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

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

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

12 **III.10.A COMPLIANCE WITH APPROVED PERMIT**

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

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

25 OPERATING UNIT GROUP 10

26	Addendum A	Part A, Form 3 Permit Application, Revision 1 (October 2008)
27	Addendum B	Waste Analysis Plan
28		Addendum B1 Waste Treatment Plant Waste Analysis Plan
29		Addendum B2 Quality Assurance Project Plan for Waste Analysis Plan
30	Addendum C	Process Information
31		Addendum C1 Engineering Figures
32		Addendum C2 Supplement 1 RPP-WTP Compliance with Uniform Building
33		Code Seismic Design
34	Addendum D	Groundwater Monitoring (RESERVED)
35	Addendum E	Procedures to Prevent Hazards
36		Addendum E1 Inspection Schedule
37	Addendum F	Contingency Plan
38		Addendum F1 RPP-WTP Emergency Response Plan
39	Addendum G	Personnel Training
40	Addendum H	Closure
41	Appendix 1.0	Compliance Schedule

1	Appendix 2.0	Critical Systems
2	Appendix 3.0	RESERVED
3	Appendix 4.0	RESERVED
4	Appendix 5.0	RESERVED
5	Appendix 6.0	Risk Assessment
6	Appendix 6.0, §6.1	Environmental Risk Assessment Work Plan
7	Appendix 6.0, §6.1.1	Previously Submitted Preliminary Risk Assessment Work Plan
8	Appendix 6.0, §6.1.2	Documentation of Revisions to Preliminary Risk Assessment Work Plan
9	Appendix 6.0, §6.2	Final Risk Assessment Work Plan
10	Appendix 6.0, §6.3	Pre-Demonstration Test Risk Assessment Report (RESERVED)
11	Appendix 6.0, §6.3.1	Basis and Assumptions (RESERVED)
12	Appendix 6.0, §6.4	Final Risk Assessment Report (RESERVED)
13	Appendix 6.0, §6.4.1	Basis and Assumptions (RESERVED)
14	Appendix 7.0	WTP Documents Applicable to All Regulated Areas
15	Appendix 7.0, §7.1	Process Flow Diagrams
16	Appendix 7.0, §7.2	Piping and Instrumentation Diagrams & Related Documents
17	Appendix 7.0, §7.3	System Description Documentation (RESERVED)
18	Appendix 7.0, §7.4	General Arrangement Drawings (RESERVED)
19	Appendix 7.0, §7.5	Civil, Structural, and Architectural Criteria and Typical Design Details
20	Appendix 7.0, §7.6	Mechanical Drawings (RESERVED)
21	Appendix 7.0, §7.7	Specifications
22	Appendix 7.0, §7.8	Engineering Calculations (RESERVED)
23	Appendix 7.0, §7.9	Material Selection and Corrosion Evaluation Documentation
24	Appendix 7.0, §7.10	Critical Systems Equipment/Instrument List (RESERVED)
25	Appendix 7.0, §7.11	IQRPE Reports
26	Appendix 7.0, §7.12	Installation Plans
27	Appendix 7.0, §7.13	Instrument Control Logic and Narrative Description (RESERVED)
28	Appendix 7.0, §7.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
29	Appendix 7.0, §7.15	Operating Documents
30	Appendix 8.0	Pretreatment Building
31	Appendix 8.0, §8.1	Process Flow Diagrams
32	Appendix 8.0, §8.2	Piping and Instrumentation Diagrams
33	Appendix 8.0, §8.3	System Description Documentation (RESERVED)
34	Appendix 8.0, §8.4	General Arrangement Drawings
35	Appendix 8.0, §8.5	Civil, Structural, and Architectural Criteria and Typical Design Details

1	Appendix 8.0, §8.6	Mechanical Drawings
2	Appendix 8.0, §8.7	Specifications
3	Appendix 8.0, §8.8	Engineering Calculations
4	Appendix 8.0, §8.9	Material Selection and Corrosion Evaluation Documentation
5	Appendix 8.0, §8.10	Critical Systems Equipment/Instrument List
6	Appendix 8.0, §8.11	IQRPE Reports
7	Appendix 8.0, §8.12	Installation Plans (RESERVED)
8	Appendix 8.0, §8.13	Instrument Control Logic and Narrative Description
9	Appendix 8.0, §8.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
10	Appendix 8.0, §8.15	Operating Documents (RESERVED)
11	Appendix 9.0	LAW Building
12	Appendix 9.0, §9.1	Process Flow Diagrams
13	Appendix 9.0, §9.2	Piping and Instrumentation Diagrams
14	Appendix 9.0, §9.3	System Description Documentation (RESERVED)
15	Appendix 9.0, §9.4	General Arrangement Drawings
16	Appendix 9.0, §9.5	Civil, Structural, and Architectural Criteria and Typical Design Details
17	Appendix 9.0, §9.6	Mechanical Drawings
18	Appendix 9.0, §9.7	Specifications
19	Appendix 9.0, §9.8	Engineering Calculations
20	Appendix 9.0, §9.9	Material Selection and Corrosion Evaluation Documentation
21	Appendix 9.0, §9.10	Critical Systems Equipment /Instrument List
22	Appendix 9.0, §9.11	IQRPE Reports
23	Appendix 9.0, §9.12	Installation Plans (RESERVED)
24	Appendix 9.0, §9.13	Instrument Control Logic, and Narrative Description
25	Appendix 9.0, §9.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
26	Appendix 9.0, §9.15	Demonstration Test Plan (RESERVED)
27	Appendix 9.0, §9.16	Demonstration Test Report (RESERVED)
28	Appendix 9.0, §9.17	Treatment Effectiveness Report (RESERVED)
29	Appendix 9.0, §9.18	Operating Documents
30	Appendix 10.0	HLW Building
31	Appendix 10.0, §10.1	Process Flow Diagrams
32	Appendix 10.0, §10.2	Piping and Instrumentation Diagrams
33	Appendix 10.0, §10.3	System Description Documentation (RESERVED)
34	Appendix 10.0, §10.4	General Arrangement Drawings
35	Appendix 10.0, §10.5	Civil, Structural, and Architectural Criteria and Typical Design Details

1	Appendix 10.0, §10.6	Mechanical Drawings
2	Appendix 10.0, §10.7	Specifications
3	Appendix 10.0, §10.8	Engineering Calculations
4	Appendix 10.0, §10.9	Material Selection and Corrosion Evaluation Documentation
5	Appendix 10.0, §10.10	Critical Systems Equipment/Instrument List
6	Appendix 10.0, §10.11	IQRPE Reports
7	Appendix 10.0, §10.12	Installation Plans (RESERVED)
8	Appendix 10.0, §10.13	Instrument Control Logic and Narrative Description
9	Appendix 10.0, §10.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
10	Appendix 10.0, §10.15	Demonstration Test Plan (RESERVED)
11	Appendix 10.0, §10.16	Demonstration Test Report (RESERVED)
12	Appendix 10.0, §10.17	Treatment Effectiveness Report (RESERVED)
13	Appendix 10.0, §10.18	Operating Documents
14	Appendix 11.0	Laboratory Building
15	Appendix 11.0, §11.1	Process Flow Diagrams
16	Appendix 11.0, §11.2	Piping and Instrumentation Diagrams
17	Appendix 11.0, §11.3	System Description Documentation (RESERVED)
18	Appendix 11.0, §11.4	General Arrangement Drawings
19	Appendix 11.0, §11.5	Civil, Structural, and Architectural Criteria and Typical Design Details
20	Appendix 11.0, §11.6	Mechanical Drawings
21	Appendix 11.0, §11.7	Specifications (RESERVED)
22	Appendix 11.0, §11.8	Engineering Calculations
23	Appendix 11.0, §11.9	Material Selection and Corrosion Evaluation Documentation
24	Appendix 11.0, §11.10	Critical Systems Equipment/Instrument List
25	Appendix 11.0, §11.11	IQRPE Reports
26	Appendix 11.0, §11.12	Installation Plans (RESERVED)
27	Appendix 11.0, §11.13	Instrument Control Logic and Narrative Description
28	Appendix 11.0, §11.14	Descriptions of Instrument Installation and Testing Procedures (RESERVED)
29	Appendix 11.0, §11.15	Operating Documents (RESERVED)
30	Appendix 12.0	Balance of Facilities
31	Appendix 12.0, §12.1	Process Flow Diagrams (RESERVED)
32	Appendix 12.0, §12.2	Piping and Instrumentation Diagrams (RESERVED)
33	Appendix 12.0, §12.3	System Description Documentation (RESERVED)
34	Appendix 12.0, §12.4	General Arrangement Drawings (RESERVED)

- 1 Appendix 12.0, §12.5 Civil, Structural, and Architectural Criteria and Typical Design Details
2 (RESERVED)
- 3 Appendix 12.0, §12.6 Mechanical Drawings (RESERVED)
- 4 Appendix 12.0, §12.7 Specifications (RESERVED)
- 5 Appendix 12.0, §12.8 Engineering Calculations (RESERVED)
- 6 Appendix 12.0, §12.9 Material Selection and Corrosion Evaluation Documentation (RESERVED)
- 7 Appendix 12.0, §12.10 Critical Systems Equipment/Instrument List (RESERVED)
- 8 Appendix 12.0, §12.11 IQRPE Reports (RESERVED)
- 9 Appendix 12.0, §12.12 Installation Plans (RESERVED)
- 10 Appendix 12.0, §12.13 Instrument Control Logic and Narrative Description (RESERVED)
- 11 Appendix 12.0, §12.14 Descriptions of Instrument Installation and Testing Procedures (RESERVED)
- 12 Appendix 12.0, §12.15 Operating Documents (RESERVED)

13 Facility-Specific Definitions

14 The following definitions are specific to the WTP Unit:

15 **Ash:** means a measure of the contribution of particulate matter from the melter feeds to the melter off-
16 gas, as determined by representative sampling and analysis of the melter feed using ASTM Method D-482,
17 or an equivalent method.

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

20 **Continuous monitoring system:** means using a device which continuously samples the regulated
21 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
22 of pressure, without interruption, evaluates the detector response at least once every fifteen (15) seconds
23 and computes and records the average value at least every sixty (60) seconds, except during allowable
24 periods of calibration and except as defined otherwise by the CEMS Performance Specifications in 4B
25 and 8A in Appendix B, [40 CFR Part 60](#). For the parameter pressure, the term “continuous monitoring
26 system” means using a device that continuously samples the pressure without interruption and evaluates
27 the detector response without averaging at least once each second and records the value at least every
28 sixty (60) seconds. In addition, if the AWFCO is engaged due to a pressure exceedance, the pressure
29 value must be recorded.

30 **Cascade event:** means when additional waste feed cut-off parameter set points deviate outside the limits
31 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
32 while waste or waste residues are being managed in HLW and LAW.

33 **Critical System:** as applied to determining whether a Permit Modification is required, means those
34 specific portions of a TSD unit’s structure, or equipment, whose failure could lead to the release of
35 dangerous waste into the environment, and/or systems which include processes which treat, transfer,
36 store, or dispose of regulated wastes. A list identifying the critical systems for the WTP is included in
37 Appendix 2.

38 **Dangerous and/or mixed waste management unit:** means dangerous and/or mixed waste management
39 units, areas, systems, and sub-systems as defined in Permit Tables [III.10.D.A](#), [III.10.E.A](#) through [D](#),
40 [III.10.F.A](#), [III.10.G.A](#), [III.10.H.A](#), [III.10.I.A](#), [III.10.J.A](#), and [III.10.K.A](#).

41 **Dioxin/furan” and “dioxins and furans:** means tetra-, penta-, hexa-, hepta-, and octa-chlorinated
42 dibenzo dioxins and furans.

- 1 **HLW Vitrification System:** is defined as specified on Permit Tables [III.10.J.A](#) and [B](#), and [III.10.K.A](#)
2 and [B](#).
- 3 **Hourly rolling average or HRA:** will mean the arithmetic mean of the sixty (60) most recent one-
4 minute readings recorded by the continuous monitoring system.
- 5 **LAW Vitrification System:** is defined as specified on Permit Tables [III.10.H.A](#) and [B](#), and [III.10.I.A](#)
6 and [B](#).
- 7 **Mode of operation:** means operation of the LAW Vitrification System or the HLW Vitrification System
8 within set limits for each operating parameter specified in Permit Tables [III.10.H.D](#) and [F](#) (for LAW) and
9 Permit Tables [III.10.I.D](#) and [F](#) (for HLW).
- 10 **One-minute average:** means the average of detector responses calculated at least every sixty (60)
11 seconds from responses obtained at least every fifteen (15) seconds.
- 12 **Permittees:** means the United States Department of Energy (owner/operator) and Bechtel National, Inc.
13 (Co-operator).
- 14 **Pretreatment Plant Miscellaneous Unit Systems:** is defined as specified on Permit Tables [III.10.G.A](#)
15 and [B](#).
- 16 **Primary sump:** means any pit or reservoir that meets the [WAC 173-303-040](#) definition of “tank,” and
17 those troughs/trenches connected to it, that serve to collect dangerous/hazardous waste, deliberately
18 introduced (e.g., from decontamination or treatment activities), for transport to TSD facilities.
- 19 **Rolling average:** means the average of all one-minute averages over the averaging period.
- 20 **Secondary sump:** means any pit or reservoir that meets the [WAC 173-303-040](#) definition of “tank,” and
21 those troughs/trenches connected to it, that serve to collect dangerous/hazardous waste, not deliberately
22 introduced (e.g., from spills, leaks, or overflows), for transport to TSD facilities.
- 23 **Secondary mixed waste stream:** means treatment residues and materials derived from the treatment of
24 mixed waste which continue to designate as a dangerous, extremely hazardous, or acutely hazardous
25 waste and contains a radioactive component.
- 26 **Standard operating procedure or SOP:** will mean a written description of the procedures by which a
27 process, equipment, etc. will be operated. An SOP may be written by the manufacturer and/or the
28 Permittees.
- 29 **Successful completion of the demonstration test:** will mean operations including a minimum of three
30 test runs without significant interruptions (i.e., once initiated, each test run must be continuous, and the
31 samples have been preserved and maintained intact, and one in which sampling of exhaust gas was
32 representative of the LAW Vitrification System or HLW Vitrification System Operations, whichever is
33 applicable, and adequate to achieve evaluation of PODCs destruction and removal efficiency (DRE) to
34 99.99%).
- 35 **TEQ or “toxic equivalents”:** refer to the sum of the weighted potencies of 7 polychlorinated dibenzo-p
36 –dioxins (PCDDs), 10 polychlorinated dibenzofurans (PCDFs), and 12 dioxin-like (coplanar)
37 polychlorinated biphenyl (PCBs), relative to a reference compound, 2, 3, 7, 8 – tetrachlorodibenzo-p-
38 dioxin (2, 3, 7, 8 –TCDD).
- 39 **Pre-process:** means prior to introduction into a dangerous or mixed waste management unit at the WTP
40 Unit.
- 41 **In-process:** means duration of a waste in a dangerous or mixed waste management unit at the WTP Unit.
- 42 **Post-process:** means prior to the introduction into a subsequent dangerous or mixed waste management
43 unit at the WTP Unit or prior to shipment from the WTP Unit.

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

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

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

13 **FACILITY-SPECIFIC ACRONYMS**

14 The following acronyms are specific to the WTP Unit:

15	AWFCO	Automatic Waste Feed Cut-off
16	CDR	Construction Deficiency Report
17	CEMS	Continuous Emissions Monitoring System
18	CMS	Continuous Monitoring System
19	CNP	Cesium Nitric Acid Recovery Process System
20	CRP	Cesium Resin Addition Process System
21	CPE	Cathodic Protection Electrical System
22	CXP	Cesium Ion Exchange Process System
23	DFETP	Dioxin and Furan Emission Test Plan
24	DRE	Destruction and Removal Efficiency
25	Dscf	Dry standard cubic feet
26	ERP	Emergency Response Plan
27	FEP	Waste Feed Evaporation Process System
28	FRP	Waste Feed Receipt Process System
29	HCP	HLW Concentrate Receipt Process System
30	HDH	HLW Canister Decontamination Handling System
31	HEH	HLW Canister Export Handling System
32	HEME	High Efficiency Mist Eliminator
33	HEPA	High Efficiency Particulate Air Filter
34	HFH	HLW Filter Cave Handling System
35	HFP	HLW Melter Feed Process System
36	HLP	HLW Lag Storage and Feed Blending Process System
37	HLW	High-level Waste

1	HMH	HLW Melter Handling System
2	HMP	HLW Melter Process System
3	HOP	HLW Vit Primary Offgas Treatment System
4	HPH	HLW Canister Pour Handling System
5	HSH	HLW Melter Cave Support Handling System
6	IHLW	Immobilized High-Level Waste (Glass)
7	ILAW	Immobilized Low-Activity Waste (Glass)
8	IQRPE	Independent, qualified, registered, professional engineer
9	LAB	WTP Laboratory Building
10	LAW	Low Activity Waste
11	LCP	LAW Concentrate Receipt Process System
12	LEH	LAW Container Export Handling System
13	LFH	LAW Canister Finishing Handling System
14	LFP	LAW Melter Feed Process System
15	LMH	LAW Melter Handling System
16	LMP	LAW Melter Process System
17	LOP	LAW Primary Offgas Process System
18	LPH	LAW Container Pour Handling System
19	LSH	LAW Melter Equipment Support Handling System
20	LSM	Locally Shielded Melter
21	LVP	LAW Secondary Offgas/Vessel Vent Process System
22	NCR	Nonconformance Report
23	PFH	Pretreatment Filter Cave Handling System
24	PIH	Pretreatment In-Cell Handling System
25	PJV	Pulse Jet Ventilation System
26	PODC	Principal Organic Dangerous Constituents
27	PTF	Pretreatment Building
28	PVP	Pretreatment Vessel Vent Process System
29	PVV	Process Vessel Vent System
30	PWD	Plant Wash and Disposal System
31	RDP	Spent Resin and Dewatering Process System
32	RDTP	Revised Demonstration Test Plan
33	RLD	Radioactive Liquid Waste Disposal System
34	RPP-WTP	River Protection Project-Waste Treatment Plant
35	RWH	Radioactive Solid Waste Handling System

1	SBS	Submerged Bed Scrubber
2	TCP	Treated LAW Evaporation Process System
3	TLP	Treated LAW Evaporation System
4	TOC	Total Organic Carbon
5	TXP	Technetium Ion Exchange Process System
6	TEP	Technetium Eluant Recovery Process System
7	UFP	Ultrafiltration Process System
8	WESP	Wet Electrostatic Precipitator
9	WTP	River Protection Project – Waste Treatment and Immobilization Project (also known as
10		the Waste Treatment Plant and Vitrification Plant)
11	6% Mo	Six Percent Molybdenum Alloy
12	304L	ASTM A240 Grade 304L Stainless Steel
13	316L	ASTM A240 Grade 316L Stainless Steel

14 **III.10.A COMPLIANCE WITH APPROVED PERMIT**

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

16 In addition to the conditions in this chapter, the Permittees must comply with all the applicable portions
17 of the Dangerous Waste Permit for the Hanford Facility. In the event that a Unit-Specific Condition for
18 the WTP Unit in Permit Conditions [III.10.C](#), through [III.10.K](#), conflicts with a general condition in Permit
19 Conditions I and II of this permit, the Unit-Specific Condition will apply to the WTP Unit.

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

21 **III.10.C.1 RESERVED**

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

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

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

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

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

34 **III.10.C.2.b** The Permittees are authorized to accept the dangerous and/or mixed waste specified in
35 Operating Unit Group 10, Addendum A (Part A Form 3), and Addendum B (Waste
36 Analysis Plan [WAP]).

