permittees must immediately, and safely, remove from service any LAW
 45 Vitrification System or secondary containment system which through an integrity
 46 assessment is found to be "unfit for use" as defined in [WAC 173-303-040](#), following
 47 Permit Conditions [III.10.H.1.a.xxiii.,A.](#) through [D.](#), and [E.](#) The affected LAW
 48 Vitrification System or secondary containment system must be either repaired or closed

1 in accordance with Permit Condition [III.10.H.1.a.xxiii.E](#).
 2 [[WAC 173-303-640](#)(7)(e) and (f), [WAC 173-303-640](#)(8), in accordance with
 3 [WAC 173-303-680](#)(3)].

4 **III.10.H.1.a.xxii** -An impermeable coating, as specified in Operating Unit Group 10, Appendices
 5 9.4, 9.5, 9.7, 9.9, 9.11, and 9.12 of this Permit, as approved pursuant to Permit Condition
 6 [III.10.H.5.b.v](#), will be maintained for all concrete containment systems and concrete
 7 portions of containment systems for each LAW Vitrification System sub-systems listed in
 8 Permit Tables [III.10.H.A](#) and [III.10.H.B](#), as approved/modified pursuant to Permit
 9 Condition [III.10.H.5](#) (concrete containment systems that do not have a liner, pursuant to
 10 [WAC 173-303-640](#)(4)(e)(i), in accordance with [WAC 173-303-680](#)(2), and have
 11 construction joints, will meet the requirements of [WAC 173-303-640](#)(4)(e)(ii)(C), in
 12 accordance with [WAC 173-303-680](#)(2). The coating will prevent migration of any
 13 dangerous and mixed waste into the concrete. All coatings will meet the following
 14 performance standards:

- 15 A. The coating must seal the containment surface such that no cracks, seams, or
 16 other avenues through which liquid could migrate are present;
- 17 B. The coating must be of adequate thickness and strength to withstand the normal
 18 operation of equipment and personnel within the given area such that degradation
 19 or physical damage to the coating or lining can be identified and remedied before
 20 dangerous and mixed waste could migrate from the system; and
- 21 C. The coating must be compatible with the dangerous and mixed waste, treatment
 22 reagents, or other materials managed in the containment system
 23 [[WAC 173-303-640](#)(4)(e)(ii)(D), in accordance with [WAC 173-303-680](#)(2) and
 24 (3), and [WAC 173-303-806](#)(4)(i)(A)].

25 **III.10.H.1.a.xxiii** The Permittees will inspect all secondary containment systems for the LAW
 26 Vitrification System sub-systems listed in Permit Tables [III.10.H.A](#) and [III.10.H.B](#), as
 27 approved/modified pursuant to Permit Condition [III.10.H.5](#), in accordance with the
 28 Inspection Plan specified in Operating Unit Group 10, Chapter 6A of this Permit, as
 29 approved pursuant to Permit Conditions [III.10.H.5.e.i](#) and [III.10.C.5.c](#), and take the
 30 following actions if a leak or spill of dangerous and/or mixed waste is detected in these
 31 containment systems [[WAC 173-303-640](#)(5)(c) and
 32 [WAC 173-303-640](#)(6), in accordance with [WAC 173-303-680](#)(2) and (3),
 33 [WAC 173-303-320](#), and [WAC 173-303-806](#)(4)(i)(B)]:

- 34 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the
 35 LAW Vitrification System sub-systems or secondary containment system.
- 36 B. Determine the source of the dangerous and/or mixed waste.
- 37 C. Remove the dangerous and/or mixed waste from the containment area in
 38 accordance with [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-](#)
 39 [640](#)(7)(b). The dangerous and/or mixed waste removed from containment areas
 40 of the LAW Vitrification System sub-systems will be, as a minimum, managed as
 41 mixed waste.
- 42 D. If the cause of the release was a spill that has not damaged the integrity of the
 43 LAW Vitrification System sub-system, the Permittees may return the LAW
 44 Vitrification System sub-system to service in accordance with
 45 [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(7)(e)(ii). In
 46 such case, the Permittees will take action to insure the incident that caused the
 47 dangerous and/or mixed waste to enter the containment system will not reoccur
 48 [[WAC 173-303-320](#)(3)].

- 1 E. If the source of the dangerous and/or mixed waste is determined to be a leak from
 2 the primary LAW Vitrification System into the secondary containment system, or
 3 the system is unfit for use as determined through an integrity assessment or other
 4 inspection, the Permittees will comply with the requirements of
 5 [WAC 173-303-640\(7\)](#) and take the following actions:
- 6 1. Close the LAW Vitrification System sub-system following procedures in
 7 [WAC 173-303-640\(7\)\(e\)\(i\)](#), in accordance with [WAC 173-303-680](#) and
 8 Operating Unit Group 10, Chapter 11 of this Permit, as approved pursuant
 9 to Permit Condition [III.10.C.8.](#), or
 - 10 2. Repair and re-certify (in accordance with [WAC 173-303-810\(13\)\(a\)](#), as
 11 modified pursuant to Permit Condition [III.10.H.1.a.iii.](#)) the LAW
 12 Vitrification System, in accordance with Operating Unit Group 10,
 13 Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
 14 [III.10.H.5.e.v.](#), before the LAW Vitrification System is placed back into
 15 service [[WAC 173-303-640\(7\)\(e\)\(iii\)](#) and [WAC 173-303-640\(7\)\(f\)](#), in
 16 accordance with [WAC 173-303-680](#)].
- 17 F. The Permittees will document in the operating record actions/procedures taken to
 18 comply with A. through E. above as specified in [WAC 173-303-640\(6\)\(d\)](#), in
 19 accordance with [WAC 173-303-680\(2\)](#) and (3).
- 20 G. In accordance with [WAC 173-303-680\(2\)](#) and [WAC 173-303-680](#) (3), the
 21 Permittees will notify and report releases to the environment to Ecology as
 22 specified in [WAC 173-303-640\(7\)\(d\)](#).

III.10.H.1.a.xxiv

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

- 31 A. Reasons for delayed removal.
- 32 B. Measures implemented to ensure continued protection of human health and the
 33 environment.
- 34 C. Current actions being taken to remove liquids from secondary containment.

III.10.H.1.a.xxv

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

III.10.H.1.a.xxvi

In all future narrative permit submittals, the Permittees will include LAW Vitrification sub-system names with the sub-system designation.

III.10.H.1.a.xxvii

Modifications to approved design, plans, and specifications in Operating Unit Group 10 of this Permit for the LAW Vitrification System will be allowed only in accordance with 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 [III.10.C.9.h.](#)

- 1 **III.10.H.1.a.xxviii** For any portion of the LAW Vitrification System which has the potential for
 2 formation and accumulation of hydrogen gases, the Permittees will operate the portion to
 3 maintain hydrogen levels below the lower explosive limit
 4 [\[WAC 173-303-815\(2\)\(b\)\(ii\)\]](#).
- 5 **III.10.H.1.a.xxix** For each LAW Vitrification System sub-system holding dangerous waste which
 6 are acutely or chronically toxic by inhalation, the Permittees will operate the system to
 7 prevent escape of vapors, fumes or other emissions into the air
 8 [\[WAC 173-303-806\(4\)\(i\)\(B\) and WAC 173-303-640\(5\)\(e\)\]](#), in accordance with
 9 [WAC 173-303-680](#).
- 10 **III.10.H.1.b** Performance Standards
- 11 **III.10.H.1.b.i** The LAW Vitrification System must achieve a destruction and removal efficiency (DRE)
 12 of 99.99% for the principal organic dangerous constituents (PODCs) listed below [\[40](#)
 13 [CFR §63.1203\(c\)\(1\), 40 CFR §63.1203\(c\)\(2\)](#), in accordance with
 14 [WAC 173-303-680\(2\)](#)):
- 15 RESERVED
- 16 DRE in this permit condition will be calculated in accordance with the formula
 17 given below:
- 18 $DRE = [1 - (W_{out}/W_{in})] \times 100\%$
- 19 Where:
- 20 W_{in} = mass feed-rate of one principal organic dangerous constituent (PODC) in a
 21 waste feed stream; and
- 22 W_{out} = mass emission rate of the same PODC present in exhaust emissions prior to
 23 release to the atmosphere.
- 24 **III.10.H.1.b.ii** Particulate matter emissions from the LAW Vitrification System will not exceed 34
 25 mg/dscm (0.015 grains/dscf) [\[40 CFR §63.1203\(b\)\(7\)\]](#), in accordance with
 26 [WAC 173-303-680\(2\)](#).
- 27 **III.10.H.1.b.iii** Hydrochloric acid and chlorine gas emissions from the LAW Vitrification System will
 28 not exceed 21 ppmv, combined [\[40 CFR §63.1203\(b\)\(6\)\]](#), in accordance with
 29 [WAC 173-303-680\(2\)](#).
- 30 **III.10.H.1.b.iv** Dioxin and Furan TEQ emissions from the LAW Vitrification System will not exceed 0.2
 31 nanograms (ng)/dscm [\[40 CFR §63.1203\(b\)\(1\)\]](#), in accordance with
 32 [WAC 173-303-680\(2\)](#).
- 33 **III.10.H.1.b.v** Mercury emissions from the LAW Vitrification System will not exceed 45 µg/dscm
 34 [\[40 CFR §63.1203\(b\)\(2\)\]](#), in accordance with [WAC 173-303-680\(2\)](#).
- 35 **III.10.H.1.b.vi** Lead and cadmium emissions from the LAW Vitrification System will not exceed 120
 36 µg/dscm, combined [\[40 CFR §63.1203\(b\)\(3\)\]](#), in accordance with
 37 [WAC 173-303-680\(2\)](#).
- 38 **III.10.H.1.b.vii** Arsenic, beryllium, and chromium emissions from the LAW Vitrification System will not
 39 exceed 97 µg/dscm, combined [\[40 CFR §63.1203\(b\)\(4\)\]](#), in accordance with
 40 [WAC 173-303-680\(2\)](#).
- 41 **III.10.H.1.b.viii** Carbon monoxide (CO) emission from the LAW Vitrification System will not
 42 exceed 100 parts per million (ppm) by volume, over an hourly rolling average (as

measured and recorded by the continuous monitoring system), dry basis
[\[40 CFR §63.1203\(b\)\(5\)\(i\)](#), in accordance with [WAC 173-303-680\(2\)](#)].

III.10.H.1.b.ix Hydrocarbon emission from the LAW Vitrification System will not exceed 10 parts per million (ppm) by volume, over an hourly rolling average (as measured and recorded by the continuous monitoring system during demonstration testing required by this Permit), dry basis, and reported as propane [[40 CFR §63.1203\(b\)\(5\)\(ii\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

III.10.H.1.b.x If the emissions from the LAW Vitrification System exceed the emission rates listed in Permit Table [III.10.H.E](#), as approved pursuant to Permit Condition [III.10.C.11.b](#)., the Permittees will notify Ecology in accordance with Permit Condition [III.10.H.3.d.vii](#) [[WAC 173-303-680\(2\)](#) and (3), and [WAC 173-303-815\(2\)\(b\)\(ii\)](#)].

The emission limits specified in Permit Conditions [III.10.H.1.b.i](#) through [III.10.H.1.b.ix](#), above, will be met for the LAW Vitrification System by limiting feed-rates as specified in Permit Tables [III.10.H.D](#) and [III.10.H.F](#)., as approved/modified pursuant to Permit Condition [III.10.H.5](#)., compliance with operating conditions specified in Permit Condition [III.10.H.1.c](#) (except as specified in Permit Condition [III.10.H.1.b.xii](#).), and compliance with Permit Condition [III.10.H.1.b.xi](#).

III.10.H.1.b.xi Treatment effectiveness, feed-rates and operating rates for dangerous and mixed waste management units contained in the LAW Building, but not included in Permit Table [III.10.H.A](#), as approved/modified pursuant to Permit Condition [III.10.H.5](#)., will be as specified in Permit Sections [III.10.D](#), [III.10.E](#), [III.10.F](#) and consistent with assumptions and basis which are reflected in Operating Unit Group 10, Appendix 6.3 of this Permit, as approved pursuant to Permit Condition [III.10.C.11.b](#). For the purposes of this permit condition, Operating Unit Group 10, Appendix 6.3 will be superseded by Appendix 6.4 upon its approval pursuant to either Permit Conditions [III.10.C.11.c](#) or [III.10.C.11.d](#) [[WAC 173-303-680\(2\)](#) and (3), and [WAC 173-303-815\(2\)\(b\)\(ii\)](#)].

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

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

The Permittees will operate the LAW Vitrification System in accordance with Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit Condition [III.10.H.5.e.vi](#)., Operating Unit Group 10, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.e](#)., and Operating Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f](#)., except as modified pursuant to Permit Conditions [III.10.H.1.b.xii](#)., [III.10.H.2](#)., [III.10.H.3](#)., [III.10.H.4](#)., and in accordance with the following:

- 1 **III.10.H.1.c.i** The Permittees will operate the LAW Vitrification System in order to maintain the
 2 systems and process parameters listed in Permit Tables [III.10.H.C](#) and [III.10.H.F](#), as
 3 approved/modified pursuant to Permit Condition [III.10.H.5.](#), within the set-points
 4 specified in Permit Table [III.10.H.F](#).
- 5 **III.10.H.1.c.ii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.H.F](#), as
 6 approved/modified pursuant to Permit Condition [III.10.H.5.](#), to automatically cut-off
 7 and/or lock-out the dangerous and mixed waste feed to the LAW Vitrification System
 8 when the monitored operating conditions deviate from the set-points specified in Permit
 9 Table [III.10.H.F](#).
- 10 **III.10.H.1.c.iii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.H.F](#), as
 11 approved/modified pursuant to Permit Condition [III.10.H.5.](#), to automatically cut-off
 12 and/or lock-out the dangerous and mixed waste feed to the LAW Vitrification System
 13 when all instruments specified on Permit Table [III.10.H.F](#) for measuring the monitored
 14 parameter fail or exceed its span value.
- 15 **III.10.H.1.c.iv** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.H.F](#), as
 16 approved/modified pursuant to Permit Condition [III.10.H.5.](#), to automatically cut-off
 17 and/or lock out the dangerous and/or mixed waste feed to the LAW Vitrification System
 18 when any portion of the LAW Vitrification System is bypassed. The terms “bypassed”
 19 and “bypass event” as used in Permit Sections [III.10.H](#) and [III.10.I](#) will mean if any
 20 portion of the LAW Vitrification System is bypassed so that gases are not treated as
 21 during the Demonstration Test.
- 22 **III.10.H.1.c.v** In the event of a malfunction of the AWFCO systems listed in Permit Table [III.10.H.F](#), as
 23 approved/modified pursuant to Permit Condition [III.10.H.5.](#), the Permittees will
 24 immediately, manually cut-off the dangerous and mixed waste feed to the LAW
 25 Vitrification System. The Permittees will not restart the dangerous and/or mixed waste
 26 feed until the problem causing the malfunction has been identified and corrected.
- 27 **III.10.H.1.c.vi** The Permittees will manually cut-off the dangerous and mixed waste feed to the LAW
 28 Vitrification System when the operating conditions deviate from the limits specified in
 29 Permit Condition [III.10.H.1.c.i.](#), unless the deviation automatically activates the waste
 30 feed cut-off sequence specified in Permit Conditions [III.10.H.1.c.ii.](#), [III.10.H.1.c.iii.](#),
 31 and/or [III.10.H.1.c.iv.](#)
- 32 **III.10.H.1.c.vii** If greater than thirty (30) dangerous and mixed waste feed cut-off, combined, to the LAW
 33 Vitrification System occur due to deviations from Permit Table [III.10.H.F](#), as
 34 approved/modified pursuant to Permit Condition [III.10.H.5.](#), within a sixty (60) day
 35 period, the Permittees will submit a written report to Ecology within five (5) calendar
 36 days of the thirty-first exceedance including the information specified below. These
 37 dangerous and mixed waste feed cut-offs to the LAW Vitrification System, whether
 38 automatically or manually activated, are counted if the specified set points are deviated
 39 from while dangerous waste, mixed waste, and waste residues continue to be processed in
 40 the LAW Vitrification System. A cascade event is counted at a frequency of one (1)
 41 towards the first waste feed cut-off parameter, specified on Permit Table [III.10.H.F](#), from
 42 which the set-point is deviated:
- 43 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.H.F](#).
 44 B. The magnitude, dates, and duration of the deviations.
 45 C. Results of the investigation of the cause of the deviations.
 46 D. Corrective measures taken to minimize future occurrences of the deviations.

- 1 **III.10.H.1.c.viii** If any portion of the LAW Vitrification System is bypassed while treating
 2 dangerous and/or mixed waste it will be regarded as non-compliance with the operating
 3 conditions specified in Permit Condition [III.10.H.1.c.](#) and the performance standards
 4 specified in Permit Condition [III.10.H.1.b.](#) After such a bypass event, the Permittees will
 5 perform the following actions:
- 6 A. Investigate the cause of the bypass event.
 - 7 B. Take appropriate corrective measures to minimize future bypasses.
 - 8 C. Record the investigation findings and corrective measures in the operating record.
 - 9 D. Submit a written report to Ecology within five (5) days of the bypass event
 10 documenting the result of the investigation and corrective measures.
- 11 **III.10.H.1.c.ix** The Permittees will control fugitive emissions from the LAW Vitrification System by
 12 maintaining the melters under negative pressure.
- 13 **III.10.H.1.c.x** Except during periods of vitrification system startup and shutdown, compliance with the
 14 operating conditions specified in Permit Condition [III.10.H.1.c.](#) will be regarded as
 15 compliance with the required performance standards identified in Permit Condition
 16 [III.10.H.1.b.](#) However, evidence that compliance with these operating conditions is
 17 insufficient to ensure compliance with the performance standards, will justify
 18 modification, revocation, or re-issuance of this Permit, in accordance with Permit
 19 Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#), or [III.10.C.2.g.](#)
- 20 **III.10.H.1.d** Inspection Requirements [[WAC 173-303-680\(3\)](#)]
- 21 **III.10.H.1.d.i** The Permittees will inspect the LAW Vitrification System in accordance with the
 22 Inspection Plan in Operating Unit Group 10, Chapter 6A of this Permit, as modified in
 23 accordance with Permit Condition [III.10.C.5.c.](#)
- 24 **III.10.H.1.d.ii** The inspection data for LAW Vitrification System will be recorded, and the records will
 25 be placed in the WTP Unit operating record for the LAW Vitrification System, in
 26 accordance with Permit Condition [III.10.C.4.](#)
- 27 **III.10.H.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating Unit
 28 Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit Condition
 29 [III.10.H.5.f.](#), and as modified by Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#),
 30 [III.10.H.3.](#), and [III.10.H.4.](#)
- 31 **III.10.H.1.e** Monitoring Requirements [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
 32 [WAC 173-303-670\(7\)](#) and [WAC 173-303-807\(2\)](#), in accordance with
 33 [WAC 173-303-680\(3\)](#)]
- 34 **III.10.H.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
 35 and analysis of the dangerous and mixed waste and exhaust emissions to verify that the
 36 operating requirements established in the Permit achieve the performance standards
 37 delineated in this Permit.
- 38 **III.10.H.1.e.ii** The Permittees will comply with the monitoring requirements specified in Operating Unit
 39 Group 10, Appendices 9.2, 9.3, 9.7, 9.13, 9.15 and 9.18 of this Permit, as approved
 40 pursuant to Permit Conditions [III.10.H.5.c.](#), [III.10.H.5.d.](#), [III.10.H.5.e.](#), and [III.10.H.5.f.](#),
 41 as modified by Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#), [III.10.H.3.](#), and [III.10.H.4.](#)
- 42 **III.10.H.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
 43 hydrocarbon continuous emission monitors (CEM) specified in this Permit in accordance
 44 with Performance Specification 4B and 8A of [40 CFR Part 60](#), Appendix B, in
 45 accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and Operating Unit Group

- 1 10 Appendix 9.15 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#),
 2 and as modified by Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#), [III.10.H.3.](#), and
 3 [III.10.H.4.](#)
- 4 **III.10.H.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified on Permit
 5 Tables [III.10.H.C.](#) and [F.](#) as approved/modified pursuant to Permit Condition [III.10.H.5.](#),
 6 in accordance with Operating Unit Group 10, Appendix 9.15 of this Permit, as approved
 7 pursuant to Permit Condition [III.10.H.5.f.](#), and as modified by Permit Conditions
 8 [III.10.H.1.b.xii.](#), [III.10.H.2.](#), [III.10.H.3.](#), and [III.10.H.4.](#)
- 9 **III.10.H.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680\(3\)](#)]
- 10 **III.10.H.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the LAW
 11 Vitrification System, all monitoring, calibration, maintenance, test data, and inspection
 12 data compiled under the conditions of this Permit, in accordance with Permit Conditions
 13 [III.10.C.4.](#) and [III.10.C.5.](#), as modified by Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#),
 14 [III.10.H.3.](#), and [III.10.H.4.](#)
- 15 **III.10.H.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and duration
 16 of all automatic waste feed cutoffs and/or lockouts, including the triggering parameters,
 17 reason for the deviation, and recurrence of the incident. The Permittees will also record
 18 all incidents of AWFCO system function failures, including the corrective measures
 19 taken to correct the condition that caused the failure.
- 20 **III.10.H.1.f.iii** The Permittees will submit to Ecology a report semi-annually the first calendar year, and
 21 annually thereafter each calendar year within ninety (90) days following the end of the
 22 year. The report will include the following information:
- 23 A. Total dangerous and mixed waste feed processing time for the LAW Vitrification
 24 System;
- 25 B. Date/Time of all LAW Vitrification System startups and shutdowns;
- 26 C. Date/Time/Duration/Cause/Corrective Action taken for all LAW Vitrification
 27 System shutdowns caused by malfunction of either process or control equipment;
 28 and
- 29 D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
 30 and/or mixed waste feed cut-off due to deviations from Permit Table [III.10.H.E.](#),
 31 as approved/modified pursuant to Permit Condition [III.10.H.5.](#)
- 32 **III.10.H.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within ninety
 33 (90) days following the end of the year of all quarterly CEM Calibration Error and
 34 Annual CEM Performance Specification Tests conducted in accordance with Permit
 35 Condition [III.10.H.1.e.iii.](#)
- 36 **III.10.H.1.g** Closure
- 37 The Permittees will close the LAW Vitrification System in accordance with Operating
 38 Unit Group 10, Chapter 11 of this Permit, as approved pursuant to Permit Condition
 39 [III.10.C.8.](#)
- 40 **III.10.H.2** **Shakedown Period** [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
 41 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
 42 [WAC 173-303-680\(2\)](#) and (3)].
- 43 **III.10.H.2.a** The shakedown period for the LAW Vitrification System will be conducted in
 44 accordance with Permit Condition [III.10.H.1.](#), Operating Unit Group 10, Appendix 9.15

of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), and as modified in accordance with Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#), and [III.10.H.3.](#)

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

III.10.H.2.b.i The shakedown period for the LAW Vitrification System will begin with the initial introduction of dangerous waste in the LAW Vitrification System following construction and will end with the start of the demonstration test.

III.10.H.2.b.ii The shakedown period will not exceed the following limits, as defined by hours, when the LAW Vitrification System is processing dangerous waste. The Permittees may petition Ecology for one extension of each shakedown phase for seven hundred and twenty (720) additional operating hours in accordance with Permit modification procedures specified in Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)

Shakedown Phase 1: 720 hours

Shakedown Phase 2: 720 hours

III.10.H.2.b.iii Shakedown Phase 2 will not be commenced until documentation has been submitted to Ecology verifying that the LAW Vitrification System has operated at a minimum of 75% of the shakedown Phase 1 feed-rate limit for two (2) separate eight (8) consecutive hour periods with no AWFCOs.

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

III.10.H.2.c.i The Permittees may feed the dangerous waste specified for the LAW Vitrification System on the Part A Forms (Operating Unit Group 10, Chapter 1 of this Permit), except for those wastes outside the waste acceptance criteria specified in the WAP, Attachment 1, Chapter 3 of this Permit, as approved pursuant to Permit Condition [III.10.C.3.](#), except Permit Conditions [III.10.H.2.c.ii.](#) through [v.](#) also apply.

III.10.H.2.c.ii The Permittees will not feed the following wastes to the LAW Vitrification System during Shakedown Phase 1:

A. Acutely toxic dangerous waste listed in [WAC 173-303-081\(a\)\(2\)\(a\)\(i\).](#)

B. Mixed waste

III.10.H.2.c.iii The Permittees will not feed the following waste to the LAW Vitrification System during Shakedown Phase 2:

A. Mixed waste

III.10.H.2.c.iv The feed-rates to the LAW Vitrification System will not exceed the limits in Permit Tables [III.10.H.D](#) and [III.10.H.F](#), as approved/modified pursuant to Permit Condition [III.10.H.5.](#)

III.10.H.2.c.v The Permittees will conduct sufficient analysis of the dangerous waste treated in the LAW Vitrification System to verify that the waste feed is within the physical and chemical composition limits specified in this Permit.

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

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

III.10.H.3.a.i The Permittees will operate, monitor, and maintain the LAW Vitrification System as specified in Permit Condition [III.10.H.1.](#), and Operating Unit Group 10, Appendix 9.15

1 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), except as modified
2 in accordance with Permit Conditions [III.10.H.1.b.xii.](#), and [III.10.H.3.](#)

3 **III.10.H.3.a.ii** Operating Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit
4 Condition [III.10.H.5.f.](#), will be resubmitted to Ecology for approval by the Permittees as
5 a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) at least
6 one hundred and eighty (180) days prior to the start date of the demonstration test. The
7 revised Demonstration Test Plan will include applicable EPA promulgated test methods
8 and procedures in effect at the time of the re-submittal and projected commencement and
9 completion dates for the Demonstration Test.

10 **III.10.H.3.a.iii** The Permittees will not commence the demonstration test period until documentation has
11 been submitted to Ecology verifying that the LAW Vitrification System has operated at a
12 minimum of 75% of the demonstration test period feed-rate limit for a minimum of an
13 eight (8) consecutive hours period on two (2) consecutive days.

14 **III.10.H.3.b** Performance Standards

15 The Permittees will demonstrate compliance with the performance standards specified in
16 Permit Condition [III.10.H.1.b.](#) during the Demonstration Test Period.

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

18 **III.10.H.3.c.i** The Permittees may feed the dangerous waste specified for the LAW Vitrification System
19 in Part A Forms (Operating Unit Group 10, Chapter 1 of this Permit), except for those
20 waste outside the waste acceptance criteria specified in the WAP, Operating Unit Group
21 10, Chapter 3 of this Permit, as approved pursuant to Permit Condition [III.10.C.3.](#), except
22 Permit Conditions [III.10.H.3.c.ii.](#) through [iv.](#) also apply.

23 **III.10.H.3.c.ii** The Permittees will not feed mixed waste to the LAW Vitrification System.

24 **III.10.H.3.c.iii** The dangerous waste feed-rates to the LAW Vitrification System will not exceed the
25 limits in Permit Tables [III.10.H.D](#) and [E](#), as approved/modified pursuant to Permit
26 Condition [III.10.H.5.](#)

27 **III.10.H.3.c.iv** The Permittees will conduct sufficient analysis of the dangerous waste treated in the
28 LAW Vitrification System to verify that the dangerous waste is within the physical and
29 chemical composition limits specified in this Permit.

30 **III.10.H.3.d** Demonstration Data Submissions and Certifications

31 **III.10.H.3.d.i** The Permittees will submit to Ecology a complete demonstration test report within one-
32 hundred eighty (180) calendar days of completion of the Demonstration Test including all
33 data collected during the Demonstration Test and updated Permit Tables [III.10.I.D.](#),
34 [III.10.I.E](#) and [III.10.I.F.](#)

35 **III.10.H.3.d.ii** The Permittees must submit the following information to Ecology prior to receiving
36 Ecology's approval to commence feed of dangerous waste and mixed waste to the LAW
37 Vitrification System:

- 38 A. The Permittees will submit a summary of data collected as required by the
39 Demonstration Test Plan to Ecology upon completion of the Demonstration Test.
- 40 B. A certification that the Demonstration Test has been carried out in accordance
41 with the approved Demonstration Test Plan and approved modifications within
42 thirty (30) days of the completion of the Demonstration Test [[WAC 173-303-](#)
43 [807\(8\)](#)].

1 C. Calculations and analytical data showing compliance with the performance
 2 standards specified in Permit Conditions [III.10.H.1.b.i](#), [III.10.H.1.b.iv](#),
 3 [III.10.H.1.b.v](#), [III.10.H.1.b.vi](#), and [III.10.H.1.b.vii](#)

4 D. Laboratory data QA/QC summary for the information provided in
 5 [III.10.H.3.d.ii.C](#).

6 **III.10.H.3.d.iii** After successful completion of the Demonstration Test and receipt of Ecology's approval,
 7 the Permittees will be authorized to commence feed of dangerous waste and mixed waste
 8 to the LAW Vitrification System for the post-demonstration test period indicated in
 9 Permit Tables [III.10.H.D](#) and [F](#), as approved/modified pursuant to Permit Condition
 10 [III.10.H.5](#), in compliance with the operating requirements specified in Permit Condition
 11 [III.10.H.1.c](#), and within the limitations specified in Permit Condition [III.10.C.14](#).

12 **III.10.H.3.d.iv** RESERVED

13 **III.10.H.3.d.v** After successful completion of the Demonstration Test, Permittees submittal of the
 14 following to Ecology and the Permittees receipt of approval of the following in writing,
 15 the Permittees will be authorized to feed dangerous waste and mixed waste to the LAW
 16 Vitrification System pursuant to Permit Section [III.10.I](#).

17 A. A complete Demonstration Test Report for the LAW Vitrification System and
 18 updated Permit Tables [III.10.I.D](#), [III.10.I.E](#), and [III.10.I.F](#), as approved/modified
 19 pursuant to Permit Conditions [III.10.H.5](#) and [III.10.C.11.c](#) or [III.10.C.11.d](#). The
 20 test report will be certified in accordance with [WAC 173-303-807](#)(8), in
 21 accordance with [WAC 173-303-680](#)(2) and (3).

22 B. A Final Risk Assessment Report completed pursuant to Permit Conditions
 23 [III.10.C.11.c](#), or [III.10.C.11.d](#).

24 **III.10.H.3.d.vi** If any calculations or testing results show that one or more of the performance standards
 25 listed in Permit Condition [III.10.H.1.b.](#), with the exception of Permit Condition
 26 [III.10.H.1.b.x.](#), for the LAW Vitrification System were not met during the Demonstration
 27 Test, the Permittees will perform the following actions:

28 A. Immediately stop dangerous and mixed waste feed to the LAW Vitrification
 29 System under the mode of operation that resulted in not meeting the performance
 30 standard(s).

31 B. Verbally notify Ecology within twenty-four (24) hours of discovery of not
 32 meeting the performance standard(s) as specified in Permit Condition I.E.21.

33 C. Investigate the cause of the failure and submit a report of the investigation
 34 findings to Ecology within fifteen (15) days of discovery of not meeting the
 35 performance standard(s).

36 D. Submit to Ecology within fifteen (15) days of discovery of not meeting the
 37 performance standard(s), documentation supporting a mode of operation where
 38 all performance standards listed in Permit Condition [III.10.H.1.b.](#), with the
 39 exception of Permit Condition [III.10.H.1.b.x.](#), for the LAW Vitrification System
 40 were met during the demonstration test, if any such mode was demonstrated.

41 E. Based on the information provided to Ecology by the Permittees pursuant to
 42 Permit Conditions [III.10.H.3.d.vi.A](#) through D above, and any additional
 43 information, Ecology may provide in writing, direction to the Permittees to stop
 44 dangerous and/or mixed waste feed to the LAW Vitrification System and/or
 45 amend the mode of operation the Permittees are allowed to continue operations

1 prior to Ecology approval of a compliance schedule and/or revised
2 Demonstration Test Plan pursuant to Permit Conditions [III.10.H.3.d.vi.F](#) and [G](#).

- 3 F. If the performance standard listed in Permit Condition [III.10.H.1.b.i](#), was not met
4 during the Demonstration Test, the Permittees will submit within one hundred
5 and twenty (120) days of discovery of not meeting the performance standard, a
6 revised Demonstration Test Plan (if appropriate), and a compliance schedule for
7 Ecology approval to address this deficiency. If a revised Demonstration Test
8 Plan is submitted, it will be accompanied by a request for 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 (if submitted) must include substantive
11 changes to prevent failure from reoccurring.
- 12 G. If any of the performance standards listed in Permit Condition [III.10.H.1.b.](#), with
13 the exception of Permit Conditions [III.10.H.1.b.i](#). or [III.10.H.1.b.x.](#), were not met
14 during the Demonstration Test the Permittees will submit to Ecology within one
15 hundred twenty (120) days of discovery of not meeting the performance
16 standard(s), a revised Demonstration Test Plan requesting approval to retest as a
17 permit modification pursuant to Permit Conditions [III.10.C.2.e](#). and [III.10.C.2.f](#).
18 The revised Demonstration Test Plan must include substantive changes to
19 prevent failure from reoccurring.

20 **III.10.H.3.d.vii** If any calculations or testing results show that any emission rate for any constituent listed
21 in Permit Table [III.10.H.E](#), as approved pursuant to Permit Condition [III.10.C.11.b.](#), is
22 exceeded for LAW Vitrification System during the Demonstration Test, the Permittees
23 will perform the following actions:

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

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

40 **III.10.H.4.a** The Permittees will operate, monitor, and maintain the LAW Vitrification System as
41 specified in Permit Condition [III.10.H.1](#). and Operating Unit Group 10, Appendix 9.15 of
42 this Permit, as approved pursuant to Permit Condition [III.10.H.5](#)., except as modified in
43 accordance with Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.3.](#), and [III.10.H.4](#).

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

45 **III.10.H.4.b.i** The Permittees may feed the dangerous and/or mixed waste specified for the LAW
46 Vitrification System on the Part A Forms (Operating Unit Group 10, Chapter 1 of this
47 Permit), except for those wastes outside the waste acceptance criteria specified in the

1 WAP, Operating Unit Group 10, Chapter 3 of this Permit, as approved pursuant to Permit
 2 Condition [III.10.C.3.](#), and except Permit Conditions [III.10.H.4.b.ii.](#) and [III.10.H.4.b.iii.](#)
 3 also apply.

4 **III.10.H.4.b.ii** The dangerous waste and mixed waste feed-rates to the LAW Vitrification System will
 5 not exceed the limits in Permit Tables [III.10.H.D](#) and [F](#), as approved/modified pursuant
 6 to Permit Condition [III.10.H.5.](#), or in Permit Condition [III.10.H.3](#)

7 **III.10.H.4.b.iii** The Permittees will conduct sufficient analysis of the dangerous waste and mixed waste
 8 treated in LAW Vitrification System to verify that the waste feed is within the physical
 9 and chemical composition limits specified in this Permit.

10 **III.10.H.5 Compliance Schedules**

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

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

24 **III.10.H.5.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak detection
 25 system) will include review of design drawings, calculations, and other information on
 26 which the certification report is based and will include as applicable, but not limited to,
 27 review of such information described below. Information (drawings, specifications, etc.)
 28 already included in Operating Unit Group 10, Appendix 9.0 of this Permit, may be
 29 included in the report by reference and should include drawing and document numbers.
 30 IQRPE Reports will be consistent with the information separately provided in [ii.](#) through
 31 [ix.](#) below [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#) and [WAC](#)
 32 [173-303-806](#)(4)(i)(i)];

33 **III.10.H.5.b.ii** Design drawings (General Arrangement Drawings, in plan) and specifications for the
 34 foundation, secondary containment including liner installation details, and leak detection
 35 methodology. These items should show the dimensions, volume calculations, and
 36 location of the secondary containment system, and should include items such as
 37 floor/pipe slopes to sumps, tanks, floor drains
 38 [[WAC 173-303-640](#)(4)(b) through (f) and [WAC 173-303-640](#)(3)(a), in accordance with
 39 [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(i)];

40 **III.10.H.5.b.iii** The Permittees will provide the design criteria (references to codes and standards, load
 41 definitions, and load combinations, materials of construction, and analysis/design
 42 methodology) and typical design details for the support of the secondary containment
 43 system. This information will demonstrate the foundation will be capable of providing
 44 support to the secondary containment system, resistance to pressure gradients above and
 45 below the system, and capable of preventing failure due to settlement, compression, or
 46 uplift [[WAC 173-303-640](#)(4)(c)(ii), in accordance with [WAC 173-303-680](#)(2) and [WAC](#)
 47 [173-303-806](#)(4)(i)(i)(B)];

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

incorporation into the Administrative Record. Documentation will include but not limited to, supporting specifications, test data, treatment effectiveness report, etc. supporting projected operational capability (e.g., WESP projected removal efficiency for individual metals, halogens, particulates, etc.) and compliance with performance standards specified in Permit Condition [III.10.H.1.b](#) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(B)];

III.10.H.5.c.iv A description of materials and equipment used to provide corrosion protection for external metal components in contact with water, including factors affecting the potential for corrosion [[WAC 173-303-640](#)(3)(a)(iii)(B), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(A) through (B)];

III.10.H.5.c.v Sub-system materials selection documentation (e.g., physical and chemical tolerances) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(A)];

III.10.H.5.c.vi Sub-system vendor information (including, but not limited to, required performance warranties, as available), consistent with information submitted under ii. above, will be submitted for incorporation into the Administrative Record [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)];

III.10.H.5.c.vii System descriptions related to sub-system units will be submitted for incorporation into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)];

III.10.H.5.c.viii Mass and energy balance for normal projected operating conditions used in developing the Piping and Instrumentation Diagrams and Process Flow Diagrams, including assumptions and formulas used to complete the mass and energy balance, so that they can be independently verified for incorporation into the Administrative Record [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(B), and [WAC 173-303-806](#)(4)(i)(v)];

III.10.H.5.c.ix Detailed description of all potential LAW Vitrification System bypass events including:

A. A report which includes an analysis of credible potential bypass events and recommendations for prevention/minimization of the potential, impact, and frequency of the bypass event to include at a minimum:

1. Operating procedures
2. Maintenance procedures
3. Redundant equipment
4. Redundant instrumentation
5. Alternate equipment
6. Alternate materials of construction

III.10.H.5.c.x A detailed description of how the sub-systems will be installed in compliance with [WAC 173-303-640](#)(3)(c), (d), and (e), in accordance with [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(B)];

III.10.H.5.c.xi Sub-system design to prevent escape of vapors and emissions of acutely or chronically toxic (upon inhalation) EHW, for incorporation into the Administrative Record [[WAC 173-303-640](#)(5)(e), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(B)];

- 1 **III.10.H.5.c.xii** Documentation that sub-systems are designed to prevent the accumulation of hydrogen
2 gases levels above the lower explosive limit for incorporation into the Administrative
3 Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(A\)](#), and
4 [WAC 173-303-806\(4\)\(i\)\(v\)](#)].
- 5 **III.10.H.5.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), prior to
6 installation of equipment for each sub-system as identified in Permit Tables [III.10.H.A](#)
7 and [III.10.H.B](#), not addressed in Permit Conditions [III.10.H.5.b](#) or [III.10.H.5.c](#),
8 engineering information as specified below, for incorporation into Operating Unit Group
9 10, Appendices 9.1 through 9.14 of this Permit. At a minimum, engineering information
10 specified below will show the following as required pursuant to [WAC 173-303-640](#), in
11 accordance with [WAC 173-303-680](#) (the information specified below will include
12 dimensioned engineering drawings):
- 13 **III.10.H.5.d.i** IQRPE Reports (specific to sub-system equipment) will include a review of design
14 drawings, calculations, and other information as applicable on which the certification
15 report is based. The reports will include, but not be limited to, review of such
16 information described below. Information (drawings, specifications, etc.) already
17 included in Operating Unit Group 10, Appendix 9.0 of this Permit, may be included in
18 the report by reference and should include drawing and document numbers. The IQRPE
19 Reports will be consistent with the information provided separately in [ii](#) through [xiii](#).
20 below and the IQRPE Reports specified in Permit Conditions [III.10.H.5.b](#) and
21 [III.10.H.5.c](#). [[WAC 173-303-640\(3\)\(a\)](#), in accordance with
22 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B)];
- 23 **III.10.H.5.d.ii** Design drawings [Process Flow Diagrams, Piping and Instrumentation Diagrams
24 (including pressure control systems), specifications and other information specific to
25 equipment (these drawings should include all equipment such as pipes, valves, fittings,
26 pumps, instruments, etc.)] [[WAC 173-303-640\(3\)\(a\)](#), in accordance with
27 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B)];
- 28 **III.10.H.5.d.iii** Sub-system equipment design criteria (references to codes and standards, load
29 definitions, and load combinations, materials of construction, and analysis/design
30 methodology) and typical design details for the support of the sub-system equipment
31 [[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-640\(3\)\(f\)](#), in accordance with
32 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 33 **III.10.H.5.d.iv** A description of materials and equipment used to provide corrosion protection for
34 external metal components in contact with soil and water, including factors affecting the
35 potential for corrosion [[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#), in accordance with
36 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#)];
- 37 **III.10.H.5.d.v** Materials selection documentation for equipment for each sub-system (e.g., physical and
38 chemical tolerances) [[WAC 173-303-640\(3\)\(a\)](#), in accordance with
39 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#)];
- 40 **III.10.H.5.d.vi** Vendor information (including, but not limited to, required performance warranties, as
41 available), consistent with information submitted under [ii](#). above, for sub-system
42 equipment will be submitted for incorporation into the Administrative Record.
43 [[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#),
44 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(iv\)](#)];
- 45 **III.10.H.5.d.vii** Sub-system, sub-system equipment, and leak detection system instrument control logic
46 narrative description (e.g., descriptions of fail-safe conditions, etc.)

- 1 [\[WAC 173-303-680\(2\), WAC 173-303-806\(4\)\(i\)\(B\), and](#)
 2 [WAC 173-303-806\(4\)\(i\)\(v\)\]](#).
- 3 **III.10.H.5.d.viii** System description related to sub-system equipment, and system descriptions
 4 related to leak detection systems, for incorporation into the Administrative Record
 5 [\[WAC 173-303-680, WAC 173-303-806\(4\)\(i\)\(A\) through \(B\), and](#)
 6 [WAC 173-303-806\(4\)\(i\)\(v\)\]](#);
- 7 **III.10.H.5.d.ix** A detailed description of how the sub-system equipment will be installed and tested
 8 [\[WAC 173-303-640\(3\)\(c\) through \(e\), WAC 173-303-640\(4\)\(b\) and \(c\), in accordance](#)
 9 [with WAC 173-303-680 and WAC 173-303-806\(4\)\(i\)\(B\)\]](#);
- 10 **III.10.H.5.d.x** For process monitoring, control, and leak detection system instrumentation for the LAW
 11 Vitrification System as identified in Permit Tables [III.10.H.C.](#) and [III.10.H.F.](#), 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 \(e\), WAC](#)
 14 [173-303-640\(4\)\(b\) and \(c\), WAC 173-303-806\(4\)\(c\)\(vi\), and](#)
 15 [WAC 173-303-806\(4\)\(i\)\(B\)\]](#);
- 16 **III.10.H.5.d.xi** Mass and energy balance for projected normal operating conditions used in developing
 17 the Piping and Instrumentation Diagrams and Process Flow Diagrams, including
 18 assumptions and formulas used to complete the mass and energy balance, so that they can
 19 be independently verified, for incorporation into the Administrative Record [\[WAC 173-](#)
 20 [303-680\(2\), WAC 173-303-806\(4\)\(i\)\(B\), and](#)
 21 [WAC 173-303-806\(4\)\(i\)\(v\)\]](#);
- 22 **III.10.H.5.d.xii** Documentation that sub-systems equipment are designed to prevent the accumulation of
 23 hydrogen gas levels above the lower explosive limit for incorporation into the
 24 Administrative Record [\[WAC 173-303-680, WAC 173-303-806\(4\)\(i\)\(A\), and](#)
 25 [WAC 173-303-806\(4\)\(i\)\(v\)\]](#);
- 26 **III.10.H.5.d.xiii** Leak detection system documentation (e.g. vendor information, etc.) consistent
 27 with information submitted under Permit Condition [III.10.H.5.c.ii.](#) and Permit Conditions
 28 [III.10.H.5.d.ii., vii., viii.,](#) and [x.](#) above, will be submitted for incorporation into the
 29 Administrative Record.
- 30 **III.10.H.5.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
 31 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), the following as
 32 specified below for incorporation into Operating Unit Group 10, Appendix 9.18 of this
 33 Permit, except Permit Condition [III.10.H.5.e.i.](#), which will be incorporated into Operating
 34 Unit Group 10, Chapter 6 of this Permit. All information provided under this permit
 35 condition must be consistent with information provided pursuant to Permit Conditions
 36 [III.10.H.5.b., c., d., e., and f., III.10.C.3.e.](#) and [III.10.C.11.b.](#), as approved by Ecology:
- 37 **III.10.H.5.e.i** Integrity assessment program and schedule for the LAW Vitrification System will
 38 address the conducting of periodic integrity assessments on the LAW Vitrification
 39 System over the life of the system, as specified in Permit Condition [III.10.H.5.b.ix.](#) and
 40 [WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#), and descriptions of
 41 procedures for addressing problems detected during integrity assessments. The schedule
 42 must be based on past integrity assessments, age of the system, materials of construction,
 43 characteristics of the waste, and any other relevant factors [\[WAC 173-303-640\(3\)\(b\), in](#)
 44 [accordance with WAC 173-303-680 and](#)
 45 [WAC 173-303-806\(4\)\(i\)\(B\)\]](#).

1 **III.10.H.5.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated so
 2 that it will detect the failure of either the primary or secondary containment structure or
 3 the presence of any release of dangerous and/or mixed waste or accumulated liquid in the
 4 secondary containment system within twenty-four (24) hours [[WAC 173-303-](#)
 5 [640\(4\)\(c\)\(iii\)](#)]. Detection of a leak of at least 0.1 gallons per hour within twenty-four
 6 (24) hours is defined as being able to detect a leak within twenty-four (24) hours. Any
 7 exceptions to this criteria must be approved by Ecology in accordance with [WAC 173-](#)
 8 [303-680](#), [WAC 173-303-640\(4\)\(c\)\(iii\)](#), and
 9 [WAC 173-303-806\(4\)\(i\)\(b\)](#).

- 10 A. Dangerous waste pipe penetrations that require a penetration seal in accordance
 11 with the International Building Code (IBC) and DOE-STD-1066, DOE Standard
 12 for Fire Protection Design Criteria, or meet ventilation sealing requirements
 13 identified in Table [III.10.H.G](#), are not required to meet the 0.1 gallons per hour
 14 within twenty-four (24) hours leak detection rate for those sections of piping that
 15 are in contact with approved silicone or equivalent low-permeability seal
 16 material.
- 17 B. Piping on either side of the penetration seal must meet the requirements of
 18 [III.10.H.5.e.ii](#).
- 19 C. Revisions (including additions or deletions) to Table [III.10.H.G](#) will be submitted
 20 to Ecology for review and approval pursuant to Conditions [III.10.C.2.e](#) and
 21 [III.10.C.2.f](#). Addition of penetration seal locations to Table [III.10.H.G](#) will be
 22 approved by Ecology prior to installation of the penetration seal.

23 **Table III.10.H.G LAW Plant Penetration Seal Location**

Row Number	Room Number	Orientation	Discipline	Sequence Number
1.	L0000112	E	PD	02097
2.	L0000123	E	PD	01823
3.	L0000123	E	PD	01834
4.	L0000123	E	PD	01828
5.	L0000123	E	PD	01837
6.	L0000123	E	PD	01822
7.	L0000123	E	PD	01824
8.	L0000123	E	PD	01826
9.	L0000123	E	PD	01821
10.	L0000123	E	PD	01825
11.	L0000123	E	PD	01827
12.	L0000123	E	PD	01836
13.	L0000123	E	PD	01820
14.	L0000123	E	PD	01832
15.	L0000123	S	PD	01797
16.	L0000124	E	PD	01843
17.	L0000124	E	PD	01844
18.	L0000124	E	PD	01845
19.	L0000124	E	PD	01842

Row Number	Room Number	Orientation	Discipline	Sequence Number
20.	L0000124	E	PD	01847
21.	L0000124	E	PD	01841
22.	L0000124	E	PD	01846
23.	L0000124	E	PD	01850
24.	L0000124	E	PD	01848
25.	L0000124	E	PD	01852
26.	L0000124	E	PD	01840
27.	L0000124	E	PD	01839
28.	L0000124	E	PD	01849
29.	L0000124	S	PD	01801
30.	L0000125	E	PD	01858
31.	L0000125	E	PD	01859
32.	L0000125	E	PD	01860
33.	L0000125	E	PD	01857
34.	L0000125	E	PD	01862
35.	L0000125	E	PD	01856
36.	L0000125	E	PD	01861
37.	L0000125	E	PD	01865
38.	L0000125	E	PD	01863
39.	L0000125	E	PD	01867
40.	L0000125	E	PD	01855
41.	L0000125	E	PD	01854
42.	L0000125	E	PD	01864
43.	L0000126	S	PD	01807
44.	L0000201	F	PD	02405
45.	L0000201	S	PD	02406
46.	L0000202	F	PD	02495
47.	L0000216	W	PD	02674
48.	L0000220	E	PD	02709
49.	L0000301	F	PD	03319
50.	L0000301	S	PD	03437
51.	L0000301	S	PD	04149
52.	L0000301	S	PD	04141
53.	L000101A	F	PD	01291
54.	L000101A	F	PD	01292
55.	L000101A	W	PD	01971
56.	L000226B	F	PD	02445
57.	L000226B	F	PD	02444
58.	L000304F	F	PD	03278

Row Number	Room Number	Orientation	Discipline	Sequence Number
59.	L000304F	F	PD	03277
60.	LB00001B	E	EQ	80908
61.	LB00001B	S	PD	00196
62.	LB00001B	S	PD	00201
63.	LC000201	F	PD	02430

- 1 **III.10.H.5.e.iii** Detailed operational plans and descriptions, demonstrating that spilled or leaked waste
2 and accumulated liquids can be removed from the secondary containment system within
3 twenty-four (24) hours [[WAC 173-303-806\(4\)\(i\)\(B\)](#)].
- 4 **III.10.H.5.e.iv** Descriptions of operational procedures demonstrating appropriate controls and practices
5 are in place to prevent spills and overflows from the LAW Vitrification System or
6 containment systems in compliance with [WAC 173-303-640\(5\)\(b\)\(i\)](#) through (iii), in
7 accordance with [WAC 173-303-680](#) and
8 [WAC 173-303-806\(4\)\(i\)\(B\)](#);
- 9 **III.10.H.5.e.v** Description of procedures for investigation and repair of the LAW Vitrification System
10 [[WAC 173-303-640\(6\)](#) and [WAC 173-303-640\(7\)\(e\)](#) and (f), in accordance with [WAC](#)
11 [173-303-680](#), [WAC 173-303-320](#), [WAC 173-303-806\(4\)\(a\)\(v\)](#), and
12 [WAC 173-303-806\(4\)\(a\)\(ii\)\(B\)](#)].
- 13 **III.10.H.5.e.vi** Updated Chapter 4, Narrative Description, Tables and Figures as identified in Permit
14 Tables [III.10.H.A](#) and [III.10.H.B](#), as modified pursuant to Permit Condition
15 [III.10.H.5.e.x](#), and updated to identify routinely non-accessible LAW Vitrification sub-
16 systems.
- 17 **III.10.H.5.e.vii** Description of procedures for management of ignitable and reactive, and incompatible
18 dangerous and/or mixed waste as specified in [WAC 173-303-640\(9\)](#) and (10), in
19 accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#).
- 20 **III.10.H.5.e.viii** A description of the tracking system used to track dangerous and/or mixed waste
21 generated throughout the LAW Vitrification system, pursuant to [WAC 173-303-380](#).
- 22 **III.10.H.5.e.ix** Permit Tables [III.10.H.C](#) and [III.10.I.C](#) will be completed for LAW Vitrification System
23 process and leak detection system monitors and instruments (to include, but not be
24 limited to: instruments and monitors measuring and/or controlling flow, pressure,
25 temperature, density, pH, level, humidity, and emissions) to provide the information as
26 specified in each column heading. Process and leak detection system monitors and
27 instruments for critical systems as specified in Operating Unit Group 10, Appendix 2.0
28 and as updated pursuant to Permit Condition [III.10.C.9.b](#), and for operating parameters
29 as required to comply with Permit Condition [III.10.C.3.e.iii](#), will be addressed. Process
30 monitors and instruments for non-waste management operations (e.g., utilities, raw
31 chemical storage, non-contact cooling waters, etc.) are excluded from this permit
32 condition [[WAC 173-303-680](#),
33 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 34 **III.10.H.5.e.x** Permit Tables [III.10.H.A](#) and [III.10.I.A](#) amended as follows [[WAC 173-303-680](#) and
35 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B)]:
- 36 A. Under column 1, update and complete list of dangerous and mixed waste LAW
37 Vitrification System sub-systems, including plant items that comprise each system
38 (listed by item number).

- 1 B. Under column 2, update and complete system designations.
 2 C. Under column 3, replace the 'Reserved' with Operating Unit Group 10, Appendix
 3 9.0 subsections (e.g., 9.1, 9.2, etc.) designated in Permit Conditions [III.10.H.5.b.](#),
 4 [c.](#), and [d.](#) specific to LAW Vitrification System sub-system as listed in column 1.
 5 D. Under column 4, update and complete list of narrative description, tables, and
 6 figures.

7 **III.10.H.5.e.xi** The permittees will incorporate operational parameters/controls required for the
 8 underground transfer line LCP-PB-03368-S32B-03 in the operating permit prior to
 9 the transfer of waste from the Effluent Management Facility evaporator system to the
 10 LAW Facility (LCP-VSL-00001/2). The operational controls will meet the mitigating
 11 requirements provided in the Design Guide Case-Specific Exception (DGCE)
 12 (number 24590-BOF-DGCE-MS-16-00022) dated 28 February 2017.

13
 14 **III.10.H.5.f** One hundred and eighty (180) days prior to initial receipt of dangerous and/or mixed
 15 waste in the WTP Unit, the Permittees will submit for review and receive approval for
 16 incorporation into Operating Unit Group 10, Appendix 9.15 of this Permit, a
 17 Demonstration Test Plan for the LAW Vitrification System to demonstrate that the LAW
 18 Vitrification Systems meets the performance standards specified in Permit Condition
 19 [III.10.H.1.b.](#) In order to incorporate the Demonstration Test Plan for the LAW
 20 Vitrification System into Operating Unit Group 10, Appendix 9.15, Permit Condition
 21 [III.10.C.2.g.](#) process will be followed. The Demonstration Test Plan will include, but not
 22 be limited to, the following information. The Demonstration Test Plan will also be
 23 consistent with the information provided pursuant to Permit Conditions [III.10.H.5.b.](#), [c.](#),
 24 [d.](#), and [e.](#), [III.10.C.3.e.](#), and [III.10.C.11.b.](#), as approved by Ecology and consistent with
 25 the schedule described in Operating Unit Group 10, Appendix 1.0 of this Permit. The
 26 documentation required pursuant to Permit Condition [III.10.H.5.f.x.](#), in addition to being
 27 incorporated into Operating Unit Group 10, Appendix 9.15, will be incorporated by
 28 reference in Operating Unit Group 10, Chapter 6 of this Permit.

29 *Notes (1) The following should be consulted to prepare this Demonstration Test Plan*
 30 *"Guidance on Setting Permit Conditions and Reporting Trial Burn Results Volume II of*
 31 *the Hazardous Waste Incineration Guidance Series," (EPA/625/6-89/019) and Risk Burn*
 32 *Guidance For Hazardous Waste Combustion Facilities," (EPA-R-01-001, July 2001),*
 33 *[WAC 173-303-807\(2\)](#), [WAC 173-303-670\(5\)](#), [WAC-173-303-670\(6\)](#),*
 34 *[40 CFR §63.1207\(f\)\(2\)](#), [40 CFR §63.1209](#), and Appendix to [40 CFR Part 63 EEE](#).*

35 *(2) Cross-referencing to the information provided pursuant to permit Conditions*
 36 *[III.H.5.b.](#), [c.](#), [d.](#), [e.](#), and [III.10.C.3.e.v.](#), as approved by Ecology, that are redundant to*
 37 *elements of the Demonstration Test Plan for the LAW Vitrification System is acceptable.*

38 **III.10.H.5.f.i** Analysis of each feed-stream to be fed during the demonstration test, including dangerous
 39 waste, glass formers and reductants, process streams (e.g., volumes of air leakage
 40 including control air, process air, steam, sparge bubbler air, air in-leakage from melter
 41 cave, and gases from LAW Vitrification Vessel Ventilation System, process water, etc.)
 42 that includes:

- 43 A. Levels of ash, metals, total chlorine (organic and inorganic), other halogens and
 44 radionuclide surrogates.
 45 B. Description of the physical form of the feed-streams.

C. An identification and quantification of organics that are present in the feed-stream, including constituents proposed for DRE demonstration.

A comparison of the proposed demonstration test feed streams to the mixed waste feed envelopes to be processed in the melters must be provided that documents that the proposed demonstration test feed streams will serve as worst case surrogates for organic destruction, formation of products of incomplete oxidation, and metals, total chlorine (organic and inorganic), other halogens, particulate formation, and radionuclides.

III.10.H.5.f.ii Specification of trial principal organic dangerous constituents (PODCs) for which destruction and removal efficiencies are proposed to be calculated during the demonstration test and for inclusion in Permit Conditions [III.10.H.1.b.i](#), and [III.10.I.1.b.i](#). These trial PODCs will be specified based on destructibility, concentration or mass in the waste and the dangerous waste constituents or constituents in [WAC 173-303-9905](#);

III.10.H.5.f.iii A description of the blending procedures, prior to introducing the feed-streams into the melter, including analysis of the materials prior to blending, and blending ratios;

III.10.H.5.f.iv A description of how the surrogate feeds are to be introduced for the demonstration. This description should clearly identify the differences and justify how any of differences would impact the surrogate feed introduction as representative of how mixed waste feeds will be introduced;

III.10.H.5.f.v A detailed engineering description of the LAW Vitrification System, including:

- A. Manufacturer's name and model number for each sub-system.
- B. Design capacity of each sub-system including documentation (engineering calculations, manufacturer/vendor specifications, operating data, etc.) supporting projected operational efficiencies (e.g., WESP projected removal efficiency for individual metals, halogens, particulates, etc.) and compliance with performance standards specified in Permit Condition [III.10.H.1.b](#).
- C. Detailed scaled engineering drawings, including Process Flow Diagrams, Piping and Instrumentation Diagrams, Vessel Drawings (plan, and elevation with cross sections) and General Arrangement Drawings.
- D. Process Engineering Descriptions.
- E. Mass and energy balance for each projected operating condition and each demonstration test condition, including assumptions and formulas used to complete the mass and energy balance, so that they can be independently verified for incorporation into the Administrative Record.
- F. Engineering Specifications/data sheets (materials of construction, physical and chemical tolerances of equipment, and fan curves).
- G. Detailed Description of Automatic Waste Feed Cutoff System addressing critical operating parameters for all performance standards specified in Permit Condition [III.10.H.1.b](#).
- H. Documentation to support compliance with performance standards specified in Permit Condition [III.10.H.1.b](#), including engineering calculations, test data, and manufacturer/vendor's warranties, etc..
- I. Detailed description of the design, operation, and maintenance practices for air pollution control system.
- J. Detailed description of the design, operation, and maintenance practices of any stack gas monitoring and pollution control monitoring system.

- 1 **III.10.H.5.f.vi** Detailed description of sampling and monitoring procedures including sampling and
2 monitoring locations in the system, the equipment to be used, sampling and monitoring
3 frequency, and planned analytical procedures for sample analysis including, but not
4 limited to:
- 5 A. A short summary narrative description of each stack sample method should be
6 included within the main body of the demonstration test plan, which references an
7 appendix to the plan that would include for each sampling train: (1) detailed
8 sample method procedures, (2) sampling train configuration schematic, (3)
9 sampling recovery flow sheet, (4) detailed analytical method procedures, and (5)
10 sampling preparation and analysis flow sheet. The detailed procedures should
11 clearly flag where the method has provided decision points (e.g., choices of
12 equipment materials of construction, choices of clean-up procedures or whether
13 additional clean-up procedures will be incorporated, whether pretest surveys or
14 laboratory validation work will be performed, enhancements to train to
15 accommodate high moisture content in stack gas, etc.) and what is being proposed
16 along with the basis for the decision.
- 17 B. A short summary narrative description of the feed and residue sampling methods
18 should be included within the main body of the demonstration test plan, which
19 references an appendix that would include for each sample type: (1) detailed
20 sample method procedures, (2) sampling recovery/compositing procedures, and
21 (3) detailed analytical method procedures. The detailed procedures should clearly
22 flag where the method has provided decision points (e.g., choices of equipment
23 materials of construction, choices of clean-up procedures or whether additional
24 clean-up procedures will be incorporated, whether pretest surveys or laboratory
25 validation work will be performed, etc.) and what is being proposed along with
26 the basis for the decision.
- 27 **III.10.H.5.f.vii** A detailed test schedule for each condition for which the demonstration test is planned,
28 including projected date(s), duration, quantity of dangerous waste to be fed, and other
29 relevant factors.
- 30 **III.10.H.5.f.viii** A detailed test protocol including, for each test condition, the ranges of feed-rate for each
31 feed system, and all other relevant parameters that may affect the ability of the LAW
32 Vitrification System to meet performance standards specified in Permit Condition
33 [III.10.H.1.b](#).
- 34 **III.10.H.5.f.ix** A detailed description of planned operating conditions for each demonstration test
35 condition, including operating conditions for shakedown, demonstration test, post-
36 demonstration test and normal operations. This information will also include submittal of
37 Permit Tables [III.10.H.D](#), [III.10.H.F](#), [III.10.I.D](#), and [III.10.I.F](#) completed with the
38 information as specified in each column heading for each LAW Vitrification System
39 waste feed cutoff parameter and submittal of supporting documentation for Permit Tables
40 [III.10.H.D](#), [III.10.H.F](#), [III.10.I.D](#), and [III.10.I.F](#) set-point values.
- 41 **III.10.H.5.f.x** The test conditions proposed must demonstrate meeting the performance standards
42 specified in Permit Condition [III.10.H.1.b](#) with the simultaneous operation of both
43 melters at capacity and input from the LAW Vitrification Vessel Ventilation System at
44 capacity to simulate maximum loading to the LAW Vitrification System off-gas
45 treatment system and to establish the corresponding operating parameter ranges. To the
46 extent that operation of one (1) melter or two (2) melters cannot be sustained within the
47 operating parameter range established at this maximum load, additional demonstration
48 test conditions must be included in the plan and performed to establish operating

1 parameter ranges for each proposed operating mode while demonstrating meeting the
2 performance standards specified in Permit Condition [III.10.H.1.b.](#)

3 **III.10.H.5.f.xi** Detailed description of procedures for start-up and shutdown of waste feed and
4 controlling emissions in the event of an equipment malfunction, including off-normal and
5 emergency shutdown procedures.

6 **III.10.H.5.f.xii** A calculation of waste residence time.

7 **III.10.H.5.f.xiii** Any request to extrapolate metal feed-rate limits from Demonstration Test levels must
8 include:

- 9 A. A description of the extrapolation methodology and rationale for how the
10 approach ensures compliance with the performance standards as specified in
11 Permit Condition [III.10.H.1.b.](#)
- 12 B. Documentation of the historical range of normal metal feed-rates for each feed
13 stream.
- 14 C. Documentation that the level of spiking recommended during the demonstration
15 test will mask sampling and analysis imprecision and inaccuracy to the extent that
16 extrapolation of feed-rates and emission rates from the Demonstration Test data
17 will be as accurate and precise as if full spiking were used.

18 **III.10.H.5.f.xiv** Documentation of the expected levels of constituents in LAW Vitrification System input
19 streams including, but not limited to, waste feed, glass former and reactants, control air,
20 process air, steam, sparge bubbler air, air in-Leakage from melter cave, gases from LAW
21 Vitrification Vessel Ventilation System, and process water.

22 **III.10.H.5.f.xv** Documentation justifying the duration of the conditioning required to ensure the LAW
23 Vitrification System had achieved steady-state operations under Demonstration Test
24 operating conditions.

25 **III.10.H.5.f.xvi** Documentation of LAW Vitrification System process and leak detection system
26 instruments and monitors as listed on Permit Tables [III.10.H.C](#), [III.10.H.F](#), [III.10.I.C](#), and
27 [III.10.I.F](#) to include:

- 28 A. Procurement specifications.
- 29 B. Location used.
- 30 C. Range, precision, and accuracy.
- 31 D. Detailed descriptions of calibration/functionality test procedures (either method
32 number ASTM) or provide a copy of manufacturer's recommended calibration
33 procedures.
- 34 E. Calibration/functionality test, inspection, and routine maintenance schedules and
35 checklists, including justification for calibration, inspection and maintenance
36 frequencies, criteria for identifying instruments found to be significantly out of
37 calibration, and corrective action to be taken for instruments found to be
38 significantly out of calibration (e.g., increasing frequency of calibration,
39 instrument replacement, etc.).
- 40 F. Equipment instrument control logic narrative description (e.g., descriptions of
41 failsafe conditions, etc.) [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#),
42 and [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

43 **III.10.H.5.f.xvii** Outline of demonstration test report.

44

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

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
<p><u>LAW Melter Process System</u> LMP-MLTR-00001 (LAW Melter 1) LMP-MLTR-00002 (LAW Melter 2)</p>	LMP	<p><u>24590-LAW</u> -CM-HC4-HXYG-00240-02-00014. Rev/ - -M0D-LMP-00001, Rev. 3 -M0D-LMP-00002, Rev. 3 -M6-LMP-00001001, Rev 0 -M6-LMP-00002001, Rev 0 -M6-LMP-00002002, Rev 0 -M6-LMP-00031001, Rev 0 -M6-LMP-00032001, Rev 0 -M6-LMP-00032002, Rev 0 -MF-LMP-00001, Rev. 0 -MF-LMP-00002, Rev. 0 -MF-LMP-00003, Rev. 0 -MF-LMP-00004, Rev. 0 -3PS-AE00-T0001, Rev. 6 -3PN-LMP-00002 -N1D-LMP-00001, Rev. 1 -P1-P01T-00002, Rev 7</p>	Section 4E.2.2, Table 4E-2, and Figures 4A-1, 4A-3 and 4A-21 in Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>LAW Primary Offgas Process System</u> LOP-FCLR-00001 (Melter 1 Primary Film Cooler) LOP-FCLR-00002 (Melter 1 Standby Film Cooler No. 2) LOP-FCLR-00003 (Melter 2 Primary Film Cooler)</p>	LOP	<p><u>24590-LAW</u> -P1-P01T-00002, Rev 7 -M6-LOP-00004001, Rev 0 -M6-LOP-00004002, Rev 0 -M6-LOP-00005001, Rev 0 -M6-LOP-00005002, Rev 0</p>	Section 4E.4.2.1, Table 4E-2, and Figures 4A-1, 4A-3 and 4A-21 in Operating Unit Group 10, Chapter 4 of this Permit.

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

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
LOP-FCLR-00004 (Melter 2 Standby Film Cooler)			
<p><u>LAW Primary Offgas Process System (Cont.)</u> LOP-SCB-00001 (Melter 1 Submerged Bed Scrubber) LOP-SCB-00002 (Melter 2 Submerged Bed Scrubber)</p>	LOP	<p><u>24590-LAW</u> -M5-V17T-P0007, Rev 0 -M5-V17T-P0008, Rev 0 -M6-LOP-00001001, Rev 0 -M6-LOP-00002001, Rev 0 -MK-LOP-P0001001, Rev 0 -MK-LOP-P0001002, Rev 0 -MK-LOP-P0001003, Rev 0 -MKD-LOP-P0008, Rev 0 -NID-LOP-P0001, Rev 1 -P1-P01T-00002, Rev 7</p>	Section 4E.4.2.1, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>LAW Primary Offgas Process System (Cont.)</u> LOP-WESP-00001 (Melter 1 Wet Electrostatic Precipitator - WESP) LOP-WESP-00002 (Melter 2 Wet Electrostatic Precipitator -WESP)</p>	LOP	<p><u>24590-LAW</u> -M5-V17T-P0007, Rev 0 -M5-V17T-P0008, Rev 0 -M6-LOP-00001004, Rev 1 -M6-LOP-00002004, Rev 1 -NID-LOP-00003, Rev 3 -P1-P01T-00002, Rev 7</p> <p><u>24590-WTP</u> -3PS-MKE0-T0001, Rev 5</p>	Section 4E.4.2.1, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System</u> LVP-HEPA-00001A (Melter Offgas HEPA Filter)</p>	LVP	<p><u>24590-LAW</u> -M5-V17T-00010, Rev 4 -M6-LVP-00001003, Rev 0</p>	Section 4E.4.2.2, Table 4E-2, Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.

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

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
LVP-HEPA-00001B (Melter Offgas HEPA Filter) LVP-HEPA-00002A (Melter Offgas HEPA Filter) LVP-HEPA-00002B (Melter Offgas HEPA Filter) LVP-HEPA-00003A (Melter Offgas HEPA Filter)		-P1-P01T-00005, Rev 6	
<u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-SCO-00001 (Thermal Catalytic Oxidizer – located on LVP-SKID-00002)	LVP	<u>24590-LAW</u> -M6-LVP-00005002, Rev 3	Section 4E.4.2.2, Table 4E-2, Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-SCR-00001 (NOx Selective Catalytic Reduction Unit – located on LVP-SKID-00002) LVP-HX-00001 (Catalytic Oxidizer Heat Exchanger – located on LVP-SKID-00002) LVP-HTR-00002 (Catalytic Oxidizer Electric Heater – located on LVP-SKID-00002)	LVP	<u>24590-LAW</u> -M6-LVP-00005002, Rev 3	Section 4E.4.2.2, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-ADBR-00001A (Offgas Mercury Adsorber – located on LVP-SKID-00001) LVP-ADBR-00001B (Offgas Mercury Adsorber – located on LVP-SKID-00001)	LVP	<u>24590-LAW</u> -M5-V17T-00011, Rev 6 -M6-LVP-00004003, Rev 1 -P1-P01T-00005, Rev 6	Section 4E.4.2.2, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.

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

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
<u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-SCB-00001 (Melter Offgas Caustic Scrubber)	LVP	<u>24590-LAW</u> -P1-P01T-00005, Rev 6 -M6-LVP-00002002, Rev 0	Section 4E.4.2.2, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-HTR-00001A (Melter Offgas HEPA Preheater) LVP-HTR-00001B (Melter Offgas HEPA Preheater)	LVP	<u>24590-LAW</u> -M5-V17T-00010, Rev 4 -M6-LVP-00001002, Rev 0 -P1-P01T-00005, Rev. 6	Section 4E.4.2.2, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-EXHR-00001A (Melter Offgas Exhauster) LVP-EXHR-00001B (Melter Offgas Exhauster) LVP-EXHR-00001C (Melter Offgas Exhauster)	LVP	<u>24590-LAW</u> -M5-V17T-00010, Rev 4 -M6-LVP-00001004, Rev 0 -M6-LVP-00001005, Rev 0 -M6-LVP-00001006, Rev 0 -P1-P01T-00005, Rev 6	Section 4E.4.2.2, Table 4E-2, and Figures 4A-1 and 4A-3 in Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.H.B - LAW Vitrification Miscellaneous Unit System Secondary Containment Sumps and Floor Drains

Sump/Floor Drain I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions^a (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specification Nos., etc.)
RLD-SUMP-00029 L-0123 (Process Cell, El. +3')	37	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002
RLD-SUMP-00030 L-0123 (Process Cell, El. +3')	37	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002
RLD-SUMP-00031 L-0124 (Process Cell Sump, El. +3')	37	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002
RLD-SUMP-00032 L-0124 (Process Cell, El. +3')	37	30" Dia. By 12" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00003002, Rev 2 -P1-P01T-00002
LOP-FD-00001 L-0123 (LOP-BULGE-00001 Drain El. +3')	N/A	2" Dia. 6% Mo	<u>24590-LAW</u> -M6-LOP-00001003
RLD-WS-20037-S11B-01 L-0123 (Melter 1 Encasement Assembly Drain, El. +3')	N/A	1" Dia. 316L	<u>24590-LAW</u> -M6-LMP-00012001
LOP-FD-00002 L-0124 (LOP-BULGE-00002 Drain, El. +3')	N/A	2" Dia. 6% Mo	<u>24590-LAW</u> -M6-LOP-00002003
RLD-WS-20033-S11B-01 L-0124 (Melter 2 Encasement Assembly Drain, El. +3')	N/A	1" Dia. 316L	<u>24590-LAW</u> -M6-LMP-00042001
RLD-FD-00025 L-0304F (Curb Floor Drain for Caustic Scrubber, El. 48')	N/A	4" Dia. 316L	<u>24590-LAW</u> -M6-RLD-00003001

Table III.10.H.B - LAW Vitrification Miscellaneous Unit System Secondary Containment Sumps and Floor Drains

Sump/Floor Drain I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^a (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specification Nos., etc.)
^a Dimensions listed are based on permitted design. Actual dimensions may vary within acceptable design tolerances.			

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Table III.10.H.C - LAW Vitrification System Process and Leak Detection System Instruments and Parameters

Sub-system Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Failure State	Expected Range	Instrument Accuracy	Instrument Calibration Method No. and Range
24590-LAW-M6-LMP-00005001	Melter 1 Plenum Temperature Average	Temperature Element	TE-1267C, 1272C, 1280C	TBD	TBD	TBD	TBD	TBD
		Temperature Transmitter	TT-1267B					
		Temperature Indicator	TI-1267C, 1272C, 1280C					
24590-LAW-M6-LMP-00035001	Melter 2 Plenum Temperature Average	Temperature Element	TE-2267C, 2272C, 2280C	TBD	TBD	TBD	TBD	TBD
		Temperature Transmitter	TT-2267B					
		Temperature Indicator	TI-2267C, 2272C, 2280C					

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24590-LAW-M6-LMP-00002002	Melter 1 Glass Pool Density	Density Transmitter	DT-1404	TBD	TBD	TBD	TBD	TBD
		Density Indicator	DI-1404					
24590-LAW-M6-LMP-00032002	Melter 2 Glass Pool Density	Density Transmitter	DT-2404	TBD	TBD	TBD	TBD	TBD
		Density Indicator	DI-2404					
24590-LAW-M6-LMP-00002002	Melter 1 Glass Pool Level	Level Transmitter	LT-1405	TBD	TBD	TBD	TBD	TBD
		Level Indicator	LI-1405					
24590-LAW-M6-LMP-00032002	Melter 2 Glass Pool Level	Level Transmitter	LT-2405	TBD	TBD	TBD	TBD	TBD
		Level Indicator	LI-2405					
24590-LAW-M6-LMP-00002002	Melter 1 Plenum Pressure	Pressure Differential Transmitter	PDT-1410 / PDI-1410* or	TBD	TBD	TBD	TBD	TBD
		Pressure Differential Indicator	PDT-1411 / PDI-1411*					
24590-LAW-M6-LMP-00032002	Melter 2 Plenum Pressure	Pressure Differential Transmitter	PDT-2410 / PDI-2410* or	TBD	TBD	TBD	TBD	TBD
		Pressure Differential Indicator	PDT-2411 / PDI-2411*					
		Level Element	LE-1466	TBD	TBD	TBD	TBD	TBD

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24590-LAW-M6-LMP-00007002	Melter 1 West Canister Level	(IR Camera)						
		Level Transmitter	LT-1466					
		Level Indication	LI-1466B					
24590-LAW-M6-LMP-00007001	Melter 1 East Canister Level	Level Element (IR Camera)	LE-1511	TBD	TBD	TBD	TBD	TBD
		Level Transmitter	LT-1511					
		Level Indication	LI-1511B					
24590-LAW-M6-LMP-00037002	Melter 2 West Canister Level	Level Element (IR Camera)	LE-2466	TBD	TBD	TBD	TBD	TBD
		Level Transmitter	LT-2466					
		Level Indication	LI-2466B					
24590-LAW-M6-LMP-00037001	Melter 2 East Canister Level	Level Element (IR Camera)	LE-2511	TBD	TBD	TBD	TBD	TBD
		Level Transmitter	LT-2511					
		Level Indication	LI-2511B					
24590-LAW-M6-LMP-00010001	Melter 1 West Discharge Air Lift	On/Off Plug Valve	YV-1125	TBD	TBD	TBD	TBD	TBD
		Valve Control	YC-1125					
24590-LAW-M6-LMP-00008001	Melter 1 East Discharge Air Lift	On/Off Plug Valve	YV-1047	TBD	TBD	TBD	TBD	TBD
		Valve Control	YC-1047					

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24590-LAW-M6-LMP-00040001	Melter 2 West Discharge Air Lift	On/Off Plug Valve	YV-2125	TBD	TBD	TBD	TBD	TBD
		Valve Control	YC-2125					
24590-LAW-M6-LMP-00038001	Melter 2 East Discharge Air Lift	On/Off Plug Valve	YV-2047	TBD	TBD	TBD	TBD	TBD
		Valve Control	YC-2047					
24590-LAW-M6-LMP-00012001	Melter 1 Feed Encasement Assembly Leak Detection	Cable Type Conductivity Element	LE-1632	TBD	TBD	TBD	TBD	TBD
			LAH 1632					
24590-LAW-M6-LMP-00042001	Melter 2 Feed Encasement Assembly Leak Detection	Cable Type Conductivity Element	LE-2632	TBD	TBD	TBD	TBD	TBD
			LAH-2632					
24590-LAW-M6-LMP-00013002 and 24590-LAW-M6-LMP-00005	Melter 1 Lid Cooling	Temperature Element	TE-1640	TBD	TBD	TBD	TBD	TBD
		Temperature Transmitter	TT-1293					
		Temperature Indicator	TI-1640					

24590-LAW-M6-LMP-00043 and 24590-LAW-M6-LMP-00035001	Melter 2 Lid Cooling	Temperature Element	TE-2640	TBD	TBD	TBD	TBD	TBD
		Temperature Transmitter	TT-2293					
		Temperature Indicator	TI-2640					
*These instrument sets are duplicates Only one instrument set is required to remain functioning during waste feed operations								

1

Table III.10.H.D - Maximum Feed-rates to LAW Vitrification System (RESERVED)

Description of Waste	Shakedown 1 and Post Demonstration Test	Shakedown 2 and Demonstration Test
Dangerous and Mixed Waste Feed-rate	RESERVED	RESERVED
Total Chlorine/Chloride Feed-rate	RESERVED	RESERVED
Total Metal Feed-rates	RESERVED	RESERVED
Total Ash Feed-rate	RESERVED	RESERVED

2

Table III.10.H.E - LAW Vitrification System Estimated Emission Rates (RESERVED)

Chemicals	CAS Number	Emission Rates (grams /second)
RESERVED	RESERVED	RESERVED

3

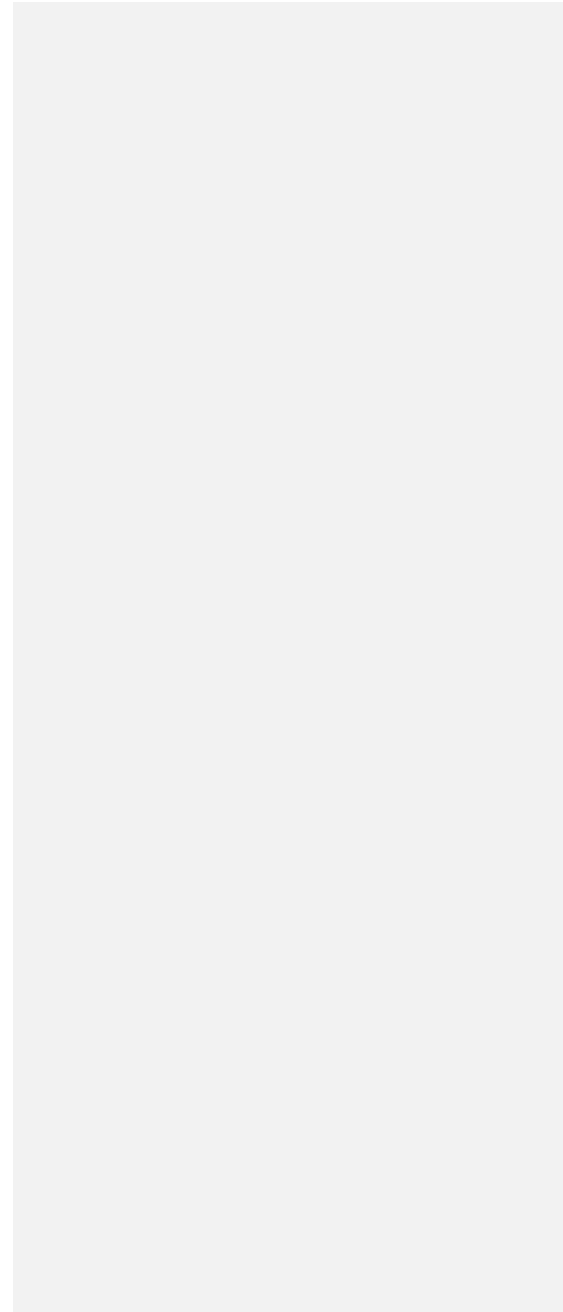
**TABLE III.10.H.F - LAW Vitrification System Waste Feed Cutoff Parameters* 1
(RESERVED)**

Sub-system Designation	Instrument Tag Number	Parameter Description	Setpoints During Shakedown 1 and Post Demonstration Test	Setpoints During Shakedown 2 and Demonstration Test
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
<p>*A continuous monitoring system will be used as defined in Permit Section III 10 C 1 ¹Maximum Feed-rate will be set based on not exceeding any of the constituent (e.g., ash, metals, and chlorine/chloride) feed limits specified on Table III 10 H D of this Permit</p>				

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1 **III.10.I LAW VITRIFICATION SYSTEM – LONG TERM MISCELLANEOUS THERMAL**
 2 **TREATMENT UNIT**

3 For purposes of Permit Section [III.10.I](#), where reference is made to [WAC 173-303-640](#),
 4 the following substitutions apply: substitute the terms “LAW Vitrification System” for
 5 “tank system(s),” “sub-system(s)” for “tank(s),” “sub-system equipment” for “ancillary
 6 equipment,” and “sub-system(s) or sub-system equipment of a LAW Vitrification
 7 System” for “component(s),” in accordance with [WAC 173-303-680](#).

8 **III.10.I.1 Requirements For LAW Vitrification System Beginning Normal Operation**

9 Prior to commencing normal operations provided in Permit Section [III.10.I](#), all
 10 requirements in Permit Section [III.10.H](#) will have been met by the Permittees and
 11 approved by Ecology, including the following: The LAW Vitrification System
 12 Demonstration Test results and the revised Final Risk Assessment provided for in Permit
 13 Condition [III.10.C.11.c](#), or [III.10.C.11.d](#), and Permit Section [III.10.H](#), will have been
 14 evaluated and approved by Ecology, Permit Tables [III.10.I.D](#) and [E](#), as
 15 approved/modified pursuant to Permit Condition [III.10.H.5](#), will have been completed,
 16 submitted and approved pursuant to Permit Condition [III.10.H.3.d.v](#), and Permit Table
 17 [III.10.I.E](#), as approved/modified pursuant to Permit Condition [III.10.H.5](#), will have been
 18 completed, submitted and approved pursuant to Permit Condition [III.10.C.11.c](#) or [d](#).

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

21 **III.10.I.1.a.i** The Permittees will maintain the design and construction of the LAW Vitrification
 22 System as specified in Permit Condition [III.10.I.1](#), Operating Unit Group 10, Chapter 4
 23 of this Permit, and Operating Unit Group 10, Appendices 9.1 through 9.17 of this Permit,
 24 as approved pursuant to Permit Conditions [III.10.H.5.a](#), through [d](#), and [III.10.H.5.f](#).

25 **III.10.I.1.a.ii** The Permittees will maintain the design and construction of all containment systems for
 26 the LAW Vitrification System, as specified in Operating Unit Group 10, Chapter 4 of this
 27 Permit, and Operating Unit Group 10, Appendices 9.2 and 9.4 through 9.14 of this
 28 Permit, as approved pursuant to Permit Conditions [III.10.H.5.a](#), through [d](#).

29 **III.10.I.1.a.iii** Modifications to approved design, plans, and specifications in Operating Unit Group 10
 30 of this Permit for the LAW Vitrification System will be allowed only in accordance with
 31 Permit Conditions [III.10.C.2.e](#), and [f](#), or [III.10.C.2.g](#), [III.10.C.9.d](#), [e](#), and [h](#).

32 **III.10.I.1.a.iv** The Permittees will ensure all certifications required by specialists (e.g., independent,
 33 qualified, registered professional engineer; registered professional engineer; independent
 34 corrosion expert; independent, qualified installation inspector; installation inspector; etc.)
 35 use the following statement or equivalent pursuant to Permit Condition [III.10.C.10](#):

36 “I, (Insert Name) have (choose one or more of the following: overseen, supervised,
 37 reviewed, and/or certified) a portion of the design or installation of a new LAW
 38 Vitrification system or component located at (address), and owned/operated by
 39 (name(s)). My duties were: (e.g., installation inspector, testing for tightness, etc.), for
 40 the following LAW Vitrification System components (e.g., the venting piping, etc.),
 41 as required by the Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3)
 42 (applicable paragraphs [i.e., (a) through (g)], in accordance with [WAC 173-303-680](#).

43 “I certify under penalty of law that I have personally examined and am familiar with
 44 the information submitted in this document and all attachments and that, based on my
 45 inquiry of those individuals immediately responsible for obtaining the information, I
 46 believe that the information is true, accurate, and complete. I am aware that there are

1 significant penalties for submitting false information, including the possibility of fine
2 and imprisonment.”

- 3 **III.10.I.1.a.v** The Permittees will ensure periodic integrity assessments are conducted on the LAW
4 Vitrification System listed in Permit Table [III.10.I.A](#), as approved/modified pursuant to
5 Permit Condition [III.10.H.5](#), over the term of this Permit in accordance with
6 [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(3)(b), following the
7 description of the integrity assessment program and schedule in Operating Unit Group
8 10, Chapter 6 of this Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i](#)
9 and [III.10.C.5.c](#). Results of the integrity assessments will be included in the WTP Unit
10 operating record until ten (10) years after post closure, or corrective action is complete
11 and certified, whichever is later.
- 12 **III.10.I.1.a.vi** The Permittees will address problems detected during the LAW Vitrification System
13 integrity assessments specified in Permit Condition [III.10.I.1.a.v](#). following the
14 description of the integrity assessment program in Operating Unit Group 10, Chapter 6 of
15 this Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i](#) and [III.10.C.5.c](#).
- 16 **III.10.I.1.a.vii** All process monitors/instruments as specified in Permit Table [III.10.I.F](#), as
17 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), will be
18 equipped with operational alarms to warn of deviation, or imminent deviation from the
19 limits specified in Permit Table [III.10.I.F](#).
- 20 **III.10.I.1.a.viii** The Permittees will install and test all process and leak detection system
21 monitors/instruments, as specified in Permit Tables [III.10.I.C](#) and [III.10.I.F](#), as
22 approved/modified pursuant to Permit Condition [III.10.H.5](#) and [III.10.H.3.d.v.](#), in
23 accordance with Operating Unit Group 10, Appendices 9.1, 9.2, and 9.14 of this Permit,
24 as approved pursuant to Permit Conditions [III.10.H.5.d.x](#) and [III.10.H.5.f.xvi](#).
- 25 **III.10.I.1.a.ix** No dangerous and/or mixed waste will be treated in the LAW Vitrification System unless
26 the operating conditions, specified under Permit Condition [III.10.I.1.c](#). are complied with.
- 27 **III.10.I.1.a.x** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or other
28 materials in the LAW Vitrification System if these substances could cause the sub-
29 system, sub-system equipment, or the containment system to rupture, leak, corrode, or
30 otherwise fail [[WAC 173-303-640](#)(5)(a), in accordance with
31 [WAC 173-303-680](#)(2)]. This condition is not applicable to corrosion of LAW
32 Vitrification System sub-system or sub-system equipment that are expected to be
33 replaced as part of normal operations (e.g., melters).
- 34 **III.10.I.1.a.xi** The Permittees will operate the LAW Vitrification System to prevent spills and overflows
35 using description of controls and practices as required under
36 [WAC 173-303-640](#)(5)(b), described in Permit Condition [III.10.C.5](#) and Operating Unit
37 Group 10, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
38 [III.10.H.5.e](#). [[WAC 173-303-640](#)(5)(b), in accordance with
39 [WAC 173-303-680](#)(2) and (3), and [WAC 173-303-806](#)(4)(c)(ix)].
- 40 **III.10.I.1.a.xii** For routinely non-accessible LAW Vitrification System sub-systems, as specified in
41 Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit
42 Condition [III.10.H.5.e.vi.](#), the Permittees will mark all routinely non-accessible LAW
43 Vitrification System sub-systems access points with labels or signs to identify the waste
44 contained in each LAW Vitrification System sub-system. The label, or sign, must be
45 legible at a distance of at least fifty (50) feet and must bear a legend which identifies the
46 waste in a manner which adequately warns employees, emergency response personnel,
47 and the public of the major risk(s) associated with the waste being stored or treated in the

1 LAW Vitrification System sub-systems. For the purposes of this permit condition,
 2 “routinely non-accessible” means personnel are unable to enter these areas while waste is
 3 being managed in them
 4 [[WAC 173-303-640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

5 **III.10.1.1.a.xiii** For the LAW Vitrification System sub-systems not addressed in Permit Condition
 6 [III.10.1.1.a.xii](#)., the Permittees will mark these LAW Vitrification System sub-systems
 7 holding dangerous and/or mixed waste with labels or signs to identify the waste
 8 contained in the LAW Vitrification System sub-systems. The labels, or signs, must be
 9 legible at a distance of at least fifty (50) feet and must bear a legend which identifies the
 10 waste in a manner which adequately warns employees, emergency response personnel,
 11 and the public of the major risk(s) associated with the waste being stored or treated in the
 12 LAW Vitrification System sub-systems
 13 [[WAC 173-303-640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

14 **III.10.1.1.a.xiv** The Permittees will ensure that the secondary containment systems for the LAW
 15 Vitrification System sub-systems listed in Permit Tables [III.10.1.A](#) and [III.10.1.B](#), as
 16 approved/modified pursuant to Permit Condition [III.10.H.5](#), are free of cracks or gaps to
 17 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
 18 system to the soil, groundwater, or surface water at any time during use of the LAW
 19 Vitrification System sub-systems. Any indication that a crack or gap may exist in the
 20 containment systems will be investigated and repaired in accordance with Operating Unit
 21 Group 10, Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
 22 [III.10.H.5.e.v](#). [[WAC 173-303-640\(4\)\(b\)\(i\)](#)],
 23 [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), and [WAC 173-303-640\(6\)](#), in accordance with
 24 [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
 25 [WAC 173-303-320](#)].

26 **III.10.1.1.a.xv** The Permittees must immediately, and safely, remove from service any LAW
 27 Vitrification System or secondary containment system which through an integrity
 28 assessment is found to be “unfit for use” as defined in [WAC 173-303-040](#), following
 29 Permit Condition [III.10.1.1.a.xvii](#). [A](#) through [D](#), and [F](#). The affected LAW Vitrification
 30 System or secondary containment system must be either repaired or closed in accordance
 31 with Permit Condition [III.10.1.1.a.xvii.E](#)
 32 [[WAC 173-303-640\(7\)\(e\)](#) and (f) and [WAC 173-303-640\(8\)](#)], in accordance with [WAC](#)
 33 [173-303-680\(3\)](#)].