37 **III.10.C.2.c** All dangerous and/or mixed waste must be managed only in areas authorized for
38 dangerous and/or mixed waste management under the Permit conditions, except as
39 allowed under [WAC 173-303-200](#).

- 1 The authorized dangerous and/or mixed waste management areas of the WTP Unit are
2 specified in Conditions [III.10.D](#) through [III.10.K](#).
- 3 **III.10.C.2.d** Dangerous and/or mixed waste may be transferred from dangerous waste management
4 units within the WTP operating unit to an on-site dangerous waste management unit or an
5 off-site permitted TSD Facility using the manifest/tracking system required by permit
6 condition II.N.
- 7 **III.10.C.2.e** Permit modifications pursuant to this Permit for dangerous and/or mixed waste at the
8 request of the Permittees must be done according to the three tiered modification system
9 specified in [WAC 173-303-830](#)(4) and Condition I.C.3. The Permit modification request
10 must include page changes to the Permit, attachments, and permit application supporting
11 documentation necessary to incorporate the proposed permit modification.
- 12 **III.10.C.2.f** In addition to other requirements in [WAC 173-303-830](#), within forty-five (45) days of a
13 permit change (i.e., permit modification) being put into effect or approved, the Permittees
14 will provide copies of the Permit attachments to incorporate the change (if not already
15 reflected in the change pages submitted in the original permit modification request). This
16 submittal does not require re-certification in accordance with [WAC 173-303-810](#)(13).
- 17 **III.10.C.2.g** Permit modifications pursuant to Operating Unit Group 10, Appendix 1.0 will be
18 prepared and issued pursuant to [WAC 173-303-830](#)(3)(a)(ii) and [WAC 173-303-840](#).
- 19 **III.10.C.2.h** The Permittees must complete Compliance Schedule interim requirements as specified in
20 Operating Unit Group 10, Appendix 1.0. If an interim requirement is not completed as
21 specified, the Permittees will, within 14 days, notify Ecology in writing of its non-
22 compliance. The notification will include the following:
- 23 **III.10.C.2.h.i** A description of any portion of the interim requirement completed;
- 24 **III.10.C.2.h.ii** Summaries of any problems affecting timely completion of the interim requirement;
- 25 **III.10.C.2.h.iii** A description of the plans for completing the remaining portion of the interim
26 requirement, including any alternatives;
- 27 **III.10.C.2.h.iv** Projected interim requirement completion date.
- 28 **III.10.C.2.i** RESERVED
- 29 **III.10.C.2.j** RESERVED
- 30 **III.10.C.2.k** RESERVED
- 31 **III.10.C.2.l** During demonstration testing of the LAW Vitrification System and HLW Vitrification
32 System, pursuant to Permit Sections [III.10.H](#). and [J](#)., processing of materials in the LAW
33 and HLW Vitrification Systems that would designate as dangerous waste are fully subject
34 to the requirements of this Permit, excluding the melter feed system as identified in
35 Tables [III.10.H.A](#). and [III.10.J.A](#)., respectively. This exclusion does not apply to mixed
36 waste.
- 37 **III.10.C.2.m** The Facility Owner will ensure WTP input is provided to the risk budget tool developed
38 in accordance with permit condition III.11.I.5.
- 39 **III.10.C.2.n** The Permittees will submit the following reports, based on the August 2006 mass balance
40 submitted to Ecology (DOE Letter 06-ESQ-081), for Ecology's review and
41 comment/resolution. Updated information to the August 2006 Mass Balance may be
42 used if available and mutually agreed upon by the Permittees and Ecology.

- 1 The reports will describe all of the treatment approaches identified in Permit Conditions
 2 [III.10.C.2.n.i](#) through [III.10.C.2.n.v](#), and will be included in the administrative record.
- 3 **III.10.C.2.n.i** By June 30, 2010, the Permittees will perform an assessment that projects mixed
 4 waste constituents and the concentrations that are expected to be contained in each
 5 secondary mixed waste stream anticipated to be generated;
- 6 **III.10.C.2.n.ii** By June 30, 2010, the Permittees will identify appropriate LDR treatment standards
 7 for each mixed waste stream identified in Permit Condition [III.10.C.2.n.i](#);
- 8 **III.10.C.2.n.iii** By June 30, 2010, the Permittees will identify which mixed waste streams that, from
 9 a qualitative risk perspective, reasonably may cause or may significantly contribute
 10 to an exceedance of applicable environmental standards at a disposal facility; and
- 11 **III.10.C.2.n.iv** By June 30, 2010, the Permittees will, for the mixed waste streams identified in
 12 Permit Condition [III.10.C.2.n.iii](#), identify potential treatment approaches that mitigate
 13 their environmental impacts;
- 14 **III.10.C.2.n.v** By December 31, 2015 or 12 months prior to cold commissioning of the facility
 15 producing the waste, whichever is earlier, the Permittees will, for the mixed waste
 16 streams identified in Permit Condition [III.10.C.2.n.iii](#), select appropriate treatment
 17 approaches that mitigate their environmental impacts.
- 18 **III.10.C.2.o** The Facility owner will evaluate all waste streams generated at the WTP for potential
 19 exceedances of applicable environmental standards and will ensure all mixed and
 20 dangerous waste streams generated at the WTP will not cause an exceedance of
 21 applicable environmental standards at an appropriate disposal facility on-site and is
 22 subject to the following requirements:
- 23 **III.10.C.2.o.i** ILAW glass will be engineered to be compliant with the disposal facility Waste
 24 Acceptance Criteria (WAC). The waste feed and ILAW glass recipes will be verified
 25 to be compliant with the permitted glass formulations (including planning for
 26 pertinent operating parameters) prior to vitrification.
- 27 **III.10.C.2.o.ii** Treatment methods for secondary waste streams projected to be generated by the
 28 WTP that are slated for disposal at the Hanford Site will be engineered to ensure that
 29 treated secondary wastes will comply with the on-site disposal facility WAC and
 30 applicable LDRs prior to generation. Prior to treatment, secondary wastes must be
 31 evaluated to ensure that selected treatment methods are still appropriate and continue
 32 to comply with the on-site disposal facility WAC and applicable LDRs; and
- 33 **III.10.C.2.o.iii** On a case-by-case basis, for any WTP mixed waste that does not meet the WAC for
 34 the disposal facility, Ecology will approve or deny acceptance of that waste into the
 35 disposal facility. This decision will be based on the disposal facility's WAC and
 36 compliance with [WAC 173-303-140](#).
- 37 **III.10.C.3 Waste Analysis**
- 38 **III.10.C.3.a** RESERVED
- 39 **III.10.C.3.b** RESERVED
- 40 **III.10.C.3.c** The Permittees are responsible for obtaining accurate information for each waste stream.
 41 Inaccurate waste analysis information provided by the generating site (or unit) is not a
 42 defense for noncompliance by the Permittees with conditions of this Permit.
- 43 **III.10.C.3.d** Records and results of waste analyses conducted under the WAP will be maintained in
 44 accordance with Permit Condition II.I.1.

1 The WTP Unit operating record will include, but not be limited to, information
2 requirements for monitoring in Permit Conditions I.F.1, I.F.2, and I.F.3.

3 **III.10.C.3.e** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the
4 Permittees will submit to Ecology for review and approval a revised WAP and the
5 Quality Assurance Project Plan (QAPjP) pursuant to Conditions [III.10.C.2.e](#) and
6 [III.10.C.2.f](#), and the Compliance Schedule in Operating Unit Group 10, Appendix 1.0.
7 The revised WAP and QAPjP will include:

8 **III.10.C.3.e.i** All the elements listed in [WAC 173-303-300](#)(5), and Permit Condition II.D.1.

9 **III.10.C.3.e.ii** Requirements that characterization will be performed on the waste feed prior to
10 transfer to the WTP Unit in conformance with the regulatory data quality objectives
11 identified in the Regulatory DQO Optimization Report (24590-WTP-RPT-MGT-04-
12 001, Rev 0), or any other parameters, and the rationale for selecting these parameters.
13 Requirements that the following analyses, at a minimum, will be conducted on each
14 new batch prior to waste transfer to the WTP Unit, in accordance with the methods
15 under [WAC 173-303-110](#): Ammonia, pH, metals, organic acids, mercury, cyanide,
16 volatiles, semi-volatiles, PCBs/pesticides, anions, TOC, and compatibility (ASTM
17 Method D5058-90). For the purposes of this Permit Condition, a “new batch” is one
18 that has been sampled and analyzed in accordance with the Regulatory DQO
19 Optimization Report (24590-WTP-RPT-MGT-04-001, Rev 0), and has received no
20 further additions. Further additions require the Permittees to resample and reanalyze,
21 unless an exception is approved by Ecology on a case-by-case basis. Only mixed
22 waste meeting the definition of “new batch”, or granted an exception as discussed
23 above, are authorized for transfer to the WTP Unit. Water additions for the purposes
24 of waste transfer are not considered additions for the purposes of this Permit
25 Condition.

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

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

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

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

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

- 1 **III.10.C.3.e.viii** Documentation demonstrating methods for obtaining samples of wastes are
2 representative as discussed in [WAC 173-303-110\(2\)](#).
- 3 **III.10.C.3.e.ix** Where applicable, the methods for meeting the additional waste analysis
4 requirements for specific waste management methods, as specified in [WAC 173-303-](#)
5 [140\(4\)](#), [173-303-395\(1\)](#), [173-303-630](#) through [173-303-695](#).
- 6 **III.10.C.3.e.x** For waste transferred from other permitted TSDs, the procedures for confirming that
7 each dangerous waste received matches the identity of the waste specified on the
8 accompanying waste profile documentation. This includes the procedure for
9 identifying each waste movement at the Facility.
- 10 **III.10.C.4 Recordkeeping**
- 11 **III.10.C.4.a** The unit specific portion of the Hanford Facility Operating Record will include the
12 documentation specified in Permit Attachment 6, Permit Condition II.I, (applicable to
13 the WTP Unit), and other documentation specified in Operating Unit Group 10. Permit
14 Attachment 6 provides a list of required records, and the methods of submittal for the
15 facility and each unit group.
- 16 **III.10.C.5 Procedure to Prevent Hazards**
- 17 **III.10.C.5.a** The Permittees will design, construct, and operate the WTP Unit in compliance with
18 Operating Unit Group 10, Addendum E, Section 6.1.
- 19 **III.10.C.5.b** The WTP Unit fire protection systems will be constructed to the applicable codes listed in
20 Operating Unit Group 10, Addendum E, Section 6.3.1.4. Prior to the initial receipt of
21 dangerous and/or mixed waste in the WTP Unit, the Permittees will update Operating
22 Unit Group 10, Addendum E, Sections 6.3, 6.4, and 6.5 to be consistent with design
23 details, and resubmit for approval as a permit modification pursuant to Permit Conditions
24 [III.10.C.2.e](#) and [III.10.C.2.f](#), and Operating Unit Group 10, Appendix 1.0. In addition to
25 the stand-by diesel generator for the LAW and HLW melters, updated Section 6.4.4. will
26 include descriptions of the essential loads and critical systems supplied with back-up,
27 un-interruptible, and standby power.
- 28 **III.10.C.5.c** The Permittees will inspect the WTP Unit to prevent malfunctions and deterioration,
29 operator errors, and discharges that may cause or lead to the release of dangerous waste
30 constituents to the environment, or a threat to human health. Inspections must be
31 conducted in accordance with the WTP Unit Inspection Schedule, Operating Unit Group
32 10, Addendum E, Section 6.2, and Addendum E1. Prior to the receipt of dangerous
33 and/or mixed waste in the WTP Unit, the Permittees will update and resubmit to Ecology
34 for review and approval Addendum E, Section 6.2 and the Inspection Schedule in
35 Addendum E1 as a permit modification pursuant to Permit Conditions [III.10.C.2.e](#) and
36 [III.10.C.2.f](#), and Compliance Schedule in Operating Unit Group 10, Appendix 1.0. The
37 revised schedule will include, but not be limited to the requirements in
38 [WAC 173-303-320\(2\)](#) and [III.10.C.5.c.i](#), through [v](#), below.
- 39 **III.10.C.5.c.i** Detailed dangerous and/or mixed waste management unit specific and general
40 inspection schedules and description of procedures pursuant to [WAC 173-303-](#)
41 [395\(1\)\(d\)](#), [173-303-630\(6\)](#), [173-303-640\(4\)\(a\)\(i\)](#) and (6), [173-303-670\(7\)\(b\)](#) in
42 accordance with [173-303-680\(3\)](#), and [173-303-695](#). The inspection schedule will be
43 presented in the form of a table that includes a description of the inspection

- 1 requirements, inspection frequency, and types of problems to look for during the
2 inspections.
- 3 **III.10.C.5.c.ii** The proposed locations (scaled drawing with layout) and capabilities of camera(s)
4 (i.e., zoom angles, field of view, etc.) to be used for remote inspections.
- 5 **III.10.C.5.c.iii** Schedule and program description for performing integrity assessments as specified
6 in 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.](#),
7 [III.10.J.5.e.i.](#), and [III.10.K.1.a.v.](#)
- 8 **III.10.C.5.c.iv** Inspection schedules for leak detection system and control instrumentation to include,
9 but not limited to, valves pressure devices, flow devices, measuring devices, as
10 specified in Permit Conditions [III.10.E.9.e.xi](#), [III.10.F.3.c](#), and [III.10.G.10.e.xii](#), and
11 Permit Conditions [III.10.H.5.f.xvi](#), and [III.10.J.5.f.xvi](#).
- 12 **III.10.C.5.c.v** Inspection schedule will include inspections for all dangerous and/or mixed waste
13 management units specified in Permit Sections [III.10.D](#), [E](#), [F](#), [G](#), [H](#), [I](#), [J](#), and [K](#).
- 14 **III.10.C.5.d** The Permittees will equip the WTP Unit with the equipment specified in Operating Unit
15 Group 10, Addendum E, as required by Permit Condition II.B.1.
- 16 **III.10.C.5.e** The Permittees will test and maintain the equipment specified in Operating Unit Group
17 10, Addendums E and E1, as necessary, to assure proper operation in the event of
18 emergency.
- 19 **III.10.C.5.f** The Permittees will maintain access to communications or alarms as provided in the
20 *RPP-WTP Emergency Response Plan*, Operating Unit Group 10, Addendum F1 and
21 Permit Condition II.B.2.
- 22 **III.10.C.6 Contingency Plan**
- 23 **III.10.C.6.a** The Permittees will immediately carry out applicable provisions of Permit Condition
24 II.A.1 and the *RPP-WTP Emergency Response Plan*, Operating Unit Group 10,
25 Addendum F1 whenever there is a release of dangerous and/or mixed waste or dangerous
26 waste constituents, or other emergency circumstance, any of which threatens human
27 health or the environment.
- 28 **III.10.C.6.b** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the
29 Permittees will update the Contingency Plan and the *RPP-WTP Emergency Response*
30 *Plan*, Operating Unit Group 10, Addendums F and F1, to be consistent with design
31 details and [WAC 173-303-350](#)(3), incorporated by reference, and resubmit as a permit
32 modification pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#), in compliance
33 with [WAC 173-303-350](#)(5)(c), and Operating Unit Group 10, Appendix 1.0.
- 34 **III.10.C.6.c** After initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
35 will review and amend, if necessary, the applicable portions of the Contingency Plan and
36 the *RPP-WTP Emergency Response Plan*, Operating Unit Group 10, Addendums F and
37 F1 in accordance with the provision of [WAC 173-303-350](#)(5). The Addendums F and F1
38 will be amended as a permit modification pursuant to Permit Conditions [III.10.C.2.e](#) and
39 [III.10.C.2.f](#).
- 40 **III.10.C.6.d** RESERVED
- 41 **III.10.C.6.e** RESERVED
- 42 **III.10.C.7 Personnel Training**
- 43 **III.10.C.7.a** Prior to the initial receipt of dangerous and/or mixed waste in the WTP Unit, the
44 Permittees will update and resubmit, to Ecology for review and approval, the Training

1 Program description in Operating Unit Group 10, Addendum G as a permit modification
 2 pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#), and Compliance Schedule in
 3 Operating Unit Group 10, Appendix 1.0. The revised Training Program description will
 4 include but not be limited to:

5 **III.10.C.7.a.i** Detailed unit specific and general Training Program descriptions) as required to
 6 demonstrate compliance with [WAC 173-303-330](#) and to include:

7 **III.10.C.7.a.i.A** Job titles and descriptions for each dangerous waste management position (e.g. waste
 8 designator, waste operator, laboratory technician, etc.);

9 **III.10.C.7.a.i.B** Outline of the training program updated to discuss initial, refresher, and on-the-job
 10 training; correlated to each dangerous waste management position;

11 **III.10.C.7.a.i.C** Table G-1 in Operating Unit Group 10, Addendum G, updated to include the type and
 12 amount of introductory, refresher, and on-the-job training required for each dangerous
 13 waste management position [[WAC 173-303-806](#)(4)(a)(xii)].

14 **III.10.C.7.a.ii** Sufficient detail to document that the training and qualification program for all
 15 categories of personnel whose activities may reasonably be expected to directly affect
 16 emissions from the LAW and HLW Systems, except control room operators, is
 17 appropriately consistent with [40 CFR 63.1206](#)(c)(6)(ii), and for control room
 18 operators, is appropriately consistent with [40 CFR 63.1206](#)(c)(6)(i) and
 19 [63.1206](#)(c)(6)(iii) through [63.1206](#)(c)(6)(vi) [[WAC 173-303-680](#)(2)].

20 **III.10.C.7.b** The Permittees will ensure that the LAW and HLW Systems are operated and
 21 maintained, at all times, by persons who are trained and qualified to perform these and
 22 any other duties that may reasonably be expected to directly affect emissions from the
 23 LAW and HLW Systems [[WAC 173-303-680](#)(2)].

24 **III.10.C.7.c** The Permittees will conduct personnel training in accordance with the approved
 25 description of the WTP Dangerous Waste Training Plan, Operating Unit Group 10,
 26 Addendum G, pursuant to [WAC 173-303-330](#). The Permittees will maintain documents
 27 in accordance with Permit Condition II.C.1 and [WAC 173-303-330](#)(2) and (3).

28 **III.10.C.7.d** RESERVED.

29 **III.10.C.7.e** The Permittees will submit, under separate cover, the actual detailed WTP Dangerous
 30 Waste Training Plan in accordance with the Compliance Schedule in Operating Unit
 31 Group 10, Appendix 1.0. The WTP Dangerous Waste Training Plan will be reviewed for
 32 compliance with the outline of the training program in Operating Unit Group 10,
 33 Addendum G and requirements of [WAC 173-303-330](#). The Training Plan will be
 34 incorporated into the Administrative Record.

35 **III.10.C.8 Closure**

36 **III.10.C.8.a** The Permittees must conduct closure of the WTP Unit according to the Closure Plan in
 37 Operating Unit Group 10, Addendum H, and Permit Condition [III.10.C.8](#). The closure
 38 plan will be modified according to provisions of Permit Condition I.C.3.