34 **III.10.1.1.a.xvi** An impermeable coating, as specified in Operating Unit Group 10, Appendices 9.4, 9.5,
 35 9.7, 9.9, 9.11, and 9.12 of this Permit, as approved pursuant to Permit Condition
 36 [III.10.H.5.b.v](#)., will be maintained for all concrete containment systems and concrete
 37 portions of containment systems for the LAW Vitrification System sub-systems listed in
 38 Permit Tables [III.10.1.A](#) and [III.10.1.B](#), as approved/modified pursuant to Permit
 39 Condition [III.10.H.5](#) (concrete containment systems that do not have a liner, pursuant to
 40 [WAC 173-303-640\(4\)\(e\)\(i\)](#), in accordance with [WAC 173-303-680\(2\)](#), and have
 41 construction joints, will meet the requirements of [WAC 173-303-640\(4\)\(e\)\(ii\)\(C\)](#), in
 42 accordance with [WAC 173-303-680\(2\)](#). The coating will prevent migration of any
 43 dangerous and/or mixed waste into the concrete. All coatings will meet the following
 44 performance standards:

- 45 A. The coating must seal the containment surface such that no cracks, seams, or
 46 other avenues through which liquid could migrate are present.
- 47 B. The coating must be of adequate thickness and strength to withstand the normal
 48 operation of equipment and personnel within the given area such that degradation

1 or physical damage to the coating or lining can be identified and remedied before
2 dangerous and mixed waste could migrate from the system.

- 3 C. The coating must be compatible with the dangerous and/or mixed waste,
4 treatment reagents, or other materials managed in the containment system
5 [[WAC 173-303-640](#)(4)(e)(ii)(D), in accordance with [WAC 173-303-680](#)(2) and
6 (3) and [WAC 173-303-806](#)(4)(i)(A)].

7 **III.10.I.1.a.xvii** The Permittees inspect all secondary containment systems for the LAW Vitrification
8 System sub-systems listed in Permit Tables [III.10.I.A](#) and [III.10.I.B](#), as
9 approved/modified pursuant to Permit Condition [III.10.H.5](#), in accordance with the
10 Inspection Plan specified in Operating Unit Group 10, Chapter 6A of this Permit, as
11 approved pursuant to Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#), and take the
12 following actions if a leak or spill of dangerous and/or mixed waste is detected in these
13 containment systems

14 [[WAC 173-303-640](#)(5)(c) and [WAC 173-303-640](#)(6), in accordance with
15 [WAC 173-303-680](#)(2) and (3), [WAC 173-303-320](#), and [WAC 173-303-806](#)(4)(i)(B)].

- 16 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the
17 LAW Vitrification System sub-systems or secondary containment system.
- 18 B. Determine the source of the dangerous and/or mixed waste.
- 19 C. Remove the waste from the containment area in accordance with
20 [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(7)(b). The
21 waste removed from containment areas of the LAW Vitrification System sub-
22 systems will be, as a minimum, managed as dangerous and/or mixed waste.
- 23 D. If the cause of the release was a spill that has not damaged the integrity of the
24 LAW Vitrification System sub-system, the Permittees may return the LAW
25 Vitrification System sub-system to service in accordance with [WAC 173-303-](#)
26 [680](#)(2) and (3) as specified in [WAC 173-303-640](#)(7)(e)(ii). In such case, the
27 Permittees will take action to ensure the incident that caused the dangerous and/or
28 mixed waste to enter the containment system will not reoccur.
- 29 E. If the source of the dangerous and/or mixed waste is determined to be a leak from
30 the primary LAW Vitrification System into the secondary containment system, or
31 the system is unfit for use as determined through an integrity assessment or other
32 inspection, the Permittees will comply with the requirements of
33 [WAC 173-303-640](#)(7) and take the following actions:
- 34 1. Close the LAW Vitrification System sub-system following procedures in
35 [WAC 173-303-640](#)(7)(e)(i), in accordance with [WAC 173-303-680](#) and
36 Operating Unit Group 10, Chapter 11 of this Permit, as approved pursuant
37 to Permit Condition [III.10.C.8](#).
 - 38 2. Repair and re-certify (in accordance with [WAC 173-303-810](#)(13)(a), as
39 modified pursuant to Permit Condition [III.10.I.1.a.iii.](#)) the LAW
40 Vitrification System in accordance with Operating Unit Group 10,
41 Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
42 [III.10.H.5.e.v.](#), before the LAW Vitrification System is placed back into
43 service [[WAC 173-303-640](#)(7)(e)(iii) and [WAC 173-303-640](#)(7)(f), in
44 accordance with [WAC 173-303-680](#)].
- 45 F. The Permittees will document in the WTP Unit operating record
46 actions/procedures taken to comply with A through E above, as specified in
47 [WAC 173-303-640](#)(6)(d), in accordance with [WAC 173-303-680](#)(2) and (3).

1 G. In accordance with [WAC 173-303-680](#)(2) and (3), the Permittees will notify and
 2 report releases to the environment to Ecology, as specified in
 3 [WAC 173-303-640](#)(7)(d).

4 **III.10.1.1.a.xviii** If liquids (e.g., dangerous and/or mixed waste, leaks and spills, precipitation, fire
 5 water, liquids from damaged or broken pipes) cannot be removed from the secondary
 6 containment system within twenty-four (24) hours, Ecology will be verbally notified
 7 within twenty-four (24) hours of discovery. The notification will provide the information
 8 in A, B, and C, listed below. The Permittees will provide Ecology with a written
 9 demonstration within seven (7) business days, identifying at a minimum
 10 [\[WAC 173-303-640](#)(4)(c)(iv) and [WAC 173-303-640](#)(7)(b)(ii), in accordance with
 11 [WAC 173-303-680](#)(3) and [WAC 173-303-806](#)(4)(i)(B)]:

12 A. Reasons for delayed removal.

13 B. Measures implemented to ensure continued protection of human health and the
 14 environment.

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

16 **III.10.1.1.a.xix** All air pollution control devices and capture systems in the LAW Vitrification System
 17 will be maintained and operated at all times in a manner so as to minimize the emissions
 18 of air contaminants and to minimize process upsets. Procedures for ensuring that the air
 19 pollution control devices and capture systems in the LAW Vitrification System are
 20 properly operated and maintained so as to minimize the emission of air contaminants and
 21 process upsets will be established.

22 **III.10.1.1.a.xx** In all future narrative permit submittals, the Permittees will include LAW Vitrification
 23 sub-system names with the sub-system designation.

24 **III.10.1.1.a.xxi** For any portion of the LAW Vitrification System that has the potential for formation and
 25 accumulation of hydrogen gases, the Permittees will operate the portion to maintain
 26 hydrogen levels below the lower explosive limit
 27 [\[WAC 173-303-815](#)(2)(b)(ii)].

28 **III.10.1.1.a.xxii** For each LAW Vitrification System sub-system holding dangerous and/or mixed waste
 29 that are acutely or chronically toxic by inhalation, the Permittees will operate the system
 30 to prevent escape of vapors, fumes, or other emissions into the air
 31 [\[WAC 173-303-806](#)(4)(i)(B) and [WAC 173-303-640](#)(5)(e), in accordance with
 32 [WAC 173-303-680](#)].

33 **III.10.1.1.a.xxiii** The existing LAW building will retain capability to install the third melter before
 34 or after hot start-up. No permanent systems, structures, or components shall be installed
 35 in the melter cell, pour cave or wet process cell for the third melter that would preclude
 36 future installation of the third melter.

37 **III.10.1.1.b** Performance Standards

38 **III.10.1.1.b.i** The LAW Vitrification System must achieve a destruction and removal efficiency (DRE)
 39 of 99.99% for the principal organic dangerous constituents (PODCs) listed below [\[40](#)
 40 [CFR §63.1203](#)(c)(1) and [40CFR §63.1203](#)(c)(2), in accordance with
 41 [WAC 173-303-680](#)(2)]:

42 RESERVED

43 DRE in this permit condition will be calculated in accordance with the formula given
 44 below:

45 $DRE=[1-(Wout/Win)] \times 100\%$

1 Where:

2 Win=mass feed rate of one principal organic dangerous constituent (PODC) in a
3 waste feed stream; and

4 Wout=mass emission rate of the same PODC present in exhaust emissions prior to
5 release to the atmosphere.

- 6 **III.10.I.1.b.ii** Particulate matter emissions from the LAW Vitrification System will not exceed 34
7 mg/dscm (0.015 grains/dscf) [[40 CFR §63.1203](#)(b)(7), in accordance with
8 [WAC 173-303-680](#)(2)];
- 9 **III.10.I.1.b.iii** Hydrochloric acid and chlorine gas emissions from the LAW Vitrification System will
10 not exceed 21 ppmv, combined [[40 CFR §63.1203](#)(b)(6), in accordance with
11 [WAC 173-303-680](#)(2)];
- 12 **III.10.I.1.b.iv** Dioxin and Furan TEQ emissions from the LAW Vitrification System will not exceed 0.2
13 nanograms (ng)/dscm, [[40 CFR §63.1203](#)(b)(1), in accordance with
14 [WAC 173-303-680](#)(2)];
- 15 **III.10.I.1.b.v** Mercury emissions from the LAW Vitrification System will not exceed 45 µg/dscm
16 [[40 CFR §63.1203](#)(b)(2), in accordance with [WAC 173-303-680](#)(2)];
- 17 **III.10.I.1.b.vi** Lead and cadmium emissions from the LAW Vitrification System will not exceed 120
18 µg/dscm, combined [[40 CFR §63.1203](#)(b)(3), in accordance with
19 [WAC 173-303-680](#)(2)];
- 20 **III.10.I.1.b.vii** Arsenic, beryllium, and chromium emissions from the LAW Vitrification System will not
21 exceed 97 µg/dscm, combined [[40 CFR §63.1203](#)(b)(4), in accordance with
22 [WAC 173-303-680](#)(2)];
- 23 **III.10.I.1.b.viii** Carbon monoxide (CO) emission from the LAW Vitrification System will not exceed 100
24 parts per million (ppm) by volume, over an hourly rolling average (as measured and
25 recorded by the continuous monitoring system), dry basis
26 [[40 CFR §63.1203](#)(b)(5)(i), in accordance with [WAC 173-303-680](#)(2) and (3)];
- 27 **III.10.I.1.b.ix** Hydrocarbon emission from the LAW Vitrification System will not exceed 10 parts per
28 million (ppm) by volume, over an hourly rolling average (as measured and recorded by
29 the continuous monitoring system during demonstration testing required by this Permit),
30 dry basis and reported as propane [[40 CFR §63.1203](#)(b)(5)(ii), in accordance with [WAC](#)
31 [173-303-680](#)(2) and (3)];
- 32 **III.10.I.1.b.x** If the emissions from the LAW Vitrification System exceed the emission rates listed in
33 Permit Table [III.10.I.E](#), as approved pursuant to Permit Condition [III.10.C.11.c](#),
34 or [d.](#), the Permittees will perform the following actions [[WAC 173-303-680](#)(2) and (3),
35 and [WAC 173-303-815](#)(2)(b)(ii)]:
- 36 A. Verbally notify Ecology within twenty-four (24) hours of the discovery of
37 exceeding the emission rate(s) as specified in Permit Condition I.E.21.
- 38 B. Submit to Ecology additional risk information to indicate that the increased
39 emissions impact is offset by decreased emission impact from one or more
40 constituents expected to be emitted at the same time, and/or investigate the cause
41 and impact of the exceedance of the emission rate(s) and submit a report of the
42 investigation findings to Ecology within fifteen (15) days of the discovery of
43 exceeding the emission rate(s).
- 44 C. Based on the notification and any additional information, Ecology may provide,
45 in writing, direction to the Permittees to stop dangerous and/or mixed waste feed

1 to the LAW Vitrification System and/or to submit a revised Demonstration Test
 2 Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) through
 3 [g.](#) The revised Demonstration Test Plan must include substantive changes to
 4 prevent failure from reoccurring.

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

12 **III.10.I.1.b.xi** Treatment effectiveness, feed-rates and operating rates for dangerous and/or mixed waste
 13 management units contained in the LAW Building, but not included in Permit Table
 14 [III.10.I.A.](#), as approved/modified pursuant to Permit Condition [III.10.H.5.](#), will be as
 15 specified in Permit Sections [III.10.D](#) through [F](#) and consistent with assumptions and basis
 16 which are reflected in Operating Unit Group 10, Appendix 6.3 of this Permit, as approved
 17 pursuant to Permit Condition [III.10.C.11.b.](#) For the purposes of this permit condition,
 18 Operating Unit Group 10, Appendix 6.3 will be superseded by Appendix 6.4 upon its
 19 approval pursuant to either Permit Condition [III.10.C.11.c](#) or [III.10.C.11.d.](#) [[WAC 173-](#)
 20 [303-680](#)(2) and (3), and [WAC 173-303-815](#)(2)(b)(ii)];

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

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

31 The Permittees will operate the LAW Vitrification System in accordance with Operating
 32 Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit Condition
 33 [III.10.H.5.e.vi.](#) and Operating Unit Group 10, Appendix 9.18 of this Permit, as approved
 34 pursuant to Permit Condition [III.10.H.5.e.](#), and Operating Unit Group 10, Appendix 9.15
 35 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), except as modified
 36 pursuant to Permit Conditions [III.10.H.3.](#), [III.10.I.1.b.x.](#), [III.10.I.1.b.xii.](#), [III.10.I.1.h.](#), and
 37 in accordance with and the following:

38 **III.10.I.1.c.i** The Permittees will operate the LAW Vitrification System in order to maintain the
 39 systems and process parameters listed in Permit Tables [III.10.I.C](#) and [III.10.I.F.](#), as
 40 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), within
 41 the set-points specified in Permit Table [III.10.I.F.](#)

42 **III.10.I.1.c.ii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.I.F.](#), as
 43 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), to
 44 automatically cut-off and/or lock-out the dangerous and/or mixed waste feed to LAW

1 Vitrifaction System when the monitored operating conditions deviate from the set-points
2 specified in Permit Table [III.10.I.F.](#)

3 **III.10.I.1.c.iii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.I.F.](#), as
4 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), to
5 automatically cut-off and/or lock-out the dangerous and/or mixed waste feed to LAW
6 Vitrifaction System when all instruments specified in Permit Table [III.10.H.F](#) for
7 measuring the monitored parameters fails or exceeds its span value.

8 **III.10.I.1.c.iv** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.I.F.](#), as
9 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), to
10 automatically cut-off and/or lock out the dangerous waste and/or mixed waste feed to the
11 LAW Vitrifaction System when any portion of the LAW Vitrifaction System is
12 bypassed. The terms “bypassed” and “bypass event,” as used in Permit Sections [III.10.H](#)
13 and [III.10.I](#), will mean if any portion of the LAW Vitrifaction System is bypassed so that
14 gases are not treated as during the Demonstration Test.

15 **III.10.I.1.c.v** In the event of a malfunction of the AWFCO systems listed in Permit Table [III.10.I.F.](#), as
16 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), the
17 Permittees will immediately, manually cut-off the dangerous and/or mixed waste feed to
18 the LAW Vitrifaction System. The Permittees will not restart the dangerous and/or
19 mixed waste feed until the problem causing the malfunction has been identified and
20 corrected.

21 **III.10.I.1.c.vi** The Permittees will manually cut-off the dangerous and/or mixed waste feed to the LAW
22 Vitrifaction System when the operating conditions deviate from the limits specified in
23 Permit Condition [III.10.I.1.c.i.](#), unless the deviation automatically activates the waste
24 feed cut-off sequence specified in Permit Conditions [III.10.I.1.c.ii.](#), [iii.](#), and/or [iv.](#)

25 **III.10.I.1.c.vii** If greater than thirty (30) dangerous and/or mixed waste feed cut-off, combined, to the
26 LAW Vitrifaction System occur due to deviations from Permit Table [III.10.I.F.](#), as
27 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), within a
28 sixty (60) day period, the Permittees will submit a written report to Ecology within five
29 (5) calendar days of the thirty-first exceedance, including the information specified
30 below. These dangerous and/or mixed waste feed cut-offs to the LAW Vitrifaction
31 System, whether automatically or manually activated, are counted if the specified set-
32 points are deviated from while dangerous and/or mixed waste and waste residues
33 continue to be processed in the LAW Vitrifaction System. A cascade event is counted at
34 a frequency of one (1) towards the first waste feed cut-off parameter, specified in Permit
35 Table [III.10.I.F.](#), from which the set-point is deviated:

- 36 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.I.F.](#)
- 37 B. The magnitude, dates, and duration of the deviations.
- 38 C. Results of the investigation of the cause of the deviations.
- 39 D. Corrective measures taken to minimize future occurrences of the deviations.

40 **III.10.I.1.c.viii** If greater than thirty (30) dangerous and/or mixed waste feed cut-off, combined, to the
41 LAW Vitrifaction System occur due to deviations from Permit Table [III.10.I.F.](#), as
42 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), within a
43 thirty (30) day period, the Permittees will submit the written report required to be
44 submitted pursuant to Permit Condition [III.10.I.1.c.vii.](#) to Ecology on the first business
45 day following the thirty-first exceedance. These dangerous and/or mixed waste feed cut-
46 offs to the LAW Vitrifaction System, whether automatically or manually activated, are
47 counted if the specified set-points are deviated from while dangerous and/or mixed waste

1 and waste residues continue to be processed in the LAW Vitrification System. A cascade
 2 event is counted at a frequency of one (1) towards the first waste feed cut-off parameter,
 3 specified on Permit Table [III.10.I.F](#), from which the set-point is deviated:

4 In accordance with [WAC 173-303-680](#)(2) and (3), the Permittees may not resume
 5 dangerous and/or mixed waste feed to the LAW Vitrification System until this
 6 written report has been submitted, and

7 A. Ecology has authorized the Permittees, in writing, to resume dangerous and/or
 8 mixed waste feed, or

9 B. Ecology has not, within seven (7) days, notified the Permittees in writing of the
 10 following:

- 11 1. The Permittees written report does not document that the corrective
 12 measures taken will minimize future exceedances.
- 13 2. The Permittees must take further corrective measures and document that
 14 these further corrective measures will minimize future exceedances.

15 **III.10.I.1.c.ix** If any portion of the LAW Vitrification System is bypassed while treating dangerous
 16 and/or mixed waste, it will be regarded as non-compliance with the operating conditions
 17 specified in Permit Condition [III.10.I.1.c](#), and the performance standards specified in
 18 Permit Condition [III.10.I.1.b](#). After such a bypass event, the Permittees will perform the
 19 following actions:

20 A. Investigate the cause of the bypass event.

21 B. Take appropriate corrective measures to minimize future bypasses.

22 C. Record the investigation findings and corrective measures in the WTP Unit
 23 operating record.

24 D. Submit a written report to Ecology within five (5) days of the bypass event
 25 documenting the result of the investigation and corrective measures.

26 **III.10.I.1.c.x** The Permittees will control fugitive emissions from the LAW Vitrification System by
 27 maintaining the melters under negative pressure.

28 **III.10.I.1.c.xi** Except during periods of vitrification system startup and shutdown, compliance with the
 29 operating conditions specified in Permit Condition [III.10.I.1.c](#), will be regarded as
 30 compliance with the required performance standards identified in Permit Condition
 31 [III.10.I.1.b](#). However, evidence that compliance with these operating conditions is
 32 insufficient to ensure compliance with the performance standards, will justify
 33 modification, revocation, or re-issuance of this Permit, in accordance with Permit
 34 Conditions [III.10.C.2.e](#) and [f.](#), or [III.10.C.2.g](#).

35 **III.10.I.1.d** Inspection Requirements [[WAC 173-303-680](#)(3)]

36 **III.10.I.1.d.i** The Permittees will inspect the LAW Vitrification System in accordance with the
 37 Inspection Plan in Operating Unit Group 10, Chapter 6A of this Permit, as modified in
 38 accordance with Permit Condition [III.10.C.5.c](#).

39 **III.10.I.1.d.ii** The inspection data for LAW Vitrification System will be recorded, and the records will
 40 be placed in the WTP Unit operating record for LAW Vitrification System, in accordance
 41 with Permit Condition [III.10.C.4](#).

42 **III.10.I.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating Unit
 43 Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit Condition

- 1 [III.10.H.5.f.](#) and as modified by Permit Conditions [III.10.H.3](#), [III.10.I.1.b.x.](#),
2 [III.10.I.1.b.xii.](#), and [III.10.I.1.h.](#)
- 3 **III.10.I.1.e** Monitoring Requirements [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
4 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
5 [WAC 173-303-680\(3\)](#)]
- 6 **III.10.I.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
7 and analysis of the dangerous and/or mixed waste and exhaust emissions to verify that the
8 operating requirements established in the Permit achieve the performance standards
9 delineated in this Permit.
- 10 **III.10.I.1.e.ii** The Permittees will comply with the monitoring requirements specified in the Operating
11 Unit Group 10, Appendices 9.2, 9.3, 9.7, 9.13, 9.15 and 9.18 of this Permit, as approved
12 pursuant to Permit Condition [III.10.H.5](#), and as modified by Permit Conditions
13 [III.10.H.3](#), [III.10.I.1.h.](#), [III.10.I.1.b.x.](#), and [III.10.I.1.b.xii.](#)
- 14 **III.10.I.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
15 hydrocarbon continuous emission monitors (CEM) specified in this Permit in accordance
16 with Performance Specifications 4B and 8A of [40 CFR Part 60](#), Appendix B, in
17 accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and Operating Unit Group
18 10 Appendix 9.15 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#),
19 and as modified by Permit Conditions [III.10.H.3](#), [III.10.I.1.h.](#), [III.10.I.1.b.x.](#), and
20 [III.10.I.1.b.xii.](#)
- 21 **III.10.I.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified in Permit
22 Tables [III.10.I.C](#) and [F](#), as approved/modified pursuant to Permit Conditions [III.10.H.5](#)
23 and [III.10.H.3.d.v.](#), in accordance with Operating Unit Group 10, Appendix 9.15 of this
24 Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), and as modified by Permit
25 Conditions [III.10.H.3](#), [III.10.I.1.h.](#), [III.10.I.1.b.x.](#), and [III.10.I.1.b.xii.](#)
- 26 **III.10.I.1.e.v** The Permittees shall calibrate, inspect, and maintain or replace the following Melter 1
27 and Melter 2 cooling water flow and temperature instruments in accordance with
28 manufacturer's recommendations, or as specified in this permit, or otherwise agreed to by
29 Ecology (Melter 1: FT/TI&FI-1206, FT/TI&FI-1209, FT/TI&FI-1215, FT/TI&FI-1218,
30 FT/TI&FI-1221, FT/TI&FI-1224, FT/TI&FI-1227, FT/TI&FI-1233, FT/TI&FI-1236,
31 FT/TI&FI-1536, FT/TI&FI-1539; Melter 2: FT/TI&FI-2206, FT/TI&FI-2209, FT/TI&FI-
32 2215, FT/TI&FI-2218, FT/TI&FI-2221, FT/TI&FI-2224, FT/TI&FI-2227, FT/TI&FI-
33 2233, FT/TI&FI-2236, FT/TI&FI-2536, FT/TI&FI-2539).
- 34 **III.10.I.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680\(3\)](#)]
- 35 **III.10.I.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the LAW
36 Vitrification System, all monitoring, calibration, maintenance, test data, and inspection
37 data compiled under the conditions of this Permit, in accordance with Permit Conditions
38 [III.10.C.4](#) and [5](#), as modified by Permit Conditions [III.10.H.3](#), [III.10.I.1.h.](#), [III.10.I.1.b.x.](#),
39 and [III.10.I.1.b.xii.](#)
- 40 **III.10.I.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and duration
41 of all automatic waste feed cutoffs and/or lockouts, including the triggering parameters,
42 reason for the deviation, and recurrence of the incident. The Permittees will also record

1 all incidents of AWFCO system function failures, including the corrective measures
2 taken to correct the condition that caused the failure.

3 **III.10.I.1.f.iii** The Permittees will submit to Ecology an annual report each calendar year within ninety
4 (90) days following the end of the year. The report will include the following
5 information:

- 6 A. Total dangerous and/or mixed waste feed processing time for the LAW
7 Vitrification System.
- 8 B. Date/Time of all LAW Vitrification System startups and shutdowns.
- 9 C. Date/Time/Duration/Cause/Corrective Action taken for all LAW Vitrification
10 System shutdowns caused by malfunction of either process or control equipment.
- 11 D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
12 and/or mixed waste feed cut-off due to deviations from Permit Table [III.10.I.F](#), as
13 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v](#).

14 **III.10.I.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within ninety
15 (90) days following the end of the year of all quarterly CEM Calibration Error and
16 Annual CEM Performance Specification Tests conducted, in accordance with Permit
17 Condition [III.10.I.1.e.iii](#).

18 **III.10.I.1.f.v** The Permittees shall maintain operating and calibration/maintenance records for
19 Ecology's inspection for the following Melter 1 and Melter 2 cooling water flow and
20 temperature instruments (Melter 1: FT/TI&FI-1206, FT/TI&FI-1209, FT/TI&FI-1215,
21 FT/TI&FI-1218, FT/TI&FI-1221, FT/TI&FI-1224, FT/TI&FI-1227, FT/TI&FI-1233,
22 FT/TI&FI-1236, FT/TI&FI-1536, FT/TI&FI-1539; Melter 2: FT/TI&FI-2206, FT/TI&FI-
23 2209, FT/TI&FI-2215, FT/TI&FI-2218, FT/TI&FI-2221, FT/TI&FI-2224, FT/TI&FI-
24 2227, FT/TI&FI-2233, FT/TI&FI-2236, FT/TI&FI-2536, FT/TI&FI-2539).

25 **III.10.I.1.f.vi** The Permittees shall maintain refractory thermocouple temperature data for Ecology
26 inspection.

27 **III.10.I.1.g** Closure

28 The Permittees will close the LAW Vitrification System in accordance with Operating
29 Unit Group 10, Chapter 11 of this Permit, as approved pursuant to Permit Condition
30 [III.10.C.8](#).

31 **III.10.I.1.h** Periodic Emission Re-testing Requirements [[WAC 173-303-670\(5\)](#),
32 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
33 [WAC 173-303-680\(2\)](#) and (3)]

34 **III.10.I.1.h.i** Dioxin and Furan Emission Testing

- 35 A. Within eighteen (18) months of commencing operation pursuant to Permit
36 Section [III.10.I](#), the Permittees will submit to Ecology for approval, a Dioxin and
37 Furan Emission Test Plan (DFETP) for the performance of emission testing of the
38 LAW Vitrification System gases for dioxin and furans during "Normal Operating
39 Conditions" as a permit modification in accordance with Permit Conditions
40 [III.10.C.2.e](#), and [III.10.C.2.f](#). The DFETP will include all elements applicable to
41 dioxin and furan emission testing included in the "Previously Approved
42 Demonstration Test Plan," applicable EPA promulgated test methods and
43 procedures in effect at the time of the submittal, and projected commencement
44 and completion dates for dioxin and furan emission test. "Normal Operating
45 Conditions" will be defined for the purposes of this permit condition as follows:

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1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and automatic waste feed cut-off parameters specified in Permit Table [III.10.I.F](#) (as approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#)), that were established to maintain compliance with Permit Condition [III.10.I.1.b.iv.](#) as specified in Operating Unit Group 10, Appendix 9.15 of this Permit (as approved pursuant to Permit Condition [III.10.H.3.d.](#), and in accordance with [III.10.I.1.b.xii.](#) and [III.10.I.1.c.xi.](#)), are held within the range of the average value over the previous twelve (12) months and the set-point value specified in Permit Table [III.10.I.F](#). The average value is defined as the sum of the rolling average values recorded over the previous twelve (12) months divided by the number of rolling averages recorded during that time. The average value will not include calibration data, malfunction data, and data obtained when not processing dangerous and/or mixed waste.
 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the average value over the previous twelve (12) months and the set-point value specified on Permit Table [III.10.I.D](#) (as approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#)). Feed-rate of organics as measured by TOC are held within the range of the average value over the previous twelve (12) months. The average value is defined as the sum of the rolling average values recorded over the previous twelve (12) months divided by the number of rolling averages recorded during that time. The average value will not include data obtained when not processing dangerous and/or mixed waste.

25 For purposes of this permit condition, the “Previously Approved Demonstration
26 Test Plan” is defined to include the Demonstration Test Plan approved pursuant
27 to Permit Condition [III.10.H.5.f](#).

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- B. Within sixty (60) days of Ecology’s approval of the DFETP, or within thirty-one (31) months of commencing operation pursuant to Permit Section [III.10.I](#), whichever is later, the Permittees will implement the DFETP approved pursuant to Permit Condition [III.10.I.1.h.i.A](#).
 - C. The Permittees will resubmit the DFETP, approved pursuant to Permit Condition [III.10.I.1.h.i.A](#), revised to include applicable EPA promulgated test methods and procedures in effect at the time of the submittal, and projected commencement and completion dates for dioxin and furan emission test as a permit modification in accordance with Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) at twenty-four (24) months from the implementation date of the testing required pursuant to Permit Condition [III.10.I.1.h.i.A](#) and at reoccurring eighteen (18) month intervals from the implementation date of the previously approved DFETP. The Permittees will implement these newly approved revised DFETPs, every thirty-one (31) months from the previous approved DFETP implementation date or within sixty (60) days of the newly Ecology approved revised DFETP, whichever is later, for the duration of this Permit.
 - D. The Permittees will submit a summary of operating data collected pursuant to the DFETPs in accordance with Permit Conditions [III.10.I.1.h.i.A](#) and [C](#) to Ecology upon completion of the tests. The Permittees will submit to Ecology the complete test report within ninety (90) calendar days of completion of the testing. The test reports will be certified as specified in [WAC 173-303-807](#)(8), in accordance with [WAC 173-303-680](#)(2) and (3).

- 1 E. If any calculations or testing results collected pursuant to the DFETPs in
2 accordance with Permit Conditions [III.10.1.1.h.i.A](#) and [C](#), show that one or more
3 of the performance standards listed in Permit Condition [III.10.1.1.b.](#), with the
4 exception of Permit Condition [III.10.1.1.b.x.](#), for the LAW Vitrification System
5 were not met during the emission test, the Permittees will perform the following
6 actions:
- 7 1. Immediately stop dangerous and/or mixed waste feed to the LAW
8 Vitrification System under the mode of operation that resulted in not meeting
9 the performance standard(s).
 - 10 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
11 meeting the performance standard(s), as specified in Permit Condition I.E.21.
 - 12 3. Investigate the cause of the failure and submit a report of the investigation
13 findings to Ecology within fifteen (15) days of discovery of not meeting the
14 performance standard(s).
 - 15 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
16 performance standard(s) documentation supporting a mode of operation
17 where all performance standards listed in Permit Condition [III.1.1.b.](#), with the
18 exception of Permit Condition [III.10.1.1.b.x.](#), for the LAW Vitrification
19 System were met during the demonstration test, if any such mode was
20 demonstrated.
 - 21 5. Based on the information provided to Ecology by the Permittees pursuant to
22 Permit Conditions [III.10.1.1.h.i.E.1](#) through [4](#) above, and any additional
23 information, Ecology may provide in writing, direction to the Permittees to
24 stop dangerous waste and mixed waste feed to the LAW Vitrification System
25 and/or amend the mode of operation the Permittees are allowed to continue
26 operations prior to Ecology approval of the revised Demonstration Test Plan
27 pursuant to Permit Condition [III.10.1.1.h.i.E.6](#).
 - 28 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
29 not meeting the performance standard(s) a revised Demonstration Test Plan
30 requesting approval to retest as a permit modification pursuant to Permit
31 Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The revised Demonstration Test Plan
32 must include substantive changes to prevent failure from reoccurring
33 reflecting performance under operating conditions representative of the
34 extreme range of normal conditions, and include revisions to Permit Tables
35 [III.10.1.D](#) and [F](#).
- 36 F. If any calculations or testing results collected pursuant to the DFETPs in
37 accordance with Permit Conditions [III.10.1.1.h.i.A](#) and [C](#) show that any emission
38 rate for any constituent listed in Permit Table [III.10.IE](#), as approved/modified
39 pursuant to Permit Conditions [III.10.C.11.c.](#) or [d.](#) is exceeded for LAW
40 Vitrification System during the emission test, the Permittees will perform the
41 following actions:
- 42 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
43 exceeding the emission rate(s), as specified in Permit Condition I.E.21.
 - 44 2. Submit to Ecology additional risk information to indicate that the increased
45 emissions impact is off-set by decreased emission impact from one or more
46 constituents expected to be emitted at the same time, and/or investigate the
47 cause and impact of the exceedance and submit a report of the investigation

1 findings to Ecology within fifteen (15) days of this discovery of exceeding
2 the emission rate(s).

- 3 3. Based on the notification and any additional information, Ecology may
4 provide, in writing, direction to the Permittees to stop dangerous and/or
5 mixed waste feed to the LAW Vitrification System and/or to submit a
6 revised Demonstration Test Plan as a permit modification pursuant to
7 Permit Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#) The revised
8 Demonstration Test Plan must include substantive changes to prevent failure
9 from reoccurring reflecting performance under operating conditions
10 representative of the extreme range of normal conditions, and include
11 revisions to Permit Tables [III.10.I.D](#) and [III.10.I.F.](#)

12 **III.10.I.1.h.ii** Non-organic Emission Testing

- 13 A. Within forty-eight (48) months of commencing operation pursuant to Permit
14 Section [III.10.I.](#), the Permittees will resubmit to Ecology for approval the
15 “Previously Approved Demonstration Test Plan” revised as a permit modification
16 in accordance with Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2f.](#) The revised
17 Demonstration Test Plan (RDTP) will include applicable EPA promulgated test
18 methods and procedures in effect at the time of the submittal, projected
19 commencement and completion dates for emission testing to demonstrate
20 performance standards specified in Permit Conditions [III.10.I.1.b.ii.](#), [iii.](#), [v.](#), [vi.](#),
21 and [vii.](#), and non-organic emissions as specified in Permit Table [III.10.I.E.](#), as
22 approved/modified pursuant to Permit Conditions [III.10.H.3.d.](#) and [III.10.C.11.c.](#)
23 or [d.](#), under “Normal Operating Conditions.” “Normal Operating Conditions”
24 will be defined for the purposes of this permit condition as follows:

- 25 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
26 automatic waste feed cut-off parameters specified in Permit Table [III.10.I.F.](#)
27 as approved/modified pursuant to Permit Conditions [III.10.H.3.d.](#) and
28 [III.10.C.11.c.](#) or [d.](#), that were established to maintain compliance with
29 Permit Conditions [III.10.I.1.b.ii.](#), [iii.](#), [v.](#), [vi.](#), and [vii.](#), and non-organic
30 emissions, as specified in Permit Table [III.10.I.E.](#), as specified in Operating
31 Unit Group 10, Appendix 9.15 of this Permit (as approved pursuant to
32 Permit Conditions [III.10.H.3.d.](#) and [III.10.C.11.c.](#) or [d.](#)), are held within the
33 range of the average value over the previous twelve (12) months and the set-
34 point value specified in Permit Table [III.10.I.F.](#) The average value is
35 defined as the sum of the rolling average values recorded over the previous
36 twelve (12) months divided by the number of rolling averages recorded
37 during that time. The average value will not include calibration data,
38 malfunction data, and data obtained when not processing dangerous or
39 mixed waste.
- 40 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of
41 the average value over the previous twelve (12) months and the set-point
42 value specified in Permit Table [III.10.I.D.](#), as approved/modified pursuant to
43 Permit Conditions [III.10.H.3.d.](#) and [III.10.C.11.c.](#) or [d.](#) The average value is
44 defined as the sum of all rolling average values recorded over the previous
45 twelve (12) months divided by the number of rolling averages recorded
46 during that time. The average value will not include data obtained when not
47 processing dangerous or mixed waste.

1 For purposes of this permit condition, the “Previously Approved Demonstration
2 Test Plan” is defined to include the Demonstration Test Plan approved pursuant
3 to Permit Condition [III.10.H.5.f](#).

- 4 B. Within sixty (60) days of Ecology’s approval of the RDTP, or within sixty (60)
5 months of commencing operation pursuant to Permit Section [III.10.I](#), whichever is
6 later, the Permittees will implement the RDTP approved pursuant to Permit
7 Condition [III.10.I.1.h.ii.A](#).
- 8 C. The Permittees will resubmit the RDTP, approved pursuant to Permit Condition
9 [III.10.I.1.h.ii.A](#), revised to include applicable EPA promulgated test methods and
10 procedures in effect at the time of the submittal, and projected commencement
11 and completion dates for emission test as a permit modification in accordance
12 with Permit Conditions [III.10.C.2.e](#) and [f](#), at forty-eight (48) months from the
13 implementation date of the testing required pursuant to Permit Condition
14 [III.10.I.1.h.ii.A](#) and at reoccurring forty-eight (48) month intervals from the
15 implementation date of the previously approved RDTP. The Permittees will
16 implement these newly approved revised RDTP, every sixty (60) months from the
17 previous approved RDTP implementation date or within sixty (60) days of the
18 newly Ecology approved revised RDTP, whichever is later, for the duration of this
19 Permit.
- 20 D. The Permittees will submit a summary of operating data collected pursuant to the
21 RDTPs in accordance with Permit Conditions [III.10.I.1.h.ii.A](#) and [C](#) to Ecology
22 upon completion of the tests. The Permittees will submit to Ecology the complete
23 test report within ninety (90) calendar days of completion of the testing. The test
24 reports will be certified pursuant to [WAC 173-303-807](#)(8), in accordance with
25 [WAC 173-303-680](#)(2) and (3).
- 26 E. If any calculations or testing results collected pursuant to the RDTPs in
27 accordance with Permit Conditions [III.10.I.1.h.ii.A](#) and [C](#) show that any emission
28 rate for any constituent listed in Permit Table [III.10.I.E](#), as approved/modified
29 pursuant to Permit Conditions [III.10.H.3.d](#) and [III.10.C.11.c](#) or [d](#)., is exceeded
30 for LAW Vitrification System during the emission test, the Permittees will
31 perform the following actions:
- 32 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
33 exceeding the emission rate(s), as specified in Permit condition I.E.21;
 - 34 2. Submit to Ecology additional risk information to indicate that the increased
35 emissions impact is off-set by decreased emission impact from one or more
36 constituents expected to be emitted at the same time, and/or investigate the
37 cause and impact of the exceedance and submit a report of the investigation
38 findings to Ecology within fifteen (15) days of this discovery of exceeding
39 the emission rate(s); and
 - 40 3. Based on the notification and any additional information, Ecology may
41 provide, in writing, direction to the Permittees to stop dangerous and/or
42 mixed waste feed to the LAW Vitrification System and/or to submit a
43 revised Demonstration Test Plan as a permit modification pursuant to
44 Permit Conditions [III.10.C.2.e](#) and [f](#), or [III.10.C.2.g](#). The revised
45 Demonstration Test Plan must include substantive changes to prevent failure
46 from reoccurring reflecting performance under operating conditions
47 representative of the extreme range of normal conditions, and include
48 revisions to Permit Tables [III.10.I.D](#) and [III.10.I.E](#).

- 1 F. If any calculations or testing results collected pursuant to the RDTPs in
 2 accordance with Permit Conditions [III.10.1.1.h.ii.A](#) and [C](#) show that one or more
 3 of the performance standards listed in Permit Condition [III.10.1.1.b.](#), with the
 4 exception of Permit Condition [III.10.1.1.b.x.](#) for the LAW Vitrification System
 5 were not met during the emission test, the Permittees will perform the following
 6 actions:
- 7 1. Immediately stop dangerous and/or mixed waste feed to the LAW
 8 Vitrification System under the mode of operation that resulted in not meeting
 9 the performance standard(s);
 - 10 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
 11 meeting the performance standard(s), as specified in Permit condition I.E.21;
 - 12 3. Investigate the cause of the failure and submit a report of the investigation
 13 findings to Ecology within fifteen (15) days of discovery of not meeting the
 14 performance standard(s);
 - 15 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
 16 performance standard(s) documentation supporting a mode of operation
 17 where all performance standards listed in Permit Condition [III.1.1.b.](#), with the
 18 exception of Permit Condition [III.10.1.1.b.x.](#) for the LAW Vitrification
 19 System were met during the demonstration test, if any such mode was
 20 demonstrated;
 - 21 5. Based on the information provided to Ecology by the Permittees pursuant to
 22 Permit Conditions [III.10.1.1.h.ii.F.1](#) through [4](#) above, and any additional
 23 information, Ecology may provide in writing, direction to the Permittees to
 24 stop dangerous and/or mixed waste feed to the LAW Vitrification System
 25 and/or amend the mode of operation the Permittees are allowed to continue
 26 operations prior to Ecology approval of the revised Demonstration Test Plan
 27 pursuant to Permit Condition [III.10.1.1.h.ii.F.6](#); and
 - 28 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
 29 not meeting the performance standard(s) a revised Demonstration Test Plan
 30 requesting approval to retest as a permit modification pursuant to Permit
 31 Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan must
 32 include substantive changes to prevent failure from reoccurring reflecting
 33 performance under operating conditions representative of the extreme range
 34 of normal conditions, and include revisions to Permit Tables [III.10.I.D](#) and [E.](#)

35 **III.10.1.1.h.iii** Other Emission Testing

- 36 A. Within seventy-eight (78) months of commencing operation pursuant to Permit
 37 Section [III.10.I.](#), the Permittees will resubmit to Ecology for approval the
 38 "Previously Approved Demonstration Test Plan" revised as a permit modification
 39 in accordance with Permit Conditions [III.10.C.2.e.](#) and [f.](#) The Revised
 40 Demonstration Test Plan (RDTP) will include applicable EPA promulgated test
 41 methods and procedures in effect at the time of the submittal, projected
 42 commencement and completion dates for emission testing to demonstrate
 43 performance standards as specified in Permit Conditions [III.10.1.1.b.viii.](#) and [ix.](#),
 44 and emissions as specified in Permit Table [III.10.I.E.](#), as approved/modified
 45 pursuant to Permit Conditions [III.10.H.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), not addressed
 46 under Permit Conditions [III.10.1.1.h.i.](#) or [j.](#) under "Normal Operating
 47 Conditions." "Normal Operating Conditions" will be defined for the purposes of
 48 this permit condition as follows:

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1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and automatic waste feed cut-off parameters specified in Permit Table [III.10.I.F](#), as approved/modified pursuant to Permit Condition [III.10.H.3.d](#), and [III.10.C.11.c](#), or [d](#), that were established to maintain compliance with Permit Conditions [III.10.I.1.b.viii](#), and [ix](#), and emissions as specified in Permit Table [III.10.I.E](#), not addressed under Permit Conditions [III.10.I.1.h.i](#), or ii. as specified in Operating Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit Condition [III.10.H.3.d](#), and in accordance with Permit Conditions [III.10.I.1.b.xii](#), and [III.10.I.1.c.xi](#), are held within the range of the average value over the previous twelve (12) months and the set-point value specified on Permit Table [III.10.I.F](#). The average value is defined as the sum of all rolling average values recorded over the previous twelve (12) months divided by the number of rolling averages recorded during that time. The average value will not include calibration data, malfunction data, and data obtained when not processing dangerous and/or mixed waste.
 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the average value over the previous twelve (12) months and the set-point value specified in Permit Table [III.10.I.D](#), as approved/modified pursuant to Permit Conditions [III.10.H.3.d](#), and [III.10.C.11.c](#), or [d](#). Feed-rate of organics as measured by TOC are held within the range of the average value over the previous twelve (12) months. The average value is defined as the sum of the rolling average values recorded over the previous twelve (12) months divided by the number of rolling averages recorded during that time. The average value will not include data obtained when not processing dangerous and/or mixed waste.

27 For purposes of this permit condition, the “Previously Approved Demonstration Test
28 Plan” is defined to include the Demonstration Test Plan approved pursuant to Permit
29 Condition [III.10.H.5.f](#).

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- B. Within sixty (60) days of Ecology’s approval of the RDTP, or within ninety-one (91) months of commencing operation pursuant to Permit Section [III.10.I](#), whichever is later, the Permittees will implement the RDTP approved pursuant to Permit Condition [III.10.I.1.h.iii.A](#).
 - C. The Permittees will submit a summary of operating data collected pursuant to the RDTPs in accordance with Permit Condition [III.10.I.1.h.iii.A](#) to Ecology upon completion of the tests. The Permittees will submit to Ecology the complete test report within ninety (90) calendar days of completion of the testing. The test reports will be certified as specified in [WAC 173-303-807\(8\)](#), in accordance with Permit Condition [WAC 173-303-680\(2\)](#) and (3).
 - D. If any calculations or testing results show that one or more of the performance standards listed in Permit Condition [III.10.I.1.b](#), with the exception of Permit Condition [III.10.I.1.b.x](#), for the LAW Vitrification System were not met during the emission test, the Permittees will perform the following actions:
 1. Immediately stop dangerous and/or mixed waste feed to the LAW Vitrification System under the mode of operation that resulted in not meeting the performance standard(s);
 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not meeting the performance standard(s), as specified in Permit Condition I.E.21.

- 1 3. Investigate the cause of the failure and submit a report of the investigation
2 findings to Ecology within fifteen (15) days of discovery of not meeting the
3 performance standard(s).
 - 4 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
5 performance standard(s) documentation supporting a mode of operation
6 where all performance standards listed in Permit Condition [III.I.1.b.](#), with
7 the exception of Permit Condition [III.10.I.1.b.x.](#), for the LAW Vitrification
8 System were met during the demonstration test, if any such mode was
9 demonstrated.
 - 10 5. Based on the information provided to Ecology by the Permittees pursuant to
11 Permit Conditions [III.10.I.1.h.iii.D.1](#) through [4](#) above, and any additional
12 information, Ecology may provide in writing, direction to the Permittees to
13 stop dangerous and/or mixed waste feed to the LAW Vitrification System
14 and/or amend the mode of operation the Permittees are allowed to continue
15 operations prior to Ecology approval of the revised Demonstration Test
16 Plan, pursuant to Permit Condition [III.10. I.h.1.iii.D.6](#).
 - 17 6. Submit to Ecology within one hundred and twenty (120) days of discovery
18 of not meeting the performance standard(s) a revised Demonstration Test
19 Plan requesting approval to retest as a permit modification pursuant to
20 Permit Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan
21 must include substantive changes to prevent failure from reoccurring
22 reflecting performance under operating conditions representative of the
23 extreme range of normal conditions, and include revisions to Permit Tables
24 [III.10.I.D](#) and [III.10.I.F](#).
- 25 E. If any calculations or testing results show that any emission rate for any
26 constituent listed in Permit Table [III.10.I.E](#), as approved/modified pursuant to
27 Permit Conditions [III.10.C.11.c.](#) or [d.](#), is exceeded for LAW Vitrification System
28 during the emission test, the Permittees will perform the following actions:
- 29 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
30 exceeding the emission rate(s), as specified in Permit Condition I.E.21.
 - 31 2. Submit to Ecology additional risk information to indicate that the increased
32 emissions impact is off-set by decreased emission impact from one or more
33 constituents expected to be emitted at the same time, and/or investigate the
34 cause and impact of the exceedance of the emission rate(s) and submit a
35 report of the investigation findings to Ecology within fifteen (15) days of the
36 discovery of the exceedance of the emission rate(s).
 - 37 3. Based on the notification and any additional information, Ecology may
38 provide, in writing, direction to the Permittees to stop dangerous and/or mixed
39 waste feed to the LAW Vitrification System and/or to submit a revised
40 Demonstration Test Plan as a permit modification pursuant to Permit
41 Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g](#). The revised Demonstration
42 Test Plan must include substantive changes to prevent failure from
43 reoccurring reflecting performance under operating conditions representative
44 of the extreme range of normal conditions, and include revisions to Permit
45 Tables [III.10.I.D](#) and [E](#).
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Table III.10.I.A - LAW Vitrification System Description^a

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos, Specification Nos, etc.)	Narrative Description, Tables and Figures
RESERVED	RESERVED	RESERVED	RESERVED

^aPermit Table III 10 I A will be completed in accordance with Permit Condition [III 10 H 5 e x](#) , prior to initiating Permit Condition III 10 I 1 . See Permit Table [III 10 H A](#) for the current LAW Vitrification System Description

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Table III.10.I.B - LAW Vitrification System Secondary Containment Systems Including Sumps and Floor Drains

Sump/Floor Drain I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^b (feet) & Materials of Construction	Engineering Description (Drawing Nos, Specification Nos, etc.)
RESERVED	RESERVED	RESERVED	RESERVED

^aPermit Table III 10 I B will be completed in accordance with Permit Condition [III 10 H 5 b vii](#) , prior to initiating Permit Condition [III 10 I 1](#) . See Permit Table III 10 H B for the current LAW Vitrification System Secondary Containment Systems Including Sumps and Floor Drains

^bDimensions listed are based on permitted design . Actual dimensions may vary within plus or minus (TBD)

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Table III.10.I.C - LAW Vitrification Systems Process and Leak Detection System Instruments and Parameters

Sub-system Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Failure State	Expected Range	Instrument Accuracy	Instrument Calibration Method No. and Range
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

^aPermit Table III 10 I C will be completed in accordance with Permit Condition [III 10 H 5 e ix](#) , prior to initiating Permit Condition III 10 I 1 . See Permit Table [III 10 H C](#) for the current LAW Vitrification Systems Process and Leak Detection System Instruments and Parameters

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Table III.10.I.D - Maximum Feed-rates to LAW Vitrification System (RESERVED)

Description of Waste	Normal Operation
Dangerous and/or Mixed Waste Feed Rate	RESERVED
Ash Feed Rate	RESERVED
Total Chlorine/Chloride Feed Rate	RESERVED
Total Metal Feedrates	RESERVED

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Table III.10.I.E - LAW Vitrification System Estimated Emission Rates (RESERVED)

Chemicals	CAS Number	Emission Rates (grams /second)
RESERVED	RESERVED	RESERVED

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**TABLE III.10.I.F - LAW Vitrification System Waste Feed Cut-off Parameters*
¹(RESERVED)**

Sub-system Designation	Instrument Tag Number	Parameter Description	Set-points During Normal Operation
RESERVED	RESERVED	RESERVED	RESERVED

*A continuous monitoring system will be used as defined in Permit Section [III.10.C.1.](#)
¹Maximum Feed-rate will be set based on not exceeding any of the constituent (e.g., metals, ash, and chlorine/chloride) feed limits specified on Table [III.10.I.D.](#) of this Permit

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1 **III.10.J HLW VITRIFICATION SYSTEM – SHORT TERM MISCELLANEOUS**
 2 **THERMAL TREATMENT UNIT-SHAKEDOWN, DEMONSTRATION TEST, AND**
 3 **POST DEMONSTRATION TEST**

4 For purposes of Permit Section [III.10.J](#), where reference is made to [WAC 173-303-640](#),
 5 the following substitutions apply: substituting the terms “HLW Vitrification System” for
 6 “tank system(s),” “sub-system(s)” for “tank(s),” “sub-system equipment” for “ancillary
 7 equipment,” and “sub-system(s) or sub-system equipment of a HLW Vitrification
 8 System” for “component(s),” in accordance with [WAC 173-303-680](#).

9 **III.10.J.1 General Conditions During Shakedown, Demonstration Test, and Post-**
 10 **Demonstration Test for HLW Vitrification System**

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

13 **III.10.J.1.a.i** The Permittees will construct the HLW Vitrification System (listed in Permit Tables
 14 [III.10.J.A](#) and [III.10.J.B](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#))
 15 as specified in Permit Condition [III.10.J.1](#), and Operating Unit Group 10, Chapter 4 of
 16 this Permit, and Operating Unit Group 10, Appendices 10.1 through 10.15 and 10.17 of
 17 this Permit, as approved pursuant to Permit Conditions [III.10.J.5.a.](#) through [d.](#), and
 18 [III.10.J.5.f.](#)

19 **III.10.J.1.a.ii** The Permittees will construct all containment systems for the HLW Vitrification System
 20 as specified in Operating Unit Group 10, Chapter 4 of this Permit, and Operating Unit
 21 Group 10, Appendices 10.2, 10.4, through 10.14 of this Permit, as approved pursuant to
 22 Permit Conditions [III.10.J.5.a.](#) through [d.](#)

23 **III.10.J.1.a.iii** The Permittees will ensure all certifications required by specialists (e.g., independent,
 24 qualified, registered professional engineer, independent corrosion expert, independent
 25 qualified installation inspector, etc.) use the following statement or equivalent pursuant to
 26 Permit Condition [III.10.C.10.](#):

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

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

40 **III.10.J.1.a.iv** The Permittees must ensure that proper handling procedures are adhered to in order to
 41 prevent damage to the HLW Vitrification System during installation. Prior to covering,
 42 enclosing, or placing the new HLW Vitrification System or component in use, an
 43 independent, qualified, installation inspector or an independent, qualified, registered
 44 professional engineer, either of whom is trained and experienced in the proper installation

1 of similar systems or components, must inspect the system for the presence of any of the
2 following items:

- 3 A. Weld breaks
- 4 B. Punctures
- 5 C. Scrapes of protective coatings
- 6 D. Cracks
- 7 E. Corrosion
- 8 F. Other structural damage or inadequate construction/installation

9 All discrepancies must be remedied before the HLW Vitrification system is covered,
10 enclosed, or placed in use [[WAC 173-303-640\(3\)\(c\)](#)], in accordance with
11 [WAC 173-303-680\(2\)](#) and (3)].

12 **III.10.J.1.a.v** For the HLW Vitrification System or components that are placed underground and that
13 are back-filled, the Permittees must provide a backfill material that is a non-corrosive,
14 porous, homogeneous substance. The backfill must be installed so that it is placed
15 completely around the HLW Vitrification System and compacted to ensure that the HLW
16 Vitrification System is fully and uniformly supported
17 [[WAC 173-303-640\(3\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and (3)].

18 **III.10.J.1.a.vi** The Permittees must test for tightness the HLW Vitrification System or components,
19 prior to being covered, enclosed, or placed into use. If the HLW Vitrification System or
20 components are found not to be tight, all repairs necessary to remedy the leak(s) in the
21 system must be performed prior to the HLW Vitrification System being covered,
22 enclosed, or placed in use [[WAC 173-303-640\(3\)\(e\)](#)], in accordance with
23 [WAC 173-303-680\(2\)](#) and (3)].

24 **III.10.J.1.a.vii** The Permittees must ensure the HLW Vitrification System equipment is supported and
25 protected against physical damage and excessive stress due to settlement, vibration,
26 expansion, or contraction [[WAC 173-303-640\(3\)\(f\)](#)], in accordance with
27 [WAC 173-303-680\(2\)](#) and (3)].

28 **III.10.J.1.a.viii** The Permittees must provide the type and degree of corrosion protection recommended
29 by an independent corrosion expert, based on the information provided in Operating Unit
30 Group 10, Appendices 10.9 and 10.11 of this Permit, as approved pursuant to Permit
31 Conditions [III.10.J.5.b.i.](#), [III.10.J.5.b.iv.](#), [III.10.J.5.b.v.](#), [III.10.J.5.c.i.](#), [III.10.J.5.c.iv.](#),
32 [III.10.J.5.c.v.](#), [III.10.J.5.d.i.](#), [III.10.J.5.d.iv.](#), and [III.10.J.5.d.v.](#), or other corrosion
33 protection if Ecology believes other corrosion protection is necessary to ensure the
34 integrity of the HLW Vitrification System during use of the HLW Vitrification System.
35 The installation of a corrosion protection system that is field fabricated must be
36 supervised by an independent corrosion expert to ensure proper installation [[WAC 173-](#)
37 [303-640\(3\)\(g\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and (3)].

38 **III.10.J.1.a.ix** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
39 will obtain and keep on file in the WTP Unit operating record, written statements by
40 those persons required to certify the design of the HLW Vitrification System and
41 supervise the installation of the HLW Vitrification System, as specified in [WAC 173-](#)
42 [303-640\(3\)\(b\)](#), (c), (d), (e), (f), and (g), in accordance with
43 [WAC 173-303-680](#), attesting that the HLW Vitrification system and corresponding
44 containment system listed in Permit Tables [III.10.J.A](#) and [III.10.J.B](#), as
45 approved/modified pursuant to Permit Condition [III.10.J.5.](#), were properly designed and
46 installed, and that repairs, in accordance with [WAC 173-303-640\(3\)\(c\)](#) and (e), were

1 performed [[WAC 173-303-640](#)(3)(a) and [WAC 173-303-640](#)(3)(h), in accordance with
2 [WAC 173-303-680](#)(3)].

- 3 **III.10.J.1.a.x** The independent HLW Vitrification System installation inspection and subsequent
4 written statements will be certified in accordance with [WAC 173-303-810](#)(13)(a), as
5 modified pursuant to Permit Condition [III.10.J.1.a.iii](#), comply with all requirements of
6 [WAC 173-303-640](#)(3)(h) in accordance with [WAC 173-303-680](#), and will consider, but
7 not be limited to, the following LAW Vitrification System installation documentation:
- 8 A. Field installation report with date of installation.
 - 9 B. Approved welding procedures.
 - 10 C. Welder qualification and certifications.
 - 11 D. Hydro-test reports, as applicable, in accordance with the American Society of
12 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1;
13 American Petroleum Institute (API) Standard 620, or Standard 650, as applicable.
 - 14 E. Tester credentials.
 - 15 F. Field inspector credentials.
 - 16 G. Field inspector reports.
 - 17 H. Field waiver reports.
 - 18 I. Non-compliance reports and corrective action (including field waiver reports) and
19 repair reports.

- 20 **III.10.J.1.a.xi** The Permittees will ensure periodic integrity assessments are conducted on the HLW
21 Vitrification System, listed in Permit Table [III.10.J.A](#), as approved/modified pursuant to
22 Permit Condition [III.10.J.5](#), over the term of this Permit, in accordance with
23 [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(3)(b), following the
24 description of the integrity assessment program and schedule in Operating Unit Group
25 10, Addendum E of this Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i](#)
26 and [III.10.C.5.c](#). Results of the integrity assessments will be included in the WTP Unit
27 operating record until ten (10) years after post-closure, or corrective action is complete
28 and certified, whichever is later.

- 29 **III.10.J.1.a.xii** The Permittees will address problems detected during the HLW Vitrification System
30 integrity assessments specified in Permit Condition [III.10.J.1.a.xi](#), following the integrity
31 assessment program in Operating Unit Group 10, Addendum E of this Permit, as
32 approved pursuant to Permit Conditions [III.10.J.5.e.i](#) and [III.10.C.5.c](#).

- 33 **III.10.J.1.a.xiii** All process monitors/instruments as specified in Permit Table [III.10.J.F](#), as
34 approved/modified pursuant to Permit Condition [III.10.J.5](#), will be equipped with
35 operational alarms to warn of deviation, or imminent deviation from the limits specified
36 in Permit Table [III.10.J.F](#).

- 37 **III.10.J.1.a.xiv** The Permittees will install and test all process and leak detection system
38 monitors/instrumentation as specified in Permit Tables [III.10.J.C](#) and [III.10.J.F](#), as
39 approved/modified pursuant to Permit Condition [III.10.J.5](#), in accordance with Operating
40 Unit Group 10, Appendices 10.1, 10.2, and 10.14 of this Permit, as approved pursuant to
41 Permit Conditions [III.10.J.5.d.x](#) and [III.10.J.5.f.xvi](#).

- 1 **III.10.J.1.a.xv** Except during periods of HLW Vitrification System start up and shut down, no dangerous
2 and/or mixed waste will be treated in the HLW Vitrification System unless the operating
3 conditions specified under Permit Condition [III.10.J.1.c.](#) are complied with.
- 4 **III.10.J.1.a.xvi** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or other
5 materials in the HLW Vitrification System if these substances could cause the subsystem,
6 subsystem equipment, or the containment system to rupture, leak, corrode, or otherwise
7 fail [[WAC 173-303-640\(5\)\(a\)](#)], in accordance with
8 [WAC 173-303-680\(2\)](#)]. This condition is not applicable to corrosion of HLW
9 Vitrification System sub-system and sub-system equipment that are expected to be
10 replaced as part of normal operations (e.g., melters).
- 11 **III.10.J.1.a.xvii** The Permittees will operate the HLW Vitrification System to prevent spills and
12 overflows using description of controls and practices as required under
13 [WAC 173-303-640\(5\)\(b\)](#) described in Permit Condition [III.10.C.5](#), and Operating Unit
14 Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit Condition
15 [III.10.J.5.e.](#) [[WAC 173-303-640\(5\)\(b\)](#)], in accordance with
16 [WAC 173-303-680\(2\)](#) and (3), and [WAC 173-303-806\(4\)\(c\)\(ix\)](#)].
- 17 **III.10.J.1.a.xviii** For routinely non-accessible HLW Vitrification System sub-systems, as specified
18 in Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit
19 Condition [III.10.J.5.e.vi.](#), the Permittees will mark all routinely non-accessible HLW
20 Vitrification System sub-systems access points with labels or signs to identify the waste
21 contained in each HLW Vitrification System sub-system. The label, or sign, must be
22 legible at a distance of at least fifty (50) feet, and must bear a legend which identifies the
23 waste in a manner which adequately warns employees, emergency response personnel,
24 and the public of the major risk(s) associated with the waste being stored or treated in the
25 HLW Vitrification System sub-systems. For the purposes of this permit condition,
26 “routinely non-accessible” means personnel are unable to enter these areas while waste is
27 being managed in them
28 [[WAC 173-303-640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].
- 29 **III.10.J.1.a.xix** For all HLW Vitrification System sub-systems not addressed in Permit Condition
30 [III.10.J.1.a.xviii.](#), the Permittees will mark all these HLW Vitrification System sub-
31 systems holding dangerous and/or mixed waste with labels or signs to identify the waste
32 contained in the HLW Vitrification System sub-systems. The labels, or signs, must be
33 legible at a distance of at least fifty (50) feet, and must bear a legend which identifies the
34 waste in a manner which adequately warns employees, emergency response personnel,
35 and the public of the major risk(s) associated with the waste being stored or treated in the
36 HLW Vitrification System sub-systems
37 [[WAC 173-303-640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].
- 38 **III.10.J.1.a.xx** The Permittees will ensure that the containment systems for the HLW Vitrification
39 System sub-systems listed in Permit Tables [III.10.J.A.](#) and [III.10.J.B.](#), as
40 approved/modified pursuant to Permit Condition [III.10.J.5.](#), are free of cracks or gaps to
41 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
42 system to the soil, groundwater, or surface water at any time during use of the HLW
43 Vitrification System sub-systems. Any indication that a crack or gap may exist in the
44 containment systems will be investigated and repaired in accordance with Operating Unit
45 Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit Condition
46 [III.10.J.5.e.v.](#) [[WAC 173-303-640\(4\)\(b\)\(i\)](#)],
47 [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), and [WAC 173-303-640\(6\)](#), in accordance with

1 [WAC 173-303-680](#)(2) and (3), [WAC 173-303-806](#)(4)(i)(B), and
2 [WAC 173-303-320](#)].

3 **III.10.J.1.a.xxii** The Permittees must immediately, and safely, remove from service any HLW
4 Vitrification System or secondary containment system which, through an integrity
5 assessment, is found to be “unfit for use” as defined in [WAC 173-303-040](#), following
6 Permit Conditions [III.10.J.1.a.xxiii.A](#), through [D](#), and [E](#). The affected HLW
7 Vitrification System, or secondary containment system, must be either repaired or closed
8 in accordance with Permit Condition [III.10.J.1.a.xxiii.E](#).
9 [\[WAC 173-303-640](#)(7)(e) and (f), and [WAC 173-303-640](#)(8), in accordance with [WAC](#)
10 [173-303-680](#)(3)].

11 **III.10.J.1.a.xxii** An impermeable coating, as specified in Operating Unit Group 10, Appendices
12 10.4, 10.5, 10.7, 10.9, 10.11, and 10.12 of this Permit, as approved pursuant to Permit
13 Condition [III.10.J.5.b.v.](#), will be maintained for all concrete containment systems and
14 concrete portions of containment systems for each HLW Vitrification System sub-
15 systems listed in Permit Tables [III.10.J.A](#) and [III.10.J.B](#) as approved/modified pursuant to
16 Permit Condition III.10.J.5 (concrete containment systems that do not have a liner,
17 pursuant to [WAC 173-303-640](#)(4)(e)(i), in accordance with
18 [WAC 173-303-680](#)(2), and have construction joints, will meet the requirements of [WAC](#)
19 [173-303-640](#)(4)(e)(ii)(C), in accordance with [WAC 173-303-680](#)(2). The coating will
20 prevent migration of any dangerous and mixed waste into the concrete. All coatings will
21 meet the following performance standards:

- 22 A. The coating must seal the containment surface such that no cracks, seams, or
23 other avenues through which liquid could migrate, are present;
- 24 B. The coating must be of adequate thickness and strength to withstand the normal
25 operation of equipment and personnel within the given area such that degradation
26 or physical damage to the coating or lining can be identified and remedied before
27 dangerous and mixed waste could migrate from the system; and
- 28 C. The coating must be compatible with the dangerous and mixed waste, treatment
29 reagents, or other materials managed in the containment system
30 [\[WAC 173-303-640](#)(4)(e)(ii)(D), in accordance with [WAC 173-303-680](#)(2) and
31 (3), and [WAC 173-303-806](#)(4)(i)(A)].

32 **III.10.J.1.a.xxiii** The Permittees will inspect all containment systems for the HLW Vitrification
33 System sub-systems listed in Permit Tables [III.10.J.A](#) and [III.10.J.B](#), as
34 approved/modified pursuant to Permit Condition [III.10.J.5](#), in accordance with the
35 Inspection Plan specified in Operating Unit Group 10, Chapter 6A of this Permit, as
36 approved pursuant to Permit Conditions [III.10.J.5.e.i](#), and [III.10.C.5.c.](#), and take the
37 following actions if a leak or spill of dangerous and/or mixed waste is detected in these
38 containment systems [\[WAC 173-303-640](#)(5)(c) and
39 [WAC 173-303-640](#)(6), in accordance with [WAC 173-303-680](#)(2) and (3),
40 [WAC 173-303-320](#), and [WAC 173-303-806](#)(4)(i)(B)]:

- 41 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the
42 HLW Vitrification System sub-systems or secondary containment system.
- 43 B. Determine the source of the dangerous and/or mixed waste.
- 44 C. Remove the dangerous and/or mixed waste from the containment area in
45 accordance with [WAC 173-303-680](#)(2) and (3), as specified in [WAC 173-303-](#)
46 [640](#)(7)(b). The dangerous and/or mixed waste removed from containment areas

1 of the HLW Vitrification System sub-systems will be, as a minimum, managed
2 as mixed waste.

- 3 D. If the cause of the release was a spill has not damaged the integrity of the HLW
4 Vitrification System sub-system, the Permittees may return the HLW
5 Vitrification System sub-system to service in accordance with [WAC 173-303-
6 680\(2\)](#) and (3), as specified in [WAC 173-303-640\(7\)\(e\)\(ii\)](#). In such case, the
7 Permittees will take action to ensure the incident that caused the dangerous
8 and/or mixed waste to enter the containment system will not re-occur
9 [[WAC 173-303-320\(3\)](#)].
- 10 E. If the source of the dangerous and/or mixed waste is determined to be a leak from
11 the primary HLW Vitrification System into the secondary containment system,
12 or the system is unfit for use as determined through an integrity assessment or
13 other inspection, the Permittees will comply with the requirements of
14 [WAC 173-303-640\(7\)](#) and take the following actions:
- 15 1. Close the HLW Vitrification System Sub-system following procedures in
16 [WAC 173-303-640\(7\)\(e\)\(i\)](#), in accordance with [WAC 173-303-680](#) and
17 Operating Unit Group 10, Addendum H of this Permit, as approved pursuant
18 to Permit Condition [III.10.C.8.](#), or
 - 19 2. Repair and re-certify (in accordance with [WAC 173-303-810\(13\)\(a\)](#), as
20 modified pursuant to Permit Condition [III.10.J.1.a.iii.](#)) the HLW Vitrification
21 System in accordance with Operating Unit Group 10, Appendix 10.18 of this
22 Permit, as approved pursuant to Permit Condition [III.10.J.5.e.v.](#), before the
23 HLW Vitrification System is placed back into service
24 [[WAC 173-303-640\(7\)\(e\)\(iii\)](#) and [WAC 173-303-640\(7\)\(f\)](#), in accordance
25 with [WAC 173-303-680](#)].
- 26 F. The Permittees will document, in the WTP Unit operating record,
27 actions/procedures taken to comply with A. through E. above, as specified in
28 [WAC 173-303-640\(6\)\(d\)](#), in accordance with [WAC 173-303-680\(2\)](#) and (3).
- 29 G. In accordance with [WAC 173-303-680\(2\)](#) and [WAC 173-303-680\(3\)](#), the
30 Permittees will notify and report releases to the environment to Ecology, as
31 specified in [WAC 173-303-640\(7\)\(d\)](#).

III.10.J.1.a.xxiv

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

- 40 A. Reasons for delayed removal;
- 41 B. Measures implemented to ensure continued protection of human health and the
42 environment;
- 43 C. Current actions being taken to remove liquids from secondary containment.

III.10.J.1.a.xxv

44 All air pollution control devices and capture systems in the HLW Vitrification
45 System will be maintained and operated at all times in a manner so as to minimize the
46 emissions of air contaminants and to minimize process upsets. Procedures for ensuring
47 that the air pollution control devices and capture systems in the HLW Vitrification

1 System are properly operated and maintained so as to minimize the emission of air
2 contaminants and process upsets will be established.

3 **III.10.J.1.a.xxvi** In all future narrative permit submittals, the Permittees will include HLW
4 Vitrification sub-system names with the sub-system designation.

5 **III.10.J.1.a.xxvii** Modifications to approved design, plans, and specifications in Operating Unit
6 Group 10 of this Permit for the HLW Vitrification System will be allowed only in
7 accordance with Permit Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#), [III.10.C.9.d.](#), [e.](#),
8 and [h.](#)

9 **III.10.J.1.a.xxviii** For any portion of the HLW Vitrification System that has the potential for
10 formation and accumulation of hydrogen gases, the Permittees will operate the portion to
11 maintain hydrogen levels below the lower explosive limit
12 [[WAC 173-303-815\(2\)\(b\)\(ii\)](#)].

13 **III.10.J.1.a.xxix** For each HLW Vitrification System sub-system holding dangerous waste which
14 are acutely or chronically toxic by inhalation, the Permittees will operate the system to
15 prevent escape of vapors, fumes or other emissions into the air
16 [[WAC 173-303-806\(4\)\(i\)\(B\)](#) and [WAC 173-303-640\(5\)\(e\)](#) in accordance with
17 [WAC 173-303-680](#)].

18 **III.10.J.1.b** Performance Standards

19 **III.10.J.1.b.i** The HLW Vitrification System must achieve a destruction and removal efficiency (DRE)
20 of 99.99% for the principal organic dangerous constituents (PODCs) listed below [[40](#)
21 [CFR §63.1203\(c\)\(1\)](#) and [40-CFR 63.1203\(c\)\(2\)](#), in accordance with
22 [WAC 173-303-680\(2\)](#)].

23 RESERVED

24 DRE in this Permit condition will be calculated in accordance with the formula given
25 below:

$$26 \text{ DRE} = [1 - (\text{Wout}/\text{Win})] \times 100\%$$

27 Where:

28 Win=mass feed rate of one principal organic dangerous constituent (PODC) in a
29 waste feed stream; and

30 Wout=mass emission rate of the same PODC present in exhaust emissions prior to
31 release to the atmosphere.

32 **III.10.J.1.b.ii** Particulate matter emissions from the HLW Vitrification System will not exceed 34
33 mg/dscm (0.015 grains/dscf) [[40 CFR §63.1203\(b\)\(7\)](#)], in accordance with
34 [WAC 173-303-680\(2\)](#)].

35 **III.10.J.1.b.iii** Hydrochloric acid and chlorine gas emissions from the HLW Vitrification System will
36 not exceed 21 ppmv, combined [[40 CFR §63.1203\(b\)\(6\)](#)], in accordance with
37 [WAC 173-303-680\(2\)](#)].

38 **III.10.J.1.b.iv** Dioxin and Furan TEQ emissions from the HLW Vitrification System will not exceed 0.2
39 nanograms (ng)/dscm [[40 CFR §63.1203\(b\)\(1\)](#)], in accordance with
40 [WAC 173-303-680\(2\)](#)].

41 **III.10.J.1.b.v** Mercury emissions from the HLW Vitrification System will not exceed 45 µg/dscm,
42 [[40 CFR §63.1203\(b\)\(2\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

- 1 **III.10.J.1.b.vi** Lead and cadmium emissions from the HLW Vitrification System will not exceed 120
2 $\mu\text{g/dscm}$, combined [[40 CFR §63.1203\(b\)\(3\)](#)], in accordance with
3 [WAC 173-303-680\(2\)](#)].
- 4 **III.10.J.1.b.vii** Arsenic, beryllium, and chromium emissions from the HLW Vitrification System will not
5 exceed 97 $\mu\text{g/dscm}$, combined [[40 CFR §63.1203\(b\)\(4\)](#)], in accordance with
6 [WAC 173-303-680\(2\)](#)].
- 7 **III.10.J.1.b.viii** Carbon monoxide (CO) emission from the HLW Vitrification System will not exceed 100
8 parts per million (ppm) by volume, over an hourly rolling average (as measured and
9 recorded by the continuous monitoring system), dry [[40 CFR §63.1203\(b\)\(5\)\(i\)](#)], in
10 accordance with [WAC 173-303-680\(2\)](#)].
- 11 **III.10.J.1.b.ix** Hydrocarbon emission from the HLW Vitrification System will 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 [WAC](#)
15 [173-303-680\(2\)](#)]:
- 16 **III.10.J.1.b.x** If the emissions from the HLW Vitrification System exceed the emission rates listed in
17 Permit Table [III.10.J.E](#), as approved pursuant to Permit Condition [III.10.C.11.b.](#), the
18 Permittees will notify Ecology, in accordance with Permit Condition [III.10.J.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.J.1.b.i.](#) through
21 [III.10.J.1.b.ix.](#) above, will be met for the HLW Vitrification System by limiting feed
22 rates as specified in Permit Tables [III.10.J.D](#) and [III.10.J.F](#), as approved/modified
23 pursuant to Permit Condition [III.10.J.5.](#), compliance with operating conditions
24 specified in Permit Condition [III.10.J.1.c.](#) (except as specified in Permit Condition
25 [III.10.J.1.b.xii.](#)), and compliance with Permit Condition [III.10.J.1.b.xi.](#)
- 26 **III.10.J.1.b.xi** Treatment effectiveness, feed-rates and operating rates for dangerous and mixed waste
27 management units contained in the HLW Building, but not included in Permit Table
28 [III.10.J.A](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), will 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 Operating Unit Group 10, Appendix 6.3 of this Permit, as
31 approved pursuant to Permit Condition [III.10.C.11.b.](#) For the purposes of this permit
32 condition, Operating Unit Group 10, Appendix 6.3 will be superseded by Appendix 6.4
33 upon its approval pursuant to either Permit Conditions [III.10.C.11.c.](#) or [III.10.C.11.d.](#)
34 [[WAC 173-303-680\(2\)](#) and (3), and
35 [WAC 173-303-815\(2\)\(b\)\(ii\)](#)].
- 36 **III.10.J.1.b.xii** Except during periods of HLW Vitrification System startup and shutdown, compliance
37 with the operating conditions specified in Permit Condition [III.10.J.1.c.](#), will be regarded
38 as compliance with the required performance standards identified in Permit Conditions
39 [III.10.J.1.b.i.](#) through [x.](#) However, if it is determined that during the effective period of
40 this Permit that compliance with the operating conditions in Permit Condition [III.10.J.1.c.](#)
41 is not sufficient to ensure compliance with the performance standards specified in Permit
42 Conditions [III.10.J.1.b.i.](#) through [x.](#), the Permit may be modified, revoked, or reissued
43 pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#), or [III.10.C.2.g.](#)
- 44 **III.10.J.1.c** Operating Conditions [[WAC-303-670\(6\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and
45 (3)].

1 The Permittees will operate the HLW Vitrification System in accordance with Operating
 2 Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit Condition
 3 [III.10.J.5.e.vi.](#), and Operating Unit Group 10, Appendix 10.18 of this Permit, as approved
 4 pursuant to Permit Condition [III.10.J.5.e.](#), and Operating Unit Group 10, Appendix 10.15
 5 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#), except as modified
 6 pursuant to Permit Conditions [III.10.J.1.b.xii.](#), [III.10.J.2.](#), [III.10.J.3.](#), [III.10.J.4.](#), and in
 7 accordance with the following:

- 8 **III.10.J.1.c.i** The Permittees will operate the HLW Vitrification System in order to maintain the
 9 systems and process parameters listed in Permit Tables [III.10.J.C](#) and [III.10.J.F](#), as
 10 approved/modified pursuant to Permit Condition [III.10.J.5.](#), within the set-points
 11 specified in Permit Table [III.10.J.F](#).
- 12 **III.10.J.1.c.ii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.J.F](#), as
 13 approved/modified pursuant to Permit Condition [III.10.J.5.](#), to automatically cut-off
 14 and/or lock-out the dangerous and mixed waste feed to the HLW Vitrification System
 15 when the monitored operating conditions deviate from the set-points specified in Permit
 16 Table [III.10.J.F](#).
- 17 **III.10.J.1.c.iii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.J.F](#), as
 18 approved/modified pursuant to Permit Condition [III.10.J.5.](#), to automatically cut-off
 19 and/or lock-out the dangerous and mixed waste feed to the HLW Vitrification System
 20 when all instruments specified on Permit Table [III.10.H.F](#) for measuring the monitored
 21 parameters fails or exceeds its span value
- 22 **III.10.J.1.c.iv** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.J.F](#), as
 23 approved/modified pursuant to Permit Condition [III.10.J.5.](#), to automatically cut-off
 24 and/or lock out the dangerous and/or mixed waste feed to the HLW Vitrification System
 25 when any portion of the HLW Vitrification System is bypassed. The terms “bypassed”
 26 and “bypass event” as used in Permit Sections [III.10.J](#) and [III.10.K](#) will mean if any
 27 portion of the HLW Vitrification System is bypassed so that gases are not treated as
 28 during the Demonstration Test.
- 29 **III.10.J.1.c.v** In the event of a malfunction of the AWFCO systems listed in Permit Table [III.10.J.F](#), as
 30 approved/modified pursuant to Permit Condition [III.10.J.5.](#), the Permittees will
 31 immediately, manually cut-off the dangerous and mixed waste feed to the HLW
 32 Vitrification System. The Permittees will not restart the dangerous and/or mixed waste
 33 feed until the problem causing the malfunction has been identified and corrected.
- 34 **III.10.J.1.c.vi** The Permittees will manually cut-off the dangerous and mixed waste feed to the HLW
 35 Vitrification System when the operating conditions deviate from the limits specified in
 36 Permit Condition [III.10.J.1.c.i.](#), unless the deviation automatically activates the waste
 37 feed cut-off sequence specified in Permit Conditions [III.10.J.1.c.ii.](#), [III.10.J.1.c.iii.](#), and/or
 38 [III.10.J.1.c.iv.](#)
- 39 **III.10.J.1.c.vii** If greater than thirty (30) dangerous and mixed waste feed cut-offs, combined, to the
 40 HLW Vitrification System occur due to deviations from Permit Table [III.10.J.F](#), as
 41 approved/modified pursuant to Permit Condition [III.10.J.5.](#), within a sixty (60) day
 42 period, the Permittees will submit a written report to Ecology within five (5) calendar
 43 days of the thirty-first exceedance including the information specified below. These
 44 dangerous and mixed waste feed cut-offs to the HLW Vitrification System, whether
 45 automatically or manually activated, are counted if the specified set-points are deviated
 46 from while dangerous waste, mixed waste, and waste residues continue to be processed in
 47 the HLW Vitrification System. A cascade event is counted at a frequency of one (1)

1 towards the first waste feed cut-off parameter, specified on Permit Table [III.10.J.F](#), from
2 which the set-point is deviated:

- 3 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.J.F](#).
- 4 B. The magnitude, dates, and duration of the deviations.
- 5 C. Results of the investigation of the cause of the deviations.
- 6 D. Corrective measures taken to minimize future occurrences of the deviations.

7 **III.10.J.1.c.viii** If any portion of the HLW Vitrification System is bypassed while treating dangerous
8 and/or mixed waste, it will be regarded as non-compliance with the operating conditions
9 specified in Permit Condition [III.10.J.1.c](#), and the performance standards specified in
10 Permit Condition [III.10.J.1.b](#). After such a bypass event, the Permittees will perform the
11 following actions:

- 12 A. Investigate the cause of the bypass event.
- 13 B. Take appropriate corrective measures to minimize future bypasses.
- 14 C. Record the investigation findings and corrective measures in the operating record.
- 15 D. Submit a written report to Ecology within five (5) days of the bypass event
16 documenting the result of the investigation and corrective measures.

17 **III.10.J.1.c.ix** The Permittees will control fugitive emissions from the HLW Vitrification System by
18 maintaining the melter under negative pressure.

19 **III.10.J.1.c.x** Except during periods of HLW Vitrification System startup and shutdown, compliance
20 with the operating conditions specified in Permit Condition [III.10.J.1.c](#), will be regarded
21 as compliance with the required performance standards identified in Permit Condition
22 [III.10.J.1.b](#). However, evidence that compliance with these operating conditions is
23 insufficient to ensure compliance with the performance standards, will justify
24 modification, revocation, or re-issuance of this Permit, in accordance with Permit
25 Conditions [III.10.C.2.e](#), and [III.10.C.2.f](#), or [III.10.C.2.g](#).

26 **III.10.J.1.d** Inspection Requirements [[WAC 173-303-680\(3\)](#)].

27 **III.10.J.1.d.i** The Permittees will inspect the HLW Vitrification System in accordance with the
28 Inspection Plan in Operating Unit Group 10, Chapter 6A of this Permit, as modified in
29 accordance with Permit Condition [III.10.C.5.c](#).

30 **III.10.J.1.d.ii** The inspection data for HLW Vitrification System will be recorded, and the records will
31 be placed in the WTP Unit operating record for the HLW Vitrification System, in
32 accordance with Permit Condition [III.10.C.4](#).

33 **III.10.J.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating Unit
34 Group 10, Appendix 10.15 of this Permit, as approved pursuant to Permit Condition
35 [III.10.J.5.f](#), and as modified by Permit Conditions [III.10.J.1.b.xii](#), [III.10.J.2](#), [III.10.J.3](#),
36 and [III.10.J.4](#).

37 **III.10.J.1.e** Monitoring Requirements [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
38 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
39 [WAC 173-303-680\(3\)](#)]

40 **III.10.J.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
41 and analysis of the dangerous and mixed waste and exhaust emissions to verify that the

- 1 operating requirements established in the Permit achieve the performance standards
2 delineated in this Permit.
- 3 **III.10.J.1.e.ii** The Permittees will comply with the monitoring requirements specified in Operating Unit
4 Group 10, Appendices 10.2, 10.3, 10.7, 10.13, 10.15, and 10.18 of this Permit, as
5 approved pursuant to Permit Conditions [III.10.J.5.c.](#), [III.10.J.5.d.](#), [III.10.J.5.e.](#), and
6 [III.10.J.5.f.](#), as modified by Permit Conditions [III.10.J.1.b.xii.](#), [III.10.J.2.](#), [III.10.J.3.](#), and
7 [III.10.J.4.](#)
- 8 **III.10.J.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
9 hydrocarbon continuous emission monitors (CEM) specified in this Permit in accordance
10 with Performance Specification 4B and 8A of [40 CFR Part 60](#), Appendix B, in
11 accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and Operating Unit Group
12 10 Appendix 10.15 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#),
13 and as modified by Permit Conditions [III.10.J.1.b.xii.](#), [III.10.J.2.](#), [III.10.J.3.](#), and
14 [III.10.J.4.](#)
- 15 **III.10.J.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified on Permit
16 Tables [III.10.J.C](#) and [F](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), in
17 accordance with Operating Unit Group 10, Appendix 10.15 of this Permit, as approved
18 pursuant to Permit Condition [III.10.J.5.f.](#), and as modified by Permit Conditions
19 [III.10.J.1.b.xii.](#), [III.10.J.2.](#), [III.10.J.3.](#), and [III.10.J.4.](#)
- 20 **III.10.J.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680\(3\)](#)]
- 21 **III.10.J.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the HLW
22 Vitrification System, all monitoring, calibration, maintenance, test data, and inspection
23 data compiled under the conditions of this Permit, in accordance with Permit Conditions
24 [III.10.C.4.](#) and [III.10.C.5.](#), as modified by Permit Conditions [III.10.J.1.b.xii.](#), [III.10.J.2.](#),
25 [III.10.J.3.](#), and [III.10.J.4.](#)
- 26 **III.10.J.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and duration
27 of all automatic waste feed cut-offs and/or lockouts, including the triggering parameters,
28 reason for the deviation, and recurrence of the incident. The Permittees will also record
29 all incidents of AWFCO system function failures, including the corrective measures
30 taken to correct the condition that caused the failure.
- 31 **III.10.J.1.f.iii** The Permittees will submit to Ecology a report semi-annually the first calendar year, and
32 annually thereafter each calendar year within ninety (90) days following the end of the
33 year. The report will include the following information:
- 34 A. Total dangerous and mixed waste feed processing time for the HLW Vitrification
35 System.
- 36 B. Date/Time of all HLW Vitrification System startups and shutdown.
- 37 C. Date/Time/Duration/Cause/Corrective Action taken for all HLW Vitrification
38 System shutdowns caused by malfunction of either process or control equipment.
- 39 D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
40 and/or mixed waste feed cut-off due to deviations from Permit Table [III.10.J.F](#), as
41 approved/modified pursuant to Permit Condition [III.10.J.5.](#)
- 42 **III.10.J.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within ninety
43 (90) days following the end of the year of all quarterly CEM Calibration Error and

- 1 Annual CEM Performance Specification Tests conducted in accordance with Permit
2 Condition [III.10.J.1.e.iii](#).
- 3 **III.10.J.1.g** Closure
- 4 The Permittees will close the HLW Vitrification System in accordance with Operating
5 Unit Group 10, Addendum H of this Permit, as approved pursuant to Permit Condition
6 [III.10.C.8](#).
- 7 **III.10.J.2** **Shakedown Period [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
8 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
9 [WAC 173-303-680\(2\)](#) and (3)].**
- 10 **III.10.J.2.a** The shakedown period for the HLW Vitrification System will be conducted in
11 accordance with Permit Condition [III.10.J.1](#)., Operating Unit Group 10, Appendix 10.15
12 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#), and as modified in
13 accordance with Permit Conditions [III.10.J.1.b.xii](#)., [III.10.J.2](#)., and [III.10.J.3](#).
- 14 **III.10.J.2.b** Duration of the Shakedown Period
- 15 **III.10.J.2.b.i** The shakedown period for the HLW Vitrification System will begin with the initial
16 introduction of dangerous waste in the HLW Vitrification System following construction
17 and will end with the start of the demonstration test.
- 18 **III.10.J.2.b.ii** The shakedown period will not exceed the following limits, as defined by hours of
19 operation, when the HLW Vitrification System is processing dangerous waste. The
20 Permittees may petition Ecology for one (1) extension of each shakedown phase for
21 seven hundred and twenty (720) additional operating hours in accordance with permit
22 modification procedures specified in Permit Conditions [III.10.C.2.e](#). and [III.10.C.2.f](#).
- 23 Shakedown Phase 1: 720 hours
- 24 Shakedown Phase 2: 720 hours
- 25 **III.10.J.2.b.iii** Shakedown Phase 2 will not be commenced until documentation has been submitted to
26 Ecology verifying that the HLW Vitrification System has operated at a minimum of 75%
27 of the shakedown Phase 1 feed-rate limit for two (2) separate eight (8) consecutive hour
28 periods with no AWFCOs.
- 29 **III.10.J.2.c** Allowable Waste Feed During the Shakedown Period
- 30 **III.10.J.2.c.i** The Permittees may feed the dangerous waste specified for the HLW Vitrification System
31 on the Part A Forms (Operating Unit Group 10, Chapter 1 of this Permit), except for
32 those waste outside the waste acceptance criteria specified in the WAP, Operating Unit
33 Group 10, Chapter 3 of this Permit, as approved pursuant to Permit Condition [III.10.C.3](#).,
34 except Permit Conditions [III.10.J.2.c.ii](#). through [v](#). also apply.
- 35 **III.10.J.2.c.ii** The Permittees will not feed the following waste to the HLW Vitrification System during
36 Shakedown Phase 1:
- 37 A. Acutely toxic dangerous waste listed in [WAC 173-303-081\(a\)\(2\)\(a\)\(i\)](#).
- 38 B. Mixed waste
- 39 **III.10.J.2.c.iii** The Permittees will not feed the following waste to the HLW Vitrification System during
40 Shakedown Phase 2:
- 41 A. Mixed waste

- 1 **III.10.J.2.c.iv** The feed-rates to the HLW Vitrification System will not exceed the limits in Permit
2 Tables [III.10.J.D](#) and [III.10.J.F](#), as approved/modified pursuant to Permit Condition
3 [III.10.J.5](#).
- 4 **III.10.J.2.c.v** The Permittees will conduct sufficient analysis of the dangerous waste treated in the
5 HLW Vitrification System to verify that the waste feed is within the physical and
6 chemical composition limits specified in this Permit.
- 7 **III.10.J.3** **Demonstration Test Period** [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
8 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
9 [WAC 173-303-680\(2\)](#) and (3)]
- 10 **III.10.J.3.a** Demonstration Test Period
- 11 **III.10.J.3.a.i** The Permittees will operate, monitor, and maintain the HLW Vitrification System as
12 specified in Permit Condition [III.10.J.1.](#), and Operating Unit Group 10, Appendix 10.15
13 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f](#), except as modified
14 in accordance with Permit Conditions [III.10.J.1.b.xii](#). and [III.10.J.3](#).
- 15 **III.10.J.3.a.ii** Operating Unit Group 10, Appendix 10.15 of this Permit, as approved pursuant to Permit
16 Condition [III.10.J.5.f](#), will be re-submitted to Ecology for approval by the Permittees as
17 a permit modification pursuant to Permit Conditions [III.10.C.2.e](#). and [III.10.C.2.f](#). at least
18 one hundred and eighty (180) days prior to the start date of the demonstration test. The
19 revised Demonstration Test Plan will include applicable EPA promulgated test methods
20 and procedures in effect at the time of the re-submittal and projected commencement and
21 completion dates for the Demonstration Test.
- 22 **III.10.J.3.a.iii** The Permittees will not commence the demonstration test period until documentation has
23 been submitted to Ecology verifying that the HLW Vitrification System has operated at a
24 minimum of 75% of the demonstration test period feed-rate limit for a minimum of an
25 eight (8) consecutive hours period on two (2) consecutive days.
- 26 **III.10.J.3.b** Performance Standards
- 27 The Permittees will demonstrate compliance with the performance standards specified in
28 Permit Condition [III.10.J.1.b](#). during the Demonstration Test Period.
- 29 **III.10.J.3.c** Allowable Waste Feed During the Demonstration Test Period
- 30 **III.10.J.3.c.i** The Permittees may feed the dangerous waste specified for the HLW Vitrification System
31 in Part A Forms (Operating Unit Group 10, Chapter 1 of this Permit), except for those
32 waste outside the waste acceptance criteria specified in the WAP, Operating Unit Group
33 10, Chapter 3 of this Permit, as approved pursuant to Permit Condition [III.10.C.3.](#), except
34 Permit Conditions [III.10.J.3.c.ii](#). through [iv](#). also apply.
- 35 **III.10.J.3.c.ii** The Permittees will not feed mixed waste to the HLW Vitrification System.
- 36 **III.10.J.3.c.iv.** The dangerous waste feed-rates to the HLW Vitrification System will not exceed the
37 limits in Permit Tables [III.10.J.D](#) and [E](#), as approved/modified pursuant to Permit
38 Condition [III.10.J.5](#).
- 39 **III.10.J.3.c.v.** The Permittees will conduct sufficient analysis of the dangerous waste treated in the
40 HLW Vitrification System to verify that the dangerous waste is within the physical and
41 chemical composition limits specified in this Permit.
- 42 **III.10.J.3.d** Demonstration Data Submissions and Certifications
- 43 **III.10.J.3.d.i** The Permittees will submit to Ecology a complete demonstration test report within one
44 hundred and eighty (180) calendar days of completion of the Demonstration Test

1 including all data collected during the Demonstration Test and updated Permit Tables
2 [III.10.K.D](#), [III.10.K.E](#), and [III.10.K.F](#).