39 **III.10.C.8.b** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
 40 will update and resubmit the Closure Plan, Operating Unit Group 10, Addendum H for
 41 approval as a permit modification pursuant to Permit Condition [III.10.C.2.g](#), to be
 42 consistent with design details and schedule described in Operating Unit Group 10,
 43 Appendix 1.0. The updated Closure Plan must be consistent with the closure
 44 performance standards specified in [WAC 173-303-610](#)(2)(a)-(b), [WAC 173-340](#) and, in

- 1 addition for Containment Buildings, consistent with [40 CFR 264.1102\(b\)](#) as referenced
2 by [WAC 173-303-695](#).
- 3 **III.10.C.8.c** The Permittees will submit, for Ecology review and approval, an update to the Closure
4 Plan, Operating Unit Group 10, Addendum H, including all documentation required by
5 Permit Condition II.D, within one hundred eighty (180) days prior to commencing partial
6 closure, as a permit modification pursuant to Permit Conditions [III.10.C.2.e](#) and
7 [III.10.C.2.f](#).
- 8 **III.10.C.8.d** One hundred eighty (180) days prior to commencing final closure of Operating Unit
9 Group 10, the Permittees must submit to Ecology, for review and approval, a revised
10 Closure Plan, including all documentation required by Permit Condition II.D, as a permit
11 modification pursuant to Permit Conditions [III.10.C.2.e](#) and [III.10.C.2.f](#).
- 12 **III.10.C.8.e** RESERVED
- 13 **III.10.C.8.f** To achieve clean closure, the Permittees will remove dangerous waste, dangerous waste
14 constituents, and dangerous waste residues throughout the closing unit and throughout
15 any areas affected by releases from the closing unit to concentrations that do not exceed
16 numeric cleanup levels determined using residential exposure assumptions according to
17 the Model Toxics Control Act (MTCA) Regulations, [Chapter 173-340 WAC](#) and all
18 structures, equipment, bases, liners, and other materials containing or contaminated with
19 dangerous waste, constituents, or residues have met specific waste removal and
20 decontamination standards approved by Ecology, in accordance with
21 [WAC 173-303-610\(2\)\(b\)\(i\)-\(ii\)](#).
- 22 **III.10.C.8.g** RESERVED.
- 23 **III.10.C.8.h** Documentation supporting the independent registered professional engineer's
24 certification of closure must be submitted to Ecology with the closure certification
25 required by [WAC 173-303-610\(6\)](#). In addition to the items in Operating Unit Group 10,
26 Addendum H, the documentation must include the following and other information
27 Ecology may request.
- 28 **III.10.C.8.h.i** Sampling procedures that were followed;
- 29 **III.10.C.8.h.ii** Soil and concrete locations that were sampled;
- 30 **III.10.C.8.h.iii** Sample labeling and handling procedures that were followed, including chain of
31 custody procedures;
- 32 **III.10.C.8.h.iv** Description of procedures that were followed to decontaminate concrete or metal to
33 meet the clean closure standards approved by Ecology, in accordance with the
34 closure performance standards of [WAC 173-303-610\(2\)\(a\)\(ii\)](#) and in a manner that
35 minimizes or eliminates post-closure escape of dangerous waste constituents, or to
36 achieve a "clean debris surface" as specified in [40 CFR 268.45](#), Table 1, concrete
37 surfaces, as incorporated by reference in [WAC 173-303-140](#).
38 [\[WAC 173-303-610\(2\)\(b\)\(ii\)\]](#).
- 39 **III.10.C.8.h.v** Laboratory and field data, including supporting QA/QC summary;
- 40 **III.10.C.8.h.vi** Report that summarizes closure activities;
- 41 **III.10.C.8.h.vii** Copy of all field notes taken by the independent registered professional engineer; and
- 42 **III.10.C.8.h.viii** Copy of all contamination survey results.

- 1 **III.10.C.9 Critical Systems**
- 2 **III.10.C.9.a** The WTP Unit critical systems, as defined in the definition section of Operating Unit 10
3 and are identified in Operating Unit Group 10, Appendix 2.0.
- 4 **III.10.C.9.b** As the design proceeds, Ecology will modify this Permit for reasons described in the
5 [WAC 173-303-830\(3\)](#) to add additional systems to the Critical Systems in Operating Unit
6 Group 10, Appendix 2.0.
- 7 **III.10.C.9.c** The Permittees will conduct all construction subject to this Permit in accordance with the
8 approved designs, plans, and specifications that are required by this Permit, except as
9 specified in Conditions [III.10.C.9.d.](#) or [III.10.C.9.e.](#) For purposes of Conditions
10 [III.10.C.9.d.](#) and [III.10.C.9.e.](#), the Ecology representative will be an Ecology construction
11 inspector, project manager, or other designated representative of Ecology.
- 12 **III.10.C.9.d** The Permittees will submit a nonconformance report (NCR) or construction deficiency
13 report (CDR) to the Ecology representative (s), as applicable, within seven (7) calendar
14 days of the Permittees becoming aware of incorporation of minor nonconformance or
15 construction deficiency from the approved designs, plans, and specifications into the
16 construction of critical systems, as defined in the Hanford Site-wide Permit definition
17 section. Such minor nonconformance or construction deficiency will be defined, for the
18 purposes of this Permit Condition, as nonconformance or construction deficiency that is
19 necessary to accommodate proper construction and the substitution or the use of
20 equivalent or superior materials or equipment that do not substantially alter the Permit
21 conditions or reduce the capacity of the facility to protect human health or the
22 environment. Such minor nonconformance or construction deficiency will not be
23 considered a modification of this Permit. If Ecology determines that the nonconformance
24 or construction deficiency is not minor, it will notify the Permittees in writing that a
25 permit modification is required for the deviation and whether prior approval is required
26 from Ecology before work proceeds which affect the nonconforming or construction
27 deficiency item.
- 28 **III.10.C.9.e** The Permittees will formally document, with a nonconformance report (NCR) or
29 construction deficiency report (CDR), as applicable, incorporation of minor
30 nonconformance or construction deficiency from the approved designs, plans, and
31 specifications into the construction of non-critical systems subject to this Permit. Such
32 minor nonconformance or construction deficiency will not be considered a modification
33 of this Permit. All NCR's and CDR's will be maintained in the WTP Unit Operating
34 Record and will be made available to Ecology upon request or during the course of an
35 inspection. If Ecology determines that the nonconformance or construction deficiency is
36 not minor, it will notify the Permittees in writing that a permit modification is required
37 for the deviation and whether prior approval is required from Ecology before work
38 proceeds which affect the nonconforming or construction deficiency item.
- 39 **III.10.C.9.f** For each Critical System identified in Operating Unit Group 10, Appendix 2.0, the
40 Permittees will submit to Ecology for review and approval, following the schedule in
41 Operating Unit Group 10, Appendix 1.0, the information identified in Permit Conditions
42 [III.10.D.10.](#), [III.10.E.9.](#), [III.10.F.7.](#), [III.10.G.10.](#), [III.10.H.5.](#), and [III.10.J.5.](#) Information
43 Ecology determines to incorporate into the Permit will follow the Permit Condition
44 [III.10.C.2.g.](#) process, unless stated otherwise within the specific permit condition.

- 1 Information Ecology determines necessary to support design basis will be incorporated
2 into the Administrative Record.
- 3 **III.10.C.9.g** Upon completion of the WTP Unit construction subject to this Permit, the Permittees
4 will produce as-built drawings of the project which incorporate the design and
5 construction modifications resulting from all change documentation as well as
6 modifications made pursuant to Permit Conditions [III.10.C.2.e.](#), [III.10.C.2.f.](#), and
7 [III.10.C.2.g.](#) The Permittees will place the as-built drawings into the operating record
8 within twelve (12) months of completing construction.
- 9 **III.10.C.9.h** The Permittees will formally document changes to approved designs, plans, and
10 specifications with design change documentation [e.g., Design Change Notice (DCN),
11 Field Change Request (FCR), Field Change Notice (FCN), Specification Change Notice
12 (SCN), and Supplier Deviation Disposition Request (SDDR)]. All design change
13 documentation will be maintained in the WTP Unit-specific Operating Record and will
14 be made available to Ecology upon request or during the course of an inspection. For any
15 design change documentation affecting any critical systems, the Permittees will provide
16 copies to Ecology within seven (7) calendar days. Identification of critical systems will
17 be included by the Permittees in each WTP Unit-specific dangerous waste permit
18 application, closure plan, or permit modification, as appropriate. If Ecology determines
19 that the design change is not minor, it will notify the Permittees in writing that a permit
20 modification is required for the design change and whether prior approval is required
21 from Ecology before work affected by the design change may proceed.
- 22 **III.10.C.9.i** Ventilation system duct work is not required to be doubly contained within the WTP
23 Unit. However, upon discovery of accumulation of liquids within the duct work, a
24 compliance plan will be submitted within sixty (60) days of discovery to correct the
25 problem.
- 26 **III.10.C.10 Equivalent Materials**
- 27 **III.10.C.10.a** If certain equipment, materials, and administrative information (such as names, phone
28 numbers, addresses, formatting) are specified in this Permit, the Permittees may use
29 equivalent or superior substitutes. Use of such equivalent or superior items within the
30 limits (e.g., ranges, tolerances, and alternatives) already clearly specified in sufficient
31 detail in Operating Unit Group 10, are not considered a Permit modification. However,
32 the Permittees must place documentation of the substitution, accompanied by a narrative
33 explanation and the date the substitution became effective in the operating record within
34 seven (7) days of putting the substitution into effect, and submit documentation of the
35 substitution to Ecology, for approval. Upon review of the documentation of the
36 substitution, if deemed necessary, Ecology may require the Permittees to submit a permit
37 modification in accordance with Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)
- 38 **III.10.C.10.b** If Ecology determines that a substitution was not equivalent to the original, they will
39 notify the Permittees that the Permittees' claim of equivalency has been denied, of the
40 reasons for the denial, and that the original material or equipment must be used. If the
41 product substitution is denied, the Permittees will comply with the original approved
42 product specification, find an acceptable substitution, or apply for a permit modification
43 in accordance with Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)
- 44 **III.10.C.11 Risk Assessment**
- 45 **III.10.C.11.a** The Permittees will submit a permit modification pursuant to Permit Conditions
46 [III.10.C.2.e.](#) and [III.10.C.2.f.](#), in accordance with Operating Unit Group 10,
47 Appendix 1.0, to Ecology to incorporate revisions to the "Environmental Risk

1 Assessment Work Plan, Appendix 6.1. The revised document will be submitted for
2 incorporation into Appendix 6.2 as the Final Risk Assessment Workplan. The Permittee
3 will make revisions in consultation with Ecology to address the comments documented in
4 Operating Unit Group 10, Appendix 6.1 and updated to address the following:

- 5 **III.10.C.11.a.i** EPA guidance for performance of Human Health and Ecological Risk Assessments
6 for Hazardous Waste Combustion Facilities current at the time of the submittal,
7 assuming both residential and non-residential use scenarios;
- 8 **III.10.C.11.a.ii** Toxicity data current at the time of the submittal;
- 9 **III.10.C.11.a.iii** Compounds newly identified or updated emissions data from current waste
10 characterization and emission testing;
- 11 **III.10.C.11.a.iv** Air modeling updated to include stack gas parameters based on most current
12 emissions testing and WTP Unit design;
- 13 **III.10.C.11.a.v** Physical/transport properties of constituents, current at the time of the submittal;
- 14 **III.10.C.11.a.vi** Process Description based on most current WTP Unit design;
- 15 **III.10.C.11.a.vii** Emissions data and all supporting calculations based on most current WTP Unit; and
- 16 **III.10.C.11.a.viii** Update of receptor locations based on land use or land use zoning changes, if any.
- 17 **III.10.C.11.b** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
18 will submit for Ecology review and approval as a permit modification pursuant to Permit
19 Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#), a Pre-Demonstration Test Risk Assessment
20 Report as Appendix 6.3. The Pre-Demonstration Test Risk Assessment Report will
21 address and include the following:
- 22 **III.10.C.11.b.i** Direct and indirect human health and ecological risk assessments performed pursuant
23 to the Final Risk Assessment Work Plan in Permit Condition [III.10.C.11.a.](#)
- 24 **III.10.C.11.b.ii** Submittal of projected stack emissions data for Tables [III.10.G.D.](#), [III.10.H.E.](#), and
25 [III.10.J.E.](#) and;
- 26 **III.10.C.11.b.iii** Submittal of the Basis and Assumptions (for incorporation into Appendix 6.3.1) for
27 these emissions, including but not limited to, projected operating conditions, feed-
28 rates, and treatment effectiveness, consistent with information provided and approved
29 pursuant to Permit Conditions [III.10.G.6.](#), [III.10.G.10.](#), [III.10.H.1.](#), [III.10.H.5.](#),
30 [III.10.J.1.](#), and [III.10.J.5.](#)
- 31 **III.10.C.11.c** Within ninety (90) days of Ecology approval of the Demonstration Report(s) submitted
32 pursuant to Permit Condition [III.10.H.3.d.i.](#), the Permittees will submit a Final Risk
33 Assessment Report as Operating Unit Group 10, Appendix 6.4, incorporating the
34 emission test results from the Demonstration Report(s). The Final Risk Assessment
35 Report will be prepared in accordance with the Final Risk Assessment Work Plan in
36 Appendix 6.2, (as approved pursuant to Permit Condition [III.10.C.11.a.](#)), except the
37 following updates are hereby incorporated. The Permittees will also submit with this
38 Final Risk Assessment Report, Permit Tables [III.10.G.D.](#) and [III.10.I.E.](#) and Operating
39 Unit Group 10, Appendix 6.4.1 (Basis and Assumptions) updated to incorporate the
40 emissions data from this Final Risk Assessment Report(s), as a permit modification
41 pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)

- 1 **III.10.C.11.c.i** Toxicity data current at the time of the submittal;
- 2 **III.10.C.11.c.ii** Compounds newly identified or updated emissions data from current waste
3 characterization and emission testing;
- 4 **III.10.C.11.c.iii** Air modeling updated to include stack gas parameters based on most current
5 emissions testing;
- 6 **III.10.C.11.c.iv** Physical/transport properties of constituents current at the time of the submittal;
- 7 **III.10.C.11.c.v** Update of receptor locations based on land use or land use zoning changes, if any;
- 8 **III.10.C.11.c.vi** Process description based on current WTP Unit design;
- 9 **III.10.C.11.c.vii** Emissions data and all supporting calculations based on current WTP Unit; and
- 10 **III.10.C.11.c.viii** Data from final risk assessment report pursuant to Permit Condition [III.10.C.11.d](#), if
11 available first, or simultaneously.
- 12 **III.10.C.11.d** Within ninety (90) days of Ecology approval of the Demonstration Report(s) submitted
13 pursuant to Permit Condition [III.10.J.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 by Ecology pursuant to Permit Condition [III.10.C.11.a](#)),
18 except the following updates are hereby incorporated. The Permittees will also submit
19 with this Final Risk Assessment Report, Permit Tables [III.10.G.D.](#) and [III.10.K.E.](#) and
20 Operating Unit Group 10, Appendix 6.4.1 (Basis and Assumptions) updated to
21 incorporate the emissions data from this Final Risk Assessment Report, as a permit
22 modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)
- 23 **III.10.C.11.d.i** Toxicity data current at the time of the submittal;
- 24 **III.10.C.11.d.ii** Compounds newly identified or updated emissions data from current waste
25 characterization and emission testing;
- 26 **III.10.C.11.d.iii** Air modeling updated to include stack gas parameters based on most current
27 emissions testing;
- 28 **III.10.C.11.d.iv** Physical/transport properties of constituents current at the time of the submittal;
- 29 **III.10.C.11.d.v** Update of receptor locations based on land use or land use zoning changes, if any;
- 30 **III.10.C.11.d.vi** Process description based on current WTP Unit design;
- 31 **III.10.C.11.d.vii** Emissions data and all supporting calculations based on current WTP Unit; and
- 32 **III.10.C.11.d.viii** Data from final risk assessment report pursuant to Permit Condition [III.10.C.11.c](#), if
33 available first, or simultaneously.
- 34 **III.10.C.11.e** The Final Risk Assessment Report(s) required by Permit Conditions [III.10.C.11.c.](#) and
35 [III.10.C.11.d.](#) may be combined, or provided separately, as appropriate.
- 36 **III.10.C.12** **RESERVED**
- 37 **III.10.C.13** **Remote Data Access**
- 38 Onsite, unrestricted, twenty-four (24) hour access to key WTP Unit operating data and
39 emissions monitoring data will be provided to Ecology. This onsite, unrestricted access
40 will include providing and maintaining for Ecology only use a computer terminal and
41 printer with access to key WTP Unit operating data bases and emissions monitoring data

1 bases. This terminal will be equipped with all necessary software and hardware to
2 monitor, retrieve, and trend this data. Additional remote access will be provided on
3 Ecology request if security concerns can be addressed.

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

7 **III.10.C.14.a** During this Interim Period of Operation, the Permittees are authorized to treat dangerous
8 waste and mixed waste feed meeting the waste acceptance criteria of the Waste Analysis
9 Plan in Addendum B, subject to the following conditions:

10 **III.10.C.14.a.i** Obtain receipt of Ecology's approval for the LAW Vitrification System according to
11 Permit condition [III.10.H.3.d.iii.](#), prior to receiving dangerous or mixed waste feed
12 into the LAW Vitrification System

13 **III.10.C.14.a.ii** Obtain receipt of Ecology's approval for the HLW Vitrification System according to
14 Permit condition [III.10.J.3.d.iii.](#), prior to receiving dangerous or mixed waste feed
15 into the HLW Vitrification System

16 **III.10.C.14.a.iii** Accept and treat up to 3 million gallons of Hanford tank waste feed in WTP.

17 **III.10.C.15 Support Systems**

18 **III.10.C.15.a** Mechanical Handling Systems

19 **III.10.C.15.a.i** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), in
20 accordance with the Compliance Schedule, as specified in Operating Unit Group 10,
21 Appendix 1.0, engineering information as specified below, for incorporation into
22 Appendices 9.6, 9.10, 10.6, and 10.10, or into the Administrative Record where
23 noted.

24 A. System Descriptions for each Mechanical Handling system identified in
25 Permit Table [III.10.C.A.](#), for incorporation into the Administrative Record
26 (Compliance Schedule Item 36).