3 **III.10.J.3.d.ii** The Permittees must submit the following information to Ecology prior to receiving
4 Ecology's approval to commence feed of dangerous waste and mixed waste to the HLW
5 Vitrification System:

- 6 A. The Permittees will submit a summary of data collected as required during the
7 Demonstration Test to Ecology upon completion of the Demonstration Test.
- 8 B. A certification that the Demonstration Test has been carried out in accordance
9 with the approved Demonstration Test Plan and approved modifications within
10 thirty (30) days of the completion of the Demonstration Test [[WAC 173-303-](#)
11 [807\(8\)](#)].
- 12 C. Calculations and analytical data showing compliance with the performance
13 standards specified in Permit Conditions [III.10.J.1.b.i](#), [III.10.J.1.b.iv](#),
14 [III.10.J.1.b.v](#), [III.10.J.1.b.vi](#), and [III.10.J.1.b.vii](#)
- 15 D. Laboratory data QA/QC summary for the information provided in
16 [III.10.J.3.d.ii.C](#).

17 **III.10.J.3.d.iii** After successful completion of the Demonstration Test and receipt of Ecology's approval,
18 the Permittees will be authorized to commence feed of dangerous waste and mixed waste
19 to the HLW Vitrification System for the post-demonstration test period indicated in
20 Permit Tables [III.10.J.D](#) and [F](#), as approved/modified pursuant to Permit Condition
21 [III.10.J.5](#), in compliance with the operating requirements specified in Permit Condition
22 [III.10.J.1.c](#), and within the limitations specified in Permit Condition [III.10.C.14](#).

23 **III.10.J.3.d.iv** RESERVED

24 **III.10.J.3.d.v** After successful completion of the Demonstration Test, Permittees submittal of the
25 following to Ecology, and Permittees receipt of Ecology approval of the following in
26 writing, the Permittees will be authorized to feed dangerous waste and mixed waste to the
27 HLW Vitrification System pursuant to Permit Section [III.10.K](#).

- 28 A. A complete Demonstration Test Report for the HLW Vitrification System and
29 updated Permit Tables [III.10.K.D](#), [III.10.K.E](#), and [III.10.K.F](#) as
30 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.10.C.11.c](#), or
31 [III.10.C.11.d](#), the test report will be certified in accordance with [WAC 173-303-](#)
32 [807\(8\)](#), in accordance with [WAC 173-303-680\(2\)](#) and (3).
- 33 B. A Final Risk Assessment Report completed pursuant to Permit Conditions
34 [III.10.C.11.c](#) or [III.10.C.11.d](#).

35 **III.10.J.3.d.vi** If any calculations or testing results show that one or more of the performance standards
36 listed in Permit Condition [III.10.J.1.b.](#), with the exception of Permit Condition
37 [III.10.J.1.b.x.](#), for the HLW Vitrification System were not met during the Demonstration
38 Test, the Permittees will perform the following actions:

- 39 A. Immediately stop dangerous and mixed waste feed to the HLW Vitrification
40 System under the mode of operation that resulted in not meeting the performance
41 standard(s).
- 42 B. Verbally notify Ecology within twenty-four (24) hours of discovery of not
43 meeting the performance standard(s) as specified in Permit Condition I.E.21.

- 1 C. Investigate the cause of the failure and submit a report of the investigation
2 findings to Ecology within fifteen (15) days of discovery of not meeting the
3 performance standard(s).
- 4 D. Submit to Ecology within fifteen (15) days of discovery of not meeting the
5 performance standard(s), documentation supporting a mode of operation where all
6 performance standards listed in Permit Condition [III.10.J.1.b.](#), with the exception
7 of Permit Condition [III.10.J.1.b.x.](#), for the HLW Vitrification System were met
8 during the demonstration test, if any such mode was demonstrated.
- 9 E. Based on the information provided to Ecology by the Permittees, pursuant to
10 Permit Conditions [III.10.J.3.d.vi.A](#) through D above, and any additional
11 information, Ecology may provide, in writing, direction to the Permittees to stop
12 dangerous and/or mixed waste feed to the LAW Vitrification System and/or
13 amend the mode of operation the Permittees are allowed to continue operations
14 prior to Ecology approval of a compliance schedule and/or revised Demonstration
15 Test Plan, pursuant to Permit Conditions [III.10.J.3.d.vi.F](#) and [G](#).
- 16 F. If the performance standard listed in Permit Condition [III.10.J.1.b.i.](#) was not met
17 during the Demonstration Test, the Permittees will submit within one hundred and
18 twenty (120) days of discovery of not meeting the performance standard, a revised
19 Demonstration Test Plan (if appropriate) and a compliance schedule for Ecology
20 approval to address this deficiency. If a revised Demonstration Test Plan is
21 submitted, it will be accompanied by a request for approval to retest as a permit
22 modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The
23 revised Demonstration Test Plan (if submitted) must include substantive changes
24 to prevent failure from reoccurring.
- 25 G. If any of the performance standards listed in Permit Condition [III.10.J.1.b.](#), with
26 the exception of Permit Conditions [III.10.J.1.b.i.](#) or [III.10.J.1.b.x.](#), were not met
27 during the Demonstration Test, the Permittees will submit to Ecology within one
28 hundred and twenty (120) days of discovery of not meeting the performance
29 standard(s), a revised Demonstration Test Plan requesting approval to retest as a
30 permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)
31 The revised Demonstration Test Plan must include substantive changes to prevent
32 failure from reoccurring.

33 **III.10.J.3.d.vii** If any calculations or testing results show that any emission rate for any constituent listed
34 in Permit Table [III.10.J.E](#), as approved pursuant to Permit Condition [III.10.C.11.b.](#), is
35 exceeded for HLW Vitrification System during the Demonstration Test, the Permittees
36 will perform the following actions:

- 37 A. Verbally notify Ecology within twenty-four (24) hours of the discovery of
38 exceeding the emission rate(s) as specified in Permit Condition I.E.21.
- 39 B. Submit to Ecology additional risk information to indicate that the increased
40 emissions impact is offset by decreased emission impact from one or more
41 constituents expected to be emitted at the same time, and/or investigate the cause
42 and impact of the exceedance of the emission rate(s) and submit a report of the
43 investigation findings to Ecology within fifteen (15) days of the discovery of
44 exceeding the emission rate(s).
- 45 C. Based on the notification and any additional information, Ecology may provide,
46 in writing, direction to the Permittees to stop dangerous and/or mixed waste feed
47 to the HLW Vitrification System and/or to submit a revised Demonstration Test
48 Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and

1 [III.10.C.2.f.](#), or [III.10.C.2.g.](#) The revised Demonstration Test Plan must include
2 substantive changes to prevent failure from reoccurring.

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

5 **III.10.J.4.a** The Permittees will operate, monitor, and maintain the HLW Vitrification System as
6 specified in Permit Condition [III.10.J.1.](#) and Operating Unit Group 10, Appendix 10.15 of
7 this Permit, as approved pursuant to Permit Condition [III.10.J.5.](#), except as modified in
8 accordance with Permit Conditions [III.10.J.1.b.xii.](#), [III.10.J.3.](#), and [III.10.J.4.](#)

9 **III.10.J.4.b** Allowable Waste Feed During the Post-Demonstration Test Period

10 **III.10.J.4.b.i** The Permittees may feed the dangerous and/or mixed waste specified for the HLW
11 Vitrification System on the Part A Forms (Operating Unit Group 10, Chapter 1 of this
12 Permit), except for those waste outside the waste acceptance criteria specified in the
13 WAP, Operating Unit Group 10, Chapter 3 of this Permit, as approved pursuant to Permit
14 Condition [III.10.C.3.](#), and except Permit Conditions [III.10.J.4.b.ii.](#) and [III.10.J.4.b.iii.](#) also
15 apply.

16 **III.10.J.4.b.ii** The dangerous waste and mixed waste feed rates to the HLW Vitrification System will
17 not exceed the limits in Permit Tables [III.10.J.D](#) and [E](#), as approved/modified pursuant to
18 Permit Condition [III.10.J.5.](#), or in Permit Condition [III.10.J.3.](#)

19 **III.10.J.4.b.iii** The Permittees will conduct sufficient analysis of the dangerous waste and mixed waste
20 treated in HLW Vitrification System to verify that the waste feed is within the physical
21 and chemical composition limits specified in this Permit.

22 **III.10.J.5 Compliance Schedules**

23 **III.10.J.5.a** All information identified for submittal to Ecology in a. through f. of this compliance
24 schedule must be signed and certified in accordance with requirements in
25 [WAC 173-303-810\(12\)](#), as modified in accordance with Permit Condition [III.10.J.1.a.iii.](#)
26 [\[WAC 173-303-806\(4\)\]](#).

27 **III.10.J.5.b** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
28 to construction of each secondary containment and leak detection system for the HLW
29 Vitrification System (per level) as identified in Permit Tables [III.10.J.A](#) and [III.10.J.B](#),
30 engineering information as specified below, for incorporation into Operating Unit Group
31 10, Appendices 10.2, 10.4, 10.5, 10.7, 10.8, 10.9, 10.11, and 10.12 of this Permit. At a
32 minimum, engineering information specified below will show the following as described
33 in [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#) (the information specified
34 below will include dimensioned engineering drawings and information on sumps and
35 floor drains):

36 **III.10.J.5.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak detection
37 system) will include review of design drawings, calculations, and other information on
38 which the certification report is based and will include, but not limited to, review of such
39 information described below. Information (drawings, specifications, etc.) already
40 included in Operating Unit Group 10, Appendix 10.0 of this Permit, may be included in
41 the report by reference and should include drawing and document numbers. IQRPE
42 Reports will be consistent with the information separately provided in [ii.](#) through [ix.](#)

- 1 below [WAC 173-303-640\(3\)\(a\)](#), in accordance with
 2 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)](#)];
- 3 **III.10.J.5.b.ii** Design drawings (General Arrangement Drawings, plan) and specifications for the
 4 foundation, secondary containment including liner installation details, and leak detection
 5 methodology. These items should show the dimensions, volume calculations, and
 6 location of the secondary containment system, and should include items such as
 7 floor/pipe slopes to sumps, tanks, floor drains
 8 [WAC 173-303-640\(4\)\(b\)](#) through (f) and [WAC 173-303-640\(3\)\(a\)](#), in accordance with
 9 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)](#)];
- 10 **III.10.J.5.b.iii** The Permittees will provide the design criteria (references to codes and standards, load
 11 definitions, and load combinations, materials of construction, and analysis/design
 12 methodology) and typical design details for the support of the secondary containment
 13 system. This information will demonstrate the foundation will be capable of providing
 14 support to the secondary containment system, resistance to pressure gradients above and
 15 below the system, and capable of preventing failure due to settlement, compression, or
 16 uplift [WAC 173-303-640\(4\)\(c\)\(ii\)](#), in accordance with [WAC 173-303-680\(2\)](#) and [WAC](#)
 17 [173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 18 **III.10.J.5.b.iv** A description of materials and equipment used to provide corrosion protection for
 19 external metal components in contact with soil, including factors affecting the potential
 20 for corrosion [WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#), in accordance with
 21 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];
- 22 **III.10.J.5.b.v** Secondary containment/foundation, and leak detection system, materials selection
 23 documentation (including, but not limited to, concrete coatings and water stops, and liner
 24 materials), as applicable [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];
- 25 **III.10.J.5.b.vi** Detailed description of how the secondary containment for the HLW Vitrification System
 26 will be installed in compliance with [WAC 173-303-640\(3\)\(c\)](#), in accordance with [WAC](#)
 27 [173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B);
- 28 **III.10.J.5.b.vii** Submit Permit Tables [III.10.J.B](#) and [III.10.K.B](#) completed to provide for all secondary
 29 containment sumps and floor drains the information, as specified in each column heading
 30 consistent with information to be provided in [i](#). through [vi](#)., above;
- 31 **III.10.J.5.b.viii** Documentation that secondary containment and leak detection systems will not
 32 accumulate hydrogen gas levels above the lower explosive limit for incorporation into the
 33 Administrative Record [WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#), and [WAC](#)
 34 [173-303-806\(4\)\(i\)\(v\)](#)];
- 35 **III.10.J.5.b.ix** A detailed description of how HLW Vitrification System design provides access for
 36 conducting future HLW Vitrification System integrity assessments
 37 [WAC 173-303-640\(3\)\(b\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)].
- 38 **III.10.J.5.c** The Permittees will submit to Ecology pursuant to Permit Condition [III.10.C.9.f.](#), prior to
 39 installation of each sub-system as identified in Permit Table [III.10.J.A](#), engineering
 40 information as specified below, for incorporation into Operating Unit Group 10,
 41 Appendices 10.1 through 10.14 and 10.17 of this Permit. At a minimum, engineering
 42 information specified below will show the following, as required pursuant to
 43 [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#) (the information specified
 44 below will include dimensioned engineering drawings):
- 45 **III.10.J.5.c.i** IQRPE Reports (specific to sub-system) will include review of design drawings,
 46 calculations, and other information on which the certification report is based and will

1 include as applicable, but not limited to, review of such information described below.
 2 Information (drawings, specifications, etc.) already included in Operating Unit Group 10,
 3 Appendix 10.0 of this Permit, may be included in the report by reference and should
 4 include drawing and document numbers. The IQRPE Reports will be consistent with the
 5 information separately provided in ii. through xii. below and the IQRPE Report specified
 6 in Permit Condition [III.10.J.5.b.](#) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC](#)
 7 [173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)];

8 **III.10.J.5.c.ii** Design drawings [General Arrangement Drawings in plan, Process Flow Diagrams,
 9 Piping and Instrumentation Diagrams, (including pressure control systems), Mechanical
 10 Drawings, and specifications, and other information specific to subsystems (to show
 11 location and physical attributes of each subsystem specific to miscellaneous units)]
 12 [[WAC 173-303-640](#)(3)(a), in accordance with
 13 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)];

14 **III.10.J.5.c.iii** Sub-system design criteria (references to codes and, standards, load definitions, and load
 15 combinations, materials of construction, and analysis/design methodology) and typical
 16 design details to support the sub-systems. Structural support calculations specific to off-
 17 specification, non-standard, and field-fabricated subsystems will be submitted for
 18 incorporation into the Administrative Record. Documentation will include, but not be
 19 limited to, supporting specifications (test data, treatment effectiveness report, etc.),
 20 supporting projected operational capability (e.g., WESP projected removal efficiency for
 21 individual metals, halogens, particulates, etc.), and compliance with performance
 22 standards specified in Permit Condition [III.10.J.1.b](#) [[WAC 173-303-640](#)(3)(a), in
 23 accordance with [WAC 173-303-680](#)(2) and
 24 [WAC 173-303-806](#)(4)(i)(i)(B)];

25 **III.10.J.5.c.iv** A description of materials and equipment used to provide corrosion protection for
 26 external metal components in contact with water, including factors affecting the potential
 27 for corrosion [[WAC 173-303-640](#)(3)(a)(iii)(B), in accordance with
 28 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];

29 **III.10.J.5.c.v** Sub-system materials selection documentation (e.g., physical and chemical tolerances)
 30 [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and
 31 [WAC 173-303-806](#)(4)(i)(i)(A)];

32 **III.10.J.5.c.vi** Sub-system vendor information (including, but not limited to, required performance
 33 warranties, as available), consistent with information submitted under ii. above, will be
 34 submitted for incorporation into the Administrative Record
 35 [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2),
 36 [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)];

37 **III.10.J.5.c.vii** System descriptions related to sub-system units will be submitted for incorporation into
 38 the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A) through
 39 (B), and [WAC 173-303-806](#)(4)(i)(v)];

40 **III.10.J.5.c.viii** Mass and energy balance for normal projected operating conditions used in developing
 41 the Piping and Instrumentation Diagrams and Process Flow Diagrams, including
 42 assumptions and formulas used to complete the mass and energy balance, so that they can
 43 be independently verified for incorporation into the Administrative Record [[WAC 173-](#)

- 1 [303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and
 2 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 3 **III.10.J.5.c.ix** Detailed description of all potential HLW Vitrification System bypass events including:
- 4 A. A report which includes an analysis of credible potential bypass events and
 5 recommendations for prevention/minimization of the potential, impact, and
 6 frequency of the bypass event to include at a minimum:
- 7 1. Operating procedures
 8 2. Maintenance procedures
 9 3. Redundant equipment
 10 4. Redundant instrumentation
 11 5. Alternate equipment
 12 6. Alternate materials of construction
- 13 **III.10.J.5.c.x** A detailed description of how the sub-systems will be installed in compliance with
 14 [WAC 173-303-640\(3\)\(b\)](#), (c), (d), and (e), in accordance with [WAC 173-303-680](#) and
 15 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 16 **III.10.J.5.c.xi** Sub-system design to prevent escape of vapors and emissions of acutely or chronically
 17 toxic (upon inhalation) EHW, for incorporation into the Administrative Record [[WAC](#)
 18 [173-303-640\(5\)\(e\)](#)], in accordance with [WAC 173-303-680](#), (2), and
 19 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 20 **III.10.J.5.c.xii** Documentation that sub-systems are designed to prevent the accumulation of hydrogen
 21 gases levels above the lower explosive limit for incorporation into the Administrative
 22 Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)], and
 23 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 24 **III.10.J.5.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
 25 to installation of equipment for each sub-system as identified in Permit Tables [III.10.J.A](#)
 26 and [III.10.J.B](#), not addressed in Permit Conditions [III.10.J.5.b.](#) or [III.10.J.5.c.](#),
 27 engineering information as specified below, for incorporation into Operating Unit Group
 28 10, Appendices 10.1 through 10.14 of this Permit. At a minimum, engineering
 29 information specified below will show the following as required pursuant to in
 30 [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#) (the information specified
 31 below will include dimensioned engineering drawings):
- 32 **III.10.J.5.d.i** IQRPE Reports (specific to sub-system equipment) will include a review of design
 33 drawings, calculations, and other information as applicable on which the certification
 34 report is based. The reports will include, but not be limited to, review of such
 35 information described below. Information (drawings, specifications, etc.) already
 36 included in Operating Unit Group 10, Appendix 10.0 of this Permit, may be included in
 37 the report by reference and should include drawing and document numbers. The IQRPE
 38 Reports will be consistent with the information provided separately in ii. through xiii.
 39 below and the IQRPE Reports specified in Permit Conditions [III.10.J.5.b.](#) and [III.10.J.5.c.](#)
 40 [[WAC 173-303-640\(3\)\(a\)](#)], in accordance with
 41 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(I\)\(I\)\(A\)](#) through (B)];
- 42 **III.10.J.5.d.ii** Design drawings [Process Flow Diagrams, Piping and Instrumentation Diagrams
 43 (including pressure control systems), and specifications, and other information specific to
 44 equipment (these drawings should include all equipment such as pipes, valves, fittings,

- 1 pumps, instruments, etc.)] [[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-](#)
2 [680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B)];
- 3 **III.10.J.5.d.iii** Sub-system equipment design criteria (references to codes and standards, load definitions
4 and load combinations, materials of construction, and analysis/design methodology) and
5 typical design details for the support of the sub-system equipment.
6 [[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-640\(3\)\(f\)](#), in accordance with
7 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 8 **III.10.J.5.d.iv** A description of materials and equipment used to provide corrosion protection for
9 external metal components in contact with soil and water, including factors affecting the
10 potential for corrosion [[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#), in accordance with
11 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#)];
- 12 **III.10.J.5.d.v** Materials selection documentation for equipment for each sub-system (e.g., physical and
13 chemical tolerances) [[WAC 173-303-640\(3\)\(a\)](#), in accordance with
14 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#)];
- 15 **III.10.J.5.d.vi** Vendor information (including, but not limited to, required performance warranties, as
16 available), consistent with information submitted under ii. above, for sub-system
17 equipment will be submitted for incorporation into the Administrative Record
18 [[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#),
19 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(iv\)](#)];
- 20 **III.10.J.5.d.vii** Sub-system, sub-system equipment, and leak detection system instrument control logic
21 narrative description (e.g., descriptions of fail-safe conditions, etc.)
22 [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
23 [WAC 173-303-806\(4\)\(v\)](#)];
- 24 **III.10.J.5.d.viii** System description related to sub-system equipment, and system descriptions related to
25 leak detection systems, for incorporation into the Administrative Record
26 [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and
27 [WAC 173-303-806\(4\)\(v\)](#)];
- 28 **III.10.J.5.d.ix** A detailed description of how the sub-system equipment will be installed and tested
29 [[WAC 173-303-640\(3\)\(c\)](#) through (e) and [WAC 173-303-640\(4\)\(b\)](#) and (c), in
30 accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 31 **III.10.J.5.d.x** For process monitoring, control, and leak detection system instrumentation for the HLW
32 Vitrification System as identified in Permit Tables [III.10.J.C](#), and [III.10.J.F](#), a detailed
33 description of how the process monitoring, control, and leak detection system
34 instrumentation will be installed and tested [[WAC 173-303-640\(3\)\(c\)](#) through (e), [WAC](#)
35 [173-303-640\(4\)\(b\)](#) and (c), [WAC 173-303-806\(4\)\(c\)\(vi\)](#), and
36 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 37 **III.10.J.5.d.xi** Mass and energy balance for projected normal operating conditions used in developing
38 the Piping and Instrumentation Diagrams and Process Flow Diagrams, including
39 assumptions and formulas used to complete the mass and energy balance, so that they can
40 be independently verified, for incorporation into the Administrative Record [[WAC 173-](#)
41 [303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
42 [WAC 173-303-806\(4\)\(v\)](#)];
- 43 **III.10.J.5.d.xii** Documentation that sub-systems equipment are designed to prevent the accumulation of
44 hydrogen gas levels above the lower explosive limit into the Administrative Record
45 [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(A\)](#), and
46 [WAC 173-303-806\(4\)\(v\)](#)] [[WAC 173-303-815\(2\)\(b\)\(ii\)](#)];

- 1 **III.10.J.5.d.xiii** Leak Detection system documentation (e.g. vendor information etc.) consistent with
2 information submitted under Permit Condition [III.10.J.5.c.ii](#), and Permit Conditions
3 [III.10.J.5.d.ii](#), [vii](#), [viii](#), and [x](#) above, will be submitted for incorporation into the
4 Administrative Record.
- 5 **III.10.J.5.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
6 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), the following as
7 specified below for incorporation into Operating Unit Group 10, Appendix 10.18 of this
8 Permit, except Permit Condition [III.10.J.5.e.i](#), which will be incorporated into Operating
9 Unit Group 10, Addendum E of this Permit. All information provided under this permit
10 condition must be consistent with information provided pursuant to Permit Conditions
11 [III.10.J.5.b](#), [c](#), [d](#), [e](#), and [f](#), [III.10.C.3.e.v](#), and [III.10.C.11.b](#), as approved by Ecology:
- 12 **III.10.J.5.e.i** Integrity assessment program and schedule for the HLW Vitrification System will
13 address the conducting of periodic integrity assessments on the HLW Vitrification
14 System over the life of the system, as specified in Permit Condition [III.10.J.5.b.ix](#), and as
15 specified in [WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#), and
16 descriptions of procedures for addressing problems detected during integrity assessments.
17 The schedule must be based on past integrity assessments, age of the system, materials of
18 construction, characteristics of the waste, and any other relevant factors [[WAC 173-303-](#)
19 [640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#) and
20 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 21 **III.10.J.5.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated so
22 that it will detect the failure of either the primary or secondary containment structure or
23 the presence of any release of dangerous and/or mixed waste or accumulated liquid in the
24 secondary containment system within twenty-four (24) hours [[WAC 173-303-](#)
25 [640\(4\)\(c\)\(iii\)](#)]. Detection of a leak of at least 0.1 gallons per hour within twenty-four
26 (24) hours is defined as being able to detect a leak within twenty-four (24) hours. Any
27 exceptions to this criteria must be approved by Ecology in accordance with [WAC 173-](#)
28 [303-680](#), [WAC 173-303-640\(4\)\(c\)\(iii\)](#), and
29 [WAC 173-303-806\(4\)\(i\)\(b\)](#)];
- 30 **III.10.J.5.e.iii** Detailed operational plans and descriptions, demonstrating that spilled or leaked waste
31 and accumulated precipitation liquids can be removed from the secondary containment
32 system within twenty-four (24) hours [[WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 33 **III.10.J.5.e.iv** Descriptions of operational procedures demonstrating appropriate controls and practices
34 are in place to prevent spills and overflows from the HLW Vitrification System or
35 containment systems in compliance with [WAC 173-303-640\(5\)\(b\)\(i\)](#) through (iii), in
36 accordance with [WAC 173-303-680](#) and
37 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];
- 38 **III.10.J.5.e.v** Description of procedures for investigation and repair of the HLW Vitrification System
39 [[WAC 173-303-640\(6\)](#) and [WAC 173-303-640\(7\)\(e\)](#) and (f), in accordance with [WAC](#)
40 [173-303-680](#), [WAC 173-303-320](#), [WAC 173-303-806\(4\)\(ia\)\(iv\)](#), and
41 [WAC 173-303-806\(4\)\(a\)\(ii\)\(B\)](#)];
- 42 **III.10.J.5.e.vi** Updated Chapter 4, Narrative Description, Tables and Figures as identified in Permit
43 Tables [III.10.J.A](#) and [III.10.J.B](#), as modified pursuant to Permit Condition [III.10.H.5.e.x](#),
44 and updated to identify routinely non-accessible LAW Vitrification sub-systems.
- 45 **III.10.J.5.e.vii** Description of procedures for management of ignitable and reactive, and incompatible
46 dangerous and/or mixed waste as specified in accordance with

1 [WAC 173-303-640](#)(9) and (10), in accordance with [WAC 173-303-680](#) and
2 [WAC 173-303-806](#)(4)(i)(B).

3 **III.10.J.5.e.viii** A description of the tracking system used to track dangerous and/or mixed waste
4 generated throughout the HLW Vitrification System, pursuant to [WAC 173-303-380](#).

5 **III.10.J.5.e.ix** Permit Table [III.10.J.C](#) and [III.10.K.C](#) will be revised and/or completed for HLW
6 Vitrification System process and leak detection system monitors and instruments (to
7 include, but not be limited to: instruments and monitors measuring and/or controlling
8 flow, pressure, temperature, density, pH, level, humidity, and emissions) to provide the
9 information as specified in each column heading. Process and leak detection system
10 monitors and instruments for critical systems, as specified in Operating Unit Group 10,
11 Appendix 2.0 and as updated pursuant to Permit Condition [III.10.C.9.b](#), and for operating
12 parameters as required to comply with Permit Condition [III.10.C.3.e.iii](#), will be
13 addressed. Process monitors and instruments for non-waste management operations (e.g.,
14 utilities, raw chemical storage, non-contact cooling waters, etc.) are excluded from this
15 permit condition [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(A) through (B), and
16 [WAC 173-303-806](#)(4)(i)(v)];

17 **III.10.J.5.e.x** Permit Tables [III.10.J.A](#) and [III.10.K.A](#) amended as follows [[WAC 173-303-680](#) and
18 [WAC 173-303-806](#)(4)(i)(A) through (B)]:

- 19 A. Under column 1, update and complete list of dangerous and mixed waste HLW
20 Vitrification System sub-systems, including plant items that comprise each system
21 (listed by item number).
- 22 B. Under column 2, update and complete system designations.
- 23 C. Under column 3, replace the 'Reserved' with Operating Unit Group 10, Appendix
24 10.0 sub-sections (e.g., 10.1, 10.2, etc.) designated in Permit Conditions
25 [III.10.J.5.b](#), [c](#), and [d](#) specific to HLW Vitrification System sub-system, as listed
26 in column 1.
- 27 D. Under column 4, update and complete list of narrative description, tables, and
28 figures.

29 **III.10.J.5.f** One hundred and eighty (180) days prior to initial receipt of dangerous and/or mixed
30 waste in the WTP Unit, the Permittees will submit for review and receive approval for
31 incorporation into Operating Unit Group 10, Appendix 10.15 of this Permit, a
32 Demonstration Test Plan for the HLW Vitrification System to demonstrate that the HLW
33 Vitrification Systems meets the performance standards specified in Permit Condition
34 [III.10.J.1.b](#). In order to incorporate the Demonstration Test Plan for the HLW
35 Vitrification System into Operating Unit Group 10, Appendix 10.15, Permit Condition
36 [III.10.C.2.g](#), process will be followed. The Demonstration Test Plan will include, but not
37 be limited to, the following information. The Demonstration Test Plan will also be
38 consistent with the information provided pursuant to Permit Conditions [III.10.J.5.b](#), [c](#), [d](#),
39 and [e](#), [III.10.C.3.e.v](#), and [III.10.C.11.b](#), as approved by Ecology and consistent with the
40 schedule described in Operating Unit Group 10, Appendix 1.0 of this Permit. The
41 documentation required pursuant to Permit Condition [III.10.J.5.f.xvi](#), in addition to being
42 incorporated into Operating Unit Group 10, Appendix 10.15, will be incorporated by
43 reference in Operating Unit Group 10, Addendum E of this Permit.

44 *Notes (1) The following should be consulted to prepare this Demonstration Test Plan*
45 *"Guidance on Setting Permit Conditions and Reporting Trial Burn Results Volume II of*
46 *the Hazardous Waste Incineration Guidance Series", and EPA/625/6-89/019 and Risk*
47 *Burn Guidance For Hazardous Waste Combustion Facilities", EPA-R-01-001, July 2001,*

1 [WAC 173-303-807\(2\)](#), [WAC 173-303-670\(5\)](#), [WAC-173-303-670\(6\)](#),
2 [40 CFR §63.1207\(f\)\(2\)](#), [40 CFR §63.1209](#) and Appendix to [40 CFR Part 63 EEE](#).

3 *(2) Cross-referencing to the information provided pursuant to permit Conditions*
4 *[III.H.5.b.](#), [c.](#), [d.](#), [e.](#) and [III.10.C.3.e.v.](#), as approved by Ecology, that are redundant to*
5 *elements of the Demonstration Test Plan for the HLW Vitrification System is acceptable.*

6 **III.10.J.5.f.i** Analysis of each feed-stream to be fed during the demonstration test, including dangerous
7 waste, glass formers and reductants, process streams (e.g., control air, process air, steam,
8 sparge bubbler air, air in-leakage from melter cave, and gases from HLW Vitrification
9 Vessel Ventilation System, process water, etc.) that includes:

- 10 A. Levels of ash, levels of metals, total chlorine (organic and inorganic), other
11 halogens and radionuclide surrogates.
- 12 B. Description of the physical form of the feed-streams;
- 13 C. An identification and quantification of organics that are present in the feed-
14 stream, including constituents proposed for DRE demonstration;

15 A comparison of the proposed demonstration test feed streams to the mixed waste
16 feed envelopes to be processed in the melter must be provided that documents that
17 the proposed demonstration test feed streams will serve as worst case surrogates for
18 organic destruction, formation of products of incomplete oxidation, and metals, total
19 chlorine (organic and inorganic), other halogens, particulate formation, and
20 radionuclides;

21 **III.10.J.5.f.ii** Specification of trial principal organic dangerous constituents (PODCs) for which
22 destruction and removal efficiencies are proposed to be calculated during the
23 demonstration test and for inclusion in Permit Conditions [III.10.J.1.b.i.](#) and [III.10.K.1.b.i.](#)
24 These trial PODCs will be specified based on destructibility, concentration or mass in the
25 waste and the dangerous waste constituents or constituents in [WAC 173-303-9905](#);

26 **III.10.J.5.f.iii** A description of the blending procedures, prior to introducing the feed-streams into the
27 melter, including analysis of the materials prior to blending, and blending ratios;

28 **III.10.J.5.f.iv** A description of how the surrogate feeds are to be introduced for the demonstration. This
29 description should clearly identify the differences and justify how any of differences
30 would impact the surrogate feed introduction as representative of how mixed waste feeds
31 will be introduced;

32 **III.10.J.5.f.v** A detailed engineering description of the HLW Vitrification System, including:

- 33 A. Manufacturer's name and model number for each sub-system.
- 34 B. Design capacity of each sub-system including documentation (engineering
35 calculations, manufacturer/vendor specifications, operating data, etc.) supporting
36 projected operational efficiencies (e.g., WESP projected removal efficiency for
37 individual metals, halogens, particulates, etc.) and compliance with performance
38 standards specified in Permit Condition [III.10.J.1.b.](#)
- 39 C. Detailed scaled engineering drawings, including Process Flow Diagrams, Piping
40 and Instrumentation Diagrams, Vessel Drawings (plan, and elevation with cross
41 sections) and General Arrangement Drawings.
- 42 D. Process Engineering Descriptions.
- 43 E. Mass and energy balances for each projected operating condition and each
44 demonstration test condition, including assumptions and formulas used to

- 1 complete mass and energy balances so that they can be independently verified
 2 for incorporation into the Administrative Record.
- 3 F. Engineering Specifications/data sheets (materials of construction, physical and
 4 chemical tolerances of equipment, equipment performance warranties, and fan
 5 curves).
- 6 G. Detailed Description of Automatic Waste Feed Cut-off System addressing critical
 7 operating parameters for all performance standards specified in Permit Condition
 8 [III.10.J.1.b.](#)
- 9 H. Documentation to support compliance with performance standards specified in
 10 Permit Condition [III.10.J.1.b.](#), including engineering calculations, test data, and
 11 manufacturer/vendor's warranties, etc.
- 12 I. Detailed description of the design, operation and maintenance practices for air
 13 pollution control system.
- 14 J. Detailed description of the design, operation, and maintenance practices of any
 15 stack gas monitoring and pollution control monitoring system.
- 16 **III.10.J.5.f.vi** Detailed description of sampling and monitoring procedures including sampling and
 17 monitoring locations in the system, the equipment to be used, sampling and monitoring
 18 frequency, and planned analytical procedures for sample analysis including, but not
 19 limited to:
- 20 A. A short summary narrative description of each stack sample method should be
 21 included within the main body of the demonstration test plan, which references an
 22 appendix to the plan that would include for each sampling train: (1) detailed
 23 sample method procedures, (2) sampling train configuration schematic, (3)
 24 sampling recovery flow sheet, (4) detailed analytical method procedures, and (5)
 25 sampling preparation and analysis flow sheet. The detailed procedures should
 26 clearly flag where the method has provided decision points (e.g., choices of
 27 equipment materials of construction, choices of clean-up procedures or whether
 28 additional clean-up procedures will be incorporated, whether pretest surveys or
 29 laboratory validation work will be performed, enhancements to train to
 30 accommodate high moisture content in stack gas, etc.) and what is being proposed
 31 along with the basis for the decision.
- 32 B. A short summary narrative description of the feed and residue sampling methods
 33 should be included within the main body of the demonstration test plan, which
 34 references an appendix that would include for each sample type: (1) detailed
 35 sample method procedures, (2) sampling recovery/compositing procedures, and
 36 (3) detailed analytical method procedures. The detailed procedures should clearly
 37 flag where the method has provided decision points (e.g., choices of equipment
 38 materials of construction, choices of clean-up procedures or whether additional
 39 clean-up procedures will be incorporated, whether pretest surveys or laboratory
 40 validation work will be performed, etc.) and what is being proposed along with
 41 the basis for the decision.
- 42 **III.10.J.5.f.vii** A detailed test schedule for each condition for which the demonstration test is planned,
 43 including projected date(s), duration, quantity of dangerous waste to be fed, and other
 44 relevant factors;
- 45 **III.10.J.5.f.viii** A detailed test protocol including, for each test condition, the ranges of feed-rate for each
 46 feed system, and all other relevant parameters that may affect the ability of the HLW

1 Vitrifaction System to meet performance standards specified in Permit Condition
2 [III.10.J.1.b.](#);

3 **III.10.J.5.f.ix** A detailed description of planned operating conditions for each demonstration test
4 condition, including operating conditions for shakedown, demonstration test, post-
5 demonstration test and normal operations. This information will also include submittal of
6 Permit Tables [III.10.J.D](#), [III.10.J.F](#), [III.10.K.D](#), and [III.10.K.F](#) completed with the
7 information as specified in each column heading for each HLW Vitrifaction System
8 waste feed cut-off parameter and submittal of supporting documentation for Permit
9 Tables [III.10.J.D](#), [III.10.J.F](#), [III.10.K.D](#), and [III.10.K.F](#) set-point values.

10 **III.10.J.5.f.x** The test conditions proposed must demonstrate meeting the performance standards
11 specified in Permit Condition [III.10.J.1.b.](#) with the simultaneous operation of the melter
12 at capacity and input from the HLW Vitrifaction Vessel Ventilation System at capacity
13 to simulate maximum loading to the HLW Vitrifaction System off-gas treatment system
14 and to establish the corresponding operating parameter ranges.

15 **III.10.J.5.f.xi** A detailed description of procedures for start-up and shutdown of waste feed and
16 controlling emissions in the event of an equipment malfunction, including off-normal and
17 emergency shutdown procedures;

18 **III.10.J.5.f.xii** A calculation of waste residence time;

19 **III.10.J.5.f.xiii** Any request to extrapolate metal feed-rate limits from Demonstration Test levels must
20 include:

- 21 A. A description of the extrapolation methodology and rationale for how the
22 approach ensures compliance with the performance standards, as specified in
23 Permit Condition [III.10.J.1.b.](#)
- 24 B. Documentation of the historical range of normal metal feed-rates for each feed
25 stream.
- 26 C. Documentation that the level of spiking recommended during the demonstration
27 test will mask sampling and analysis imprecision and inaccuracy to the extent that
28 extrapolation of feed-rates and emission rates from the Demonstration Test data
29 will be as accurate and precise as if full spiking were used.

30 **III.10.J.5.f.xiv** Documentation of the expected levels of constituents in HLW Vitrifaction System input
31 streams, including, but not limited to, waste feed, glass former and reactants, control air,
32 process air, steam, sparge bubbler air, air in-leakage from melter cave, gases from HLW
33 Vitrifaction Vessel Ventilation System, and process water.

34 **III.10.J.5.f.xv** Documentation justifying the duration of the conditioning required to ensure the HLW
35 Vitrifaction System had achieved steady-state operations under Demonstration Test
36 operating conditions.

37 **III.10.J.5.f.xvi** Documentation of HLW Vitrifaction System process and leak detection system
38 instruments and monitors as listed on Permit Tables [III.10.J.C](#), [III.10.J.F](#), [III.10.K.C](#), and
39 [III.10.K.F](#) to include:

- 40 A. Procurement specifications.
- 41 B. Location used.
- 42 C. Range, precision, and accuracy.
- 43 D. Calibration/functionality test procedures (either method number ASTM) or
44 provide a copy of manufacturer's recommended calibration procedures.

1 E. Calibration/functionality test, inspection, and routine maintenance schedules and
2 checklists, including justification for calibration, inspection and maintenance
3 frequencies, criteria for identifying instruments found to be significantly out of
4 calibration, and corrective action to be taken for instruments found to be
5 significantly out of calibration (e.g., increasing frequency of calibration,
6 instrument replacement, etc.).

7 F. Equipment instrument control logic narrative description (e.g., descriptions of
8 failsafe conditions, etc.) [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B),
9 and [WAC 173-303-806](#)(4)(i)(v)]

10 **III.10.J.5.f.xvii** Outline of demonstration test report.

11

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
<p><u>HLW Melter Process System</u></p> <p>HMP-MLTR-00001 (HLW Melter 1)</p> <p>HMP-MLTR-00002 (HLW Melter 2)</p>	<p>HMP</p>	<p>-M6-HMP-00001001, Rev 0</p> <p>-M6-HMP-00001002, Rev 1</p> <p>-M6-HMP-00003001, Rev 0</p> <p>-M6-HMP-00004001, Rev 1</p> <p>-M6-HMP-00006001, Rev 1</p> <p>-M6-HMP-00006002, Rev 0</p> <p>-M6-HMP-00007001, Rev 0</p> <p>-M6-HMP-00008001, Rev 0</p> <p>-M6-HMP-00013002, Rev 1</p> <p>-M6-HMP-00013003, Rev 0</p> <p>-M6-HMP-20001001, Rev 0</p> <p>-M6-HMP-20001002, Rev 0</p> <p>-M6-HMP-20003001, Rev 0</p> <p>-M6-HMP-20004001, Rev 0</p> <p>-M6-HMP-20006001, Rev 0</p> <p>-M6-HMP-20008001, Rev 0</p> <p>-M6-HMP-20013002, Rev 0</p> <p>-M6-HMP-20013003, Rev 0</p> <p>-M5-V17T-P0002, Rev 1</p> <p>-M5-V17T-P20002, Rev 1</p> <p>-M0D-HMP-00001, Rev 2</p> <p>-M0D-HMP-00002, Rev 2</p> <p>-MF-HMP-00001, Rev 0</p> <p>-MF-HMP-00002, Rev 0</p> <p>-MF-HMP-00003, Rev 0</p> <p>-N1D-HMP-P0001, Rev 0</p> <p>-P1-P01T-00002, Rev 7</p> <p>-3PS-AE00-T0001, Rev 5</p>	<p>Section 4F.2.2; Table 4F-2; and Figures 4A-1, 4A-4 and 4A-27 in Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Melter Offgas Treatment Process System</u></p> <p>HOP-FCLR-00001 (Melter 1 Offgas Film Cooler)</p> <p>HOP-FCLR-00002 (Melter 2 Offgas Film Cooler)</p>	<p>HOP</p>	<p><u>24590-HLW</u></p> <p>-M5-V17T-P0002, Rev 1</p> <p>-M5-V17T-P20002, Rev 1</p> <p>-M6-HMP-00002001, Rev 0</p> <p>-M6-HMP-00002002, Rev 0</p> <p>-M6-HMP-20002001, Rev 0</p> <p>-M6-HMP-20002001, Rev 0</p>	<p>Section 4F.4.2; Table 4F-2; and Figures 4A-1, 4A-4 and 4A-27 -in Operating Unit Group 10, Chapter 4 of this Permit.</p>

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
<p>HOP-FCLR-00003 (Melter 1 Standby Offgas Insert)</p> <p>HOP-FCLR-00004 (Melter 2 Standby Offgas Insert)</p>		<p>-3YD-HOP-00001^a</p>	
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-SCB-00001 (Melter 1 Submerged Bed Scrubber, SBS)</p> <p>HOP-SCB-00002 (Melter 2 Submerged Bed Scrubber, SBS)</p>	<p>HOP</p>	<p><u>24590-HLW</u></p> <p>-M5-V17T-P0003, Rev 1</p> <p>-M5-V17T-P20003, Rev 1</p> <p>-M6-HOP-00001001, Rev 0</p> <p>-M6-HOP-00001002, Rev 0</p> <p>-M6-HOP-00001003, Rev 0</p> <p>-M6-HOP-20001001, Rev 0</p> <p>-M6-HOP-20001002, Rev 0</p> <p>-M6-HOP-20001003, Rev 0</p> <p>-MKD-HOP-00016, Rev 13</p> <p>-MK-HOP-P0001001, Rev 0</p> <p>-MK-HOP-P0001002, Rev 0</p> <p>-MK-HOP-P0001003, Rev 0</p> <p>-MK-HOP-P0001004, Rev 0</p> <p>-N1D-HOP-P0010, Rev 0</p> <p>-P1-P01T-00002, Rev 7</p> <p>-3YD-HOP-00001^a</p> <p><u>24590-WTP</u></p> <p>-3PS-MV00-T0001, Rev 5</p> <p>-3PS-MV00-T0002, Rev 3</p> <p>-3PS-MV00-T0003, Rev 3</p>	<p>Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-WESP-00001 (Melter 1 Wet Electrostatic Precipitator, WESP)</p> <p>HOP-WESP-00002 (Melter 2 Wet Electrostatic Precipitator, WESP)</p>	<p>HOP</p>	<p><u>24590-HLW</u></p> <p>-M5-V17T-P0003, Rev 1</p> <p>-M5-V17T-P20003, Rev 1</p> <p>-M6-HOP-00002, Rev 5</p> <p>-M6-HOP-20002, Rev 6</p> <p>-N1D-HOP-P0002, Rev 0</p> <p>-P1-P01T-00004, Rev 7</p> <p>-P1-P01T-00005, Rev 6</p> <p>-3YD-HOP-00001^a</p>	<p>Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.</p>

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
		<u>24590-WTP</u> -3PS-MKE0-T0001, Rev 5	
<u>Melter Offgas Treatment Process System (Cont.)</u> HOP-HEPA-00001A (Melter 1 Primary Offgas HEPA Filter) HOP-HEPA-00001B (Melter 1 Primary Offgas HEPA Filter) HOP-HEPA-00002A (Melter 1 Secondary Offgas HEPA Filter) HOP-HEPA-00002B (Melter 1 Secondary Offgas HEPA Filter) HOP-HEPA-00007A (Melter 2 Primary Offgas HEPA Filter) HOP-HEPA-00007B (Melter 2 Primary Offgas HEPA Filter) HOP-HEPA-00008A (Melter 2 Secondary Offgas HEPA Filter) HOP-HEPA-00008B (Melter 2 Secondary Offgas HEPA Filter)	HOP	<u>24590-HLW</u> -M5-V17T-P0003, Rev 1 -M5-V17T-P20003, Rev 1 -M6-HOP-00010, Rev 3 -M6-HOP-20010, Rev 4 -MAD-HOP-00010, Rev 5 -MAD-HOP-00011, Rev 5 -MAD-HOP-00012, Rev 5 -MAD-HOP-00013, Rev 5 -MAD-HOP-00014, Rev 5 -MAD-HOP-00015, Rev 5 -MAD-HOP-00016, Rev 5 -MAD-HOP-00017, Rev 5 -P1-P01T-00002, Rev 7 -3YD-HOP-00001 ^a <u>24590-WTP</u> -3PS-MKH0-T0002, Rev 4	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>Melter Offgas Treatment Process System (Cont.)</u> HOP-ADBR-00001A (Melter 1 Activated Carbon Adsorber – located on Activated Carbon Adsorber Skid HOP-ADBR-00001) HOP-ADBR-00001B (Melter 1 Activated Carbon Adsorber – located	HOP	<u>24590-HLW</u> -M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00003001, Rev 0 -M6-HOP-00003002, Rev 0 -M6-HOP-20003001, Rev 0 -M6-HOP-20003002, Rev 0 -MVD-HOP-00015, Rev 3 -MVD-HOP-00016, Rev 3	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
<p>on Activated Carbon Adsorber Skid HOP-ADBR-00001)</p> <p>HOP-ADBR-00002A (Melter 2 Activated Carbon Adsorber – located on Activated Carbon Adsorber Skid HOP-ADBR-00002)</p> <p>HOP-ADBR-00002B (Melter 2 Activated Carbon Adsorber – located on Activated Carbon Adsorber Skid HOP-ADBR-00002)</p>		<p>-N1D-HOP-00003, Rev 1 -P1-P01T-00002, Rev 7</p> <p>24590-WTP -3PS-MWK0-T0001, Rev 5</p>	
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-HEME-00001A (Melter 1 High Efficiency Mist Eliminator, HEME)</p> <p>HOP-HEME-00001B (Melter 1 High Efficiency Mist Eliminator, HEME)</p> <p>HOP-HEME-00002A (Melter 2 High Efficiency Mist Eliminator, HEME)</p> <p>HOP-HEME-00002B (Melter 2 High Efficiency Mist Eliminator, HEME)</p>	HOP	<p>24590-HLW -M5-V17T-P0003, Rev 1 -M5-V17T-P20003, Rev 1 -M6-HOP-00009001, Rev 0 -M6-HOP-00009002, Rev 0 -M6-HOP-20009001, Rev 0 -M6-HOP-20009002, Rev 0 -MVD-HOP-00007, Rev 5 -MV-HOP-P0002001, Rev 0 -MV-HOP-P0002002, Rev 0 -MV-HOP-P0002003, Rev 0 -N1D-HOP-P0001, Rev 0 -P1-P01T-00002, Rev 7 -3YD-HOP-00001^a</p>	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-SCO-00001 (Thermal Catalytic Oxidizer – located on Catalyst Skid HOP-SKID-00005)</p> <p>HOP-SCO-00004 (Thermal Catalytic Oxidizer – located on Catalyst Skid HOP-SKID-00007)</p>	HOP	<p>24590-HLW -M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0 -MKD-HOP-00019, Rev 10 -N1D-HOP-00004, Rev 5</p>	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
		-NID-HOP-00005, Rev 5 -P1-P01T-00002, Rev 7 -3PS-MBTV-T0002, Rev 1 <u>24590-LAW</u> -3PS-MBTV-T0001, Rev 5	
<u>Melter Offgas Treatment Process System (Cont.)</u> HOP-SCR-00001 (NOx Selective Catalytic Reducer – located on Catalyst Skid HOP-SKID-00005) HOP-SCR-00002 (NOx Selective Catalytic Reducer – located on Catalyst Skid HOP-SKID-00007)	HOP	<u>24590-HLW</u> -M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0 -MKD-HOP-00019, Rev 10 -NID-HOP-00004, Rev 5 -NID-HOP-00005, Rev 5 -P1-P01T-00002, Rev 7 -3PS-MBTV-T0002, Rev 1 <u>24590-LAW</u> -3PS-MBTV-T0001, Rev 5	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>Melter Offgas Treatment Process System (Cont.)</u> HOP-HX-00001 (Catalyst Skid Preheater – located on Catalyst Skid HOP-SKID-00005) HOP-HX-00003 (Catalyst Skid Preheater – located on Catalyst Skid HOP-SKID-00007)	HOP	<u>24590-HLW</u> -M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0 -MKD-HOP-00019, Rev 10 -NID-HOP-00008, Rev 2 -P1-P01T-P0002, Rev 7 -3PS-MBTV-T0002, Rev 1 <u>24590-LAW</u> -3PS-MBTV-T0001, Rev 5	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-HTR-00001 (Catalyst Skid Electric Heater – located on Catalyst Skid HOP-SKID-00005)</p> <p>HOP-HTR-00007 (Catalyst Skid Electric Heaters – located on Catalyst Skid HOP-SKID-00007)</p>	<p>HOP</p>	<p><u>24590-HLW</u></p> <p>-M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0 -MKD-HOP-00019, Rev 10 -P1-P01T-00002, Rev 7 -3PS-MBTV-T0002, Rev 1 -N1D-HOP-00011, Rev 0</p> <p><u>24590-LAW</u></p> <p>-3PS-MBTV-T0001, Rev 5</p>	<p>Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.</p>
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-ABS-00002 (Silver Mordenite Column)</p> <p>HOP-ABS-00003 (Silver Mordenite Column)</p>	<p>HOP</p>	<p><u>24590-HLW</u></p> <p>-M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0 -MKD-HOP-00014, Rev 5 -MKD-HOP-00017, Rev 6 -N1D-HOP-P0006, Rev 1 -P1-P01T-00001, Rev 9 -3PS-MBT0-TP001, Rev 2</p>	<p>Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.</p>

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-HTR-00001B (HEPA Preheater)</p> <p>HOP-HTR-00002A (HEPA Preheater)</p> <p>HOP-HTR-00005A (HEPA Preheater)</p> <p>HOP-HTR-00005B (HEPA Preheater)</p>	HOP	<p><u>24590-HLW</u></p> <p>-M5-V17T-P0003, Rev 1</p> <p>-M5-V17T-P20003, Rev 1</p> <p>-M6-HOP-00010, Rev 3</p> <p>-M6-HOP-20010, Rev 4</p> <p>-MED-HOP-00013, Rev 4</p> <p>-3PS-MEE0-T0001, Rev 1</p>	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-HX-00002 (Silver Mordenite Preheater)</p> <p>HOP-HX-00004 (Silver Mordenite Preheater)</p>	HOP	<p><u>24590-HLW</u></p> <p>-M5-V17T-00004, Rev 5</p> <p>-M5-V17T-20004, Rev 1</p> <p>-M6-HOP-00003001, Rev 0</p> <p>-M6-HOP-00003002, Rev 0</p> <p>-M6-HOP-20003001, Rev 0</p> <p>-M6-HOP-20003002, Rev 0</p> <p>-N1D-HOP-00007, Rev 1</p> <p>-P1-P01T-00002, Rev 7</p>	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-FAN-00001A (Booster Extraction Fan)</p> <p>HOP-FAN-00001B (Booster Extraction Fan)</p> <p>HOP-FAN-00001C (Booster Extraction Fan)</p> <p>HOP-FAN-00009A (Booster Extraction Fan)</p>	HOP	<p><u>24590-HLW</u></p> <p>-M5-V17T-00004, Rev 5</p> <p>-M5-V17T-20004, Rev 1</p> <p>-M6-HOP-00003001, Rev 0</p> <p>-M6-HOP-00003002, Rev 0</p> <p>-M6-HOP-20003001, Rev 0</p> <p>-M6-HOP-20003002, Rev 0</p> <p>-MAD-HOP-00018, Rev 9</p> <p>-P1-P01T-00001, Rev 9</p> <p><u>24590-WTP</u></p> <p>-3PS-MACS-T0004, Rev 6</p>	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
HOP-FAN-00009B (Booster Extraction Fan) HOP-FAN-00009C (Booster Extraction Fan)			
<u>Melter Offgas Treatment Process System (Cont.)</u> HOP-FAN-00008A (Stack Extraction Fan) HOP-FAN-00008B (Stack Extraction Fan) HOP-FAN-00008C (Stack Extraction Fan) HOP-FAN-000010A (Stack Extraction Fan) HOP-FAN-000010B (Stack Extraction Fan) HOP-FAN-000010C (Stack Extraction Fan)	HOP	<u>24590-HLW</u> -M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0 -MAD-HOP-00038, Rev 5 -P1-P01T-00005, Rev 6 <u>24590-WTP</u> -3PS-MACS-T0004, Rev 6	Section 4F.4.2; Table 4F-2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>Melter Offgas Treatment Process System (Cont.)</u> HLW Stack	HOP	<u>24590-HLW</u> -M5-V17T-00004, Rev 5 -M5-V17T-20004, Rev 1 -M6-HOP-00008001, Rev 0 -M6-HOP-00008002, Rev 0 -M6-HOP-00008003, Rev 0 -M6-HOP-20008001, Rev 0 -M6-HOP-20008002, Rev 0 -M6-HOP-20008003, Rev 0	Section 4F.4.2; and Figures 4A-1 and 4A-4 in Operating Unit Group 10, Chapter 4 of this Permit.
<u>Pulse Jet Ventilation System</u> PJV-HTR-00002 (Pulse Jet Ventilation HEPA Electric Preheater)	PJV	<u>24590-HLW</u> -M6-PJV-00001001, Rev 0 -M6-PJV-00002001, Rev 0	

Table III.10.J.A – HLW Plant Miscellaneous Unit System Description

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables, and Figures
PJV-HEPA-00004B (PJV System HEPA Filter (Standby Primary))			
PJV-HEPA-00005B (PJV System HEPA Filter (Standby Secondary))			
PJV-HEPA-00004A (PJV System HEPA Filter (Primary))			
PJV-HEPA-00005A (PJV System HEPA Filter (Secondary))			
PJV-FAN-00002A (Pulse Jet Vent Extraction Fan)			
PJV-FAN-00002B (Pulse Jet Vent Extraction Fan)			
<p><u>Process Vessel Vent Extraction System</u></p> <p>PVV system contains ancillary equipment only.</p>	PVV	<p><u>24590-HLW</u></p> <p>-M6-PVV-00001, Rev 4</p> <p>-M6-PVV-20001, Rev 2</p>	

*System Descriptions are maintained in the Administrative Record, and are listed here for information only

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Waste Treatment and Immobilization Plant

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Table III.10.J.B – HLW Vitrification Systems Secondary Containment Systems Including Sumps and Floor Drains

Sump/Floor Drain I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^a (feet) & Materials of Construction	Maximum Allowable Liquid Height (inches)	Secondary Containment Volume (gallons)	Engineering Description (Drawing Nos., Specification Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
*Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD)					

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Table III.10.J.C – HLW Vitrification System Process and Leak Detection System Instruments and Parameters

P&ID	Monitoring or Control Parameter	Type of Instrument or Control Device	Instrument or Control Device Tag No.	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Instrument Calibration Method No. and Range
24590-HLW-M6-HMP-00004001, Rev 1	Melter 1 plenum temperature, 62"	TBD	(TE-0920A + TT-0920A + TI-0920A)* Or (TE-0920C + TT-0921A + TI-0921F)*	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00004001, Rev 1	Melter 1 plenum temperature, 59"	TBD	(TE-0920B + TT-920A + TI-0920B)* Or (TE-920D + TT-0921A+ TI-0921E)*	TBD	TBD	TBD	TBD	TBD

Table III.10.J.C – HLW Vitrification System Process and Leak Detection System Instruments and Parameters

P&ID	Monitoring or Control Parameter	Type of Instrument or Control Device	Instrument or Control Device Tag No.	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Instrument Calibration Method No. and Range
24590-HLW-M6-HMP-20004001, Rev 0	Melter 2 plenum temperature, 62"	TBD	(TE-2920A + TT-2920A + TI-2920A)* Or (TE-2920C + TT-2921A + TI-2920C)*	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-20004001, Rev 0	Melter 2 plenum temperature, 59"	TBD	(TE-2920B + TT-2920A + TI-2920B)* Or (TE-2920D + TT-2921A + TI-2920D)*	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00013002, Rev 1 24590-HLW-M6-HMP-00013003, Rev 0	Melter 1 glass pool density	TBD	DT-0132 DI-0132	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00013002, Rev 1 24590-HLW-M6-HMP-00013003, Rev 0	Melter 1 glass pool level	TBD	LT-0131 LI-0131	TBD	TBD	TBD	TBD	TBD

Table III.10.J.C – HLW Vitrification System Process and Leak Detection System Instruments and Parameters

P&ID	Monitoring or Control Parameter	Type of Instrument or Control Device	Instrument or Control Device Tag No.	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Instrument Calibration Method No. and Range
24590-HLW-M6-HMP-20013002, Rev 0 24590-HLW-M6-HMP-20013003, Rev 0	Melter 2 glass pool density	TBD	DT-2132 DI-2132	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-20013002, Rev 0 24590-HLW-M6-HMP-20013003, Rev 0	Melter 2 glass pool level	TBD	LT-2131 LI-2131	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00013002, Rev 1 24590-HLW-M6-HMP-00013003, Rev 0	Melter 1 plenum pressure	TBD	(PDT-0139A + PDI-0139A)* Or (PDT-0139B + PDI-0139B)*	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-20013002, Rev 0 24590-HLW-M6-HMP-20013003, Rev 0	Melter 2 plenum pressure	TBD	(PDT-2139A + PDI-2139A)* Or (PDT-2139B + PDI-2139B)*	TBD	TBD	TBD	TBD	TBD

Table III.10.J.C – HLW Vitrification System Process and Leak Detection System Instruments and Parameters

P&ID	Monitoring or Control Parameter	Type of Instrument or Control Device	Instrument or Control Device Tag No.	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Instrument Calibration Method No. and Range
24590-HLW-M6-HMP-00008001, Rev 0 24590-HLW-M6-HMP-00008002, Rev 0	Melter 1 West canister level	TBD	LT-0816 (LI-0816A Or LI-0816B)**	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00007001, Rev 0	Melter 1 West Discharge Air Lift	TBD	YC-0761 YV-0761	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00008001, Rev 0 24590-HLW-M6-HMP-00008002, Rev 0	Melter 1 East canister level	TBD	LT-0820 (LI-0820A Or LI-0820B)**	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-00006001, Rev 1 24590-HLW-M6-HMP-00006002, Rev 0	Melter 1 East Discharge Air Lift	TBD	YC-0664 YV-0664	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-20008001, Rev 0 24590-HLW-M6-HMP-20008002, Rev 0	Melter 2 West canister level	TBD	LT-2816 (LI-2816A Or LI-2816B)**	TBD	TBD	TBD	TBD	TBD

Table III.10.J.C – HLW Vitrification System Process and Leak Detection System Instruments and Parameters

P&ID	Monitoring or Control Parameter	Type of Instrument or Control Device	Instrument or Control Device Tag No.	Instrument Range	Expected Range	Fail States	Instrument Accuracy	Instrument Calibration Method No. and Range
24590-HLW-M6-HMP-20007001, Rev 0	Melter 2 West Discharge Air Lift	TBD	YC-2761 YV-2761	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-20008001, Rev 0 24590-HLW-M6-HMP-20008002, Rev 0	Melter 2 East canister level	TBD	LT-2820 (LI-2820A Or LI-2820B)**	TBD	TBD	TBD	TBD	TBD
24590-HLW-M6-HMP-20006001, Rev 0	Melter 2 East Discharge Air Lift	TBD	YC-2664 YV-2664	TBD	TBD	TBD	TBD	TBD
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
*These instrument sets are duplicates Only one instrument set is required to remain functioning during waste feed operations								
**These instruments are duplicates Only one instrument is required to remain functioning during waste feed operations								

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Waste Treatment and Immobilization Plant

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Table III.10.J.D – Maximum Feed-Rates to HLW Vitrification System (RESERVED)

Description of Waste	Shakedown 1	Shakedown 2, Demonstration Test and Post Demonstration Test
Dangerous and Mixed Waste Feed Rate	RESERVED	RESERVED
Ash Feed Rate	RESERVED	RESERVED
Total Chlorine/Chloride Feed Rate	RESERVED	RESERVED
Total Metal Feedrates	RESERVED	RESERVED

1

Table III.10.J.E – HLW Vitrification System Estimated Emission Rates (RESERVED)

Chemicals	CAS Number	Emission Rates (grams/second)
RESERVED	RESERVED	RESERVED

2

Table III.10.J.F. - HLW Vitrification System Waste Feed Cut-off Parameters* (RESERVED)

Subsystem Designation	Instrument Tag Number	Parameter Description	Setpoints During Shakedown 1 and Post Demonstration Test	Setpoints During Shakedown 2 and Demonstration Test
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

*A continuous monitoring system will be used as defined in Permit Section [III 10.C.1](#)

¹Maximum Feed-rate will be set based on not exceeding any of the constituent (e.g., metals, ash, and chlorine/chloride) feed limits specified on Table [III 10.J.D](#) of this Permit

3

1 **III.10.K HLW VITRIFICATION SYSTEM – LONG TERM MISCELLANEOUS THERMAL**
 2 **TREATMENT UNIT**

3 For purposes of Permit Section [III.10.K](#), where reference is made to [WAC 173-303-640](#),
 4 the following substitutions apply: substitute the terms “HLW Vitrification System” for
 5 “tank system(s),” “sub-system(s)” for “tank(s),” “sub-system equipment” for “ancillary
 6 equipment,” and “sub-system(s) or sub-system equipment of a HLW Vitrification
 7 System” for “component(s),” in accordance with [WAC 173-303-680](#).

8 **III.10.K.1 Requirements For HLW Vitrification System Beginning Normal Operation**

9 Prior to commencing normal operations provided in Permit Section [III.10.K](#), all
 10 requirements in Permit Section [III.10.J](#) will have been met by the Permittees and
 11 approved by Ecology, including the following: The HLW Vitrification System
 12 Demonstration Test results and the revised Final Risk Assessment provided for in Permit
 13 Conditions [III.10.C.11.c](#) or [d](#), and Permit Section [III.10.J](#), will have been evaluated and
 14 approved by Ecology, Permit Tables [III.10.K.D](#) and [E](#), as approved/modified pursuant to
 15 Permit Condition [III.10.J.5](#), will have been completed, submitted and approved pursuant
 16 to Permit Condition [III.10.J.3.d.v](#), and Permit Table [III.10.K.E](#), as approved/modified
 17 pursuant to Permit Condition [III.10.J.5](#), will have been completed, submitted and
 18 approved pursuant to Permit Conditions [III.10.C.11.c](#) or [d](#).

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

21 **III.10.K.1.a.i** The Permittees will maintain the design and construction of the HLW Vitrification
 22 System as specified in Permit Condition [III.10.K.1](#), Operating Unit Group 10, Chapter 4
 23 of this Permit, and Operating Unit Group 10, Appendices 10.1 through 10.17 of this
 24 Permit, as approved pursuant to Permit Conditions [III.10.J.5.a](#) through [d](#), and [III.10.J.5.f](#).

25 **III.10.K.1.a.ii** The Permittees will maintain the design and construction of all containment systems for
 26 the HLW Vitrification System as specified in Operating Unit Group 10, Chapter 4 of this
 27 Permit, and Operating Unit Group 10, Appendices 10.2 and 10.4 through 10.14 of this
 28 Permit, as approved pursuant to Permit Conditions [III.10.J.5.a](#) through [d](#).

29 **III.10.K.1.a.iii** Modifications to approved design, plans, and specifications in Operating Unit Group 10,
 30 of this Permit, for the HLW Vitrification System will be allowed only in accordance with
 31 Permit Conditions [III.10.C.2.e](#) and [f](#), or [III.10.C.2.g](#), [III.10.C.9.d](#), [e](#), and [h](#).

32 **III.10.K.1.a.iv** The Permittees will ensure all certifications required by specialists (e.g., independent,
 33 qualified, registered professional engineer; registered, professional engineer; independent
 34 corrosion expert; independent, qualified installation inspector; installation inspector; etc.)
 35 use the following statement or equivalent pursuant to Permit Condition [III.10.C.10](#):

36 “I, (Insert Name) have (choose one or more of the following: overseen, supervised,
 37 reviewed, and/or certified) a portion of the design or installation of a new HLW
 38 Vitrification system or component located at (address), and owned/operated by
 39 (name(s)). My duties were: (e.g., installation inspector, testing for tightness, etc.), for
 40 the following HLW Vitrification system components (e.g., the venting piping, etc.),
 41 as required by the Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3)
 42 (applicable paragraphs [i.e., (a) through (g)]), in accordance with [WAC 173-303-680](#).

43 “I certify under penalty of law that I have personally examined and am familiar with
 44 the information submitted in this document and all attachments and that, based on my
 45 inquiry of those individuals immediately responsible for obtaining the information, I
 46 believe that the information is true, accurate, and complete. I am aware that there are

1 significant penalties for submitting false information, including the possibility of fine
2 and imprisonment.”

- 3 **III.10.K.1.a.v** The Permittees will ensure periodic integrity assessments are conducted on the HLW
4 Vitrification System listed in Permit Table [III.10.I.A](#), as approved/modified pursuant to
5 Permit Condition [III.10.J.5](#), over the term of this Permit, in accordance with
6 [WAC 173-303-680](#)(2) and (3), as specified in [WAC 173-303-640](#)(3)(b) following the
7 description of the integrity assessment program and schedule in Operating Unit Group
8 10, Addendum E of this Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i](#)
9 and [III.10.C.5.c](#). Results of the integrity assessments will be included in the WTP Unit
10 operating record until ten (10) years after post-closure, or corrective action is complete
11 and certified, whichever is later.
- 12 **III.10.K.1.a.vi** The Permittees will address problems detected during the HLW Vitrification System
13 integrity assessments specified in Permit Condition [III.10.K.1.a.v](#), following the
14 description of the integrity assessment program in Operating Unit Group 10, Addendum
15 E of this Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i](#) and
16 [III.10.C.5.c](#).
- 17 **III.10.K.1.a.vii** All process monitors/instruments as specified in Permit Table [III.10.K.F](#), as
18 approved/modified pursuant to Permit Condition [III.10.J.5](#) and [III.10.J.3.d.v.](#), will be
19 equipped with operational alarms to warn of deviation, or imminent deviation from the
20 limits specified in Permit Table [III.10.K.F](#).
- 21 **III.10.K.1.a.viii** The Permittees will install and test all process and leak detection system
22 monitors/instruments, as specified in Permit Tables [III.10.K.C](#) and [III.10.K.F](#), as
23 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.10.J.3.d.v.](#), in
24 accordance with Operating Unit Group 10, Appendices 10.1, 10.2, and 10.14 of this
25 Permit, as approved pursuant to Permit Conditions [III.10.J.5.d.x](#) and [III.10.J.5.f.xvi](#).
- 26 **III.10.K.1.a.ix** No dangerous and/or mixed waste will be treated in the HLW Vitrification System unless
27 the operating conditions, specified under Permit Condition [III.10.K.1.c](#), are complied
28 with.
- 29 **III.10.K.1.a.x** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or other
30 materials in the HLW Vitrification System if these substances could cause the sub-
31 system, sub-system equipment, or the containment system to rupture, leak, corrode, or
32 otherwise fail [[WAC 173-303-640](#)(5)(a), in accordance with
33 [WAC 173-303-680](#)(2)]. This condition is not applicable to corrosion of HLW
34 Vitrification System sub-system or sub-system equipment that are expected to be
35 replaced as part of normal operations (e.g., melter).
- 36 **III.10.K.1.a.xi** The Permittees will operate the HLW Vitrification System to prevent spills and overflows
37 using the description of controls and practices as required under
38 [WAC 173-303-640](#)(5)(b), described in Permit Condition [III.10.C.5](#), and Operating Unit
39 Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit Condition
40 [III.10.J.5.e](#). [[WAC 173-303-640](#)(5)(b), in accordance with
41 [WAC 173-303-680](#)(2) and (3), [WAC-173-303-806](#)(4)(c)(ix)].
- 42 **III.10.K.1.a.xii** For routinely non-accessible HLW Vitrification System sub-systems, as specified in
43 Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit
44 Condition [III.10.J.5.e.vi](#), the Permittees will mark all routinely non-accessible HLW
45 Vitrification System sub-systems access points with labels or signs to identify the waste
46 contained in each HLW Vitrification System sub-system. The label, or sign, must be
47 legible at a distance of at least fifty (50) feet, and must bear a legend which identifies the

1 waste in a manner which adequately warns employees, emergency response personnel,
 2 and the public of the major risk(s) associated with the waste being stored or treated in the
 3 HLW Vitrification System sub-systems. For the purposes of this permit condition,
 4 “routinely non-accessible” means personnel are unable to enter these areas while waste is
 5 being managed in them
 6 [[WAC 173-303-640\(5\)\(d\)](#), in accordance with [WAC 173-303-680\(2\)](#)].

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

16 **III.10.K.1.a.xiv** The Permittees will ensure that the secondary containment systems for the HLW
 17 Vitrification System sub-systems listed in Permit Tables [III.10.K.A](#) and [III.10.K.B](#), as
 18 approved/modified pursuant to Permit Condition [III.10.J.5](#), are free of cracks or gaps to
 19 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
 20 system to the soil, groundwater, or surface water at any time during the use of the HLW
 21 Vitrification System sub-systems. Any indication that a crack or gap may exist in the
 22 containment systems will be investigated and repaired in accordance with Operating Unit
 23 Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit Condition
 24 [III.10.J.5.e.v](#). [[WAC 173-303-640\(4\)\(b\)\(i\)](#), [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), and [WAC](#)
 25 [173-303-640\(6\)](#), in accordance with
 26 [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
 27 [WAC 173-303-320](#)].

28 **III.10.K.1.a.xv** The Permittees must immediately and safely remove from service any HLW Vitrification
 29 System or secondary containment system which through an integrity assessment is found
 30 to be “unfit for use” as defined in [WAC 173-303-040](#), following Permit Condition
 31 [III.10.K.1.a.xvii.A](#) through [D](#), and [E](#). The affected HLW Vitrification System or
 32 secondary containment system must be either repaired or closed in accordance with
 33 Permit Condition [III.10.K.1.a.xvii.E](#).
 34 [[WAC 173-303-640\(7\)\(e\)](#) and (f) and [WAC 173-303-640\(8\)](#), in accordance with [WAC](#)
 35 [173-303-680\(3\)](#)].

36 **III.10.K.1.a.xvi** An impermeable coating, as specified in Operating Unit Group 10, Appendices
 37 10.4, 10.5, 10.7, 10.9, 10.11, and 10.12 of this Permit, as approved pursuant to Permit
 38 Condition [III.10.J.5.b.v](#), will be maintained for all concrete containment systems and
 39 concrete portions of containment systems for the HLW Vitrification System sub-systems
 40 listed in Permit Tables [III.10.K.A](#) and [III.10.K.B](#), as approved/modified pursuant to
 41 Permit Condition [III.10.J.5](#) (concrete containment systems that do not have a liner,
 42 pursuant to [WAC 173-303-640\(4\)\(e\)\(i\)](#), in accordance with
 43 [WAC 173-303-680\(2\)](#), and have construction joints, will meet the requirements of [WAC](#)
 44 [173-303-640\(4\)\(e\)\(ii\)\(C\)](#), in accordance with [WAC 173-303-680\(2\)](#)).

45 The coating will prevent migration of any dangerous and/or mixed waste into the
 46 concrete. All coatings will meet the following performance standards:

- 47 A. The coating must seal the containment surface such that no cracks, seams, or
 48 other avenues through which liquid could migrate are present;

- 1 B. The coating must be of adequate thickness and strength to withstand the normal
2 operation of equipment and personnel within the given area such that degradation
3 or physical damage to the coating or lining can be identified and remedied before
4 dangerous and/or mixed waste could migrate from the system; and
- 5 C. The coating must be compatible with the dangerous and/or mixed waste,
6 treatment reagents, or other materials managed in the containment system
7 [[WAC 173-303-640\(4\)\(e\)\(ii\)\(D\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and
8 (3), and [WAC 173-303-806\(4\)\(i\)\(A\)](#)].

III.10.K.1.a.xvii

9 The Permittees will inspect all secondary containment systems for the HLW
10 Vitrification System sub-systems listed in Permit Tables [III.10.K.A](#) and [III.10.K.B](#), as
11 approved/modified pursuant to Permit Condition [III.10.J.5.](#), in accordance with the
12 Inspection Plan specified in Operating Unit Group 10, Chapter 6A of this Permit, as
13 approved pursuant to Permit Conditions [III.10.J.5.e.i.](#) and [III.10.C.5.c.](#), and take the
14 following actions if a leak or spill of dangerous and/or mixed waste is detected in these
15 containment systems [[WAC 173-303-640\(5\)\(c\)](#)], [WAC 173-303-640\(6\)](#) in accordance
16 with [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-320](#), and
17 [WAC 173-303-806\(4\)\(i\)\(B\)](#)]:

- 18 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the
19 HLW Vitrification System sub-systems or secondary containment system.
- 20 B. Determine the source of the dangerous and/or mixed waste.
- 21 C. Remove the dangerous and/or mixed waste from the containment area in
22 accordance with [WAC 173-303-680\(2\)](#) and (3), as specified in [WAC 173-303-](#)
23 [640\(7\)\(b\)](#). The dangerous and/or mixed waste removed from containment areas
24 of the HLW Vitrification System will be, at a minimum, managed as mixed waste.
- 25 D. If the cause of the release was a spill that has not damaged the integrity of the
26 HLW Vitrification System sub-system, the Permittees may return the HLW
27 Vitrification System sub-system to service in accordance with [WAC 173-303-](#)
28 [680\(2\)](#) and (3), as specified in [WAC 173-303-640\(7\)\(e\)\(ii\)](#). In such case, the
29 Permittees will take action to ensure the incident that caused the dangerous and/or
30 mixed waste to enter the containment system will not reoccur.
- 31 E. If the source of the dangerous and/or mixed waste is determined to be a leak in
32 from the primary HLW Vitrification System into the secondary containment
33 system, or the system is unfit for use as determined through an integrity
34 assessment or other inspection, the Permittees will comply with the requirements
35 of [WAC 173-303-640\(7\)](#) and take the following actions:
- 36 1. Close the HLW Vitrification System sub-system following procedures in
37 [WAC 173-303-640\(7\)\(e\)\(i\)](#), in accordance with [WAC 173-303-680](#), and
38 Operating Unit Group 10, Addendum H of this Permit, as approved pursuant
39 to Permit Condition [III.10.C.8](#).
 - 40 2. Repair and re-certify (in accordance with [WAC 173-303-810\(13\)\(a\)](#), as
41 modified pursuant to Permit Condition [III.10.K.1.a.iii.](#)) the HLW Vitrification
42 System, in accordance with Operating Unit Group 10, Appendix 10.18 of this
43 Permit, as approved pursuant to Permit Condition [III.10.J.5.e.v.](#), before the
44 HLW Vitrification System is placed back into service
45 [[WAC 173-303-640\(7\)\(e\)\(iii\)](#)] and [WAC 173-303-640\(7\)\(f\)](#), in accordance
46 with [WAC 173-303-680](#)].

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

G. In accordance with [WAC 173-303-680\(2\)](#) and (3), the Permittees will notify and report releases to the environment to Ecology as specified in [WAC 173-303-640\(7\)\(d\)](#).

III.10.K.1.a.xviii If liquids (e.g., dangerous and/or mixed waste, leaks and spills, precipitation, fire water, liquids from damaged or broken pipes) cannot be removed from the secondary containment system within twenty-four (24) hours; Ecology will be verbally notified within twenty-four (24) hours of discovery. The notification will provide the information in A, B, and C, listed below. The Permittees will provide Ecology with a written demonstration within seven (7) business days, identifying at a minimum [\[WAC 173-303-640\(4\)\(c\)\(iv\)\]](#) and [WAC 173-303-640\(7\)\(b\)\(ii\)](#), in accordance with [WAC 173-303-680\(3\)](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#):

A. Reasons for delayed removal.

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

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

III.10.K.1.a.xix All air pollution control devices and capture systems in the HLW Vitrification System will be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants and to minimize process upsets. Procedures for ensuring that the air pollution control devices and capture systems in the HLW Vitrification System are properly operated and maintained so as to minimize the emission of air contaminants and process upsets will be established.

III.10.K.1.a.xx In all future narrative permit submittals, the Permittees will include HLW Vitrification sub-system names with the sub-system designation.

III.10.K.1.a.xxi For any portion of the HLW Vitrification System which has the potential for formation and accumulation of hydrogen gases, the Permittees will operate the portion to maintain hydrogen levels below the lower explosive limit [\[WAC 173-303-815\(2\)\(b\)\(ii\)\]](#).

III.10.K.1.a.xxii For each HLW Vitrification System sub-system holding dangerous waste which are acutely or chronically toxic by inhalation, the Permittees will operate the system to prevent escape of vapors, fumes, or other emissions into the air [\[WAC 173-303-806\(4\)\(i\)\(B\)\]](#) and [WAC 173-303-640\(5\)\(e\)](#), in accordance with [WAC 173-303-680](#).

III.10.K.1.b Performance Standards

III.10.K.1.b.i The HLW Vitrification System must achieve a destruction and removal efficiency (DRE) of 99.99% for the principal organic dangerous constituents (PODCs) listed below [\[40 CFR §63.1203\(c\)\(1\)\]](#) and [40CFR §63.1203\(c\)\(2\)](#), in accordance with [WAC 173-303-680\(2\)](#):

RESERVED

DRE in this Permit Condition will be calculated in accordance with the formula given below:

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

1 Where:

2 W_{in} =mass feed-rate of one principal organic dangerous constituent (PODC) in a
3 waste feed stream; and

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

- 6 **III.10.K.1.b.ii** Particulate matter emissions from the HLW Vitrification System will not exceed 34
7 mg/dscm (0.015 grains/dscf) [[40 CFR §63.1203\(b\)\(7\)](#)], in accordance with
8 [WAC 173-303-680\(2\)](#)];
- 9 **III.10.K.1.b.iii** Hydrochloric acid and chlorine gas emissions from the HLW Vitrification System will
10 not exceed 21 ppmv, combined [[40 CFR §63.1203\(b\)\(6\)](#)], in accordance with
11 [WAC 173-303-680\(2\)](#)];
- 12 **III.10.K.1.b.iv** Dioxin and Furan TEQ emissions from the HLW Vitrification System will not exceed 0.2
13 nanograms (ng)/dscm [[40 CFR §63.1203\(b\)\(1\)](#)], in accordance with
14 [WAC 173-303-680\(2\)](#)];
- 15 **III.10.K.1.b.v** Mercury emissions from the HLW Vitrification System will not exceed 45 µg/dscm
16 [[40 CFR §63.1203\(b\)\(2\)](#)], in accordance with [WAC 173-303-680\(2\)](#)];
- 17 **III.10.K.1.b.vi** Lead and cadmium emissions from the HLW Vitrification System will not exceed 120
18 µg/dscm, combined [[40 CFR §63.1203\(b\)\(3\)](#)], in accordance with
19 [WAC 173-303-680\(2\)](#)];
- 20 **III.10.K.1.b.vii** Arsenic, beryllium, and chromium emissions from the HLW Vitrification System will not
21 exceed 97 µg/dscm, combined [[40 CFR §63.1203\(b\)\(4\)](#)], in accordance with
22 [WAC 173-303-680\(2\)](#)];
- 23 **III.10.K.1.b.viii** Carbon monoxide (CO) emission from the HLW Vitrification System will not
24 exceed 100 parts per million (ppm) by volume, over an hourly rolling average (as
25 measured and recorded by the continuous monitoring system), dry basis
26 [[40 CFR §63.1203\(b\)\(5\)\(i\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and (3)];
- 27 **III.10.K.1.b.ix** Hydrocarbon emission from the HLW Vitrification System will not exceed 10 parts per
28 million (ppm) by volume, over an hourly rolling average (as measured and recorded by
29 the continuous monitoring system during demonstration testing required by this Permit),
30 dry basis and reported as propane [[40 CFR §63.1203\(b\)\(5\)\(ii\)](#)], in accordance with [WAC](#)
31 [173-303-680\(2\)](#) and (3)];
- 32 **III.10.K.1.b.x** If the emissions from the HLW Vitrification System exceed the emission rates listed in
33 Permit Table [III.10.K.E](#), as approved pursuant to Permit Condition [III.10.C.11.c](#), or [d](#).,
34 the Permittees will perform the following actions [[WAC 173-303-680\(2\)](#) and (3), and
35 [WAC 173-303-815\(2\)\(b\)\(ii\)](#)]:
- 36 A. Verbally notify Ecology within twenty-four (24) hours of the discovery of
37 exceeding the emission rate(s) as specified in Permit Condition I.E.21.
- 38 B. Submit to Ecology additional risk information to indicate that the increased
39 emissions impact is off-set by decreased emission impact from one or more
40 constituents expected to be emitted at the same time, and/or investigate the cause
41 and impact of the exceedance of the emission rate(s) and submit a report of the
42 investigation findings to Ecology within fifteen (15) days of the discovery of
43 exceeding the emission rate(s).
- 44 C. Based on the notification and any additional information, Ecology may provide,
45 in writing, direction to the Permittees to stop dangerous and/or mixed waste feed

1 to the HLW Vitrification System and/or to submit a revised Demonstration Test
 2 Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [f.](#), or
 3 [III.10.C.2.g.](#) The revised Demonstration Test Plan must include substantive
 4 changes to prevent failure from reoccurring.

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

11 **III.10.K.1.b.xi** Treatment effectiveness, feed-rates, and operating rates for dangerous and/or mixed waste
 12 management units contained in the HLW Building, but not included in Permit Table
 13 [III.10.K.A](#), as approved/modified pursuant to Permit Condition [III.10.J.5](#), will be as
 14 specified in Permit Sections [III.10.D](#), [III.10.E](#), [III.10.F](#) and consistent with the
 15 assumptions and basis which are reflected in Operating Unit Group 10, Appendix 6.3 of
 16 this Permit, as approved pursuant to Permit Condition [III.10.C.11.b](#). For the purposes of
 17 this permit condition, Operating Unit Group 10, Appendix 6.3 will be superseded by
 18 Appendix 6.4 upon its approval pursuant to either Permit Conditions [III.10.C.11.c.](#) or [d.](#)
 19 [[WAC 173-303-680](#)(2) and (3), and [WAC 173-303-815](#)(2)(b)(ii)].

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

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

30 The Permittees will operate the HLW Vitrification System in accordance with Operating
 31 Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit Condition
 32 [III.10.J.5.e.vi.](#), Operating Unit Group 10, Appendix 10.18 of this Permit, as approved
 33 pursuant to Permit Conditions [III.10.J.5.e.](#) and [f.](#), and Operating Unit Group 10,
 34 Appendix 10.15 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#),
 35 except as modified pursuant to Permit Conditions [III.10.J.3](#), [III.10.K.1.b.x.](#),
 36 [III.10.K.1.b.xii.](#), [III.10.K.1.h.](#), and in accordance with and the following:

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

41 **III.10.K.1.c.ii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.K.F](#), as
 42 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.J.3.d.v.](#), to
 43 automatically cut-off and/or lock-out the dangerous and/or mixed waste feed to HLW
 44 Vitrification System when the monitored operating conditions deviate from the set-points
 45 specified in Permit Table [III.10.K.F](#).

46 **III.10.K.1.c.iii** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.K.F](#), as
 47 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.J.3.d.v.](#), to

1 automatically cut-off and/or lock-out the dangerous and/or mixed waste feed to HLW
 2 Vitrification System when all instruments specified on Permit Table [III.10.I.F](#) for
 3 measuring the monitored parameters fails or exceeds its span value.

4 **III.10.K.1.c.iv** The Permittees will operate the AWFCO systems, specified in Permit Table [III.10.K.F](#), as
 5 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.J.3.d.v.](#), to
 6 automatically cut-off and/or lock out the dangerous and/or mixed waste feed to the HLW
 7 Vitrification System when any portion of the HLW Vitrification System is bypassed. The
 8 terms “bypassed” and “bypass event” as used in Permit Sections [III.10.J](#) and [K](#) will mean
 9 if any portion of the HLW Vitrification System is bypassed so that gases are not treated
 10 as during the Demonstration Test.

11 **III.10.K.1.c.v** In the event of a malfunction of the AWFCO systems listed in Permit Table [III.10.K.F](#), as
 12 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.J.3.d.v.](#), the
 13 Permittees will immediately, manually, cut-off the dangerous and/or mixed waste feed to
 14 the HLW Vitrification System. The Permittees will not restart the dangerous and/or
 15 mixed waste feed until the problem causing the malfunction has been identified and
 16 corrected.

17 **III.10.K.1.c.vi** The Permittees will manually cut-off the dangerous and/or mixed waste feed to the HLW
 18 Vitrification System when the operating conditions deviate from the limits specified in
 19 Permit Condition [III.10.K.1.c.i.](#), unless the deviation automatically activates the waste
 20 feed cut-off sequence specified in Permit Conditions [III.10.K.1.c.ii.](#), [iii.](#), and/or [iv.](#)

21 **III.10.K.1.c.vii** If greater than thirty (30) dangerous and/or mixed waste feed cut-off, combined, to the
 22 HLW Vitrification System occur due to deviations from Permit Table [III.10.K.F](#), as
 23 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.J.3.d.v.](#), within a sixty
 24 (60) day period, the Permittees will submit a written report to Ecology within five (5)
 25 calendar days of the thirty-first (31) exceedance including the information specified
 26 below. These dangerous and/or mixed waste feed cut-offs to the HLW Vitrification
 27 System, whether automatically or manually activated, are counted if the specified set-
 28 points are deviated from while dangerous and/or mixed waste and waste residues
 29 continue to be processed in the HLW Vitrification System. A cascade event is counted at
 30 a frequency of one (1) towards the first waste feed cut-off parameter, specified on Permit
 31 Table [III.10.K.F](#), from which the set-point is deviated:

- 32 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.K.F](#);
- 33 B. The magnitude, dates, and duration of the deviations;
- 34 C. Results of the investigation of the cause of the deviations; and
- 35 D. Corrective measures taken to minimize future occurrences of the deviations.

36 **III.10.K.1.c.viii** If greater than thirty (30) dangerous and/or mixed waste feed cut-offs, combined,
 37 to the HLW Vitrification System occur due to deviations from Permit Table [III.10.K.F](#),
 38 as approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.J.3.d.v.](#), within a
 39 thirty (30) day period, the Permittees will submit the written report required to be
 40 submitted pursuant to Permit Condition [III.10.K.1.c.vii](#), to Ecology, on the first business
 41 day following the thirty-first exceedance. These dangerous and/or mixed waste feed cut-
 42 offs to the HLW Vitrification System, whether automatically or manually activated, are
 43 counted if the specified set-points are deviated from while dangerous and/or mixed waste
 44 and waste residues continue to be processed in the HLW Vitrification System. A cascade

1 event is counted at a frequency of one (1) towards the first waste feed cut-off parameter,
2 specified on Permit Table [III.10.K.F](#), from which the set-point is deviated:

3 In accordance with [WAC 173-303-680](#)(2) and (3), the Permittees may not resume
4 dangerous and/or mixed waste feed to the HLW Vitrification System until this
5 written report has been submitted; and

6 A. Ecology has authorized the Permittees, in writing, to resume dangerous and/or
7 mixed waste feed, or

8 B. Ecology has not, within seven (7) days, notified the Permittees in writing of the
9 following:

- 10 1. The Permittees written report does not document that the corrective measures
11 taken will minimize future exceedances.
- 12 2. The Permittees must take further corrective measures and document that
13 these further corrective measures will minimize future exceedances.

14 **III.10.K.1.c.ix** If any portion of the HLW Vitrification System is bypassed while treating dangerous
15 and/or mixed waste, it will be regarded as non-compliance with the operating conditions
16 specified in Permit Condition [III.10.K.1.c](#), and the performance standards specified in
17 Permit Condition [III.10.K.1.b](#). After such a bypass event, the Permittees will perform the
18 following actions:

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

24 **III.10.K.1.c.x** The Permittees will control fugitive emissions from the HLW Vitrification System by
25 maintaining the melter under negative pressure.

26 **III.10.K.1.c.xi** Compliance with the operating conditions specified in Permit Condition [III.10.K.1.c](#).
27 will be regarded as compliance with the required performance standards identified in
28 Permit Condition [III.10.K.1.b](#). However, evidence that compliance with these operating
29 conditions is insufficient to ensure compliance with the performance standards, will
30 justify modification, revocation, or re-issuance of this Permit, in accordance with Permit
31 Conditions [III.10.C.2.e](#), and [f.](#), or [III.10.C.2.g](#).

32 **III.10.K.1.d** Inspection Requirements [[WAC 173-303-680](#)(3)]

33 **III.10.K.1.d.i** The Permittees will inspect the HLW Vitrification System in accordance with the
34 Inspection Plan in Operating Unit Group 10, Chapter 6A of this Permit, as modified in
35 accordance with Permit Condition [III.10.C.5.c](#).

36 **III.10.K.1.d.ii** The inspection data for HLW Vitrification System will be recorded, and the records will
37 be placed in the WTP Unit operating record for HLW Vitrification System, in accordance
38 with Permit Condition [III.10.C.4](#).

39 **III.10.K.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating Unit
40 Group 10, Appendix 10.15 of this Permit, as approved pursuant to Permit Condition

- 1 [III.10.J.5.f.](#), and as modified by Permit Conditions [III.10.J.3](#), [III.10.K.1.b.x.](#),
2 [III.10.K.1.b.xii.](#), and [III.10.K.1.h.](#)
- 3 **III.10.K.1.e** Monitoring Requirements [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
4 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
5 [WAC 173-303-680\(3\)](#)]
- 6 **III.10.K.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
7 and analysis of the dangerous and/or mixed waste and exhaust emissions to verify that the
8 operating requirements established in the permit achieve the performance standards
9 delineated in this Permit.
- 10 **III.10.K.1.e.ii** The Permittees will comply with the monitoring requirements specified in the Operating
11 Unit Group 10, Appendices 10.2, 10.3, 10.7, 10.13, 10.15, and 10.18 of this Permit, as
12 approved pursuant to Permit Condition [III.10.J.5](#), and as modified by Permit Conditions
13 [III.10.J.3](#), [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii](#).
- 14 **III.10.K.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
15 hydrocarbon continuous emission monitors (CEM) specified in this Permit in accordance
16 with Performance Specifications 4B and 8A of [40 CFR Part 60](#), Appendix B, in
17 accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and Operating Unit Group
18 10 Appendix 10.15 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#),
19 and as modified by Permit Conditions [III.10.J.3](#), [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii](#).
- 20 **III.10.K.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified on Permit
21 Tables [III.10.K.C](#) and [F](#), as approved/modified pursuant to Permit Conditions [III.10.J.5](#)
22 and [III.J.3.d.v.](#), in accordance with Operating Unit Group 10, Appendix 10.15 of this
23 Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#), and as modified by Permit
24 Conditions [III.10.J.3](#), [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii](#).
- 25 **III.10.K.1.e.v** The Permittees shall calibrate, inspect, and maintain or replace the following cooling
26 water flow and temperature instruments: (Melter 1: FT/FI-0306, FT/FI-0316, FT/FI-0321,
27 FT/FI-0326, FT/FI-0336, TE/TT/TI-0352; Melter 2: FT/FI-2306, FT/FI-2316, FT/FI-
28 2321, FT/FI-2326, FT/FI-2336, TE/TT/TI-2352) in accordance with manufacturer's
29 recommendations.
- 30 **III.10.K.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680\(3\)](#)]
- 31 **III.10.K.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the HLW
32 Vitrification System, all monitoring, calibration, maintenance, test data, and inspection
33 data compiled under the conditions of this Permit, in accordance with Permit Conditions
34 [III.10.C.4](#) and [5](#) as modified by Permit Conditions [III.10.J.3](#), [III.10.K.1.h.](#), and
35 [III.10.K.1.b.x.](#) and [xii](#).
- 36 **III.10.K.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and duration
37 of all automatic waste feed cut-offs and/or lockouts, including the triggering parameters,
38 reason for the deviation, and recurrence of the incident. The Permittees will also record
39 all incidents of AWFCO system function failures, including the corrective measures
40 taken to correct the condition that caused the failure.
- 41 **III.10.K.1.f.iii** The Permittees will submit to Ecology an annual report each calendar year within ninety
42 (90) days following the end of the year. The report will include the following
43 information:
- 44 A. Total dangerous and/or mixed waste feed processing time for the HLW
45 Vitrification System.