27 B. Mechanical Handling Diagrams and Mechanical Handling Data Sheets for the
28 following pieces of equipment (Compliance Schedule Item 37):

29 a. HDH-CRN-00005

30 b. HEH-CRN-00003

31 c. HPH-CRN-00001

32 d. HPH-CRN-00002

33 e. HSH-CRN-00001

34 f. HSH-CRN-00014

35 g. LEH-CRN-00003

36 h. LPH-CRN-00002

37 i. HEH-CRN-00001

38 C. Permit condition III.10.C.15.a. does not require:

39 a. Additional submittals beyond those described in permit condition
40 [III.10.C.15.a.](#);

41 b. IQRPE reports for equipment identified in [III.10.C.15.a.i](#) (B);

- 1 c. Installation inspections for equipment identified in [III.10.C.15.a.i](#)(B); and
 2
 3 d. Other inspection, verification, operability, maintenance, or records
 4 management beyond that which is specified elsewhere in this permit, for
 5 equipment identified in [III.10.C.15.a.i](#) (B), or by conditions
 6 [III.10.C.15.a.ii](#) and [III.10.C.15.a.iii](#).
- 6 **III.10.C.15.a.ii** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#),
 7 prior to initial receipt of dangerous waste and/or mixed waste in the WTP Unit,
 8 engineering information as identified below for incorporation into Appendices 9.13,
 9 9.18, 10.13, and 10.18.
- 10 A. Equipment instrument logic narrative description related to safe operation of
 11 equipment covered by [III.10.C.15.a.i](#)(B), including but not limited to allowed
 12 travel path for bridge and trolley, upper and lower hook travel limits, two-
 13 blocking prevention, hook load limits, wire rope misreeling, and overspeed
 14 protection (Compliance Schedule Item 38).
- 15 B. Descriptions of operational procedures demonstrating appropriate controls and
 16 practices are in place to ensure equipment covered by [III.10.C.15.a.i](#)(B) will be
 17 operated in a safe and reliable manner that will not result in damage to regulated
 18 tank systems, miscellaneous unit systems, or canisters of vitrified waste
 19 (Compliance Schedule Item 39).
- 20 **III.10.C.15.a.iii** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the
 21 Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), the
 22 following for incorporation into Addendum C: Updated Narrative Description and
 23 figures for all Mechanical Handling Systems identified in Permit Table [III.10.C.A.](#),
 24 to include but not limited to travel path, fail safe conditions, fail safe logic control,
 25 safety features and controls that minimize the potential for release of
 26 dangerous/mixed waste during normal operations, and lifting and/or load capabilities
 27 of each crane specified in [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

- 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, Addendum B,
5 (as 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
20 Group 10, Addendum C, Appendices 9.18, 10.18, and 12.15, as approved pursuant to
21 Permit 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
24 designated staging, storage, segregation, and treatment areas as approved pursuant to
25 Permit 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
27 will be as specified in [WAC 173-303-630\(5\)\(c\)](#), except for the immobilized LAW
28 containers and IHLW waste canisters, which must be as described in Operating Unit
29 Group 10, Addendum C, Section 4.2.1.2.1., as updated pursuant to Permit Condition
30 [III.10.D.10.c.i](#).
- 31 **III.10.D.4.b.iii** All container storage areas must be operated to protect containers from contact with
32 accumulated liquids resulting from leaks, spills, or precipitation
33 [[WAC 173-303-630\(7\)\(a\)\(i\)](#) and (c)(ii)].
- 34 **III.10.D.4.b.iv** At all times, the Permittees will place and store ignitable and/or reactive dangerous
35 and/or mixed waste in accordance with the procedures described in Operating Unit
36 Group 10, Appendix 8.15, 9.18, 10.18, 11.15 and 12.15, as approved pursuant to
37 Permit Condition [III.10.D.10.c.xi](#).
- 38 **III.10.D.4.b.v** At all times, the Permittees will place and store incompatible dangerous and/or mixed
39 waste in accordance with the procedures described in Operating Unit Group 10,
40 Appendix 8.15, 9.18, 10.18, 11.15, and 12.15, as approved pursuant to Permit
41 Condition [III.10.D.10.c.xii](#).
- 42 **III.10.D.4.b.vi** At all times, storage containers holding dangerous and/or mixed waste that contain
43 free liquids and/or exhibit either the characteristic of ignitability or reactivity as
44 described in [WAC 173-303-090\(5\)](#) or (7), must be provided with a containment

- 1 system in accordance with [WAC 173-303-630](#)(7)(a)(i) through (iii) [[WAC 173-303-](#)
2 [630](#)(7)(c)].
- 3 **III.10.D.4.b.vii** At all times, containers holding dangerous and/or mixed waste in container storage
4 areas 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 opened,
7 handled, or stored in a manner which may rupture the container or cause it to leak
8 [[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
11 other containers, piles, open tanks, or surface impoundments must be separated from
12 the other waste or materials or protected from them by means of a dike, berm, or
13 wall. [[WAC 173-303-630](#)(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
16 could lead to container rupture or leakage) or is leaking, the Permittees will manage
17 the 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](#) requirements,
25 the Permittees will not place incompatible wastes, or incompatible wastes and
26 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 Addendum C, Section 4.2.1.3., as updated pursuant to Permit Condition [III.10.D.10.c.i.](#),
35 for containers of ILAW and IHLW) are labeled in a manner that adequately identifies the

1 major risk(s) associated with the contents. For purposes of container labeling, major
2 risk(s) could include but are not limited to the following:

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

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

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

6 **III.10.D.5.a.iv** CORROSIVE (if a D002 and other waste codes);

7 **III.10.D.5.a.v** REACTIVE (if a D003 and other waste codes).

8 **III.10.D.5.b** For all dangerous and mixed waste containers (except as otherwise specified in Operating
9 Unit Group 10, Addendum C, Section 4.2.1.3., as updated pursuant to Permit Condition
10 [III.10.D.10.c.i.](#), for containers of ILAW and canisters of IHLW), the Permittees will
11 ensure that:

12 **III.10.D.5.b.i** Labels are not obscured or otherwise unreadable;

13 **III.10.D.5.b.ii** Waste containers are oriented so as to allow inspection of the labels identified in
14 Permit Conditions [III.10.D.5.a](#) and [III.10.D.5.b](#), the container tracking number, and,
15 to the extent possible, any labels which the generator placed upon the container; and

16 **III.10.D.5.b.iii** Empty dangerous and mixed waste containers, as defined by [WAC 173-303-160\(2\)](#),
17 must have their dangerous and/or mixed waste labels destroyed or otherwise removed
18 immediately upon being rendered empty.

19 **III.10.D.5.c** The Permittees will post entrances and access points to all ILAW containers and IHLW
20 canister storage areas, and any other areas where containers of ILAW and IHLW are
21 handled, with signs that, in addition to meeting the requirements of [WAC 173-303-](#)
22 [310\(2\)\(a\)](#), clearly identify the major risk(s) associated with the containers of ILAW and
23 IHLW.

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

25 Containerized dangerous and mixed waste, and other materials that are incompatible,
26 will not be staged, segregated, or stored within the same containment system as
27 identified in Permit Table [III.10.D.C.](#), as approved/modified pursuant to Permit
28 Condition [III.10.D.10](#). (e.g., metal pan, concrete berm, portable containment system)
29 [[WAC 173-303-630\(9\)\(c\)](#)].

30 **III.10.D.6.a** The integrity of containment systems identified in Permit Table [III.10.D.C.](#)
31 (as approved/modified pursuant to Permit Condition [III.10.D.10](#).) must be maintained so
32 that cracks, gaps, loss of integrity, deterioration, corrosion, or erosion of containment
33 pads, joints in containment pads, berms, curbs, trenches, sumps, and coatings are repaired
34 in accordance with Operating Unit Group 10, Addendum E, as approved/modified
35 pursuant to Permit Conditions [III.10.D.10.c.vii.](#), [III.10.C.5.b.](#), and [III.10.C.5.c.](#)
36 [[WAC 173-303-320](#), [WAC 173-303-630\(7\)\(a\)\(i\)](#)].

37 **III.10.D.6.b** An impermeable coating, as specified in Operating Unit Group 10, Appendices 9.4, 9.5,
38 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

- 1 maintained for all concrete containment systems and will meet the following performance
2 standards [[WAC 173-303-630\(7\)\(a\)](#)]:
- 3 **III.10.D.6.b.i** The coating must seal the containment system surface such that no cracks, seams, or
4 other pathways through which liquid could migrate are present;
- 5 **III.10.D.6.b.ii** The coating must be of adequate thickness and strength to withstand the normal
6 operation of equipment and personnel within the given area such that degradation or
7 physical damage to the coating or lining can be identified and remedied before waste
8 could migrate from the containment system; and
- 9 **III.10.D.6.b.iii** The coating must be compatible with the waste managed in the containment system.
- 10 **III.10.D.6.c** The Permittees must inspect all containment systems specified in Permit Table [III.10.D.C](#)
11 in accordance with the inspection schedules and requirements in Operating Unit Group
12 10, Addendum E, as approved/modified pursuant to Permit Conditions [III.10.D.10.c.vii](#),
13 and [III.10.C.5.c](#), and take the following actions if liquid is detected in these containment
14 systems:
- 15 **III.10.D.6.c.i** Remove the liquid from the containment system in accordance with procedures
16 described in Operating Unit Group 10, Addendum E, (as modified pursuant to Permit
17 Conditions [III.10.C.5.b](#) and [III.10.C.5.c](#)), Permit Condition [III.10.C.6.a](#), and
18 Operating Unit Group 10, Addendum F1 (as modified pursuant to Permit Condition
19 [III.10.C.6.b](#) and [III.10.C.6.c](#)). The liquid removed from containment systems will
20 be managed as dangerous and/or mixed waste, except for liquids from the Non-
21 Radioactive Dangerous Waste Container Storage Area which will be managed as
22 dangerous waste, unless the Permittees demonstrate through designation, (in
23 accordance with [WAC 173-303-070](#), incorporated by reference), that the liquid is no
24 longer dangerous.
- 25 **III.10.D.6.c.ii** Determine the source of the liquid.
- 26 **III.10.D.6.c.iii** If the source of the liquid is determined to be a leak in a container, the Permittees
27 must follow the procedures specified in Permit Condition [III.10.D.4.b.x](#).
- 28 **III.10.D.6.c.iv** The Permittees must take action to ensure the incident that caused liquid to enter the
29 containment system will not reoccur.
- 30 **III.10.D.6.c.v** The Permittees will document in the WTP Unit operating record actions/procedures
31 taken to comply with i. through iv. above in accordance with [WAC 173-303-630\(6\)](#).
- 32 **III.10.D.6.c.vi** The Permittees will notify and report releases to the environment to Ecology in
33 accordance with Permit Condition [III.10.C.6.a](#).
- 34 **III.10.D.7 Inspections**
- 35 **III.10.D.7.a** The Permittees will inspect the container storage areas in accordance with the Inspection
36 Schedules in Operating Unit Group 10, Addendum E of this Permit, as modified pursuant
37 to Permit Condition [III.10.C.5.c](#).
- 38 **III.10.D.7.b** The inspection data for the container storage areas will be recorded, and the records will
39 be placed in the WTP Unit operating record in accordance with Permit Condition
40 [III.10.C.4](#).
- 41 **III.10.D.8 Recordkeeping ([WAC 173-303-380](#))**
- 42 For the container storage areas, the Permittees will record and maintain in the WTP Unit
43 operating record, all monitoring, recording, maintenance, calibration, test data, and

1 inspection data compiled under the conditions of this Permit, in accordance with Permit
2 Condition [III.10.C.4.](#) and [III.10.C.5.](#)

3 **III.10.D.9 Closure**

4 The Permittees will close the container storage areas identified in Permit Tables
5 III.10.D.A through III.10.D.C in accordance with Operating Unit Group 10, Addendum H
6 of this Permit, as approved pursuant to Permit Condition [III.10.C.8.](#)

7 **III.10.D.10 Compliance Schedules**

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

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

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

- 1 operated to drain and remove liquids or how containers are kept from contact with
2 standing liquids;
- 3 **III.10.D.10.b.ii** Containment systems materials selection documentation (including, but not limited to,
4 to, materials of construction, coatings and liner materials for concrete portions of
5 containment systems);
- 6 **III.10.D.10.b.iii** Sketches, drawings, or data demonstrating compliance with [WAC 173-303-630](#)(8)
7 (location of buffer zone and containers holding ignitable or reactive waste) and
8 [WAC 173-303-630](#)(9)(c) (location of incompatible waste), where applicable;
- 9 **III.10.D.10.b.iv** Submit Permit Table [III.10.D.B.](#) completed to provide for all containment systems,
10 the information as specified in each column heading, consistent with information to
11 be provided in [III.10.D.10.b.i.](#) through [iii.](#) above.
- 12 **III.10.D.10.c** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
13 will update and submit to Ecology, consistent with the schedule described in Operating
14 Unit Group 10, Appendix 1.0, for review and approval, the following, as specified below,
15 for incorporation into Operating Unit Group 10, Addendum C, and Appendices 9.18,
16 10.18, and 12.15, except Permit Condition [III.10.D.10.c.vii.](#), which will be incorporated
17 into Operating Unit Group 10, Addendum E. In order to incorporate the following
18 information (specified below) into Operating Unit Group 10, Appendix 9.18, 10.18, and
19 12.15, Permit Condition [III.10.C.2.g.](#) will be followed. All information provided under
20 this permit condition must be consistent with information provided pursuant to Permit
21 Conditions [III.10.D.10.b.](#), [III.10.D.10.c.](#), and [III.10.D.10.d.](#) as approved by Ecology, and
22 will include at a minimum, the following information as required pursuant to
23 [WAC 173-303-630](#) and [WAC 173-303-340](#):
- 24 **III.10.D.10.c.i** Operating Unit Group 10, Addendum C, Narrative Descriptions, updated;
- 25 **III.10.D.10.c.ii** Descriptions of procedures for addition and removal of waste from containers;
- 26 **III.10.D.10.c.iii** Descriptions of procedures for opening and closing of containers, including any
27 inspections performed prior to opening;
- 28 **III.10.D.10.c.iv** Descriptions of procedures for handling and transport of containers within the WTP
29 Unit;
- 30 **III.10.D.10.c.v** Description of the tracking system used to track containers throughout the WTP Unit
31 pursuant to [WAC 173-303-380](#). The tracking system, at a minimum, will do the
32 following:
- 33 A. Track the location of containers within the WTP Unit;
- 34 B. Track which containers have been shipped off-facility and/or off-site, and to where
35 they have been shipped;
- 36 C. For containers intended for transport off-site, include information in accordance with
37 the requirements specified in [WAC 173-303-190](#)(3)(b);
- 38 D. Record the date container is placed in the container storage area;
- 39 E. Record the nature of the waste in any given container, including dangerous waste
40 designation codes, any associated land disposal restriction treatment requirements, and
41 the major risk(s) associated with the waste (as described in Permit Conditions
42 [III.10.D.5.a.](#) and [III.10.D.5.c.](#)).

- 1 **III.10.D.10.c.vi** Descriptions of procedures for container spacing, stacking, and labeling pursuant to
2 [WAC 173-303-630\(3\)](#), [WAC 173-303-630\(5\)\(c\)](#), [WAC 173-303-340\(3\)](#),
3 [WAC 173-303-630\(6\)](#);
- 4 **III.10.D.10.c.vii** Descriptions of procedures for investigating container storage areas and investigating
5 and repairing containment systems [[WAC 173-303-320](#), [WAC 173-303-630\(6\)](#)];
- 6 **III.10.D.10.c.viii** Descriptions of procedures for responding to damaged (e.g., severe rusting, apparent
7 structural defects) or leaking containers [[WAC 173-303-630\(2\)](#)];
- 8 **III.10.D.10.c.ix** Descriptions of operational procedures demonstrating how accumulated liquids can
9 be analyzed and removed from containment systems to prevent overflow
10 [[WAC 173-303-806\(4\)\(b\)\(i\)\(E\)](#)];
- 11 **III.10.D.10.c.x** For portable containment systems, vendor information, design drawings, or sketches
12 showing the following information. These items will include as a minimum basic
13 design parameters, dimensions, and materials of construction; how the design
14 promotes positive drainage control (such as a locked drainage valve) to prevent
15 release of contaminated liquids and so that uncontaminated liquids can be drained
16 promptly for convenience of operation; how the base underlying the containers is
17 sloped (i.e., floor slopes to sumps) or the containment system is otherwise designed
18 and operated to drain and remove liquids resulting from leaks, spills, or other liquids,
19 or how containers are kept from contact with standing liquids in the containment
20 system (i.e., elevated or are otherwise protected); and capacity of the containment
21 system relative to the volume of the largest container to be stored;
- 22 **III.10.D.10.c.xi** Where ignitable and reactive waste are stored or otherwise managed in containers, a
23 description of the procedures used to ensure compliance with
24 [WAC 173-303-630\(8\)\(a\)](#) and (b);
- 25 **III.10.D.10.c.xii** Where incompatible waste are stored or otherwise managed in containers, a
26 description of the procedures used to ensure compliance with
27 [WAC 173-303-630\(9\)\(a\)](#) and (b), and [173-303-395\(1\)\(b\)](#) and (c);
- 28 **III.10.D.10.c.xiii** Submit Permit Table [III.10.D.C](#) completed to provide for all portable containment
29 systems, the information as specified in each column heading, consistent with
30 information to be provided in [III.10.D.10.c.i.](#) through [xii.](#) above;
- 31 **III.10.D.10.c.xiv** Test procedures and results or other documentation or information to show that the
32 waste do not contain free liquids, as applicable.
- 33 **III.10.D.10.d** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
34 will submit to Ecology, consistent with the schedule described in Operating Unit Group
35 10, Appendix 1.0, for review and approval, completed Permit Tables [III.10.D.A](#),
36 [III.10.D.B](#), and [III.10.D.C](#), for incorporation into Operating Unit Group 10, Addendum
37 C, and Appendices 9.18, 10.18, and 12.15 of this Permit. In order to incorporate the
38 information into Operating Unit Group 10, Addendum C, and Appendices 9.18, 10.18,
39 and 12.15 of this Permit, Permit Condition [III.10.C.2.g.](#) process will be followed.

40

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 Hot Cell Containment Building	RESERVED	RESERVED
Pretreatment Maintenance Containment Building	RESERVED	RESERVED
PM0124 Hot Cell 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
ILAW 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
ILAW 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 = 1 ft³ (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>		

1

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, Addendum A of this Permit and in accordance
5 with the Waste Analysis Plan, Operating Unit Group 10, Addendum B as approved
6 pursuant to Permit Condition [III.10.C.3](#) of this Permit. Total tank system dangerous
7 and/or mixed waste storage at the Facility will not exceed the volume(s) specified in the
8 Part A Form 3 Permit Application, Addendum A 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](#), and [O](#), 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,
13 Addendums 1.0 and 4.0, and Operating Unit Group 10, Appendices 8.1 through 8.15, 9.1
14 through 9.14, 9.18, 10.1 through 10.14, 10.18, and 11.1 through 11.15 of this Permit, as
15 approved pursuant to Permit Conditions [III.10.E.9.b](#) through [e](#). The Permittees will limit
16 the total volume of waste to quantities specified for the individual units listed in Permit
17 Tables [III.10.E.A](#) through [D](#), [I](#), [K](#), [M](#), and [O](#).