- 1 B. Date/Time of all HLW Vitrification System startups and shutdowns.
 2 C. Date/Time/Duration/Cause/Corrective Action taken for all HLW Vitrification
 3 System shutdowns caused by malfunction of either process or control equipment.
 4 D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
 5 and/or mixed waste feed cut-off due to deviations from Permit Table [III.10.K.F.](#),
 6 as approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.10J.3.d.v.](#)
- 7 **III.10.K.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within ninety
 8 (90) days following the end of the year of all quarterly CEM Calibration Error and
 9 Annual CEM Performance Specification Tests conducted in accordance with Permit
 10 Condition [III.10.K.1.e.iii.](#)
- 11 **III.10.K.1.f.v** The Permittees shall maintain operating and calibration/maintenance records for
 12 Ecology's inspection for the following cooling water flow and temperature instruments
 13 (Melter 1: FT/FI-0306, FT/FI-0316, FT/FI-0321, FT/FI-0326, FT/FI-0336, TE/TT/TI-
 14 0352; Melter 2: FT/FI-2306, FT/FI-2316, FT/FI-2321, FT/FI-2326, FT/FI-2336,
 15 TE/TT/TI-2352).
- 16 **III.10.K.1.f.vi** The Permittees shall maintain refractory thermocouple temperature data for Ecology
 17 inspection.
- 18 **III.10.K.1.g** Closure
 19 The Permittees will close the HLW Vitrification System in accordance with Operating
 20 Unit Group 10, Addendum H of this Permit, as approved pursuant to Permit Condition
 21 [III.10.C.8.](#)
- 22 **III.10.K.1.h** Periodic Emission Re-testing Requirements [[WAC 173-303-670](#)(5),
 23 [WAC 173-303-670](#)(7), and [WAC 173-303-807](#)(2), in accordance with
 24 [WAC 173-303-680](#)(2) and (3)].
- 25 **III.10.K.1.h.i** Dioxin and Furan Emission Testing
- 26 A. Within eighteen (18) months of commencing operation pursuant to Permit
 27 Section [III.10.K.](#), the Permittees will submit to Ecology for approval, a Dioxin and
 28 Furan Emission Test Plan (DFETP) for the performance of emission testing of the
 29 HLW Vitrification System gases for dioxin and furans during "Normal Operating
 30 Conditions" as a permit modification in accordance with Permit Conditions
 31 [III.10.C.2.e.](#) and [f.](#) The DFETP will include all elements applicable to dioxin and
 32 furan emission testing included in the "Previously Approved Demonstration Test
 33 Plan," applicable EPA promulgated test methods and procedures in effect at the
 34 time of the submittal, and projected commencement and completion dates for
 35 dioxin and furan emission test. "Normal Operating Conditions" will be defined
 36 for the purposes of this permit condition as follows:
- 37 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
 38 automatic waste feed cut-off parameters specified on Permit Table [III.10.K.F](#)
 39 (as approved/modified pursuant to Permit Conditions [III.10.J.5](#) and
 40 [III.10.J.3.d.v.](#)), that were established to maintain compliance with Permit
 41 Condition [III.10.K.1.b.iv.](#), as specified in Operating Unit Group 10, Appendix
 42 10.15 of this Permit (as approved pursuant to Permit Condition [III.10.J.3.d.](#)
 43 and in accordance with [III.10.K.1.b.xii.](#) and [III.10.K.1.c.xi.](#)), are held within
 44 the range of the average value over the previous twelve (12) months and the
 45 set-point value specified on Permit Table [III.10.K.F.](#) The average value is
 46 defined as the sum of the rolling average values recorded over the previous

1 twelve (12) months divided by the number of rolling averages recorded during
 2 that time. The average value will not include calibration data, malfunction
 3 data, and data obtained when not processing dangerous and/or mixed waste.

- 4 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the
 5 average value over the previous twelve (12) months and the set-point value
 6 specified on Permit Table [III.10.K.D](#) (as approved/modified pursuant to
 7 Permit Conditions [III.10.J.5](#) and [III.10.J.3.d.v](#)). Feed-rate of organics as
 8 measured by TOC are held within the range of the average value over the
 9 previous twelve (12) months. The average value is defined as the sum of the
 10 rolling average values recorded over the previous twelve (12) months divided
 11 by the number of rolling averages recorded during that time. The average
 12 value will not include data obtained when not processing dangerous and/or
 13 mixed waste.

14 For purposes of this permit Condition, the “Previously Approved Demonstration
 15 Test Plan” is defined to include the Demonstration Test Plan approved pursuant
 16 to Permit Condition [III.10.J.5.f](#).

- 17 B. Within sixty (60) days of Ecology’s approval of the DFETP, or within thirty-one
 18 (31) months of commencing operation pursuant to Permit Section [III.10.K](#),
 19 whichever is later, the Permittees will implement the DFETP approved, pursuant
 20 to Permit Condition [III.10.K.1.h.i.A](#).
- 21 C. The Permittees will resubmit the DFETP, approved pursuant to Permit Condition
 22 [III.10.K.1.h.i.A](#), revised to include applicable EPA promulgated test methods and
 23 procedures in effect at the time of the submittal, and projected commencement
 24 and completion dates for dioxin and furan emission test as a permit modification
 25 in accordance with Permit Conditions [III.10.C.2.e](#) and [f](#), at twenty-four (24)
 26 months from the implementation date of the testing required pursuant to Permit
 27 Condition [III.10.K.1.h.i.A](#), and at reoccurring eighteen (18) month intervals from
 28 the implementation date of the previously approved DFETP. The Permittees will
 29 implement these newly approved revised DFETPs every thirty-one (31) months
 30 from the previous approved DFETP implementation date or within sixty (60) days
 31 of the newly Ecology approved revised DFETP, whichever is later, for the
 32 duration of this Permit.
- 33 D. The Permittees will submit a summary of operating data collected pursuant to the
 34 DFETPs in accordance with Permit Conditions [III.10.K.1.h.i.A](#) and [C](#) to Ecology
 35 upon completion of the tests. The Permittees will submit to Ecology the complete
 36 test report within ninety (90) calendar days of completion of the testing. The test
 37 reports will be certified as specified in [WAC 173-303-807](#)(8), in accordance with
 38 [WAC 173-303-680](#)(2) and (3).
- 39 E. If any calculations or testing results collected pursuant to the DFETPs in
 40 accordance with Permit Conditions [III.10.K.1.h.i.A](#) and [C](#) show that one or more
 41 of the performance standards listed in Permit Condition [III.10.K.1.b.](#), with the
 42 exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System
 43 were not met during the emission test, the Permittees will perform the following
 44 actions:
- 45 1. Immediately stop dangerous and/or mixed waste feed to the HLW
 46 Vitrification System under the mode of operation that resulted in not
 47 meeting the performance standard(s).

- 1 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
2 meeting the performance standard(s) as specified in Permit Condition
3 I.E.21.
 - 4 3. Investigate the cause of the failure and submit a report of the investigation
5 findings to Ecology within fifteen (15) days of discovery of not meeting the
6 performance standard(s).
 - 7 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
8 performance standard(s) documentation supporting a mode of operation
9 where all performance standards listed in Permit Condition [III.K.1.b.](#), with
10 the exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification
11 System were met during the demonstration test, if any such mode was
12 demonstrated.
 - 13 5. Based on the information provided to Ecology by the Permittees, pursuant
14 to Permit Conditions [III.10.K.1.h.i.E.](#) 1 through 4 above, and any additional
15 information, Ecology may provide, in writing, direction to the Permittees to
16 stop dangerous and/or mixed waste feed to the HLW Vitrification System
17 and/or amend the mode of operation the Permittees are allowed to continue
18 operations prior to Ecology approval of the revised Demonstration Test Plan
19 pursuant to Permit Condition [III.10.K.1.h.i.E.](#) 6.
 - 20 6. Submit to Ecology within one hundred and twenty (120) days of discovery
21 of not meeting the performance standard(s) a revised Demonstration Test
22 Plan requesting approval to retest as a permit modification pursuant to
23 Permit Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan
24 must include substantive changes to prevent failure from reoccurring
25 reflecting performance under operating conditions representative of the
26 extreme range of normal conditions, and include revisions to Permit Tables
27 [III.10.K.D](#) and [F.](#)
- 28 F. If any calculations or testing results collected pursuant to the DFETPs in
29 accordance with Permit Conditions [III.10.K.1.h.i.A](#) and [C](#) show that any emission
30 rate for any constituent listed in Permit Table [III.10.K.E.](#), as approved/modified
31 pursuant to Permit Conditions [III.10.C.11.c.](#) or [d.](#), is exceeded for HLW
32 Vitrification System during the emission test, the Permittees will perform the
33 following actions:
- 34 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
35 exceeding the emission rate(s) as specified in Permit Condition I.E.21;
 - 36 2. Submit to Ecology additional risk information to indicate that the increased
37 emissions impact is off-set by decreased emission impact from one or more
38 constituents expected to be emitted at the same time, and/or investigate the
39 cause and impact of the exceedance and submit a report of the investigation
40 findings to Ecology within fifteen (15) days of this discovery of exceeding
41 the emission rate(s); and
 - 42 3. Based on the notification and any additional information, Ecology may
43 provide, in writing, direction to the Permittees to stop dangerous and/or
44 mixed waste feed to the HLW Vitrification System and/or to submit a
45 revised Demonstration Test Plan as a permit modification pursuant to
46 Permit Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#) The revised
47 Demonstration Test Plan must include substantive changes to prevent failure
48 from reoccurring reflecting performance under operating conditions

representative of the extreme range of normal conditions, and include revisions to Permit Tables [III.10.K.D](#) and [F](#).

III.10.K.1.h.ii Non-organic Emission Testing

A. Within forty-eight (48) months of commencing operation pursuant to Permit Section [III.10.K](#), the Permittees will resubmit to Ecology for approval the “Previously Approved Demonstration Test Plan” revised as a permit modification in accordance with Permit Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan (RDTP) will include applicable EPA promulgated test methods and procedures in effect at the time of the submittal, projected commencement and completion dates for emission testing to demonstrate performance standards specified in Permit Conditions [III.10.K.1.b.ii.](#), [iii.](#), [v.](#), [vi.](#), and [vii.](#), and non-organic emissions as specified in Permit Table [III.10.K.E](#), as approved/modified pursuant to Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), under “Normal Operating Conditions.” “Normal Operating Conditions” will be defined for the purposes of this permit condition as follows:

1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and automatic waste feed cut-off parameters specified in Permit Table [III.10.K.F](#), as approved/modified pursuant to Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), that were established to maintain compliance with Permit Conditions [III.10.K.1.b.ii.](#), [iii.](#), [v.](#), [vi.](#), and [vii.](#), and non-organic emissions, as specified in Permit Table [III.10.K.E](#), as specified in Operating Unit Group 10, Appendix 10.15 of this Permit (as approved pursuant to Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#)), are held within the range of the average value over the previous twelve (12) months and the set-point value specified on Permit Table [III.10.K.F](#). The average value is defined as the sum of the rolling average values recorded over the previous twelve (12) months divided by the number of rolling averages recorded during that time. The average value will not include calibration data, malfunction data, and data obtained when not processing dangerous and/or mixed waste; and
2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the average value over the previous twelve (12) months and the set-point value specified on Permit Table [III.10.K.D](#), as approved/modified pursuant to Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#) The average value is defined as the sum of all rolling average values recorded over the previous twelve (12) months divided by the number of rolling averages recorded during that time. The average value will not include data obtained when not processing dangerous and/or mixed waste.

For purposes of this permit Condition, the “Previously Approved Demonstration Test Plan” is defined to include the Demonstration Test Plan approved pursuant to Permit Condition [III.10.J.5.f.](#)

- B. Within sixty (60) days of Ecology’s approval of the RDTP, or within sixty (60) months of commencing operation pursuant to Permit Section [III.10.K](#), whichever is later, the Permittees will implement the RDTP approved pursuant to Permit Condition [III.10.K.1.h.ii.A.](#)
- C. The Permittees will resubmit the RDTP, approved pursuant to Permit Condition [III.10.K.1.h.ii.A.](#), revised to include applicable EPA promulgated test methods and procedures in effect at the time of the submittal, and projected commencement and completion dates for emission test as a permit modification in accordance

1 with Permit Conditions [III.10.C.2.e.](#) and [f.](#) at forty-eight (48) months from the
2 implementation date of the testing required pursuant to Permit Condition
3 [III.10.K.1.h.ii.A.](#) and at reoccurring forty-eight (48) month intervals from the
4 implementation date of the previously approved RDTP. The Permittees will
5 implement these newly approved revised RDTP, every sixty (60) months from the
6 previous approved RDTP implementation date or within sixty (60) days of the
7 newly Ecology approved revised RDTP, whichever is later, for the duration of this
8 Permit.

9 D. The Permittees will submit a summary of operating data collected pursuant to the
10 RDTPs in accordance with Permit Conditions [III.10.K.1.h.ii.A](#) and C to Ecology
11 upon completion of the tests. The Permittees will submit to Ecology the complete
12 test report within ninety (90) calendar days of completion of the testing. The test
13 reports will be certified pursuant to [WAC 173-303-807\(8\)](#), in accordance with
14 [WAC 173-303-680\(2\)](#) and (3).

15 E. If any calculations or testing results collected pursuant to the DFETPs in
16 accordance with Permit Conditions [III.10.K.1.h.ii.A](#) and C show that any emission
17 rate for any constituent listed in Permit Table [III.10.K.E](#), as approved/modified
18 pursuant to Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), is exceeded for
19 HLW Vitrification System during the emission test, the Permittees will perform
20 the following actions:

- 21 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
22 exceeding the emission rate(s) as specified in Permit Condition I.E.21.
- 23 2. Submit to Ecology additional risk information to indicate that the increased
24 emissions impact is off-set by decreased emission impact from one or more
25 constituents expected to be emitted at the same time, and/or investigate the
26 cause and impact of the exceedance and submit a report of the investigation
27 findings to Ecology within fifteen (15) days of this discovery of exceeding the
28 emission rate(s).
- 29 3. Based on the notification and any additional information, Ecology may
30 provide, in writing, direction to the Permittees to stop dangerous and/or mixed
31 waste feed to the HLW Vitrification System and/or to submit a revised
32 Demonstration Test Plan as a permit modification pursuant to Permit
33 Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#) The revised Demonstration
34 Test Plan must include substantive changes to prevent failure from
35 reoccurring reflecting performance under operating conditions representative
36 of the extreme range of normal conditions, and include revisions to Permit
37 Tables [III.10.K.D](#) and [III.10.K.F](#).

38 F. If any calculations or testing results collected pursuant to the DFETPs in
39 accordance with Permit Conditions [III.10.K.1.h.ii.A](#) and C show that one or more
40 of the performance standards listed in Permit Condition [III.10.K.1.b.](#), with the
41 exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System
42 were not met during the emission test, the Permittees will perform the following
43 actions:

- 44 1. Immediately stop dangerous and/or mixed waste feed to the HLW
45 Vitrification System under the mode of operation that resulted in not meeting
46 the performance standard(s).
- 47 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
48 meeting the performance standard(s), as specified in Permit Condition I.E.21.

3. Investigate the cause of the failure and submit a report of the investigation findings to Ecology within fifteen (15) days of discovery of not meeting the performance standard(s).
4. Submit to Ecology within fifteen (15) days of discovery of not meeting the performance standard(s) documentation supporting a mode of operation where all performance standards listed in Permit Condition [III.K.1.b.](#), with the exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System were met during the demonstration test, if any such mode was demonstrated.
5. Based on the information provided to Ecology by the Permittees pursuant to Permit Conditions [III.10.K.1.h.ii.F.1](#) through 4 above, and any additional information, Ecology may provide, in writing, direction to the Permittees to stop dangerous and/or mixed waste feed to the HLW Vitrification System and/or amend the mode of operation the Permittees are allowed to continue operations prior to Ecology approval of the revised Demonstration Test Plan pursuant to Permit Condition [III.10.K.1.h.ii.F.6](#).
6. Submit to Ecology within one hundred and twenty (120) days of discovery of not meeting the performance standard(s) a revised Demonstration Test Plan requesting approval to retest as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan must include substantive changes to prevent failure from reoccurring reflecting performance under operating conditions representative of the extreme range of normal conditions, and include revisions to Permit Tables [III.10.K.D](#) and [F.](#)

III.10.K.1.h.iii Other Emission Testing

- A. Within seventy-eight (78) months of commencing operation pursuant to Permit Section [III.10.K](#), the Permittees will resubmit to Ecology for approval the “Previously Approved Demonstration Test Plan” revised as a permit modification in accordance with Permit Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan (RDTP) will include applicable EPA promulgated test methods and procedures in effect at the time of the submittal, projected commencement and completion dates for emission testing to demonstrate performance standards as specified in Permit Conditions [III.10.K.1.b.viii.](#) and [ix.](#), and emissions as specified on Permit Table [III.10.K.E](#), as approved/modified pursuant to Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), not addressed under Permit Conditions [III.10.K.1.h.i.](#) or [ii.](#) under “Normal Operating Conditions.” “Normal Operating Conditions” will be defined for the purposes of this permit Condition as follows:
 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and automatic waste feed cut-off parameters specified on Permit Table [III.10.K.F](#), as approved/modified pursuant to Permit Condition [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), that were established to maintain compliance with Permit Conditions [III.10.K.1.b.viii.](#) and [ix.](#), and emissions as specified on Permit Table [III.10.K.E](#), not addressed under Permit Conditions [III.10.K.1.h.i.](#) or [ii.](#) as specified in Operating Unit Group 10, Appendix 10.15 of this Permit, as approved pursuant to Permit Condition [III.10.J.3.d.](#), and in accordance with Permit Conditions [III.10.K.1.b.xii.](#) and [III.10.K.1.c.xi.](#) are held within the range of the average value over the previous twelve (12) months and the set-point value specified on Permit Table [III.10.K.F](#). The average value is defined as the sum of all rolling average values recorded over the previous

1 twelve (12) months divided by the number of rolling averages recorded during
 2 that time. The average value will not include calibration data, malfunction
 3 data, and data obtained when not processing dangerous and/or mixed waste;
 4 and

- 5 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the
 6 average value over the previous twelve (12) months and the set-point value
 7 specified on Permit Table [III.10.K.D](#), as approved/modified pursuant to
 8 Permit Conditions [III.10.J.3.d](#), and [III.10.C.11.c](#), or [d](#). Feed-rate of organics
 9 as measured by TOC are held within the range of the average value over the
 10 previous twelve (12) months. The average value is defined as the sum of the
 11 rolling average values recorded over the previous twelve (12) months divided
 12 by the number of rolling averages recorded during that time. The average
 13 value will not include data obtained when not processing dangerous and/or
 14 mixed waste.

15 For purposes of this permit Condition, the “Previously Approved Demonstration
 16 Test Plan” is defined to include the Demonstration Test Plan approved pursuant
 17 to Permit Condition [III.10.J.5.f](#).

- 18 B. Within sixty (60) days of Ecology’s approval of the RDTP, or within ninety-one
 19 (91) months of commencing operation pursuant to Permit Section [III.10.K](#),
 20 whichever is later, the Permittees will implement the RDTP approved pursuant to
 21 Permit Condition [III.10.K.1.h.iii.A](#).
- 22 C. The Permittees will submit a summary of operating data collected pursuant to the
 23 RDTPs in accordance with Permit Condition [III.10.K.1.h.iii.A](#) to Ecology upon
 24 completion of the tests. The Permittees will submit to Ecology the complete test
 25 report within ninety (90) calendar days of completion of the testing. The test
 26 reports will be certified as specified in [WAC 173-303-807](#)(8), in accordance with
 27 Permit Condition [WAC 173-303-680](#)(2) and (3).
- 28 D. If any calculations or testing results show that one or more of the performance
 29 standards listed in Permit Condition [III.10.K.1.b.](#), with the exception of Permit
 30 Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System were not met during
 31 the emission test, the Permittees will perform the following actions:
- 32 1. Immediately stop dangerous and/or mixed waste feed to the HLW
 33 Vitrification System under the mode of operation that resulted in not meeting
 34 the performance standard(s).
 - 35 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
 36 meeting the performance standard(s), as specified Permit Condition I.E.21.
 - 37 3. Investigate the cause of the failure and submit a report of the investigation
 38 findings to Ecology within fifteen (15) days of discovery of not meeting the
 39 performance standard(s).
 - 40 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
 41 performance standard(s) documentation supporting a mode of operation
 42 where all performance standards listed in Permit Condition [III.10.K.1.b.](#), with
 43 the exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification
 44 System were met during the demonstration test, if any such mode was
 45 demonstrated.
 - 46 5. Based on the information provided to Ecology by the Permittees pursuant to
 47 Permit Conditions [III.10.K.1.h.iii.D.1](#) through [4](#) above, and any additional
 48 information, Ecology may provide, in writing, direction to the Permittees to

1 stop dangerous and/or mixed waste feed to the HLW Vitrification System
2 and/or amend the mode of operation the Permittees are allowed to continue
3 operations prior to Ecology approval of the revised Demonstration Test Plan,
4 pursuant to Permit Condition [III.10.K.1.h.iii.D.6](#).

- 5 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
6 not meeting the performance standard(s) a revised Demonstration Test Plan
7 requesting approval to retest as a permit modification pursuant to Permit
8 Conditions [II.10.C.2.e](#) and [f](#). The revised Demonstration Test Plan must
9 include substantive changes to prevent failure from reoccurring reflecting
10 performance under operating conditions representative of the extreme range
11 of normal conditions, and include revisions to Permit Tables [III.10.K.D](#) and [F](#).

- 12 E. If any calculations or testing results show that any emission rate for any
13 constituent listed in Permit Table [III.10.K.E](#), as approved/modified pursuant to
14 Permit Condition [III.10.C.11.c](#) or [d](#)., is exceeded for HLW Vitrification System
15 during the emission test, the Permittees will perform the following actions:

- 16 1. 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 2. Submit to Ecology additional risk information to indicate that the increased
19 emissions impact is off-set by decreased emission impact from one or more
20 constituents expected to be emitted at the same time, and/or investigate the
21 cause and impact of the exceedance of the emission rate(s) and submit a
22 report of the investigation findings to Ecology within fifteen (15) days of the
23 discovery of the exceedance of the emission rate(s); and
24 3. Based on the notification and any additional information, Ecology may
25 provide, in writing, direction to the Permittees to stop dangerous and/or mixed
26 waste feed to the HLW Vitrification System and/or to submit a revised
27 Demonstration Test Plan as a permit modification pursuant to Permit
28 Conditions [III.10.C.2.e](#) and [f](#), or [III.10.C.2.g](#). The revised Demonstration
29 Test Plan must include substantive changes to prevent failure from
30 reoccurring reflecting performance under operating conditions representative
31 of the extreme range of normal conditions, and include revisions to Permit
32 Tables [III.10.K.D](#) and [F](#).

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Table III.10.K.A - HLW Vitrification System Description

Sub-system Description	Sub-System Designation	Engineering Description (Drawing Nos., etc.)	Narrative Description, Tables, and Figures
RESERVED	RESERVED	RESERVED	RESERVED
^a Permit Table III 10 K A will be completed in accordance with Permit Condition III 10 J 5 e x , prior to initiating Permit Condition III 10 K 1 See Permit Table III 10 J A for the current HLW Vitrification System Description			

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Table III.10.K.B - HLW Vitrification System Secondary Containment Systems Including Sumps and Floor Drains

Sump/Floor Drain I.D.# & Room Location	Maximum Sump Capacity (gallons)	Sump Dimensions ^b (feet) & Materials of Construction	Engineering Description (Drawing Nos., Specification Nos., etc.)
RESERVED	RESERVED	RESERVED	RESERVED
^a Permit Table III 10 K B will be completed in accordance with Permit Condition III 10 J 5 b vii , prior to initiating Permit Condition III 10 K 1 See Permit Table III 10 J B for the current HLW Vitrification System Secondary Containment Systems Including Sumps and Floor Drains ^b Dimensions listed are based on permitted design Actual dimensions may vary within plus or minus (TBD)			

2

Table III.10.K.C - HLW Vitrification System Process and Leak Detection System Instruments and Parameters

Sub-system Locator and Name (including P&ID)	Control Parameter	Type of Measuring or Leak Detection Instrument	Location of Measuring Instrument (Tag No.)	Instrument Range	Failure State	Expected Range	Instrument Accuracy	Instrument Calibration Method No. and Range
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
^a Permit Table III 10 K C will be completed in accordance with Permit Condition III 10 J 5 e ix , prior to initiating Permit Condition III 10 K 1 See Permit Table III 10 J C for the current HLW Vitrification System Process and Leak Detection System Instruments and Parameters								

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Waste Treatment and Immobilization Plant

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Table III.10.K.D – Maximum Feed-rates to HLW Vitrification System (RESERVED)

Description of Waste	Normal Operation
Dangerous and/or mixed waste Feed Rate	RESERVED
Ash Feed Rate	RESERVED
Total Chlorine/Chloride Feed Rate	RESERVED
Total Metal Feed Rates	RESERVED

1

Table III.10.K.E – HLW Vitrification System Estimated Emission Rates (RESERVED)

Chemicals	CAS Number	Emission Rates (grams/second)
RESERVED	RESERVED	RESERVED

2

3

**TABLE III.10.K.F - HLW Vitrification System Waste Feed Cut-off Parameters*
¹(RESERVED)**

Sub-system Designation	Instrument Tag Number	Parameter Description	Set-points During Normal Operation
RESERVED	RESERVED	RESERVED	RESERVED
<p>*A continuous monitoring system will be used as defined in Permit Section III 10.C.1 ¹Maximum Feed-rate will be set based on not exceeding any of the constituent (e.g., metals, ash, and chlorine/chloride) feed limits specified on Table III 10.K.D of this Permit</p>			

4

1 **III.10.L LABORATORY MISCELLANEOUS UNITS (RESERVED)ANALYTICAL**
 2 **LABORATORY SPECIFIC OPERATING CONDITIONS**

3 **Unit Description**

4 The Analytical Laboratory is one of the six major facilities within the WTP Operating
 5 Unit Group. The Lab will operate to ensure efficient WTP operations by performing
 6 analysis of samples to meet permitting, process control, authorization basis, and waste
 7 form qualification requirements.

8 The Lab consists of analytical laboratory rooms, hotcells, and a waste management area
 9 for storage of secondary waste generated for analytical activities. The Lab also contains a
 10 Radioactive Liquid Waste Disposal (RLD) tank system (tanks and ancillary equipment)
 11 which will be used to store and manage liquid waste generated in the Lab. Under the
 12 DFLAW configuration, the liquid waste will be routed to the WTP Effluent Management
 13 Facility for treatment. Construction of the Lab was completed in 2014 and operations are
 14 expected to begin 2023.

15 This Chapter provides unit-specific Permit conditions applicable to the dangerous waste
 16 management units for the WTP Lab.

17 **III.10.L.1 Compliance with Unit-Specific Permit Conditions**

18 **III.10.L.1.a** The Permittees will comply with all permit conditions and corresponding Chapters for the
 19 WTP Operating Unit Group with respect to dangerous waste management and dangerous
 20 waste management units in Operating Unit Group 10, in addition to applicable
 21 requirements in Part I and II.

22 **III.10.L.2 General Waste Management**

23 **III.10.L.2.a** The Permittees are authorized to accept, according to the requirements of Permit
 24 Condition III.10.C.2 and Chapter 3, ~~the Waste Analysis Plan in Chapter 3,~~
 25 dangerous/mixed waste for management in Operating Unit Group 10 dangerous waste
 26 management units.

27 **III.10.L.2.b** The Permittees will manage wastes at the facility in accordance with the requirements of
 28 this Permit, including the performance standard requirements in WAC 173-303-283,
 29 incorporated by reference.

30 **III.10.L.2.c** The Permittees will maintain the physical structure of the Analytical Laboratory as
 31 documented in the applicable sections of Permit Chapter 4H, Analytical Laboratory,
 32 [WAC 173-303-640(2), WAC 173-303-640(3), WAC 173-303-640(4)]

33 **III.10.L.3 Waste Analysis**

34 **III.10.L.3.a** The Permittees will comply with requirements in Permit Condition III.10.C.3 and
 35 Chapter 3, Waste Analysis Plan, for all dangerous and/or mixed waste managed at the
 36 WTP Operating Unit Group. [WAC 173-303-300(5)]

37 **III.10.L.3.b** The Permittees will comply with the requirements of WAC 173-303-395(1), (2), and (6).

38 **III.10.L.3.c** The Permittees will have an accurate and complete waste profile as described in Chapter
 39 3, Waste Analysis Plan, Section 3.2.1, for every waste stream accepted by the Analytical
 40 Laboratory. [WAC 173-303-380(1)(a)(b)]

41 **III.10.L.3.d** Inaccurate or incomplete waste analysis information is not a defense for noncompliance
 42 by the Permittees with the waste management requirements and conditions in this Permit,
 43 or the land disposal restrictions specified in the requirements of WAC 173-303-140,
 44 incorporated by reference.

III.10.L.4 Recordkeeping and Reporting

III.10.L.4.a The Permittees will keep and maintain records in the Hanford Facility Operating Record, Analytical Laboratory, as required by WAC 173-303-380, as specified in the corresponding chapters and Permit Condition II.I.

III.10.L.4.b The Permittees will place a copy of each waste profile required by Permit Condition III.10.C.3.d, in the Hanford Facility Operating Record, Analytical Laboratory file required by Permit Condition II.I. [WAC 173-303-380(1)(a)]

III.10.L.4.c Records and results of waste analysis required by Permit Condition III.10.C.4 and Chapter 3, Waste Analysis Plan, will be maintained in the Hanford Facility Operating Record, WTP analytical laboratory as required by Permit Condition II.I [WAC 173-303-380(1)(a)]

III.10.L.4.d The Permittees will place updates to engineering drawings listed in Appendix 11 into the Hanford Facility Operating Record for the Analytical Laboratory.

III.10.L.4.e The Permittees will keep summary reports and details of all incidents that require implementation of the Contingency Plan in the Hanford Facility Operating Record, Analytical Laboratory, according to the requirements of Permit Condition II.A.1. [WAC 173-303-380(1)(d)]

III.10.L.5 Security

III.10.L.5.a The Permittees will maintain in accordance with Permit Condition III.10.C.13 that onsite, unrestricted, twenty-four (24) hour access to key WTP Unit operating data and emissions monitoring data will be provided to Ecology. This onsite, unrestricted access will include providing and maintaining for Ecology only use a computer terminal and printer with access to key WTP Unit operating data bases and emissions monitoring data bases. This terminal will be equipped with all necessary software and hardware to monitor, retrieve, and trend this data. Additional remote access will be provided on Ecology request if security concerns can be addressed.

III.10.L.5.b The Permittees will implement and maintain the practices described in Chapter 6, Procedures to Prevent Hazards, as required by Permit Condition II.M at the WTP Operating Unit Group. [WAC 173-303-310]

III.10.L.6 Preparedness and Prevention

III.10.L.6.a The Permittees will comply with the Preparedness and Prevention requirements, procedures and practices described in Chapter 6, Procedures to Prevent Hazards, in addition to WAC 173-303-340.

III.10.L.6.b The Permittees will operate and maintain the runoff controls, interlock systems and other systems described in Chapter 6, Procedures to Prevent Hazards, in accordance with the requirements of WAC 173-303-640(5), incorporated by reference.

III.10.L.7 Contingency Plan

III.10.L.7.a The Permittees will comply with Chapter 7, Contingency Plan in addition to the requirements of Permit Condition II.A when applicable. [WAC 173-303-350]

III.10.L.7.b The Permittees will implement the emergency procedures specified in Chapter 7, Contingency Plan in the event of a fire, explosion, or release that could threaten human

health or the environment, in accordance with the requirements of WAC 173-303-340 and WAC-173-303-360, incorporated by reference.

III.10.L.8 Inspections

III.10.L.8.a The Permittees will implement the practices specific to the WTP Operating Unit Group as described in Chapter 6A, Inspection Plan, and include the inspection requirements of Chapter 6A in the inspection schedule required by Permit Condition II.O. [WAC 173-303-320]

III.10.L.8.b The Permittees will keep a copy of the elements of the inspection log or summary required by WAC 173-303-380(1)(e); -380(3) and -830(4)

III.10.L.8.c The Permittees will remedy any problem revealed by inspections on a schedule which prevents hazards to the public health and environment per the requirements of WAC 173-303-320(3), incorporated by reference.

III.10.L.8.d Where an inspection reveals a problem that creates a hazard that is imminent or has already occurred, the Permittees will take remedial action immediately per the requirements of WAC 173-303-320(3), incorporated by reference.

III.10.L.9 Training

III.10.L.9.a The Permittees will include the training requirements described in Chapter 8, Personnel Training, in the training program required by Permit Condition II.C. [WAC 173-303-330]

III.10.L.10 Other General Requirements- Reserved

III.10.L.11 Closure

III.10.L.11.a The Permittees will close the WTP Analytical Laboratory Dangerous Waste Management Unit in Operating Unit Group 10 in accordance with Chapter 11, Closure Plan. [WAC 173-303-610(3)]

III.10.L.11.b The Permittees will provide prior written notice to Ecology of the date they expect to begin closure of any dangerous waste management unit subject to the requirements of this Permit in accordance with Permit Condition II.J.3. The notice of closure may apply to closure of any dangerous waste management units in the WTP Operating Unit Group, or final closure of the remaining Operating Unit Group 10. [WAC 173-303-610(3)(c)]

III.10.L.12 Post-Closure – Reserved

III.10.L.13 Critical Systems

III.10.L.13.a The RLD is a critical system within the Lab~~AB~~. The RLD in the Lab~~AB~~ will comply with III.10.C.9, Critical Systems.

III.10.L.14 Reserved

III.10.L.15 Containers

III.10.L.15.a Container Storage and Treatment Unit Standards

III.10.L.15.a.i The Permittees will ensure that all containers remain in good condition. If a container holding mixed and dangerous waste is not in good condition (e.g., severe rusting or corrosion, or apparent structural defects), or if it begins to leak, the Permittees must transfer the waste from the container to a container that is in good condition or place the leaking container in an appropriate over-pack container. [WAC 173-303-630(2)]

III.10.L.15.b III.10.L.15.e — Container Management Standards

III.10.L.15.b.i III.10.L.15.d — The Permittees will maintain and manage wastes in accordance with the requirements, procedures, and practices described in Chapter 4H, Analytical Laboratory in addition to WAC 173-303-630.

III.10.L.15.b.ii III.10.L.15.e — The contents of any leaking container will be transferred as soon as possible considering safety of the work force to a compatible container which is in good condition or to an over pack container. Any waste residue remaining in the damaged container will be managed as a dangerous waste unless the container is empty pursuant to WAC 173-303-160(2).

III.10.L.15.b.iii III.10.L.15.f — The Permittees will label containers in accordance with the requirements of Chapter 4H, Analytical Laboratory [WAC 173-303-630(3)].

III.10.L.15.b.iv III.10.L.15.g — The Permittees will ensure wastes will not be ignitable, reactive or incompatible with containers and with other wastes stored or treated in containers within the Container Storage Area for the Analytical Laboratory, and if such wastes are managed in any container storage area, the containers of incompatible waste or chemicals will not be stored in close proximity to each other; according to the requirements of Chapter 4H, Analytical Laboratory [WAC 173-303-630(4), WAC 173-303-630(9)].

III.10.L.15.b.v III.10.L.15.i — The Permittees will remove any accumulated liquids from container storage areas in according with the requirements of Chapter 4H, Analytical Laboratory to ensure containers are not in contact with free liquids and to prevent overflow of the container storage area secondary containment.

III.10.L.15.b.vi III.10.L.15.j — The Permittees will comply with the requirements for air emissions from containers in Chapter 4H, Analytical Laboratory [WAC 173-303-692].

III.10.L.16 III.10.L.16 — TANK SYSTEMS

III.10.L.16.a III.10.L.16.a — Tank System Management Requirements

III.10.L.16.a.i III.10.L.16.b — The Permittees will comply with the schedule for conducting integrity assessments for the WTP analytical laboratory tank systems as described in Chapter 4H, Analytical Laboratory and the requirements in WAC 173-303-640(3)(b).

III.10.L.16.a.ii III.10.L.16.c — If the findings of an integrity assessment indicate that a WTP analytical laboratory tank has structural deficiencies or lacks integrity such that it may collapse, rupture, or fail, the Permittees will at a minimum do the following:

III.10.L.16.a.ii.A III.10.L.16.c.1 — Evaluate and review the waste acceptance criteria in Chapter 3, Waste Analysis Plan;

III.10.L.16.a.ii.B III.10.L.16.c.2 — Evaluate and review the applicable tank design and/or operating requirements in Chapter 4H, Analytical Laboratory;

III.10.L.16.a.ii.C III.10.L.16.c.3 — Evaluate and review any other permit requirements, which may reasonably influence the integrity of the tank in question;

III.10.L.16.a.ii.D III.10.L.16.c.4 — Based on this evaluation and review, the Permittees will request the required permit modifications in accordance with WAC 173-303-830. [WAC 173-303-640(3)(b), WAC 173-303-815(2)(b)]

III.10.L.16.a.iii III.10.L.16.d — The Permittees will submit a permit change notification to the Part A (Chapter 1) for the Analytical Laboratory in accordance with Permit

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Condition I.C if the capacity decreases or increases for the Analytical Laboratory tank systems.

III.10.L.16.b III.10.L.16.e Tank System Operating Requirements

III.10.L.16.b.i ~~III.10.L.16.f~~ The Permittees will not place dangerous wastes or treatment reagents in the tank system if they could cause the tank, ancillary equipment, or the containment system to rupture, leak, corrode or fail. [WAC 173-303-640(5)(a)]

III.10.L.16.b.ii ~~III.10.L.16.g~~ The Permittees will comply with the requirements of WAC 173-303-640(7), in response to spills or leaks from the Tank System. [WAC 173-303-640(5)(c)]

III.10.L.16.b.iii ~~III.10.L.16.h~~ The Permittees will ensure that incompatible wastes/material are not placed in the same tank system, unless WAC 173-303-395(1)(b) is complied with. [WAC 173-303-640(10)(a)]

III.10.L.16.b.iv ~~III.10.L.16.i~~ The Permittees will not place dangerous waste in a tank system that has not been previously decontaminated and that previously held an incompatible waste/material, unless WAC 173-303-395(1)(b) is complied with. [WAC 173-303-640(10)(b)]

III.10.L.16.b.v ~~III.10.L.16.j~~ If there is indication that a tank system is leaking or unfit for use, the Permittees will comply with WAC 173-303-640(7).

III.10.L.16.b.vi ~~III.10.L.16.k~~ The Permittees will not transfer waste into the analytical laboratory tank systems in excess of the capacity of the tanks as listed in Table ~~III.10.L.E.CD~~.

III.10.L.16.b.vii ~~III.10.L.16.l~~ The Permittees will comply with the requirements of Chapter 4H, Analytical Laboratory, in response to spills or leaks from tank systems at the Analytical Laboratory [WAC 173-303-640(5)(c), WAC 173-303-640(7)].

III.10.L.16.b.viii ~~III.10.L.16.m~~ The Permittees will comply with the requirements of WAC 173-303-640(9) incorporated by reference. [WAC 173-303-640(9)]

III.10.L.16.b.ix ~~III.10.L.16.n~~ The Permittees will comply with the requirements of WAC 173-303-640(10), incorporated by reference.

III.40.L.III.10.MEMF MISCELLANEOUS UNIT SYSTEMS

Unless otherwise noted in Table III.10.M.A, for purposes of Permit Section III.10.M., where reference is made to WAC 173-303-640, the following substitutions apply: substitute the terms “EMF Miscellaneous Unit System(s)” for “tank system(s),” “miscellaneous unit(s)” for “tank(s),” “equipment” for “ancillary equipment,” and “miscellaneous unit(s) or equipment of a EMF Miscellaneous Unit System” for “component(s)” in accordance with WAC 173-303-680. Miscellaneous unit systems,

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1 exempt from the [WAC-173-303-640](#) requirements in Permit Section [III.10.M](#) are noted
2 as exempt in Table [III.10.M.A](#).

3 **[III.10.L.4](#)[III.10.M.1](#) Waste and Storage Limits**

4 **[III.10.L.4.a](#)[III.10.M.1.a](#)** The Permittees may process, in the EMF Miscellaneous Unit Systems listed in
5 Permit Table [III.10.M.A](#), as approved/modified pursuant to Permit Condition [III.10.M.9](#),
6 all dangerous and mixed waste listed in the Part A Forms, Operating Unit Group 10,
7 Chapter 1 of this Permit, and in accordance with in the WAP, Operating Unit Group 10,
8 Chapter 3/Chapter 3A of this Permit, as approved pursuant to Permit Condition
9 [III.10.C.3](#). Total EMF Miscellaneous Unit dangerous and mixed waste storage at the
10 Facility will not exceed the limits specified in Permit Table [III.10.M.A](#).

11 **[III.10.L.4.b](#)[III.10.M.1.b](#)** The Permittees may process dangerous and mixed waste only in
12 approved EMF Miscellaneous Unit Systems listed in Permit Table [III.10.M.A](#) in
13 accordance with Permit Section [III.10.M](#) and in accordance with Operating Unit Group
14 10, Chapters 1.0 and 4.0 of this Permit, and Operating Unit Group 10, Appendices 13.1
15 through 13.14 of this Permit, as approved pursuant to Permit Conditions [III.10.M.9.b](#),
16 through [e](#). The Permittees will limit the total volume of wastes to quantities specified for
17 the individual miscellaneous units listed in Permit Table [III.10.M.A](#).

18 **[III.10.L.4.c](#)[III.10.M.1.c](#)** RESERVED

19 **[III.10.L.4.d](#)[III.10.M.1.d](#)** The Permittees will ensure all certifications required by specialists (e.g.,
20 independent, qualified, registered professional engineer; independent corrosion expert;
21 independent, qualified installation inspector; etc.) use the following statement or
22 equivalent pursuant to Permit Condition [III.10.C.10](#):

23 “I, (Insert Name) have (choose one or more of the following: overseen, supervised,
24 reviewed, and/or certified) a portion of the design or installation of a new miscellaneous
25 unit system or component located at (address), and owned/operated by (name(s)). My
26 duties were: (e.g., installation inspector, testing for tightness, etc.), for the following
27 miscellaneous unit system components (e.g., the venting piping, etc.), as required by the
28 Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3) (applicable paragraphs
29 (i.e., (a) through (g)) in accordance with [WAC 173-303-680](#)).

30 “I certify under penalty of law that I have personally examined and am familiar with the
31 information submitted in this document and all attachments and that, based on my inquiry
32 of those individuals immediately responsible for obtaining the information, I believe that
33 the information is true, accurate, and complete. I am aware that there are significant
34 penalties for submitting false information, including the possibility of fine and
35 imprisonment.”

36 **[III.10.L.4.e](#)[III.10.M.1.e](#)** In all future narrative permit submittals, the Permittees will include
37 Miscellaneous Unit System names with the unit designation (e.g., Evaporator Separator
38 Vessel; DEP-EVAP-00001).

39 **[III.10.L.2](#)[III.10.M.2](#) Miscellaneous Unit Systems Design and Construction [[WAC 173-](#)
40 [303-640](#), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-340](#)].**

41 **[III.10.L.2.a](#)[III.10.M.2.a](#)** The Permittees will construct the EMF Miscellaneous Unit Systems identified in
42 Permit Table [III.10.M.A](#), as specified in Operating Unit Group 10, Appendices 13.1

1 through 13.14 of this Permit, as approved pursuant to Permit Conditions [III.10.M.9.b.](#),
2 [III.10.M.9.c.](#), and [III.10.M.9.d.](#)

3 ~~III.10.L.2.b~~[III.10.M.2.b](#) The Permittees will construct secondary containment systems for the
4 EMF Miscellaneous Unit Systems identified in Permit Tables [III.10.M.A](#), as specified in
5 Operating Unit Group 10, Appendices 13.2, 13.4 through 13.14 of this Permit, as
6 approved pursuant to Permit Conditions [III.10.M.9.b.](#), [III.10.M.9.c.](#), and [III.10.M.9.d.](#)

7 ~~III.10.L.2.c~~[III.10.M.2.c](#) Modifications to approved design, plans, and specifications in Operating Unit
8 Group 10 of this Permit for the EMF Miscellaneous Unit Systems will be allowed only in
9 accordance with Permit Conditions [III.10.C.2.e](#) and [f.](#), or [III.10.C.2.g.](#), [III.10.C.9.d.](#), [e.](#) and
10 [h.](#)

11 ~~III.10.L.3~~[III.10.M.3](#) **Miscellaneous Unit System Installation and Certification** [[WAC 173-](#)
12 [303-640](#)], in accordance with [WAC 173-303-680\(2\)](#) and [\(3\)](#), and [WAC 173-303-](#)
13 [340](#)].

14 ~~III.10.L.3.a~~[III.10.M.3.a](#) The Permittees must ensure that proper handling procedures are adhered to in
15 order to prevent damage to EMF Miscellaneous Unit Systems during installation. Prior to
16 covering, enclosing, or placing a new EMF Miscellaneous Unit System(s) or
17 component(s) in use, an independent, qualified, installation inspector or an independent,
18 qualified, registered professional engineer, either of whom is trained and experienced in
19 the proper installation of similar systems or components, must inspect the system for the
20 presence of any of the following items:

21 ~~III.10.L.3.a.i~~[III.10.M.3.a.i](#) Weld breaks;

22 ~~III.10.L.3.a.ii~~[III.10.M.3.a.ii](#) Punctures;

23 ~~III.10.L.3.a.iii~~[III.10.M.3.a.iii](#) Scrapes of protective coatings;

24 ~~III.10.L.3.a.iv~~[III.10.M.3.a.iv](#) Cracks;

25 ~~III.10.L.3.a.v~~[III.10.M.3.a.v](#) Corrosion;

26 ~~III.10.L.3.a.vi~~[III.10.M.3.a.vi](#) Other structural damage or inadequate construction/installation;

27 ~~III.10.L.3.a.vii~~[III.10.M.3.a.vii](#) All discrepancies must be remedied before the EMF Miscellaneous Unit
28 Systems are covered, enclosed, or placed in use [[WAC 173-303-640\(3\)\(c\)](#)] in accordance
29 with [WAC 173-303-680\(2\)](#) and [\(3\)](#)].

30 ~~III.10.L.3.b~~[III.10.M.3.b](#) For EMF Miscellaneous Unit Systems or components that are placed
31 underground and that are back-filled, the Permittees must provide a backfill material that
32 is a non-corrosive porous, homogeneous substance. The backfill must be installed so that
33 it is placed completely around the miscellaneous unit and compacted to ensure that the
34 miscellaneous unit and piping are fully and uniformly supported [[WAC 173-303-](#)
35 [640\(3\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and [\(3\)](#)].

36 ~~III.10.L.3.c~~[III.10.M.3.c](#) The Permittees must test for tightness all new EMF miscellaneous units and
37 equipment, prior to being covered, enclosed, or placed into use. If the EMF
38 Miscellaneous Unit Systems are found not to be tight, all repairs necessary to remedy the
39 leak(s) in the system must be performed prior to the EMF Miscellaneous Units Systems
40 being covered, enclosed, or placed in use [[WAC 173-303-640\(3\)\(e\)](#)], in accordance with
41 [WAC 173-303-680\(2\)](#) and [\(3\)](#)].

42 ~~III.10.L.3.d~~[III.10.M.3.d](#) The Permittees must ensure EMF Miscellaneous Unit Systems
43 equipment is supported and protected against physical damage and excessive stress due to

1 settlement, vibration, expansion, or contraction [[WAC 173-303-640](#)(3)(f), in accordance
2 with [WAC 173-303-680](#)(2) and (3)].

3 ~~III.10.L.3.e~~[III.10.M.3.e](#) The Permittees must provide the type and degree of corrosion protection
4 recommended by an independent corrosion expert, based on the information provided in
5 Operating Unit Group 10, Appendices 13.9 and 13.11 as approved pursuant to Permit
6 Conditions [III.10.M.9.b.i.](#), [III.10.M.9.b.iv.](#), [III.10.M.9.b.v.](#), [III.10.M.9.c.i.](#),
7 [III.10.M.9.c.iv.](#), [III.10.M.9.c.v.](#), and [III.10.M.9.d.i.](#), [III.10.M.9.d.iv.](#) [III.10.M.9.d.v.](#), or
8 other corrosion protection if Ecology believes other corrosion protection is necessary to
9 ensure the integrity of the EMF Miscellaneous Unit Systems during use of the EMF
10 Miscellaneous Unit Systems. The installation of a corrosion protection system that is
11 field fabricated must be supervised by an independent corrosion expert to ensure proper
12 installation [[WAC 173-303-640](#)(3)(g), in accordance with [WAC 173-303-680](#)(2) and
13 (3)].

14 ~~III.10.L.3.f~~[III.10.M.3.f](#) Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the
15 Permittees will obtain, and keep on file in the WTP Unit operating record, written
16 statements by those persons required to certify the design of the EMF Miscellaneous Unit
17 Systems and supervise the installation of the EMF Miscellaneous Unit Systems, as
18 specified in [WAC 173-303-640](#)(3)(b), (c), (d), (e), (f), and (g), in accordance with [WAC](#)
19 [173-303-680](#), attesting that each EMF Miscellaneous Unit System and corresponding
20 containment system listed in Permit Table [III.10.M.A.](#), as approved/modified pursuant to
21 Permit Condition [III.10.M.9.](#), were properly designed and installed, and that repairs, in
22 accordance with [WAC 173-303-640](#)(3)(c) and (e), were performed [[WAC 173-303-](#)
23 [640](#)(3)(a), [WAC 173-303-640](#)(3)(h), in accordance with [WAC 173-303-680](#)(3)].

24 ~~III.10.L.3.g~~[III.10.M.3.g](#) The independent EMF Miscellaneous Unit System installation inspection
25 and subsequent written statements will be certified in accordance with [WAC 173-303-](#)
26 [810](#)(13)(a) as modified pursuant to Permit Condition [III.10.M.1.d.](#), comply with all
27 requirements of [WAC 173-303-640](#)(3)(h), in accordance with [WAC 173-303-680](#), and
28 will consider, but not be limited to, the following miscellaneous unit system installation
29 documentation:

30 ~~III.10.L.3.g.i~~[III.10.M.3.g.i](#) Field installation report with date of installation;

31 ~~III.10.L.3.g.ii~~[III.10.M.3.g.ii](#) Approved welding procedures;

32 ~~III.10.L.3.g.iii~~[III.10.M.3.g.iii](#) Welder qualifications and certification;

33 ~~III.10.L.3.g.iv~~[III.10.M.3.g.iv](#) Hydro-test reports, as applicable, in accordance with the American
34 Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII,
35 Division 1, American Petroleum Institute (API) Standard 620, or Standard 650 as
36 applicable;

37 ~~III.10.L.3.g.v~~[III.10.M.3.g.v](#) Tester credentials;

38 ~~III.10.L.3.g.vi~~[III.10.M.3.g.vi](#) Field inspector credentials;

39 ~~III.10.L.3.g.vii~~[III.10.M.3.g.vii](#) Field inspector reports;

40 ~~III.10.L.3.g.viii~~[III.10.M.3.g.viii](#) Field waiver reports; and

41 ~~III.10.L.3.g.ix~~[III.10.M.3.g.ix](#) Non-compliance reports and corrective action (including field waiver
42 reports) and repair reports.

III.10.L.4 III.10.M.4 Integrity Assessments [WAC 173-303-340 and WAC 173-303-640, in accordance with WAC 173-303-680(2) and (3)].

III.10.L.4.a III.10.M.4.a The Permittees will ensure periodic integrity assessments are conducted on the EMF Miscellaneous Unit Systems listed in Permit Table III.10.M.A, as approved/modified pursuant to Permit Condition III.10.M.9, 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 Operating Unit Group 10, Chapter 6 of this Permit, as approved pursuant to Permit Conditions III.10.M.9.e.i. and III.10.M.4.c. Results of the integrity assessments will 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.

III.10.L.4.b III.10.M.4.b The Permittees will address problems detected during EMF Miscellaneous Unit Systems integrity assessments specified in Permit Condition III.10.M.4.a, following the integrity assessment program in Operating Unit Group 10, Chapter 6 of this Permit, as approved pursuant to Permit Conditions III.10.M.9.e.i. and III.10.M.4.c.

III.10.L.4.c III.10.M.4.c The Permittees must immediately and safely remove from service any EMF Miscellaneous Unit System or secondary containment system which through an integrity assessment is found to be “unfit for use” as defined in WAC 173-303-040, following Permit Condition III.10.M.5.i.i. through iv., and vi. The affected EMF Miscellaneous Unit or secondary containment system must be either repaired or closed in accordance with Permit Condition III.10.M.5.i.v. [WAC 173-303-640(7)(e) and (f) and WAC 173-303-640(8)], in accordance with WAC 173-303-680(3)].

III.10.L.5 III.10.M.5 Miscellaneous Unit Management Practices

III.10.L.5.a III.10.M.5.a No dangerous and/or mixed waste will be managed in the EMF Miscellaneous Unit Systems unless the operating conditions, specified under Permit Condition III.10.M.5, are complied with.

III.10.L.5.b III.10.M.5.b The Permittees will install and test all process and leak detection system monitoring/instrumentation, as specified in Permit Table III.10.M.A, as approved/modified pursuant to Permit Condition III.10.M.9, in accordance with Operating Unit Group 10, Appendices 13.1, 13.2, and 13.14 of this Permit, as approved pursuant to Permit Condition III.10.M.9.d.x.

III.10.L.5.c III.10.M.5.c The Permittees will not place dangerous and/or mixed waste, treatment reagents, or other materials in the EMF Miscellaneous Unit Systems if these substances could cause the systems to rupture, leak, corrode, or otherwise fail [WAC 173-303-640(5)(a)], in accordance with WAC 173-303-680(2)].

III.10.L.5.d III.10.M.5.d The Permittees will operate the EMF Miscellaneous Unit Systems to prevent spills and overflows using the description of controls and practices, as required under WAC 173-303-640(5)(b), described in Permit Condition III.10.M.5, and Operating Unit Group 10, Appendix 13.13 of this Permit, as approved pursuant to Permit Condition III.10.M.9.e.iv. [WAC 173-303-640(5)(b)], in accordance with WAC 173-303-680(2) and (3) and WAC 173-303-806(4)(c)(ix)].

III.10.L.5.e III.10.M.5.e For routinely non-accessible EMF Miscellaneous Unit Systems, as specified in Operating Unit Group 10, Chapter 4 of this Permit, as updated pursuant to Permit Condition III.10.M.9.e.vi., the Permittees will mark all routinely non-accessible EMF Miscellaneous Unit System access points with labels or signs to identify the waste

1 contained in the units. The label, or sign, must be legible at a distance of at least fifty
 2 (50) feet and must bear a legend which identifies the waste in a manner which adequately
 3 warns employees, emergency response personnel, and the public of the major risk(s)
 4 associated with the waste being stored or treated in the miscellaneous unit system(s). For
 5 the purposes of this Permit condition, “routinely non-accessible” means personnel are
 6 unable to enter these areas while waste is being managed in them [[WAC 173-303-
 7 640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

8 ~~III.10.L.5.f~~[III.10.M.5.f](#) For all EMF Miscellaneous Unit Systems not addressed in Permit Condition
 9 [III.10.M.5.e](#), the Permittees will mark all these miscellaneous unit systems holding
 10 dangerous and/or mixed waste with labels or signs to identify the waste contained in the
 11 unit. The labels, or sign, must be legible at a distance of at least fifty (50) feet, and must
 12 bear a legend which identifies the waste in a manner which adequately warns employees,
 13 emergency response personnel, and the public of the major risk(s) associated with the
 14 waste being stored or treated in the miscellaneous unit system(s) [[WAC 173-303-
 15 640\(5\)\(d\)](#)], in accordance with [WAC 173-303-680\(2\)](#)].

16 ~~III.10.L.5.g~~[III.10.M.5.g](#) The Permittees will ensure that the secondary containment systems for
 17 EMF Miscellaneous Unit Systems listed in Permit Table [III.10.M.A](#), as
 18 approved/modified pursuant to Permit Condition [III.10.M.9](#), are free of cracks or gaps to
 19 prevent any migration of dangerous and/or mixed waste or accumulated liquid out of the
 20 system to the soil, ground water, or surface water at any time waste is in the EMF
 21 Miscellaneous Units System. Any indication that a crack or gap may exist in the
 22 containment systems will be investigated and repaired in accordance with Operating Unit
 23 Group 10, Appendix 13.18 of this Permit, as approved pursuant to Permit Condition
 24 [III.10.M.9.e.v](#).
 25 [[WAC 173-303-640\(4\)\(b\)\(i\)](#)], [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), and [WAC 173-303-640\(6\)](#)
 26 in accordance with [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
 27 [WAC 173-303-320](#)].

28 ~~III.10.L.5.h~~[III.10.M.5.h](#) An impermeable coating, as specified in Operating Unit Group 10,
 29 Appendices 13.4, 13.5, 13.7, 13.9, 13.11, and 13.12 of this Permit, as approved pursuant
 30 to Permit Condition [III.10.M.9.b.v](#), of this Permit, will be maintained for all concrete
 31 containment systems and concrete portions of containment systems for each EMF
 32 Miscellaneous Unit System listed in Permit Table [III.10.M.A](#), as approved/modified
 33 pursuant to Permit Condition [III.10.M.9](#) [concrete containment systems that do not have a
 34 liner pursuant to [WAC-173-303-640\(4\)\(e\)\(i\)](#), in accordance with [WAC 173-303-680\(2\)](#),
 35 and have construction joints, will meet the requirements of [WAC 173-303-
 36 640\(4\)\(e\)\(ii\)\(C\)](#), in accordance with [WAC 173-303-680\(2\)](#)]. The coating will prevent
 37 migration of any dangerous and mixed waste into the concrete. All coatings will meet the
 38 following performance standards:

39 ~~III.10.L.5.h.i~~[III.10.M.5.h.i](#) The coating must seal the containment surface such that no cracks,
 40 seams, or other avenues through which liquid could migrate are present;

41 ~~III.10.L.5.h.ii~~[III.10.M.5.h.ii](#) The coating must be of adequate thickness and strength to withstand the
 42 normal operation of equipment and personnel within the given area such that degradation
 43 or physical damage to the coating or lining can be identified and remedied before
 44 dangerous and mixed waste could migrate from the system; and

45 ~~III.10.L.5.h.iii~~[III.10.M.5.h.iii](#) The coating must be compatible with the dangerous and mixed waste,
 46 treatment reagents, or other materials managed in the containment system [[WAC 173-](#)

1 [303-640\(4\)\(e\)\(ii\)\(D\)](#), in accordance with [WAC 173-303-680\(2\)](#) and (3) and
2 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)].

3 ~~III.10.L.5.i~~~~III.10.M.5.i~~ The Permittees will inspect all secondary containment systems for the EMF
4 Miscellaneous Unit Systems listed in Permit Table [III.10.M.A](#), as approved/modified
5 pursuant to Permit Condition [III.10.M.9](#), in accordance with the Inspection Plan
6 specified in Operating Unit Group 10, Chapter 6/Chapter 6A of this Permit, as approved
7 pursuant to Permit Conditions [III.10.M.9.e.ii](#), and take the following actions if a leak or
8 spill of dangerous and/or mixed waste is detected in these containment systems
9 [[WAC 173-303-640\(5\)\(c\)](#) and [WAC 173-303-640\(6\)](#)], in accordance with
10 [WAC 173-303-680\(2\)](#) and (3), [WAC 173-303-320](#), and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)]:

11 ~~III.10.L.5.i~~~~III.10.M.5.i.i~~ Immediately and safely stop the flow of dangerous and/or mixed waste
12 into the miscellaneous unit system or secondary containment system;

13 ~~III.10.L.5.i~~~~III.10.M.5.i.ii~~ Determine the source of the dangerous and/or mixed waste;

14 ~~III.10.L.5.i~~~~III.10.M.5.i.iii~~ Remove the waste from the containment area in accordance with
15 [WAC 173-303-680\(2\)](#) and (3), as specified in [WAC 173-303-640\(7\)\(b\)](#). The dangerous
16 and/or mixed waste removed from containment areas of miscellaneous unit systems will
17 be, as a minimum, managed as dangerous and/or mixed waste;

18 ~~III.10.L.5.i~~~~III.10.M.5.i.iv~~ If the cause of the release was a spill that has not damaged the integrity
19 of the miscellaneous unit system, the Permittees may return the miscellaneous unit
20 system to service in accordance with [WAC 173-303-680\(2\)](#) and (3), as specified in
21 [WAC 173-303-640\(7\)\(e\)\(ii\)](#). In such a case, the Permittees will take action to ensure the
22 incident that caused liquid to enter the containment system will not reoccur [[WAC 173-](#)
23 [303-320\(3\)](#)];

24 ~~III.10.L.5.i~~~~III.10.M.5.i.v~~ If the source of the dangerous and/or mixed waste is determined to be a
25 leak from the primary EMF Miscellaneous Unit System into the secondary containment
26 system, or the system is unfit for use as determined through an integrity assessment or
27 other inspection, the Permittees must comply with the requirements of
28 [WAC 173-303-640\(7\)](#), and take the following actions:

- 29 A Close the EMF Miscellaneous Unit System following procedures in
30 [WAC 173-303-640\(7\)\(e\)\(i\)](#) and in accordance with [WAC 173-303-680](#), and
31 Operating Unit Group 10, Chapter 11 of this Permit, as approved pursuant to
32 Permit Condition [III.10.C.8](#); or
- 33 B Repair and re-certify (in accordance with [WAC 173-303-810\(13\)\(a\)](#), as modified
34 pursuant to Permit Condition [III.10.M.1.d](#).) the EMF Miscellaneous Unit System
35 in accordance with Operating Unit Group 10, Appendix 13.11 of this Permit, as
36 approved pursuant to Permit Condition [III.10.M.9.e.v](#) before the EMF
37 Miscellaneous Unit System is placed back into service
38 [[WAC 173-303-640\(7\)\(e\)\(iii\)](#) and [WAC 173-303-640\(7\)\(f\)](#)], in accordance with
39 [WAC 173-303-680](#)].

- 1 ~~III.10.L.5.i.vi~~ III.10.M.5.i.vi The Permittees will document, in the operating record,
 2 actions/procedures taken to comply with III.10.M.5.i. through v. above, as specified in
 3 WAC 173-303-640(6)(d) and in accordance with WAC 173-303-680(2) and (3).
- 4 ~~III.10.L.5.i.vii~~ III.10.M.5.i.vii In accordance with WAC 173-303-680(2) and (3), the Permittees will
 5 notify and report releases to the environment to Ecology as specified in
 6 WAC 173-303-640(7)(d).
- 7 ~~III.10.L.5.j~~ III.10.M.5.j If liquids (e.g., Dangerous and/or mixed waste leaks and spills, precipitation, fire
 8 water, liquids from damaged or broken pipes) cannot be removed from the secondary
 9 containment system within twenty-four (24) hours, Ecology will be verbally notified
 10 within twenty-four (24) hours of discovery. The notification will provide the information
 11 in A., B., and C. listed below. The Permittees will provide Ecology with a written
 12 demonstration, within seven (7) business days, identifying at a minimum
 13 [WAC 173-303-640(4)(c)(iv) and WAC 173-303-640(7)(b)(ii), in accordance with
 14 WAC 173-303-680(3) and WAC 173-303-806(4)(i)(i)(B)]:
- 15 A. Reasons for delayed removal.
 - 16 B. Measures implemented to ensure continued protection of human health and the
 17 environment.
 - 18 C. Current actions being taken to remove liquids from secondary containment.
- 19 ~~III.10.L.5.k~~ III.10.M.5.k The Permittees will operate the EMF Miscellaneous Unit Systems in accordance
 20 with Operating Unit Group 10, Chapter 4 as updated pursuant to Permit Condition
 21 III.10.M.9.e.vi. and Appendix 13.18 of this Permit, as approved pursuant to Permit
 22 Condition III.10.M.9.e., and the following:
- 23 ~~III.10.L.5.k.i~~ III.10.M.5.k.i The Permittees will operate the EMF Miscellaneous Unit Systems in
 24 order to maintain the systems and process parameters listed in Permit Table III.10.M.A.,
 25 as approved/modified pursuant to Permit Condition III.10.M.9., within the operating trips
 26 and operating ranges specified in Permit Table III.10.M.A., and consistent with
 27 assumptions and basis which are reflected in Operating Unit Group 10, Appendix 6.3, as
 28 approved pursuant to Permit Condition III.10.M.9.b. [WAC 173-303-815(2)(b)(ii) and
 29 WAC 173-303-680(2) and (3)]. For the purposes of this Permit Condition, Operating
 30 Unit Group 10, Appendix 6.3. will be superseded by Appendix 6.4. upon its approval
 31 pursuant to either Permit Conditions III.10.M.9.c. or III.10.M.9.d.
- 32 ~~III.10.L.5.k.ii~~ III.10.M.5.k.ii The Permittees will calibrate/function test the instruments listed in
 33 Permit Table III.10.M.A., in accordance with Operating Unit Group 10, Appendix 13.18,
 34 as approved pursuant to Permit Condition III.10.M.9.e.xii.
- 35 ~~III.10.L.5.iii~~ III.10.M.5.l For any portion of the EMF Miscellaneous Unit Systems which have the
 36 potential for formation and accumulation of hydrogen gases, the Permittees will operate
 37 the portion to maintain hydrogen levels below the lower explosive limit [WAC 173-303-
 38 815(2)(b)(ii)].
- 39 ~~III.10.L.5.m~~ III.10.M.5.m For each miscellaneous unit holding dangerous waste which are acutely
 40 or chronically toxic by inhalation, the Permittees will operate the system to prevent
 41 escape of vapors, fumes, or other emissions into the air [WAC 173-303-806(4)(i)(i)(B)]

1 and
2 [WAC 173-303-640](#)(5)(e), in accordance with [WAC 173-303-680](#)].

3 ~~III.10.L.6~~**III.10.M.6 Inspections** [[WAC 173-303-680](#)(3)]

4 ~~III.10.L.6.a~~**III.10.M.6.a** The Permittees will inspect the EMF Miscellaneous Unit Systems in accordance
5 with the Inspection Plan in Operating Unit Group 10, Chapter 6/Chapter 6A of this
6 Permit, as modified in accordance with Permit Condition [III.10.C.5.c](#).

7 ~~III.10.L.6.b~~**III.10.M.6.b** The inspection data for EMF Miscellaneous Unit Systems will be
8 recorded, and the records will be placed in the WTP Unit operating record for the EMF
9 Miscellaneous Unit Systems, in accordance with Permit Condition [III.10.C.4](#).

10 ~~III.10.L.7~~**III.10.M.7 Recordkeeping**

11 The Permittees will record and maintain in the WTP Unit operating record for the EMF
12 Miscellaneous Unit Systems, all monitoring, calibration, maintenance, test data, and
13 inspection data compiled under the conditions of this Permit, in accordance with Permit
14 Conditions [III.10.C.4](#) and [III.10.C.5](#).

15 ~~III.10.L.8~~**III.10.M.8 Closure**

16 The Permittees will close the EMF Miscellaneous Unit Systems in accordance with
17 Operating Unit Group 10, Chapter 11, as approved pursuant to Permit Condition
18 [III.10.C.8](#).

19 ~~III.10.L.9~~**III.10.M.9 Compliance Schedule**

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

24 ~~III.10.L.9.b~~**III.10.M.9.b** The Permittees will submit to Ecology, pursuant to Permit Condition
25 [III.10.C.9.f](#)., prior to construction of each secondary containment and leak detection
26 system for the EMF Miscellaneous Unit Systems (per level) as identified in Permit
27 Tables [III.10.M.A](#), engineering information as specified below, for incorporation into
28 Operating Unit Group 10, Appendices 13.2, 13.4, 13.5, 13.7, 13.8, 13.9, 13.11, and 13.12
29 of this Permit. At a minimum, engineering information specified below will show the
30 following as described in [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#) (the
31 information specified below will include dimensioned engineering drawings and
32 information on sumps and floor drains):

33 ~~III.10.L.9.b~~**III.10.M.9.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak
34 detection system) will include review of design drawings, calculations, and other
35 information on which the certification report is based and will include as applicable, but
36 not limited to, review of such information described below. Information (drawings,
37 specifications, etc.) already included in Operating Unit Group 10, Appendix 13.0 of this
38 Permit may be included in the report by reference and should include drawing and
39 document numbers. IQRPE Reports will be consistent with the information separately
40 provided in [III.10.M.9.b ii](#). through [ix](#). below [[WAC 173-303-640](#)(3)(a), in accordance
41 with [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(i)];

42 ~~III.10.L.9.b~~**III.10.M.9.b.ii** Design drawings (General Arrangement Drawings, in plan) and
43 specifications for the foundation, secondary containment, including, liner installation
44 details, and leak detection methodology [Note: leak detection systems for areas where
45 daily, direct, or remote visual inspection is not feasible, will be continuous in accordance

1 with

2 [WAC 173-303-640\(4\)\(e\)\(iii\)\(C\)](#)]. These items should show the dimensions, volume
3 calculations, and location of the secondary containment system, and should include items
4 such as floor/pipe slopes to sumps, tanks, floor drains
5 [\[WAC 173-303-640\(4\)\(b\) through \(f\) and WAC 173-303-640\(3\)\(a\)](#), in accordance with
6 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)](#)];

7 ~~III.10.L.9.b.iii~~[III.10.M.9.b.iii](#) The Permittees will provide the design criteria (references to codes and
8 standards, load definitions, and load combinations, materials of construction, and
9 analysis/design methodology) and typical design details for the support of the secondary
10 containment system. This information will demonstrate the foundation will be capable of
11 providing support to the secondary containment system, resistance to pressure gradients
12 above and below the system, and capable of preventing failure due to settlement,
13 compression, or uplift [\[WAC 173-303-640\(4\)\(c\)\(ii\)](#), in accordance with [WAC 173-303-
14 680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];

15 ~~III.10.L.9.b.iv~~[III.10.M.9.b.iv](#) A description of materials and equipment used to provide corrosion
16 protection for external metal components in contact with soil, including factors affecting
17 the potential for corrosion [\[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#), in accordance with
18 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\) through \(B\)](#)];

19 ~~III.10.L.9.b.v~~[III.10.M.9.b.v](#) Secondary containment/foundation and leak detection systems materials
20 selection documentation (including, but not limited to, concrete coatings and water stops,
21 and liner materials), as applicable [\[WAC 173-303-806\(4\)\(i\)\(i\)\(A\) through \(B\)](#)];

22 ~~III.10.L.9.b.viii~~[III.10.M.9.b.vi](#) Detailed description of how the secondary containment for each
23 miscellaneous unit system will be installed in compliance with [WAC 173-303-640\(3\)\(c\)](#),
24 in accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\) through \(B\)](#)];

25 ~~III.10.L.9.b.viii~~[III.10.M.9.b.vii](#) Submit Permit Table III.10.E.S. completed to provide for all secondary
26 containment sumps and floor drains, the information as specified in each column heading,
27 consistent with information to be provided in [III.10.M.9.b.i.](#) through [vi.](#) above;

28 ~~III.10.L.9.b.viii~~[III.10.M.9.b.viii](#) Documentation that secondary containment and leak detection
29 systems will not accumulate hydrogen gas levels above the lower explosive limit for
30 incorporation into the Administrative Record [\[WAC 173-303-680, WAC 173-303-
31 806\(4\)\(i\)\(i\)\(A\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)];

32 ~~III.10.L.9.b.ix~~[III.10.M.9.b.ix](#) A detailed description of how miscellaneous unit design provides access
33 for conducting future miscellaneous unit integrity assessments [\[WAC 173-303-640\(3\)\(b\)](#)
34 and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)].

35 ~~III.10.L.9.c~~[III.10.M.9.c](#) The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.M.9.](#),
36 prior to installation of each EMF Miscellaneous Unit System as identified in Permit
37 Table [III.10.M.A.](#), engineering information as specified below, for incorporation into
38 Operating Unit Group 10, Appendix 13.1 through 13.18 of this Permit. At a minimum,
39 engineering information specified below will show the following as required pursuant to
40 [WAC 173-303-640](#) and in accordance with [WAC 173-303-680](#) (the information specified
41 below will include dimensioned engineering drawings):

42 ~~III.10.L.9.c~~[III.10.M.9.c.i](#) IQRPE Reports (specific to miscellaneous unit) will include review of
43 design drawings, calculations, and other information on which the certification report is
44 based and will include as applicable, but not limited to, review of such information
45 described below. Information (drawings, specifications, etc.) already included in
46 Operating Unit Group 10, Appendix 8.0 of this Permit may be included in the report by

reference and should include drawing and document numbers. The IQRPE Reports will be consistent with the information separately provided in [III.10.M.9.c.ii.](#) through [xi.](#) below and the IQRPE Report specified in Permit Condition III.10.M.9.b.i. [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)];

~~III.10.L.9.c.iii~~[III.10.M.9.c.ii](#) Design drawings (General Arrangement Drawings in plan, Process Flow Diagrams, Piping and Instrumentation Diagrams [including pressure control systems], and Mechanical Drawings) and specifications, and other information specific to miscellaneous units (to show location and physical attributes of each miscellaneous unit), [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)];

~~III.10.L.9.c.iii~~[III.10.M.9.c.iii](#) Miscellaneous unit design criteria (references to codes and standards, load definitions, and load combinations, materials of construction, and analysis/design methodology) and typical design details for the support of the miscellaneous unit(s). Structural support calculations specific to off-specification, non-standard, and field fabricated miscellaneous units will be submitted for incorporation into the Administrative Record [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(B)];

~~III.10.L.9.c.iv~~[III.10.M.9.c.iv](#) A description of materials and equipment used to provide corrosion protection for external metal components in contact with water, including factors affecting the potential for corrosion [[WAC 173-303-640](#)(3)(a)(iii)(B), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];

~~III.10.L.9.c.viii~~[III.10.M.9.c.v](#) Miscellaneous unit materials selection documentation (e.g., physical and chemical tolerances) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A)];

~~III.10.L.9.c.viii~~[III.10.M.9.c.vi](#) Miscellaneous unit vendor information (including, but not limited to, required performance warranties, as available), consistent with information submitted under [ii.](#) above, will be submitted for incorporation into the Administrative Record [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)];

~~III.10.L.9.c.viii~~[III.10.M.9.c.vii](#) System Description related to miscellaneous units will be submitted for incorporation into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)].

~~III.10.L.9.c.viii~~[III.10.M.9.c.viii](#) Mass and energy balance for normal projected operating conditions used in developing the Piping and Instrumentation Diagrams and the Process Flow Diagrams, including assumptions and formulas used to complete the mass and energy balance, so that they can be independently verified for incorporation into the Administrative Record [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B), and [WAC 173-303-806](#)(4)(i)(v)];

~~III.10.L.9.c.ix~~[III.10.M.9.c.ix](#) A detailed description of how the miscellaneous unit will be installed in compliance with [WAC 173-303-640](#)(3)(c), (d), and (e), in accordance with [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(i)(B);

~~III.10.L.9.c.xiii~~[III.10.M.9.c.x](#) Documentation that miscellaneous units are designed to prevent the accumulation of hydrogen gas levels above the lower explosive limit for incorporation

1 into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A), and
2 [WAC 173-303-806](#)(4)(i)(v)];

3 ~~III.10.L.9.c.xi~~[III.10.M.9.c.xi](#) Documentation that miscellaneous units are designed to prevent escape
4 of vapors and emissions of acutely or chronically toxic (upon inhalation) EHW, for
5 incorporation into the Administrative Record [[WAC 173-303-640](#)(5)(e), in accordance
6 with
7 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(B)];

8 ~~III.10.L.9.d~~[III.10.M.9.d](#) The Permittees will submit to Ecology, pursuant to Permit Condition
9 [III.10.C.9.f](#), prior to installation of equipment as identified in Permit Table [III.10.M.A](#),
10 not addressed in Permit Condition [III.10.M.9.c](#), engineering information as specified
11 below for incorporation into Operating Unit Group 10, Appendices 13.1 through 13.14 of
12 this Permit. At a minimum, engineering information specified below will show the
13 following as required pursuant to [WAC 173-303-640](#), in accordance with [WAC 173-303-](#)
14 [680](#) (the information specified below will include dimensioned engineering drawings):

15 ~~III.10.L.9.d.ii~~[III.10.M.9.d.i](#) IQRPE Reports (specific to equipment) will include a review of design
16 drawings, calculations, and other information as applicable, on which the certification
17 report is based. The reports will include, but not be limited to, review of such
18 information described below. Information (drawings, specifications, etc.) already
19 included in Operating Unit Group 10, Appendix 13.0 of this Permit may be included in
20 the report by reference and should include drawing and document numbers. The IQRPE
21 Reports will be consistent with the information provided separately in ii. through xiii.
22 below and the IQRPE Reports specified in Permit Conditions [III.10.M.9.b](#) and
23 [III.10.M.9.c](#). [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and
24 [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];

25 ~~III.10.L.9.d.iii~~[III.10.M.9.d.ii](#) Design drawings (Process Flow Diagrams, Piping and Instrumentation
26 Diagrams [including pressure control systems]) specifications and other information
27 specific to equipment (these drawings should include all equipment such as pipe, valves,
28 fittings, pumps, instruments, etc.) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC](#)
29 [173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];

30 ~~III.10.L.9.d.iiii~~[III.10.M.9.d.iii](#) The Permittees will provide the design criteria (references to codes and
31 standards, load definitions, and load combinations, materials of construction, and
32 analysis/design methodology) and typical design details for the support of the equipment
33 [[WAC 173-303-640](#)(3)(a) and [WAC 173-303-640](#)(3)(f), in accordance with [WAC 173-](#)
34 [303-680](#) and [WAC 173-303-806](#)(4)(i)(i)(B)];

35 ~~III.10.L.9.d.iv~~[III.10.M.9.d.iv](#) A description of materials and equipment used to provide corrosion
36 protection for external metal components in contact with soil and water, including factors
37 affecting the potential for corrosion [[WAC 173-303-640](#)(3)(a)(iii)(B), in accordance with
38 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A)];

39 ~~III.10.L.9.d.v~~[III.10.M.9.d.v](#) Materials selection documentation for equipment (e.g., physical and
40 chemical tolerances) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-](#)
41 [680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A)];

42 ~~III.10.L.9.d.viii~~[III.10.M.9.d.vi](#) Vendor information (including, but not limited to, required performance
43 warranties, as available), consistent with information submitted under [ii.](#) above, for
44 equipment will be submitted for incorporation into the Administrative Record

1 [\[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#),
2 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(iv\)](#)];

3 ~~III.10.L.9.d.vii~~[III.10.M.9.d.vii](#) Miscellaneous unit, equipment, and leak detection system instrument
4 control logic narrative description (e.g., descriptions of fail-safe conditions, etc.) [[WAC](#)
5 [173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

6 ~~III.10.L.9.d.viii~~[III.10.M.9.d.viii](#) System Descriptions related to equipment and system
7 descriptions related to leak detection systems, for incorporation into the Administrative
8 Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B), and [WAC 173-](#)
9 [303-806\(4\)\(i\)\(v\)](#)];

10 ~~III.10.L.9.d.ix~~[III.10.M.9.d.ix](#) A detailed description of how the equipment will be installed and tested
11 [[WAC 173-303-640\(3\)\(c\)](#) through (e) and [WAC 173-303-640\(4\)\(b\)](#) and (c), in
12 accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

13 ~~III.10.L.9.d.xii~~[III.10.M.9.d.x](#) For process monitoring, control, and leak detection system
14 instrumentation for the WTP Unit Miscellaneous Unit Systems as identified in Permit
15 Table [III.10.M.A](#), a detailed description of how the process monitoring, control, and leak
16 detection system instrumentation will be installed and tested [[WAC 173-303-640\(3\)\(c\)](#)
17 through (e), [WAC 173-303-640\(4\)\(b\)](#) and (c), [WAC 173-303-806\(4\)\(c\)\(vi\)](#), and
18 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

19 ~~III.10.L.9.d.xiii~~[III.10.M.9.d.xi](#) Mass and energy balance for projected normal operating conditions, used
20 in developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,
21 including assumptions and formulas used to complete the mass and energy balance, so
22 that they can be independently verified, for incorporation into the Administrative Record
23 [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and
24 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];

25 ~~III.10.L.9.d.xiii~~[III.10.M.9.d.xii](#) Documentation that miscellaneous units are designed to prevent the
26 accumulation of hydrogen gas levels above the lower explosive limit for incorporation
27 into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(A\)](#), and
28 [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

29 ~~III.10.L.9.d.xiii~~[III.10.M.9.d.xiii](#) Leak detection system documentation (e.g. vendor information,
30 etc.) consistent with information submitted under Permit Condition [III.10.M.9.c.ii](#), and
31 Permit Conditions [III.10.M.9.d.ii](#), [vii](#), [viii](#), and [x](#), above, will be submitted for
32 incorporation into the Administrative Record.

33 ~~III.10.L.9.e~~[III.10.M.9.e](#) Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the
34 Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), the
35 following as specified below for incorporation into Operating Unit Group 10, Appendix
36 13.18, except Permit Condition [III.10.M.9.e.i](#), which will be incorporated into Operating
37 Unit Group 10, Chapter 6, of this Permit. All information provided under this permit
38 condition must be consistent with information provided pursuant to Permit Conditions
39 [III.10.M.9.b](#), [c](#), [d](#), and [e](#), [III.10.M.3.e](#), and [III.10.C.11.b](#), as approved by Ecology.

40 ~~III.10.L.9.e~~[III.10.M.9.e.i](#) Integrity assessment program and schedule for the EMF Miscellaneous
41 Unit Systems will address the conducting of periodic integrity assessments on the EMF
42 Miscellaneous Unit Systems over the life of the systems, as specified in Permit Condition
43 [III.10.M.9.b.ix](#) and [WAC 173-303-640\(3\)\(b\)](#), in accordance with
44 [WAC 173-303-680](#), and descriptions of procedures for addressing problems detected
45 during integrity assessments. The schedule must be based on past integrity assessments,
46 age of the system, materials of construction, characteristics of the waste, and any other

1 relevant factors [[WAC 173-303-640\(3\)\(b\)](#)], in accordance with
 2 [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

3 ~~III.10.L.9.e.iii~~[III.10.M.9.e.ii](#) Detailed plans and descriptions, demonstrating the leak detection system
 4 is operated so that it will detect the failure of either the primary or secondary containment
 5 structure or the presence of any release of dangerous and/or mixed waste or accumulated
 6 liquid in the secondary containment system within twenty-four (24) hours [WAC 173-](#)
 7 [303-640\(4\)\(c\)\(iii\)](#). Detection of a leak of at least 0.1 gallons per hour within twenty-four
 8 (24) hours is defined as being able to detect a leak within twenty-four (24) hours. Any
 9 exceptions to this criteria must be approved by Ecology in accordance with [WAC 173-](#)
 10 [303-680](#), [WAC 173-303-640\(4\)\(c\)\(iii\)](#), and
 11 [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

12 ~~III.10.L.9.e.iii~~[III.10.M.9.e.iii](#) Detailed operational plans and descriptions, demonstrating that spilled or
 13 leaked waste and accumulated liquids can be removed from the secondary containment
 14 system within twenty-four (24) hours [[WAC 173-303-806\(4\)\(i\)\(B\)](#)];

15 ~~III.10.L.9.e.iv~~[III.10.M.9.e.iv](#) Descriptions of operational procedures demonstrating appropriate
 16 controls and practices are in place to prevent spills and overflows from the EMF
 17 Miscellaneous Unit Systems, or containment systems, in compliance with
 18 [WAC 173-303-640\(5\)\(b\)\(i\)](#) through in accordance with [WAC 173-303-680](#)
 19 [[WAC 173-303-806\(4\)\(i\)\(B\)](#)];

20 ~~III.10.L.9.e.v~~[III.10.M.9.e.v](#) Description of procedures for investigation and repair of the EMF
 21 Miscellaneous Unit Systems [[WAC 173-303-640\(6\)](#) and [WAC 173-303-640\(7\)\(e\)](#) and
 22 (f), in accordance with [WAC 173-303-680](#), [WAC 173-303-320](#),
 23 [WAC 173-303-806\(4\)\(a\)\(v\)](#), and [WAC 173-303-806\(4\)\(i\)\(B\)](#)];

24 ~~III.10.L.9.e.vii~~[III.10.M.9.e.vi](#) Updated Chapter 4, Narrative Descriptions, Tables and Figures as
 25 identified in Permit Table [III.10.M.A.](#), as modified pursuant to Permit Condition
 26 [III.10.M.9.e.ix.](#), and updated to identify routinely non-accessible EMF Miscellaneous
 27 Unit Systems [[WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B)];

28 ~~III.10.L.9.e.viii~~[III.10.M.9.e.vii](#) Descriptions of procedures for management of ignitable and reactive, and
 29 incompatible dangerous and/or mixed waste, in accordance with
 30 [WAC 173-303-640\(9\)](#) and (10), in accordance with [WAC 173-303-680](#) and
 31 [WAC 173-303-806\(4\)\(i\)\(B\)](#).

32 ~~III.10.L.9.e.viii~~[III.10.M.9.e.viii](#) A description of the tracking system used to track dangerous
 33 and/or mixed waste generated throughout the EMF Miscellaneous Unit Systems, pursuant
 34 to
 35 [WAC 173-303-380](#).

36 ~~III.10.L.9.e.ix~~[III.10.M.9.e.ix](#) Permit Table [III.10.M.A.](#), amended as follows [[WAC 173-303-680](#) and
 37 [WAC 173-303-806\(4\)\(i\)\(A\)](#) through (B)]:

- 38 A. Under column 1, update and complete list of dangerous and mixed waste
- 39 EMF Miscellaneous Unit Systems, including plant items which comprise
- 40 each system (listed by item number).
- 41 B. Under column 2, update and complete system designations.
- 42 C. Under column 3, replace the 'Reserved' with the Operating Unit Group 10,
- 43 Appendix 13.0 subsections specific to miscellaneous unit systems as listed in
- 44 column 1.
- 45 D. Under column 4, update and complete list of narrative description tables and
- 46 figures.

- E. Under column 5, update and complete maximum operating volume for each miscellaneous unit, as applicable.
- F. Permit Table III.10.M.A., amended as follows:
 - 1. Under column 1, update and complete list of plant items that comprise the EMF Vessel Vent System (listed by item number).
 - 2. Under column 2, update and complete designations.
 - 3. Under column 3, replace the 'Reserved' with the Operating Unit Group 10, Appendix 13.0, subsections (e.g., 13.1, 13.2, etc.) specific to systems as listed in column 1.
 - 4. Under column 4, update and complete list of narrative description tables and figures.

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

~~III.10.L.9.e.x~~III.10.M.9.e.xi Supporting documentation for operating trips and expected operating range as specified in Permit Table [III.10.M.A.](#), as approved pursuant to Permit Condition [III.10.M.9.e.x.](#) [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), [WAC 173-303-806\(4\)\(i\)\(iv\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)];

~~III.10.L.9.e.xii~~III.10.M.9.e.xii Documentation of process and leak detection instruments and monitors (as listed in Permit Table [III.10.M.A](#)) for the EMF Miscellaneous Unit Systems to include, but not be limited to, the following [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)]:

- A. Procurement Specifications.
- B. Location used.
- C. Range, precision, and accuracy.
- D. Detailed descriptions of calibration/functionality test procedures (e.g., method number [ASTM]) or provide a copy of manufacturer's recommended calibration procedures.
- E. Calibration/functionality test, inspection, and routine maintenance schedules and checklists, including justification for calibration, inspection and maintenance frequencies, criteria for identifying instruments found to be significantly out of calibration, and corrective action to be taken for instruments found to be significantly out of calibration (e.g., increasing frequency of calibration, instrument replacement, etc.).
- F. Equipment instrument control logic narrative description (e.g., descriptions of fail-safe conditions, etc.) [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(B\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)].

Table III.10.M.A - EMF Plant Miscellaneous Unit System Description

Miscellaneous Unit System Description/Location	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
DEP-COND-00001 (Evaporator Primary Condenser) E-0102	DEP	Reserved	4G.2.4; Table 4G-2	NA
DEP-COND-00002 (Evaporator Inter-Condenser) E-0102	DEP	Reserved	4G.3.3; Table 4G-2	NA
DEP-COND-00003 (Evaporator After-Condenser) E-0102	DEP	Reserved	4G.3.4; Table 4G-2	NA
DEP-EVAP-00001 (Evaporator Separator Vessel) E-0103	DEP	Reserved	4G.3.4; Table 4G-2	NA
DEP-FILT-00002 (Process Condensate Filter) E-0103	DEP	Reserved	4G.3.5; Table 4G-2	NA
DEP-FILT-00003 (Evaporator Feed Pre-filter) E-0103	DEP	Reserved	4G.3.6; Table 4G-2	NA
DEP-FILT-00004A (Condensate Duplex Cartridge Filter) E-0102	DEP	Reserved	4G.3.7; Table 4G-2	NA
DEP-FILT-00004B (Condensate Duplex Cartridge Filter) E-0102	DEP	Reserved	4G.3.7; Table 4G-2	NA
DVP-HTR-00001A (Process Ventilation Preheater) E-0102	DEP	Reserved	4G; Table 4G-2	NA
DVP-HTR-00001B (Process Ventilation Preheater) E-0102	DEP	Reserved	4G; Table 4G-2	NA

Miscellaneous Unit System Description/Location	Miscellaneous Unit System Designation	Description Drawings	Narrative Description, Tables & Figures	Maximum Capacity (gallons)
DVP-HEPA-00003A (Process Ventilation Primary HEPA Filter) E-0102A	DEP	Reserved	4G; Table 4G-2	NA
DVP-HEPA-00003B (Process Ventilation Primary HEPA Filter) E-0102A	DEP	Reserved	4G; Table 4G-2	NA
DVP-HEPA-00004A (Process Ventilation Secondary HEPA Filters) E-0102A	DEP	Reserved	4G; Table 4G-2	NA
DVP-HEPA-00004B (Process Ventilation Secondary HEPA Filters) E-0102A	DEP	Reserved	4G; Table 4G-2	NA
DEP-HX-00001 (Evaporator Concentrate/Feed Vessels LAW Effluent Cooler) E-0103	DEP	Reserved	4G.3.8; Table 4G-2	NA
DEP-RBLR-00001 (Evaporator Reboiler) E-0103	DEP	Reserved	4G.3.9; Table 4G-2	NA
DVP-EXHR-00001A (Process Ventilation Exhausters) E-0102	DEP	Reserved	4G; Table 4G-2	NA
DVP-EXHR-00001B (Process Ventilation Exhausters) E-0102	DEP	Reserved	4G; Table 4G-2	NA

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