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, and O](#) 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](#), and [O](#), 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

- 1 through 9.14, 10.1 through 10.14, and 11.1 through 11.14 of this Permit, as approved
 2 pursuant to Permit Conditions [III.10.E.9.b.](#), [III.10.E.9.c.](#), and [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 [P](#), 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 and 11.2, 11.4
 7 through 11.15, 11.15 of this Permit, as approved pursuant to Permit Conditions
 8 [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 UFP-VSL-00001B.
 - 25 • Ultrafiltration Feed Vessels, UFP-VSL-00002A and UFP-VSL-00002B.
- 26 **III.10.E.2.d.ii** Except where exempted in writing by Ecology on the basis that wear allowance
 27 provisions will not be affected, fabrication and assembly of the following tanks and
 28 their internal components will be suspended until Ecology has provided written
 29 approval of the tank system designs for wear allowance pursuant to
 30 [WAC 173-303-640\(3\)\(a\)](#).
- 31 • HLW Feed Receipt Vessel, HLP-VSL-00022.
 - 32 • HLW Lag Storage Vessels, HLP-VSL-00027A and HLP-VSL-00027B.
 - 33 • HLW Feed Blend Vessel, HLP-VSL-00028.
 - 34 • Ultrafiltration Feed Vessels, UFP-VSL-00002A and UFP-VSL-00002B.
- 35 **III.10.E.3 Tank System Installation and Certification**
- 36 **III.10.E.3.a** The Permittees must ensure that proper handling procedures are adhered to in order to
 37 prevent damage to the system during installation. Prior to covering, enclosing, or placing
 38 a new tank system or component in use, an independent, qualified, installation inspector
 39 or an independent, qualified, registered professional engineer, either of whom is trained
 40 and experienced in the proper installation of tank systems or components, must inspect
 41 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, and 11.11 of this Permit, as
- 25 approved pursuant to Permit Conditions [III.10.E.9.b.i.](#), [III.10.E.9.b.iv.](#), [III.10.E.9.b.v.](#),
- 26 [III.10.E.9.c.i.](#), [III.10.E.9.c.iv.](#), [III.10.E.9.c.v.](#), [III.10.E.9.d.i.](#), [III.10.E.9.d.iv.](#), and
- 27 [III.10.E.9.d.v.](#) or other corrosion protection if the Ecology believes other corrosion
- 28 protection is necessary to ensure the integrity of the tank system during use of the tank
- 29 system. The installation of a corrosion protection system that is field fabricated must be
- 30 supervised by an independent corrosion expert to ensure proper installation
- 31 [[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.I](#) through [P](#), 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
5 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1,
6 American 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
12 repair 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](#), and [O](#), 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, Addendum E of this
19 Permit, as approved pursuant to Permit Conditions [III.10.E.9.e.i.](#) and [III.10.C.5.c.](#)
20 Results of the integrity assessments will be included in the WTP Unit operating record
21 until ten (10) years after post-closure, or corrective action is complete and certified,
22 whichever is later.
- 23 **III.10.E.4.b** The Permittees will address problems detected during the tank integrity assessments
24 specified in Permit Condition [III.10.E.4.a.](#) following the integrity assessment program in
25 Operating Unit Group 10, Addendum E of this Permit, as approved pursuant to Permit
26 Conditions [III.10.E.9.e.i.](#) and [III.10.C.5.c.](#)
- 27 **III.10.E.4.c** The Permittees must immediately and safely remove from service any Tank System or
28 secondary containment system which through an integrity assessment is found to be
29 “unfit for use” as defined in [WAC 173-303-040](#), following Permit Conditions
30 [III.10.E.5.i.i](#) through [iv.](#), [vi.](#), and [vii.](#) The affected tank system or secondary containment
31 system must be either repaired or closed in accordance with Permit Condition
32 [III.10.E.5.i.v.](#) [[WAC 173-303-640\(7\)\(e\)](#) and (f), [WAC 173-303-640\(8\)](#)].
- 33 **III.10.E.5 Tank Management Practices**
- 34 **III.10.E.5.a** No dangerous and/or mixed waste will be managed in the WTP Unit Tank System unless
35 the operating conditions, specified under Permit Condition [III.10.E.5](#) are complied with.
- 36 **III.10.E.5.b** The Permittees will install and test all process and leak detection system
37 monitoring/instrumentation, as specified in Permit Tables [III.10.E.E](#) through [H](#), as
38 approved/modified pursuant to Permit Condition [III.10.E.9.](#), in accordance with
39 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, and 11.14 of this Permit, as approved pursuant to Permit Conditions
2 [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 8.15, 9.18, 10.18, and 11.15 of this Permit, as approved pursuant to Permit Condition
10 [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, Addendum C 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](#), and [O](#), 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 8.15,
35 9.18, 10.18, and 11.15 of this Permit, as approved pursuant to Permit Condition
36 [III.10.E.9.e.v](#) [[WAC 173-303-320](#), [WAC 173-303-640\(4\)\(b\)\(i\)](#),
37 [WAC 173-303-640\(4\)\(e\)\(i\)\(C\)](#), [WAC 173-303-640\(6\)](#), and
38 [WAC 173-303-806\(4\)\(c\)\(vii\)](#)].
- 39 **III.10.E.5.h** An impermeable coating, as specified in Operating Unit Group 10, Appendices 8.4, 8.5,
40 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,
41 11.5, 11.7, 11.9, 11.11, and 11.12 of this Permit, as approved pursuant to Permit
42 Condition [III.10.E.9.b.v.](#), will be maintained for all concrete containment systems and
43 concrete portions of containment systems for each WTP Unit Tank System listed in
44 Permit Tables [III.10.E.A](#) through [D](#) and [I](#) through [P](#), as approved/modified pursuant to
45 Permit Condition [III.10.E.9](#). Concrete containment systems that do not have a liner and
46 have construction joints, must meet the requirements of [WAC 173-303-640\(4\)\(e\)\(ii\)\(C\)](#)

1 and ~~806~~(4)(c)(vii). The coating will prevent migration of any dangerous and/or mixed
2 waste into the concrete. All coatings 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
6 operation of equipment and personnel within the given area such that degradation or
7 physical damage to the coating or lining can be identified and remedied before
8 dangerous and/or 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](#) and [I](#) through [P](#), as
14 approved/modified pursuant to Permit Condition [III.10.E.9.](#), in accordance with the
15 Inspection Schedule specified in Operating Unit Group 10, Addendum E1 of this Permit,
16 as 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),
19 [WAC 173-303-640](#)(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
30 the incident that caused liquid to enter the containment systems of these tank systems
31 will not 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
33 from a primary WTP Unit Tank System, or the system is unfit for use as determined
34 through an integrity assessment or other inspection, the Permittees must comply with
35 the 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), and
38 Operating Unit Group 10, Addendum H 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 8.15, 9.18, 10.18, and 11.15 of this Permit, as
43 approved pursuant to Permit Condition [III.10.E.9.e.v.](#) before the tank system is
44 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
2 comply with [III.10.E.5.i.i.](#) through [v.](#) above in accordance with [WAC 173-303-](#)
3 [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, Addendum C as updated pursuant to Permit Condition [III.10.E.9.e.vi.](#) and
20 Appendices 8.15, 9.18, 10.18, and 11.15 of this Permit, as approved pursuant to Permit
21 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
23 systems 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
25 trips and operating ranges specified in Permit Tables [III.10.E.E](#) through [H](#), and
26 consistent with assumptions and basis which are reflected in Operating Unit Group
27 10, Appendix, 6.3.1. as approved pursuant to Permit Condition [III.10.C.11.b.](#) [[WAC](#)
28 [173-303-815\(2\)\(b\)\(ii\)](#) and [WAC 173-303-640\(5\)\(b\)](#)]. For the purposes of this permit
29 condition, Operating Unit Group 10, Appendix 6.3.1 will be superseded by Appendix
30 6.4.1 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](#) in accordance with Operating Unit Group 10, Appendices 8.15,
34 9.18, 10.18, and 11.15 of this Permit, as approved pursuant to Permit Condition
35 [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 Schedules in Operating Unit Group 10, Addendum E1 of this Permit, as
4 modified 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, Addendum H 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](#), and [P](#), engineering
26 information as specified below, for incorporation into Operating Unit Group 10,
27 Appendices 8.4, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12, 9.4, 9.5, 9.7, 9.8, 9.9, 9.11, 9.12, 10.4, 10.5,
28 10.7, 10.8, 10.9, 10.11, 11.4, 11.5, 11.7, 11.8, 11.9, and 11.11 of this Permit. At a
29 minimum, engineering information specified below will show the following as required
30 pursuant to [WAC 173-303-640](#) (the information specified below will include
31 dimensioned engineering drawings and information on sumps and floor drains):
- 32 **III.10.E.9.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak detection
33 system) will include review of design drawings, calculations, and other information
34 on which the certification report is based and will include as applicable, but not
35 limited to, review of such information described below. Information (drawings,
36 specifications, etc.) already included in Operating Unit Group 10, Appendices 8.0
37 through 11.0 of this Permit, may be included in the report by reference and should
38 include drawing and document numbers. IQRPE Reports will be consistent with the
39 information separately provided in Permit Conditions [III.10.E.9.b.ii](#), through [ix](#).
40 below. The IQRPE Report(s) (specific to foundation, secondary containment and
41 leak detection system) for the LAW and HLW buildings (-21 foot elevation only)
42 will be submitted with the first IQRPE Report for tanks, identified in Permit
43 Condition [III.10.E.9.c.i](#). [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 44 **III.10.E.9.b.ii** Design drawings (General Arrangement Drawings in plan) and specifications for the
45 foundation, secondary containment, including, liner installation details, and leak

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

- 1 Information (drawings, specifications, etc.) already included in Operating Unit Group
2 10, Appendices 8.0 through 11.0 of this Permit, may be included in the report by
3 reference and should include drawing and document numbers. The IQRPE Reports
4 will be consistent with the information separately provided in Permit Conditions
5 [III.10.E.9.c.ii](#) through [xii](#) below and the IQRPE Report specified in Permit
6 Condition [III.10.E.9.b.i](#). [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 7 **III.10.E.9.c.ii** Design drawings (General Arrangement Drawings in plan, Process Flow Diagrams,
8 Piping and Instrumentation Diagrams [including pressure control systems],
9 Mechanical Drawings) and specifications, and other information, specific to tanks (to
10 show location and physical attributes of each tank) [[WAC 173-303-640\(3\)\(a\)](#),
11 [WAC 173-303-806\(4\)\(c\)\(i\)](#) through (iv)];
- 12 **III.10.E.9.c.iii** The Permittees will provide the design criteria (references to codes and standards,
13 load definitions, and load combinations, materials of construction, and
14 analysis/design methodology) and typical design details for the support of the tank(s).
15 Structural support calculations specific to off-specification, non-standard, and field
16 fabricated tanks will be submitted for incorporation into the Administrative Record
17 [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 18 **III.10.E.9.c.iv** A description of materials and equipment used to provide corrosion protection for
19 external metal components in contact with water, including factors affecting the
20 potential for corrosion as required under [WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#)
21 [[WAC 173-303-806\(4\)\(c\)\(v\)](#)];
- 22 **III.10.E.9.c.v** Tank materials selection documentation (e.g., physical and chemical tolerances)
23 [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 24 **III.10.E.9.c.vi** Tank vendor information (including, but not limited to required performance
25 warranties, as available), consistent with information submitted under ii. above, will
26 be submitted for incorporation into the Administrative Record [[WAC 173-303-640](#),
27 and [WAC 173-303-806\(4\)\(c\)](#)];
- 28 **III.10.E.9.c.vii** System Descriptions related to tanks will be submitted for incorporation into the
29 Administrative Record;
- 30 **III.10.E.9.c.viii** Mass balance for each projected operating condition, including assumptions and
31 formulas used to complete the mass balance, so that they can be independently
32 verified, and will be submitted for incorporation into the Administrative Record;
- 33 **III.10.E.9.c.ix** A detailed description of how the tanks will be installed in compliance with
34 [WAC 173-303-640\(3\)\(c\)](#), (d), and (e) [[WAC 173-303-806\(4\)\(c\)\(vi\)](#)];
- 35 **III.10.E.9.c.x** Submit Permit Tables [III.10.E.I](#), [K](#), [M](#), and [O](#), completed to provide for all primary
36 containment sumps and floor drains, the information as specified in each column
37 heading, consistent with information to be provided in Permit Conditions
38 [III.10.E.9.c.i](#) through [ix](#);
- 39 **III.10.E.9.c.xi** Documentation that tanks are designed to prevent the accumulation of hydrogen gas
40 levels above the lower explosive limit for incorporation into the Administrative
41 Record [[WAC 173-303-340](#)];
- 42 **III.10.E.9.c.xii** Documentation that tanks are designed to prevent escape of vapors and emissions of
43 acutely or chronically toxic (upon inhalation) Extremely Hazardous Waste limit and

- 1 in accordance with Appendix 7.15 for incorporation into the Administrative Record
2 [[WAC 173-303-640\(5\)\(e\)](#), [WAC 173-303-806\(4\)\(c\)\(xii\)](#)];
- 3 **III.10.E.9.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
4 to installation of ancillary equipment for each tank system, as identified in Permit Tables
5 [III.10.E.A.](#), through [D](#), and [I](#) through [P](#), not addressed in Permit Condition [III.10.E.9.c.](#),
6 engineering information as specified below, for incorporation into Operating Unit Group
7 10, Appendices 8.1 through 8.9, 8.11 through 8.14, 9.1 through 9.9, 9.11 through 9.14,
8 10.1 through 10.9, 10.11 through 10.14, 11.1 through 11.9, and 11.11 through 11.14 of
9 this Permit. At a minimum, engineering information specified below will show the
10 following as required pursuant to [WAC 173-303-640](#) (the information specified below
11 will include dimensioned engineering drawings):
- 12 **III.10.E.9.d.i** IQRPE Reports (specific to ancillary equipment) will include a review of design
13 drawings, calculations, and other information as applicable, on which the certification
14 report is based. The reports will include, but not be limited to, review of such
15 information described below. Information (drawings, specifications, etc.) already
16 included in Operating Unit Group 10, Appendix 8.0 through 11.0 of this Permit, may
17 be included in the report by reference and should include drawing and document
18 numbers. The IQRPE Reports will be consistent with the information provided
19 separately in Permit Conditions [III.10.E.9.d.ii.](#) through [xiii.](#) below and the IQRPE
20 Reports specified in Permit Conditions [III.10.E.9.b](#) and [III.10.E.9.c.](#)
21 [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 22 **III.10.E.9.d.ii** Design drawings (Process Flow Diagrams, Piping and Instrumentation Diagrams
23 [including pressure control systems], etc.) specifications (including required
24 performance warranties), and other information specific to ancillary equipment (these
25 drawings should include all equipment such as pipe, valves, fittings, pumps,
26 instruments, etc.) [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#), (iii), (iv)];
- 27 **III.10.E.9.d.iii** The Permittees will provide the design criteria (references to codes and standards,
28 load definitions, and load combinations, materials of construction, and
29 analysis/design methodology) and typical design details for the support of the
30 ancillary equipment [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-640\(3\)\(f\)](#),
31 [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 32 **III.10.E.9.d.iv** A description of materials and equipment used to provide corrosion protection for
33 external metal components in contact with soil and water, including factors affecting
34 the potential for corrosion as required under [WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#)
35 [[WAC 173-303-806\(4\)\(c\)\(v\)](#)];
- 36 **III.10.E.9.d.v** Materials selection documentation for ancillary equipment (e.g., physical and
37 chemical tolerances) [[WAC 173-303-640\(3\)\(a\)](#), [WAC 173-303-806\(4\)\(c\)\(i\)](#)];
- 38 **III.10.E.9.d.vi** Vendor information, consistent with information submitted under ii. above, will be
39 submitted for incorporation into the Administrative Record [[WAC 173-303-640](#), and
40 [WAC 173-303-806\(4\)\(c\)](#)];
- 41 **III.10.E.9.d.vii** Tank, ancillary equipment, and leak detection system instrument control logic
42 narrative description (e.g., descriptions of fail-safe conditions, etc.);
- 43 **III.10.E.9.d.viii** System Descriptions related to ancillary equipment and system descriptions related to
44 leak detection systems, , for incorporation into the Administrative Record;

- 1 **III.10.E.9.d.ix** A detailed description of how the ancillary equipment will be installed and tested
2 [[WAC 173-303-640\(3\)\(c\)](#) through (e), [WAC 173-303-640\(4\)\(b\)](#) and (c), and
3 [WAC 173-303-806\(4\)\(c\)\(vi\)](#)];
- 4 **III.10.E.9.d.x** For process monitoring, control, and leak detection system instrumentation for the
5 WTP Unit Tank System as identified in Permit Tables [III.10.E.E](#) through [H](#), a
6 detailed description of how the process monitoring, control, and leak detection
7 system instrumentation will be installed and tested [[WAC 173-303-640\(3\)\(c\)](#) through
8 (e), [WAC 173-303-640\(4\)\(b\)](#) and (c), [WAC 173-303-806\(4\)\(c\)\(vi\)](#)];
- 9 **III.10.E.9.d.xi** Mass balance for projected normal operating condition used in developing the
10 process and instrumentation diagrams, including assumptions and formulas used to
11 complete the mass balance, so that they can be independently verified, for
12 incorporation into the Administrative Record;
- 13 **III.10.E.9.d.xii** Documentation that ancillary equipment is designed to prevent the accumulation of
14 hydrogen gas levels above the lower explosive limit for incorporation into the
15 Administrative Record [[WAC 173-303-340](#)].
- 16 **III.10.E.9.d.xiii** Leak detection system documentation (e.g. vendor information, etc.) consistent with
17 information submitted under Permit Condition [III.10.E.9.c.ii](#) and Permit Conditions
18 [III.10.E.9.d.ii](#), [vii](#), [viii](#) and [x](#) above, will be submitted for incorporation into the
19 Administrative Record.
- 20 **III.10.E.9.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
21 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), the following as
22 specified below for incorporation into Operating Unit Group 10, Appendices 8.15, 9.18,
23 10.18, 11.15 of this Permit, except Permit Condition [III.10.E.9.e.v.](#), which will be
24 incorporated into Operating Unit Group 10, Addendum E of this Permit. All information
25 provided under this permit condition must be consistent with information provided
26 pursuant to Permit Conditions [III.10.E.9.b.](#), [c.](#), [d.](#), and [e.](#), [III.10.C.3.e.](#), and [III.10.C.11.b.](#),
27 as approved by Ecology.
- 28 **III.10.E.9.e.i** Integrity assessment program and schedule for all WTP Unit tanks will address the
29 conducting of periodic integrity assessments on all WTP Unit tanks over the life of
30 the tank, in accordance with [III.10.E.9.b.ix.](#) and [WAC 173-303-640\(3\)\(b\)](#), and
31 descriptions of procedures for addressing problems detected during integrity
32 assessments. The schedule must be based on past integrity assessments, age of the
33 tank system, materials of construction, characteristics of the waste, and any other
34 relevant factors [[WAC 173-303-640\(3\)\(b\)](#), [WAC 173-303-806\(4\)\(c\)\(vi\)](#)];
- 35 **III.10.E.9.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated
36 so that it will detect the failure of either the primary or secondary containment
37 structure or the presence of any release of dangerous and/or mixed waste, or
38 accumulated liquid in the secondary containment system within twenty-four (24)
39 hours [[WAC 173-303-640\(4\)\(c\)\(iii\)](#)]. Detection of a leak of at least 0.1 gallons per
40 hour within twenty-four (24) hours is defined as being able to detect a leak within
41 twenty-four (24) hours. Any exceptions to this criteria must be approved by Ecology
42 [[WAC 173-303-640\(4\)\(c\)\(iii\)](#), [WAC 173-303-806\(4\)\(c\)\(vii\)](#)];
- 43 A. Dangerous waste pipe penetrations that require a penetration seal in accordance with
44 the International Building Code (IBC) and DOE-STD-1066, DOE Standard for Fire
45 Protection Design Criteria, or to meet ventilation sealing requirements identified in
46 Table III.10E.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 Addendum C, 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](#) 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 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.

- 1 **III.10.E.9.e.x** Supporting documentation for operating trips and expected operating range as
2 specified in Permit Tables [III.10.E.E](#) through [H](#) as approved pursuant to Permit
3 Condition [III.10.E.9.e.ix](#).
- 4 **III.10.E.9.e.xi** Documentation of process and leak detection instruments and monitors (as listed in
5 Permit Tables [III.10.E.E](#) through [H](#)) for the WTP Unit Tank Systems are to include
6 but not be limited to the following:
- 7 A. Procurement specifications.
8 B. Location used.
9 C. Range, precision, and accuracy.
10 D. Detailed descriptions of calibration/functionality test procedures (e.g., method
11 number [ASTM]) or provide a copy of manufacturer's recommended calibration
12 procedures.
13 E. Calibration/functionality test, inspection, and routine maintenance schedules and
14 checklists, including justification for calibration, inspection and maintenance
15 frequencies, criteria for identifying instruments found to be significantly out of
16 calibration, and corrective action to be taken for instruments found to be significantly
17 out of calibration (e.g., increasing frequency of calibration, instrument replacement,
18 etc.).
19 F. Equipment instrument control logic narrative description (e.g., descriptions of
20 failsafe conditions, etc.), as identified in Permit Tables [III.10.E.E](#) through [H](#) not
21 addressed in Permit Condition [III.10.E.9.d](#).
- 22 **III.10.E.9.e.xii** Permit Tables [III.10.E.A](#) through [D](#) amended as follows:
- 23 A. Under column 1, update and complete list of dangerous and/or mixed waste tank
24 systems, including plant items that comprise each system (listed by item number).
25 B. Under column 2, update and complete system designations.
26 C. Under column 3, replace the 'reserved' with the Operating Unit Group 10,
27 Appendices 8.0, 9.0, 10.0, and 11.0, subsections specific to tank systems as listed in
28 column 1.
29 D. Under column 4, update and complete list of narrative description tables and figures.
30 E. Under column 5, update and complete maximum capacity, for each tank.
- 31 **III.10.E.9.e.xiii** Permit Tables III.10.E.I, K, M, and O amended as follows:
- 32 A. Under column 1, replace the 'reserved' with the updated and complete list of sump
33 numbers and room location.
34 B. Under column 2, replace the 'reserved' with the updated and complete maximum
35 sump capacities in gallons.
36 C. Under column 3, replace the 'reserved' with the updated and complete sump
37 dimensions and materials of construction.
38 D. Under column 4, replace the 'reserved' with the updated and complete list of
39 engineering descriptions (drawing numbers, specifications, etc.).
40

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 4.1.2.1; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 7 -P1-P01T-P0002, 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 2 -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 4.1.2.2; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 -M6-FEP-00003002, Rev 0 -M6-FEP-00006001, Rev 1 -M6-FEP-00006002, Rev 1 -M6-FEP-00006003, Rev 1 -M6-FEP-00006004, Rev 1 -M6-FEP-00006005, Rev 0 -M6-FEP-00007001, Rev 1 -M6-FEP-00007002, Rev 1 -M6-FEP-00007003, Rev 1 -M6-FEP-00007004, Rev 1 -M6-FEP-00007005, Rev 0 -M6-FEP-00008001, Rev 0 -M6-FEP-00008002, Rev 0 -MVD-FEP-P0001, Rev 2 -MVD-FEP-P0002, Rev 2 -MVD-FEP-00003, Rev 1 -MV-FEP-P0001, Rev 0 -MV-FEP-P0002, Rev 0 -N1D-FEP-00002, Rev 6 -N1D-FEP-P0003, Rev 1 -P1-P01T-00001, Rev 7 -P1-P01T-P0002, Rev 7 -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 4.1.2.3; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 UPF-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-00006A (Ultrafilter)		-M6-UFP-00005003, Rev 0		
UFP-FILT-00006B (Ultrafilter)		-M6-UFP-00005004, Rev 0		
UFP-FILT-00007A (Ultrafilter)		-M6-UFP-00005005, Rev 0		
UFP-FILT-00007B (Ultrafilter)		-M6-UFP-00005006, Rev 0		
UFP-FILT-00008A (Ultrafilter)		-M6-UFP-00005007, Rev 0		
UFP-FILT-00008B (Ultrafilter)		-M6-UFP-00006001, Rev 0		
UFP-FILT-00009A (Ultrafilter)		-M6-UFP-00006002, Rev 0		
UFP-FILT-00009B (Ultrafilter)		-M6-UFP-00006003, Rev 0		
UFP-FILT-00010A (Ultrafilter)		-M6-UFP-00006004, Rev 0		
UFP-FILT-00010B (Ultrafilter)		-M6-UFP-00006005, Rev 0		
UFP-FILT-00011A (Ultrafilter)		-M6-UFP-00006006, Rev 0		
UFP-FILT-00011B (Ultrafilter)		-M6-UFP-00006007, Rev 0		
UFP-FILT-00012A (Ultrafilter)		-M6-UFP-00007001, Rev 1		
UFP-FILT-00012B (Ultrafilter)		-M6-UFP-00007002, 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)
		-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-P0003, Rev 5 -N1D-UFP-P0004, Rev 3 -N1D-UFP-P0005, Rev 2 -N1D-UFP-P0008, Rev 2 -N1D-UFP-00009, Rev 0 -P1-P01T-00001, Rev 7 <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> <p>-M5-V17T-00007, Rev 2</p> <p>-M5-V17T-00008, Rev 3</p> <p>-M6-HLP-00001001, Rev 0</p> <p>-M6-HLP-00001002, Rev 0</p> <p>-M6-HLP-00001003, Rev 1</p> <p>-M6-HLP-00001004, Rev 0</p> <p>-M6-HLP-00002001, Rev 0</p> <p>-M6-HLP-00002002, Rev 1</p> <p>-M6-HLP-00003001, Rev 0</p> <p>-M6-HLP-00003002, Rev 1</p> <p>-M6-HLP-00003003, Rev 1</p> <p>-M6-HLP-00005001, Rev 0</p> <p>-M6-HLP-00005002, Rev 0</p> <p>-M6-HLP-00005003, Rev 0</p> <p>-M6-HLP-00005004, Rev 0</p> <p>-M6-HLP-00005005, Rev 0</p> <p>-M6-HLP-00005006, Rev 0</p> <p>-M6-HLP-00005007, Rev 0</p> <p>-M6-HLP-00006001, Rev 0</p> <p>-M6-HLP-00006002, Rev 0</p> <p>-M6-HLP-00006003, Rev 0</p>	Section 4.1.2.4; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 0 -MV-HLP-00004, Rev 2 -MV-HLP-00005, Rev 2 -MV-HLP-00006, Rev 2 -N1D-HLP-00001, Rev 6 -N1D-HLP-P0003, Rev 1 -N1D-HLP-00007, Rev 6 -N1D-HLP-00010, Rev 6 -P1-P01T-00001, Rev 7 <u>24590-WTP</u> -3PS-G000-T0002, Rev 9 -3PS-MV00-T0001, Rev 5 -3PS-MV00-T0003, Rev 3		

<p><u>Cesium Ion Exchange Process System</u></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><u>24590-PTF</u></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 4.1.2.5; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 7 -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 1</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 4.1.2.6; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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>	<p>TCP</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00006, Rev 1 -M6-TCP-00001001, Rev 0 -M6-TCP-00001002, Rev 0 -M6-TCP-00001003, Rev 0 -M6-TCP-00002001, Rev 1 -M6-TCP-00002002, Rev 1 -M6-TCP-00002003, Rev 1 -M6-TCP-00002004, Rev 1 -M6-TCP-00002005, Rev 1 -MV-TCP-P0002, Rev 1 -MVD-TCP-P0002, Rev 2 -N1D-TCP-P0001, Rev 2 -P1-P01T-00001, Rev 7</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>	<p>Section 4.2.2.12; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C of this Permit.</p>	<p>TCP-VSL-00001 = 146,740</p>
<p><u>Treated LAW Evaporation Process System</u></p> <p>TLP-VSL-00002 (Treated LAW Evaporator Condensate 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</p>	<p>Section 4.1.2.11; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C of this Permit.</p>	<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 7</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-P0002, 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 7	Section 4.1.2.13; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 4.1.2.16; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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 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>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 4.1.2.15; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C 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-00058, Rev 4 -MVD-PWD-P0001, Rev 3 -MVD-PWD-P0002, Rev 3 -MVD-PWD-P0003, Rev 2 -MVD-PWD-P0010, Rev 1 -MVD-PWD-P0011, Rev 3 -MVD-PWD-P0012, 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)
		-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-P0002, Rev 5 -N1D-PWD-P0003, Rev 3 -N1D-PWD-P0005, Rev 2 -N1D-PWD-P0006, Rev 2 -P1-P01T-00001, Rev 7 -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> -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 -M6-PVP-00017003, Rev 0	Section 4.1.2.16; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C of this Permit.	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-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 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>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 7 <u>24590-WTP</u> -3PS-HD00-T0001, Rev 4	Section 4.1.2.14; Tables 4-2 and 4-6; and Figures C1-1, C1-2, and C1-02A of Operating Unit Group 10, Addendum C of this Permit.	PIH-TK-00001 = 1504

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-P0001, Rev 0 -M5-V17T-P0002, Rev 0 -M6-LCP-00001002, Rev 0 -M6-LCP-00001003, Rev 0 -M6-LCP-00002003, Rev 0 -M6-LCP-00002004, Rev 0 -MV-LCP-P0001, Rev 0 -MV-LCP-P0002, Rev 0 -MVD-LCP-P0004, Rev 1 -MVD-LCP-P0005, Rev 1 -N1D-LCP-P0001, Rev 1 -P1-P01T-00002, Rev 7</p>	Section 4.1.3.1; Tables 4-3 and 4-6; and Figures C1-1 and C1-3 of Operating Unit Group 10, Addendum C 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-P0001, Rev 0 -M5-V17T-P0002, Rev 0 -M6-LFP-00001001, Rev 0 -M6-LFP-00001002, Rev 0 -M6-LFP-00001003, Rev 0 -M6-LFP-00001004, Rev 0 -M6-LFP-00001005, Rev 0 -M6-LFP-00001006, Rev 0 -M6-LFP-00003001, Rev 0 -M6-LFP-00003002, Rev 0</p>	Section 4.1.3.1; Tables 4-3 and 4-6; and Figures C1-1 and C1-3 of Operating Unit Group 10, Addendum C 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-P0011, Rev 1 -P1-P01T-00004, Rev 5 -VDCN-M-13-00001 -MTD-LVP-00001, Rev 1 -N1D-LVP-00002, Rev 2	Section 4.1.3.3; Tables 4-3 and 4-6; and Figures C1-1 and C1-3 of Operating Unit Group 10, Addendum C 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 4.1.3.3; Tables 4-3 and 4-6; and Figures C1-1 and C1-3 of Operating Unit Group 10, Addendum C 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-P0001, Rev 2 -M6-LOP-P0002, Rev2 -MV-LOP-P0001, Rev 0 -MV-LOP-P0002, Rev 0 -MVD-LOP-P0004, Rev 1 -MVD-LOP-P0005, Rev 1 -N1D-LOP-00002, Rev 3 -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-P0014, Rev 2 -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 1 -M6-RLD-00003003, Rev 1	Section 4.1.3.4; Tables 4-3 and 4-6; and Figures C1-1 and C1-3 of Operating Unit Group 10, Addendum C 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)
		-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-00001, Rev 5 -M6-HCP-00001001, Rev 1 -M6-HCP-00002001, Rev 1</p>	Section 4.1.4.1; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C 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 4.1.4.1; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C 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-00001, Rev 5 -P1-P01T-00002, Rev 7 -M6-HFP-00002001, Rev 0</p>	Section 4.1.4.1; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C 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-00001, Rev 5 -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 4.1.4.1; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C 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>	<p>HFP</p>	<p><u>24590-HLW</u> -3YD-HFP-00001^a -M5-V17T-00001, Rev 5 -P1-P01T-00002, Rev 7 -M6-HFP-20002001, Rev 3 -M6-HFP-20002002, Rev 3 -M6-HFP-20002003, Rev 3 -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>	<p>Section 4.1.4.1; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C of this Permit.</p>	<p>HFP-VSL-00006 = 8,311</p>
<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>	<p>HOP</p>	<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 0 -M6-HOP-20006002, Rev 0 -MVD-HOP-P0001, Rev 2</p>	<p>Section 4.1.4.3; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C of this Permit.</p>	<p>HOP-VSL-00903 = 9891</p> <p>HOP-VSL-00904 = 9891</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)
		-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-P0003, Rev 1 -MVD-HDH-P0003, Rev 2 -MVD-HDH-00006, Rev 5 -MVD-HDH-P0009, Rev 0 -N1D-HDH-00003, Rev 8	Section 4.1.4.7; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C 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-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 4.1.4.7; Tables 4-4 and 4-6; Figures C1-1 and C1-4 of Operating Unit Group 10, Addendum C 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 -M5-V17T-P0007001, Rev 1	Section 4.1.5.5; 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-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-00003, 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>-P1-P01T-00002, Rev 7</p>	<p>Operating Unit Group 10, Addendum C 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)
		<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 (Hot Cell Drain Collection Vessel)</p>	RLD	<p><u>24590-LAB</u></p> <p>-3YD-RLD-00001^a</p> <p>-M5-V17T-00029, Rev 3</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 4.1.5.5; Table C-5 and 4-6 of Operating Unit Group 10, Addendum C of this Permit.</p>	<p>RLD-VSI-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		
^a 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.J – 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						
ASX Sampler 00012 Lower Containment Drain	Not Applicable	Thermal Dispersion Level Switch	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
^a 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

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

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 (Hot Cell El. 0)	RESERVED	RESERVED	RESERVED
PWD-SUMP-00028 P-0123 (Hot Cell El. 0)	RESERVED	RESERVED	RESERVED
PWD-SUMP-00029 P-0123 (Hot Cell 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 . ^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.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
PWD-SUMP-00040	233.7	Dry Sump	60"x30"x30"	<u>24590-PTF</u>

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.)
P-B002 (Pit-45, El. -45')			Stainless Steel	-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 7
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 7
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 7
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 7
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 7
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 7
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 7

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-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 7
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 7
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 7
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 7
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 7
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 7
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 7
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

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.)
				-P1-P01T-00001, Rev 7
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 7
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
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 7
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	583	Dry Sump	78" x 48" x 36" Deep	<u>24590-PTF</u>

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.)
P-0150 (Radioactive Liquid Waste Disposal Area, El. 0', outdoor)			Epoxy coating	-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
PWD-FD-00005 PWD-ZF-03000-S11B-06 P-0123 (Hot Cell, 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 (Hot Cell, 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

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-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
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

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-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
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

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-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
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

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-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
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

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-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
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

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.)
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
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	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.)
P-B001 (Inter Facility Transfer Line Tunnel, El.-45')				
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
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	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.)
P-B001 (Inter Facility Transfer Line Tunnel, El.-45')				
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
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-00058, 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 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.)
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-00058, Rev 4
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
ASX Sampler 00025 Lower Containment Trough/Dam (P-0307, El. 56')	N/A	N/A	3" Dia. Stainless Steel	<u>24590-PTF</u> -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

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.)
^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 L-B001B (C3/C5 Drains/Sump Collection Vessel Cell, El. -21')	59	Dry Sump	24" Dia. By 30" deep Stainless Steel (6% Mo)	<u>24590-LAW</u> -M6-RLD-00002005, Rev 0 -P1-P01T-00001, Rev 4
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 1 -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 1 -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 1 -P1-P01T-00002, Rev 7
RLD-SUMP-00032	37	Dry Sump	30" Dia. By 12" deep Stainless Steel	<u>24590-LAW</u> -M6-RLD-00003002, Rev 1

**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-0124 (Process Cell, El. +3')			(6% Mo)	-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 1 -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 1 -P1-P01T-00002, Rev 7
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

**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# = 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
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

**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-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
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.				

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 Capacity (gallons)	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	75	Dry Sump	30" Dia. X 18" Deep	<u>24590-HLW</u>

**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.)
H-B039A (Canister Rinse Bogie Maintenance Room, El. -16')			Stainless Steel	-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
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- 20005, Rev 6 -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

**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.)
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
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	N/A	N/A	3" Dia. Stainless Steel	<u>24590-HLW</u> -M6-RLD-00002002, 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 Capacity (gallons)	Sump Type	Sump or Drain Line Dimensions ^a (inches) & Materials of Construction	Engineering Description (Drawing Nos., Specifications Nos., etc.)
(H-0315, El. 37')				
ASX Sampler 00042 Lower Containment Trough/Dam (H-0318, El. 37')	N/A	N/A	3" Dia. Stainless Steel	24590-HLW -M6-RLD-00002002, Rev 0
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED
^a Dimensions listed are based on permitted design. Actual dimensions may vary within plus or minus (TBD).				

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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-P0002, 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-P0001, Rev 2 -P1-60-00007, Rev 3
RLD-SUMP-00045 A-B002 (C3 Pump Pit Sump, EL -6'-8 1/2"LP)	1.56	Dry	2'-0" X 2'-6" X 1/2"	<u>24590-LAB</u> -M6-RLD-P0002, Rev 1 -P1-60-00007, Rev 3
RLD-SUMP-00043A A-B007 (C5 Pump Pit Sump, EL -6'-7"LP)	1.40	Dry	1'-6" X 3'-0" X 1/2" Stainless Steel	<u>24590-LAB</u> -M6-RLD-P0001, Rev 2 -P1-60-00007, Rev 3
RLD-SUMP-00043B A-B005 (C5 Pump Pit Sump, EL -6'-7" LP)	1.40	Dry	1'-6" X 3'-0" X 1/2" Stainless Steel	<u>24590-LAB</u> -M6-RLD-P0001, Rev 2 -P1-60-00007, Rev 3
RLD-SUMP-00044 A-B006 (C5 Piping Pit Sump, EL -6'-7" LP)	1.56	Dry	2'-0" X 2'-6" X 1/2" Stainless Steel	<u>24590-LAB</u> -M6-RLD-P0001, Rev 2 -P1-60-00007, Rev 3
RLD-WU-02207-S11E-04 A-B003, (C3 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	<u>24590-LAB</u> -M6-RLD-P0002, Rev 1

**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-ZN-02203-S11E-04 A-B004, (C5 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	<u>24590-LAB</u> -M6-RLD-P0001, Rev 2
RLD-ZN-03393-S11E-04 A-B004, (C5 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	<u>24590-LAB</u> -M6-RLD-P0001, Rev 2
RLD-ZN-03394-S11E-04 A-B004, (C5 Effluent Vessel Cell)	N/A	N/A	4" Dia 316L	<u>24590-LAB</u> -M6-RLD-P0001, Rev 2
RLD-LDB-00002 A-B004 (C5 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD-P0008, Rev 1
RLD-LDB-00004 A-B004 (C5 Effluent Vessel Cell, El. -10')	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD-P0008, Rev 1
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-P0007, Rev 1
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-P0007, Rev 1
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-P0007, Rev 1
RLD-LDB-00008	6	N/A	8" Dia. x 24" Length/ Stainless Steel	<u>24590-LAB</u> -M6-RLD-P0007, Rev 1

**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.)
A-B003 (C3 Effluent Vessel Cell, El. -10')				
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-P0008, Rev 1
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).				

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- 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
5 Table [III.10.F.A.](#), as modified by Permit Condition [III.10.F.7.d.iv.](#), all dangerous and
6 mixed waste listed in the Part A Forms, Operating Unit Group 10, Addendum A of
7 this Permit, except for those wastes outside the waste acceptance criteria specified in
8 the WAP, Operating Unit Group 10, Addendum B, as approved pursuant to Permit
9 Condition [III.10.C.3](#). Total dangerous and mixed waste storage at the containment
10 building units will not exceed the sum of the capacities in column 7 of Permit Table
11 [III.10.F.A.](#), as 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
13 containment building units listed in Permit Table [III.10.F.A.](#), as modified pursuant to
14 Permit Condition [III.10.F.7.d.iv.](#), in accordance with Permit Condition [III.10.F.](#), and
15 in accordance with Operating Unit Group 10, Chapters 1.0 and 4.0, and Operating
16 Unit Group 10, Appendices 8.1, 8.2, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2, 9.4
17 through 9.10, 9.13, 9.18, 10.1, 10.2, 10.4 through 10.10, 10.13, and 10.18 of this
18 Permit, as approved pursuant to Permit Conditions [III.10.F.7.c.](#) and [III.10.F.7.d.](#) The
19 Permittees will limit the volume of dangerous and mixed waste to quantities specified
20 for the individual areas listed in column 7 of Permit Table [III.10.F.A.](#), as modified
21 pursuant to Permit Condition [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 Addendum C 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 Addendum C, of this permit, as
27 approved pursuant to Permit Condition [III.10.F.7.d.iv.](#) and Permit Condition [III.10.F.3.](#),
28 and as 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
31 primary barrier;

32 **III.10.F.3.b.ii** Maintain the level of stored/treated dangerous and mixed waste within the
33 containment 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
35 by personnel or by equipment used in handling the waste. An area must be
36 designated to decontaminate equipment and any rinsate must be collected and
37 properly managed;

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

- 1 **III.10.F.3.b.v** Collect and remove liquids and waste to minimize hydraulic head on the containment
2 system at the earliest practicable time.
- 3 **III.10.F.3.c** The Permittees will inspect the containment building units per requirements in the
4 Operating Unit Group 10, Addendum E1 of this permit, as approved pursuant to Permit
5 Condition [III.10.C.5.](#), [40 CFR 264.1101\(c\)\(4\)](#), in accordance with [WAC 173-303-695](#) and
6 [WAC 173-303-320](#) and record in the Facility's operating record, at least once every
7 seven (7) days, data gathered from monitoring equipment and leak detection equipment
8 as well as the containment building unit and area immediately surrounding the
9 containment building unit to detect signs of releases of dangerous and mixed waste.
- 10 **III.10.F.3.d** Throughout the active life of the containment building unit, if the Permittees detects a
11 condition that could lead to or has caused a release of dangerous and/or mixed waste, the
12 Permittees must repair the condition promptly, in accordance with the following
13 procedures:
- 14 **III.10.F.3.d.i** Upon detection of a condition that has led to the release of dangerous and/or mixed
15 waste (e.g., upon detection of leakage from the primary barrier) the Permittees must:
- 16 A. Enter a record of the discovery in the facility operating record;
- 17 B. Immediately remove the portion of the containment building unit affected by the
18 condition from service;
- 19 C. Determine what steps must be taken to repair the containment building unit, remove
20 any leakage from the secondary collection system, and establish a schedule for
21 accomplishing the cleanup and repairs; and
- 22 D. Within seven (7) days after the discovery of the condition, notify Ecology of the
23 condition, and within fourteen (14) working days, provide a written notice to Ecology
24 with a description of the steps taken to repair the containment building unit, and the
25 schedule for accomplishing the work.
- 26 **III.10.F.3.d.ii** Ecology will review the information submitted, make a determination regarding
27 whether the containment building unit must be removed from service completely or
28 partially until repairs and cleanup are complete, and notify the Permittees of the
29 determination and underlying rationale in writing.
- 30 **III.10.F.3.d.iii** Upon completing all repairs and cleanup the Permittees must notify Ecology in
31 writing and provide verification, signed by a qualified, registered, professional
32 engineer, that repairs have been completed according to the written notice submitted
33 in accordance with Permit Condition [III.10.F.3.d.i.D.](#)
- 34 **III.10.F.4 Inspections [\[WAC 173-303-640\(6\)\]](#)**
- 35 **III.10.F.4.a** The Permittees will inspect the containment building units in accordance with the
36 Inspection Schedules in Operating Unit Group 10, Addendum E of this Permit, as
37 modified pursuant to Permit Condition [III.10.C.5.c.](#)
- 38 **III.10.F.4.b** The inspection data for the containment building units will be recorded, and the records
39 will be placed in the WTP Unit operating record, in accordance with Permit Condition
40 [III.10.C.4.](#)
- 41 **III.10.F.5 Recordkeeping [\(WAC 173-303-380\)](#)**
- 42 For the containment building units, the Permittees will record and maintain in the WTP
43 Unit operating record, all monitoring, calibration, recording, maintenance, test data, and
44 inspection data compiled under the conditions of this Permit, in accordance with Permit
45 Conditions [III.10.C.4.](#) and [III.10.C.5.](#)

- 1 **III.10.F.6 Closure**
- 2 The Permittees will close the containment building units in accordance with Operating
3 Unit Group 10, Addendum H of this Permit, as approved pursuant to Permit Condition
4 [III.10.C.8.](#)
- 5 **III.10.F.7 Compliance Schedule**
- 6 **III.10.F.7.a** All information identified for submittal to Ecology in Permit Conditions [III.10.F.7.b.](#)
7 through [e.](#) of this compliance schedule must be signed in accordance with requirements in
8 [WAC 173-303-810](#)(12), as modified in accordance with Permit Condition [III.10.F.1.d.](#)
9 [\[WAC 173-303-806](#)(4)].
- 10 **III.10.F.7.b** Prior to initial receipt of dangerous and/or mixed waste, the Permittees will submit to
11 Ecology a certification by a qualified, registered, professional engineer that the
12 containment building units design meets the requirements of Permit Conditions
13 [III.10.F.1.](#) and [III.10.F.2.](#) in accordance with Permit Condition [III.10.F.7.a.](#) The
14 certification will also be stored in the WTP Unit operating record. For containment
15 buildings units in Permit Table [III.10.F.A.](#), as modified pursuant to Permit Condition
16 [III.10.F.7.d.iv.](#), identified as allowed to manage free liquids, the certification will include
17 an additional demonstration that the containment building meets the requirements
18 specified in [40 CFR 264.1101](#)(b), in accordance with [WAC 173-303-695.](#)
- 19 **III.10.F.7.c** The Permittees submit to Ecology pursuant to Permit Condition [III.10.C.9.f.](#), prior to
20 construction of the containment building unit containment system, and as appropriate,
21 leak detection system for each containment building unit (per level, per WTP Unit
22 building) as identified in Permit Condition [III.10.F.1.](#), Permit Tables [III.10.F.A.](#),
23 engineering information as specified below, for incorporation, as appropriate, into
24 Operating Unit Group 10, Appendices 8.1, 8.2, 8.3, 8.4 through 8.10, 8.13, 8.15, 9.1, 9.2,
25 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
26 Permit. At a minimum, engineering information specified below will show the following
27 as required in accordance with [WAC 173-303-695](#) (the information specified below will
28 include dimensioned engineering drawings showing floors, walls, and ceilings/roof of the
29 containment building units and other information on floor drains and sumps):
- 30 **III.10.F.7.c.i** Design drawings (General Arrangement Drawings in plan) and specifications for the
31 foundation, containment, including liner/coating installation details and leak
32 detection methodology, as appropriate [[40 CFR 264.1101](#)(a)(1) and (b), in
33 accordance with [WAC 173-303-695](#)].
- 34 **III.10.F.7.c.ii** The Permittees provide the design criteria (references to codes and standards, load
35 definitions and load combinations, materials of construction, and analysis/design
36 methodology) and typical design details for the support of the containment system.
37 This information demonstrate the foundation will be capable of providing support to
38 the secondary containment system, resistance to pressure gradients above and below
39 the system, and capable of preventing failure due to settlement, compression, or uplift
40 [\[40 CFR 264.1101](#)(a)(2) in accordance with [WAC 173-303-695](#), in accordance with
41 [WAC 173-303-695](#)].
- 42 **III.10.F.7.c.iii** The Permittees provide documentation addressing how coatings will withstand the
43 movement of personnel, waste, and equipment during the operating life of the
44 containment building per [40 CFR 264.1101](#)(a)(2), (a)(4), and (b) in accordance with
45 [WAC 173-303-695.](#)

- 1 **III.10.F.7.c.iv** Containment/foundation and, as appropriate, for leak detection systems, materials
2 selection documentation (including, but not limited to, concrete coatings and water
3 stops, and liner materials as applicable [e.g. physical and chemical tolerances])
4 [[40 CFR 264.1101](#)(a)(4) and (b) in accordance with [WAC 173-303-695](#)].
- 5 **III.10.F.7.c.v** A detailed description of how the containment/foundation and, as appropriate, leak
6 detection systems, will be installed.
- 7 **III.10.F.7.c.vi** Submit Permit Tables [III.10.F.B](#) and [III.10.F.C](#), completed to provide for all
8 secondary containment sumps and floor drains, the information as specified in each
9 column heading, consistent with the information to be provided in i. through viii.
- 10 **III.10.F.7.c.vii** A detailed description of how fugitive emissions will be controlled such that any
11 openings (e.g., doors, windows, vents, cracks, etc.) exhibit no visible emissions
12 [[40 CFR 264.1101](#)(c)(1)(iv) in accordance with [WAC 173-303-695](#)].
- 13 **III.10.F.7.c.viii** Prior to installation, the Permittees will submit coating vendor information specific to
14 containment buildings for incorporation into the Administrative Record
15 [[40 CFR 264.1101](#)(a)(4) and (b) in accordance with [WAC 173-303-695](#)].
- 16 **III.10.F.7.c.ix** Prior to installation, leak detection system documentation (e.g. vendor information,
17 etc.) consistent with information submitted under i. above, will be submitted for
18 incorporation into the Administrative Record;
- 19 **III.10.F.7.c.x** Prior to installation, the Permittees will submit leak detection system instrumentation
20 control logic narrative description (e.g., descriptions of fail-safe conditions, etc.);
- 21 **III.10.F.7.c.xi** Prior to installation, system descriptions related to leak detection systems will be
22 submitted for incorporation into the Administrative Record;
- 23 **III.10.F.7.c.xii** For leak detection system instrumentation for containment buildings as identified in
24 Permit Tables [III.10.F.D.](#), a detailed description of how the leak detection system
25 instrumentation will be installed and tested [[40 CFR 264.1101](#)(b)(3) in accordance
26 with [WAC 173-303-695](#)] will be submitted prior to installation.
- 27 Information pertaining to leak detection systems in Permit Conditions [III.10.F.7.c.ix](#).
28 through [xii](#). Will be submitted pursuant to Permit Conditions [III.10.E.9.d.vii.](#), [viii.](#), [x.](#),
29 and [xiii](#).
- 30 **III.10.F.7.d** Prior to initial receipt of dangerous and mixed waste, in the WTP Unit, the Permittees
31 will submit the following, as specified below, for incorporation into Operating Unit
32 Group 10. The information specified below into Operating Unit Group 10, and
33 incorporated pursuant to Permit Condition [III.10.C.2.g](#). will be followed:
- 34 **III.10.F.7.d.i** Registered Professional Engineer certification documentation consistent with the
35 information provided in [III.10.F.7.b](#). and [III.10.F.7.c](#). for incorporation in the
36 Administrative Record. The certification must be maintained in the WTP Unit
37 Operating Record [[40 CFR 264.1101](#)(c)(2)];
- 38 **III.10.F.7.d.ii** Updated Addendum C, Section 4.2.1., and the figures for containment building units
39 identified in Permit Table [III.10.F.A.](#) (as modified pursuant to Permit Condition
40 [III.10.F.7.d.iv.](#), consistent with Operating Unit Group 10, Appendices 8.1, 8.2, 8.4
41 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
42 through 10.10, 10.13, and 10.18, as approved pursuant Permit Conditions [III.10.F.7.a.](#)
43 through [d.](#));
- 44 **III.10.F.7.d.iii** Description of operating procedures demonstrating compliance with
45 [40 CFR 264.1101](#)(c) and (d) in accordance with [WAC 173-303-695](#);

- 1 **III.10.F.7.d.iv** III. Permit Table [III.10.F.A.](#), amended as follows:
- 2 A. Under column 1, update and complete list of dangerous and mixed waste containment
- 3 building units including room location and number.
- 4 B. Under column 2, update unit dimensions.
- 5 C. Under column 3, replace the ‘Reserved’ with the Operating Unit Group 10,
- 6 Appendices 8.0, 9.0, and 10.0, subsections specific to containment building units as
- 7 listed in column 1.
- 8 D. Under column 4, update and complete list of narrative description, tables, and
- 9 figures.
- 10 E. Under column 5, replace the ‘Reserved’ to indicate if container storage is used in
- 11 each containment building units (Yes or No) consistent with Permit Table [III.10.D.A.](#)
- 12 updated pursuant to Permit Condition [III.10.D.10.d.](#)
- 13 F. Under column 6, replace the ‘Reserved’ to indicate if tank storage is used in each
- 14 containment building units (Yes or No) consistent with Permit Tables [III. 10.E.A-D.](#),
- 15 updated pursuant to Permit Condition [III.10.E.9.e.vi.](#)
- 16 G. Under column 7, replace the ‘Reserved’ with the maximum operating volume for
- 17 each containment building unit, to include the container storage capacity specified in
- 18 Permit Table [III.10.D.A.](#), tank capacity specified in Permit Tables [III. 10.E.A-D.](#) and
- 19 update the total capacity for the containment building units.
- 20 H. Under column 8, update the status of each containment building unit.
- 21 **III.10.F.7.d.v** Permit Table [III.10.F.D.](#) will be completed for Containment Building leak detection
- 22 system instrumentation and parameters to provide the information as specified in
- 23 each column heading. Leak detection system monitors and instruments for critical
- 24 systems as specified in Operating Unit Group 10, Appendix 2.0 and as updated
- 25 pursuant to Permit Condition [III.10.C.9.b.](#) will be addressed.
- 26 **III.10.F.7.e** All information provided under Permit Condition [III.10.F.7.d.](#) must be consistent with
- 27 information provided pursuant to Permit Conditions [III.10.F.7.a.](#) through [d.](#), as approved
- 28 by Ecology.
- 29

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 Hot Cell Containment Building	350x51x52	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
Pretreatment Maintenance Containment Building							
PM0124 Hot Cell Crane Maintenance Mezzanine	27 x 51 x 33	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0121A Spent Resin Dewatering	28 × 18 × 28	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0122A Waste Packaging Area	26 × 51 × 28	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0123A Remote Decontamination Maintenance Cell	55 × 51 × 52	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0124 C3 Workshop	(24 × 24 × 16) + (34 x 24 x 15)	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0125 Cask Lidding Airlock & Equipment Chase	24 × 20 × 28	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0125ACask Lidding Room	28 × 18 × 25	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0128A MSM Repair Area	24 × 18 × 28	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0128 MSM Testing Room	24 × 17 × 27	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0223 Spent Filter Drum Handling Area Containment Building	54 x 18 x 26	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
P-0335 Filter Cave Containment Building	198 x 51 x 52	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
LAW Vitrification Plant							
L-0112 LAW LSM Gallery Containment Building	150x62x24	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	Yes
ILAW Container Finishing Containment Building		RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
L-0109B Swabbing Area Line 2	21x15x24	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0109C Decontamination Area Line 2	18x15x24	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0109D Inert Fill Area Line 2	55x15x24	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0115B Swabbing Area Line 1	21x15x24	RESERVED	Section 4.2.4; Table C-7; and	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
			Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.				
L-0115C Decontamination Area Line 1	18x15x24	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0115D Inert Fill Area Line 1	55x15x24	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0109E Container/Monitoring/Export Area	19x18x14	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0115E Container/Monitoring/Export Area	19x18x14	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-0119B LAW Consumable Import/Export Containment Building	30x28x17	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	Yes
L-226A LAW C3 Workshop Containment Building	34x22x19	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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
LAW Pour Cave Containment Building		RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B015A Melter 1 Pour Cave	16.5×20×23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B013C Melter 1 Pour Cave	16.5×20×23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B013B Melter 2 Pour Cave	16.5×20×23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B011C Melter 2 Pour Cave	16.5×20×23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B011B Future Melter 3 Pour Cave	16.5×20×23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B009B Future Melter 3 Pour Cave	16.5×20×23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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
LAW Buffer Container Containment Building		RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B025C Container Buffer Store	22x22x23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
L-B025D Container Rework	22x14x23	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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
H-0136 IHLW Canister Handling Cave Containment Building	18 x 140 x 54	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
H-0133 IHLW Canister Swab and Monitoring Cave Containment Building	41 x 11 x 54	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C 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 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
H-0104 HLW Filter Cave Containment Building	105 x 36 x 36	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
H-B032 HLW Pour Tunnel 1 Containment Building	85 x 11 x 30	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
H-B005A HLW Pour Tunnel2 Containment Building	85 x 11 x 30	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	No
HLW Waste Handling Area Containment Building:		RESERVED	Section 4.2.4; Table C-7; and	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-0410B E&I Room H-0411 Waste Handling Room	17 x 20 x 10 25 x 54 x 10		Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.				
HLW Drum Swabbing and Monitoring Area: H-0126A Crane Maintenance Room H-0126B Swabbing and Monitoring Room H-028 Cask Import/Export Room	15 x 20 x 31 30 x 18 x 31 15 x 45 x 43	RESERVED	Section 4.2.4; Table C-7; and Fig. C1-59 (Sheets 1-2) of Operating Unit Group 10, Addendum C of this Permit.	RESERVED	RESERVED	RESERVED	RESERVED
^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.							

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

^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.							

1

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, Addendum A of this Permit, and in accordance with in the WAP, Operating
15 Unit Group 10, Addendum B of this Permit, as approved pursuant to Permit Condition
16 [III.10.C.3](#). Total Pretreatment Plant Miscellaneous Unit dangerous and mixed waste
17 storage at the 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
35 accordance 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
 40 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1,
 41 American 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
6 repair 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 8.15 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\(2\)](#)
2 and (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, Addendum C 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 8.15 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 Schedule specified in Operating Unit Group 10, Addendum E1 of this Permit,
10 as 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, Addendum H
35 of 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 8.15 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, Addendum C as updated pursuant to Permit
17 Condition [III.10.G.10.e.vi.](#) and Appendix 8.15 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 6.3.1,
24 as 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 6.3.1. will be superseded by Appendix 6.4.1. 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 8.15, 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 6.3.1 of this Permit, as approved

- 1 pursuant to Permit Condition [III.10.C.11.b](#). For the purposes of this permit condition,
2 Operating Unit Group 10, Appendix 6.3.1 will be superseded by Appendix 6.4.1, upon its
3 approval, pursuant to either Permit Condition [III.10.C.11.c](#). or [III.10.C.11.d](#).
4 [[WAC 173-303-680](#)(2) and (3), and [WAC 173-303-815](#)(2)(b)(ii)].
- 5 **III.10.G.6.b** Compliance with Permit Condition [III.10.G.6.a](#). of this Permit will be regarded as
6 operating within the emission limits specified in Permit Table [III.10.G.D.](#), as approved
7 pursuant to Permit Conditions [III.10.C.11.b.](#), [III.10.C.11.c.](#), or [III.10.C.11.d](#). of this
8 Permit.
- 9 **III.10.G.6.c** All air pollution control devices and capture systems in the Pretreatment Plant
10 Miscellaneous Unit Systems will be maintained and operated at all times in a manner so
11 as to minimize the emissions of air contaminants and to minimize process upsets.
12 Procedures for ensuring that the above equipment is properly operated and maintained so
13 as to minimize the emission of air contaminants and process upsets will be established.
- 14 **III.10.G.6.d** The Permittees will ensure that for all dangerous and/or mixed waste areas, systems, and
15 units contained in the Pretreatment Plant (as specified in Permit Tables [III.10.E.A](#),
16 [III.10.F.A](#), and [III.10.G.A](#), as approved pursuant to Permit Conditions [III.10.E.9.e.xii.](#),
17 [III.10.F.7.d.iv.](#), and [III.10.G.10.e.ix.](#), respectively), the Pretreatment Vessel Vent Process
18 System specified in Permit Table [III.10.G.A.i](#) will be in operation prior to waste being
19 introduced into these dangerous and/or mixed waste areas, systems, and units contained
20 in the Pretreatment Building. At any time the Pretreatment Vessel Vent Process System
21 ceases to operate or produces insufficient vacuum to recover emissions from the areas,
22 systems, or units, the Permittees will not commence new treatment activities within the
23 dangerous and mixed waste areas, systems, or units contained in the Pretreatment
24 Building, and take measures to minimize evolution of emissions from on-going
25 treatment, and will not receive new dangerous and/or mixed waste shipments into the
26 Pretreatment Building. The Permittees will not re-commence new treatment activities
27 until the Pretreatment Vessel Vent Process System is operational and producing sufficient
28 vacuum to recover emissions.
- 29 **III.10.G.7 Inspections** [[WAC 173-303-680](#)(3)]
- 30 **III.10.G.7.a** The Permittees will inspect the Pretreatment Plant Miscellaneous Unit Systems in
31 accordance with the Inspection Schedules in Operating Unit Group 10, Addendum E1 of
32 this Permit, as modified in accordance with Permit Condition [III.10.C.5.c](#).
- 33 **III.10.G.7.b** The inspection data for Pretreatment Plant Miscellaneous Unit Systems will be recorded,
34 and the records will be placed in the WTP Unit operating record for the Pretreatment
35 Plant Miscellaneous Unit Systems, in accordance with Permit Condition [III.10.C.4](#).
- 36 **III.10.G.8 Recordkeeping**
- 37 The Permittees will record and maintain in the WTP Unit operating record for the
38 Pretreatment Plant Miscellaneous Unit Systems, all monitoring, calibration, maintenance,
39 test data, and inspection data compiled under the conditions of this Permit, in accordance
40 with Permit Conditions [III.10.C.4](#) and [III.10.C.5](#).
- 41 **III.10.G.9 Closure**
- 42 The Permittees will close the Pretreatment Plant Miscellaneous Unit Systems in
43 accordance with Operating Unit Group 10, Addendum H, as approved pursuant to Permit
44 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
17 on which the certification report is based and will include as applicable, but not
18 limited to, review of such information described below. Information (drawings,
19 specifications, etc.) already included in Operating Unit Group 10, Appendix 8.0 of
20 this Permit may be included in the report by reference and should include drawing
21 and document numbers. IQRPE Reports will be consistent with the information
22 separately provided in ii. through ix. below [\[WAC 173-303-640\(3\)\(a\)](#), in accordance
23 with [WAC 173-303-680](#) and [WAC 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
30 items such as floor/pipe slopes to sumps, tanks, floor drains [\[WAC 173-303-](#)
31 [640\(4\)\(b\)](#) through (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 standards,
34 load definitions, and load combinations, materials of construction, and
35 analysis/design methodology) and typical design details for the support of the
36 secondary containment system. This information will demonstrate the foundation
37 will be capable of providing support to the secondary containment system, resistance
38 to pressure gradients above and below the system, and capable of preventing failure
39 due to settlement, compression, or uplift [\[WAC 173-303-640\(4\)\(c\)\(ii\)](#), in accordance
40 with [WAC 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 for
42 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
3 liner 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 unit
5 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 containment
8 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
12 into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#),
13 and [WAC 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\(3\)\(b\)](#)
16 and [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 8.14 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
25 drawings, calculations, and other information on which the certification report is
26 based and will include as applicable, but not limited to, review of such information
27 described below. Information (drawings, specifications, etc.) already included in
28 Operating Unit Group 10, Appendix 8.0 of this Permit may be included in the report
29 by reference and should include drawing and document numbers. The IQRPE
30 Reports will be consistent with the information separately provided in [ii.](#) through [xi.](#)
31 below and the IQRPE Report specified 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
38 unit), [[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

- 1 Administrative Record [[WAC 173-303-640](#)(3)(a), in accordance with
2 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(B)];
- 3 **III.10.G.10.c.iv** A description of materials and equipment used to provide corrosion protection for
4 external metal components in contact with water, including factors affecting the
5 potential for corrosion [[WAC 173-303-640](#)(3)(a)(iii)(B), in accordance with
6 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];
- 7 **III.10.G.10.c.v** Miscellaneous unit materials selection documentation (e.g., physical and chemical
8 tolerances) [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2) and
9 [WAC 173-303-806](#)(4)(i)(i)(A)];
- 10 **III.10.G.10.c.vi** Miscellaneous unit vendor information (including, but not limited to, required
11 performance warranties, as available), consistent with information submitted under ii.
12 above, will be submitted for incorporation into the Administrative Record
13 [[WAC 173-303-640](#)(3)(a), in accordance with [WAC 173-303-680](#)(2),
14 [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)];
- 15 **III.10.G.10.c.vii** System Description related to miscellaneous units will be submitted for incorporation
16 into the Administrative Record [[WAC 173-303-680](#),
17 [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(v)].
- 18 **III.10.G.10.c.viii** Mass and energy balance for normal projected operating conditions used in
19 developing the Piping and Instrumentation Diagrams and the Process Flow Diagrams,
20 including assumptions and formulas used to complete the mass and energy balance,
21 so that they can be independently verified for incorporation into the Administrative
22 Record [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B), and
23 [WAC 173-303-806](#)(4)(i)(v)];
- 24 **III.10.G.10.c.ix** A detailed description of how the miscellaneous unit will be installed in compliance
25 with [WAC 173-303-640](#)(3)(c), (d), and (e), in accordance with [WAC 173-303-680](#)
26 and [WAC 173-303-806](#)(4)(i)(i)(B);
- 27 **III.10.G.10.c.x** Documentation that miscellaneous units are designed to prevent the accumulation of
28 hydrogen gas levels above the lower explosive limit for incorporation into the
29 Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A), and
30 [WAC 173-303-806](#)(4)(i)(v)];
- 31 **III.10.G.10.c.xi** Documentation that miscellaneous units are designed to prevent escape of vapors and
32 emissions of acutely or chronically toxic (upon inhalation) EHW, for incorporation
33 into the Administrative Record [[WAC 173-303-640](#)(5)(e), in accordance with
34 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(B)];
- 35 **III.10.G.10.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
36 to installation of equipment as identified in Permit Tables [III.10.G.A](#) and [III.10.G.B](#), not
37 addressed in Permit Condition [III.10.G.10.c.](#), engineering information as specified below
38 for incorporation into Operating Unit Group 10, Appendices 8.1 through 8.14 of this
39 Permit. At a minimum, engineering information specified below will show the following
40 as required pursuant to [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#)
41 (the information specified below will include dimensioned engineering drawings):
- 42 **III.10.G.10.d.i** IQRPE Reports (specific to equipment) will include a review of design drawings,
43 calculations, and other information as applicable, on which the certification report is
44 based. The reports will include, but not be 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

- 1 by reference and should include drawing and document numbers. The IQRPE
2 Reports will be consistent with the information provided separately in [ii.](#) through [xiii.](#)
3 below and the IQRPE Reports specified in Permit Conditions [III.10.G.10.b.](#) and
4 [III.10.G.10.c.](#), [[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#)
5 and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];
- 6 **III.10.G.10.d.ii** Design drawings (Process Flow Diagrams, Piping and Instrumentation Diagrams
7 [including pressure control systems]) specifications and other information specific to
8 equipment (these drawings should include all equipment such as pipe, valves,
9 fittings, pumps, instruments, etc.) [[WAC 173-303-640\(3\)\(a\)](#), in accordance with
10 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)];
- 11 **III.10.G.10.d.iii** The Permittees will provide the design criteria (references to codes and standards,
12 load definitions, and load combinations, materials of construction, and
13 analysis/design methodology) and typical design details for the support of the
14 equipment [[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-640\(3\)\(f\)](#), in accordance
15 with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 16 **III.10.G.10.d.iv** A description of materials and equipment used to provide corrosion protection for
17 external metal components in contact with soil and water, including factors affecting
18 the potential for corrosion [[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#), in accordance with
19 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)];
- 20 **III.10.G.10.d.v** Materials selection documentation for equipment (e.g., physical and chemical
21 tolerances) [[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#) and
22 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)];
- 23 **III.10.G.10.d.vi** Vendor information (including, but not limited to, required performance warranties,
24 as available), consistent with information submitted under [ii.](#) above, for equipment
25 will be submitted for incorporation into the Administrative Record
26 [[WAC 173-303-640\(3\)\(a\)](#), in accordance with [WAC 173-303-680\(2\)](#),
27 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(iv\)](#)];
- 28 **III.10.G.10.d.vii** Miscellaneous unit, equipment, and leak detection system instrument control logic
29 narrative description (e.g., descriptions of fail-safe conditions, etc.)
30 [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and
31 [WAC 173-303-806\(4\)\(i\)\(v\)](#)].
- 32 **III.10.G.10.d.viii** System Descriptions related to equipment and system descriptions related to leak
33 detection systems, for incorporation into the Administrative Record [
34 [WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and
35 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 36 **III.10.G.10.d.ix** A detailed description of how the equipment will be installed and tested
37 [[WAC 173-303-640\(3\)\(c\)](#) through (e) and [WAC 173-303-640\(4\)\(b\)](#) and (c), in
38 accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 39 **III.10.G.10.d.x** For process monitoring, control, and leak detection system instrumentation for the
40 WTP Unit Miscellaneous Unit Systems as identified in Permit Table [III.10.G.C.](#), a
41 detailed description of how the process monitoring, control, and leak detection
42 system instrumentation will be installed and tested [[WAC 173-303-640\(3\)\(c\)](#) through
43 (e), [WAC 173-303-640\(4\)\(b\)](#) and (c), [WAC 173-303-806\(4\)\(c\)\(vi\)](#), and
44 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 45 **III.10.G.10.d.xi** Mass and energy balance for projected normal operating conditions, used in
46 developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,

- 1 including assumptions and formulas used to complete the mass and energy balance,
2 so that they can be independently verified, for incorporation into the Administrative
3 Record [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B), and
4 [WAC 173-303-806](#)(4)(i)(v)];
- 5 **III.10.G.10.d.xii** Documentation that miscellaneous units are designed to prevent the accumulation of
6 hydrogen gas levels above the lower explosive limit for incorporation into the
7 Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A), and
8 [WAC 173-303-806](#)(4)(i)(v)].
- 9 **III.10.G.10.d.xiii** Leak detection system documentation (e.g. vendor information, etc.) consistent with
10 information submitted under Permit Condition [III.10.G.10.c.ii](#), and Permit Conditions
11 [III.10.G.10.d.ii](#), [vii](#), [viii](#), and [x](#), above, will be submitted for incorporation into the
12 Administrative Record.
- 13 **III.10.G.10.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
14 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), the following as
15 specified below for incorporation into Operating Unit Group 10, Appendix 8.15, except
16 Permit Condition [III.10.G.10.e.i](#), which will be incorporated into Operating Unit Group
17 10, Addendum E, of this Permit. All information provided under this permit condition
18 must be consistent with information provided pursuant to Permit Conditions
19 [III.10.G.10.b](#), [c](#), [d](#), and [e](#), [III.10.C.3.e](#), and [III.10.C.11.b](#), as approved by Ecology.
- 20 **III.10.G.10.e.i** Integrity assessment program and schedule for the Pretreatment Plant Miscellaneous
21 Unit Systems will address the conducting of periodic integrity assessments on the
22 Pretreatment Plant Miscellaneous Unit Systems over the life of the systems, as
23 specified in Permit Condition [III.10.G.10.b.ix](#) and [WAC 173-303-640](#)(3)(b), in
24 accordance with [WAC 173-303-680](#), and descriptions of procedures for addressing
25 problems detected during integrity assessments. The schedule must be based on past
26 integrity assessments, age of the system, materials of construction, characteristics of
27 the waste, and any other relevant factors [[WAC 173-303-640](#)(3)(b), in accordance
28 with [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(i)(B)];
- 29 **III.10.G.10.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated
30 so that it will detect the failure of either the primary or secondary containment
31 structure or the presence of any release of dangerous and/or mixed waste or
32 accumulated liquid in the secondary containment system within twenty-four (24)
33 hours [WAC 173-303-640](#)(4)(c)(iii). Detection of a leak of at least 0.1 gallons per
34 hour within twenty-four (24) hours is defined as being able to detect a leak within
35 twenty-four (24) hours. Any exceptions to this criteria must be approved by Ecology
36 in accordance with [WAC 173-303-680](#), [WAC 173-303-640](#)(4)(c)(iii), and
37 [WAC 173-303-806](#)(4)(i)(i)(B)];
- 38 **III.10.G.10.e.iii** Detailed operational plans and descriptions, demonstrating that spilled or leaked
39 waste and accumulated liquids can be removed from the secondary containment
40 system within twenty-four (24) hours [[WAC 173-303-806](#)(4)(i)(i)(B)];
- 41 **III.10.G.10.e.iv** Descriptions of operational procedures demonstrating appropriate controls and
42 practices are in place to prevent spills and overflows from the Pretreatment Plant
43 Miscellaneous Unit Systems, or containment systems, in compliance with
44 [WAC 173-303-640](#)(5)(b)(i) through (iii), in accordance with [WAC 173-303-680](#)
45 [[WAC 173-303-806](#)(4)(i)(i)(B)];
- 46 **III.10.G.10.e.v** Description of procedures for investigation and repair of the Pretreatment Plant
47 Miscellaneous Unit Systems [[WAC 173-303-640](#)(6) and [WAC 173-303-640](#)(7)(e)]

- 1 and (f), in accordance with [WAC 173-303-680](#), [WAC 173-303-320](#),
2 [WAC 173-303-806\(4\)\(a\)\(v\)](#), and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 3 **III.10.G.10.e.vi** Updated Addendum C, Narrative Descriptions, Tables and Figures as identified in
4 Permit Tables [III.10.G.A](#) and [III.10.G.B](#)., as modified pursuant to Permit Condition
5 [III.10.G.10.e.ix](#)., and updated to identify routinely non-accessible Pretreatment Plant
6 Miscellaneous Unit Systems [[WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)
7 through (B)];
- 8 **III.10.G.10.e.vii** Descriptions of procedures for management of ignitable and reactive, and
9 incompatible dangerous and/or mixed waste, in accordance with
10 [WAC 173-303-640\(9\)](#) and (10), in accordance with [WAC 173-303-680](#) and
11 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#).
- 12 **III.10.G.10.e.viii** A description of the tracking system used to track dangerous and/or mixed waste
13 generated throughout the Pretreatment Plant Miscellaneous Unit Systems, pursuant to
14 [WAC 173-303-380](#).
- 15 **III.10.G.10.e.ix** Permit Table [III.10.G.A](#), amended as follows [[WAC 173-303-680](#) and
16 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)]:
- 17 A. Under column 1, update and complete list of dangerous and mixed waste
18 Pretreatment Plant Miscellaneous Unit Systems, including plant items which
19 comprise each system (listed by item number).
- 20 B. Under column 2, update and complete system designations.
- 21 C. Under column 3, replace the ‘Reserved’ with the Operating Unit Group 10, Appendix
22 8.0 subsections specific to miscellaneous unit systems as listed in column 1.
- 23 D. Under column 4, update and complete list of narrative description tables and figures.
- 24 E. Under column 5, update and complete maximum operating volume for each
25 miscellaneous unit, as applicable.
- 26 F. Permit Table [III.10.G.A.i.](#), amended as follows:
- 27 1. Under column 1, update and complete list of plant items that comprise the
28 Pretreatment Plant Vessel Vent System (listed by item number).
- 29 2. Under column 2, update and complete designations.
- 30 3. Under column 3, replace the ‘Reserved’ with the Operating Unit Group 10,
31 Appendix 8.0, subsections (e.g., 9.1, 9.2, etc.) specific to systems as listed in
32 column 1.
- 33 4. Under column 4, update and complete list of narrative description tables and
34 figures.
- 35 **III.10.G.10.e.x** Permit Table [III.10.G.C](#). will be completed for Pretreatment Plant Miscellaneous
36 Unit System process and leak detection system monitors and instruments (to include,
37 but not be limited to: instruments and monitors measuring and/or controlling flow,
38 pressure, temperature, density, pH, level, humidity, and emissions) to provide the
39 information as specified in each column heading. Process and leak detection system
40 monitors and instruments for critical systems as specified in Operating Unit Group
41 10, Appendix 2.0 and as updated pursuant to Permit Condition [III.10.C.9.b](#).and for
42 operating parameters as required to comply with Permit Condition [III.10.C.3.e.iii](#).
43 will be addressed. Process monitors and instruments for non-waste management
44 operations (e.g., utilities, raw chemical storage, non-contact cooling waters, etc.) are

- 1 excluded from this permit condition [[WAC 173-303-680](#),
2 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 3 **III.10.G.10.e.xi** Supporting documentation for operating trips and expected operating range as
4 specified in Permit Table [III.10.G.C.](#), as approved pursuant to Permit Condition
5 [III.10.G.10.e.x.](#) [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#),
6 [WAC 173-303-806\(4\)\(i\)\(iv\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 7 **III.10.G.10.e.xii** Documentation of process and leak detection instruments and monitors (as listed in
8 Permit Table [III.10.G.C.](#)) for the Pretreatment Plant Miscellaneous Unit Systems to
9 include, but not be limited to, the following [[WAC 173-303-680](#),
10 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and [WAC 173-303-806\(4\)\(i\)\(v\)](#)]:
- 11 A. Procurement Specifications.
- 12 B. Location used.
- 13 C. Range, precision, and accuracy.
- 14 D. Detailed descriptions of calibration/functionality test procedures (e.g., method
15 number [ASTM]) or provide a copy of manufacturer's recommended calibration
16 procedures.
- 17 E. Calibration/functionality test, inspection, and routine maintenance schedules and
18 checklists, including justification for calibration, inspection and maintenance
19 frequencies, criteria for identifying instruments found to be significantly out of
20 calibration, and corrective action to be taken for instruments found to be significantly
21 out of calibration (e.g., increasing frequency of calibration, instrument replacement,
22 etc.).
- 23 F. Equipment instrument control logic narrative description (e.g., descriptions of
24 fail-safe conditions, etc.) [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#), and
25 [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 2</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-P0003, 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 4.1.2.2.; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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 7 -P1-P01T-P0002, 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 2</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 7</p> <p>-P1-P01T-P0002, Rev 7</p>	Section 4.1.2.2.; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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 2</p> <p>-M5-V17T-00004001, Rev 3</p> <p>-M5-V17T-00004002, Rev 3</p>	Section 4.1.2.2.; Table C-8; and Figures C1-1, C1-2 and C1-02A 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-P0010, Rev 0 -N1D-FEP-P0008, Rev 0 -P1-P01T-00001, Rev 7 -P1-P01T-P0002, Rev 7	Group 10, Addendum C 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> <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</p>	Section 4.1.2.6.; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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-P0002, 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>	CNP	<p><u>24590-PTF</u></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 7 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6	Section 4.1.2.6.; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.	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)
<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-00010, Rev 2 -N1D-CNP-00001, Rev 1 -P1-P01T-00003, Rev 4 -3PS-MEVV-T0002, Rev 4</p>	Section 4.1.2.6.; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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-00010, Rev 2 -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 4.1.2.6.; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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 7 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6 -3PS-MEJV-T0002, Rev 4		
<p><u>Treated LAW Evaporation Process System</u></p> <p>TLP-SEP-00001 (Treated LAW Evaporator Separator Vessel)</p>	TLP	<p><u>24590-PTF</u></p> -3PS-MEJV- T0001, Rev 2 -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	Section 4.1.2.11; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.	TLP-SEP-00001 = 13,359

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-P0004, 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 7 -P1-P01T-P0002, 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>	TLP	<p><u>24590-PTF</u></p> <p>-3PS-MEVV- T0001, Rev 2 -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>	Section 4.1.2.11; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.	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)
		-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 7 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4		
<u>Treated LAW Evaporation Process System (Cont.)</u>	TLP	<u>24590-PTF</u> -3PS-MEVV- T0001, Rev 2	Section 4.1.2.11; Table C-8; and Figures C1-1,	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 5 -MV-TLP-P0001, Rev 1 -MV-TLP-P0002, Rev 1 -N1D-TLP-P0011, Rev 1 -P1-P01T-00001, Rev 7 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4	C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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 4.2.4.2.1; Table 4-8; and Figure 4A-128 of Operating Unit 10, Chapter 4 of this Permit.	N/A
<p><u>Hot Cell Waste Management Unit</u></p> <p><u>Hot Cell Floor</u></p> <p>This miscellaneous unit is exempt from the requirements of WAC-173-303-640.</p>	NA	RESERVED	Section 4.2.4.1; Table 4-8; 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 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>	PVP	<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-P0002, Rev 2 -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 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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>	PVP	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00001, Rev 7 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	<p>Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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> PVP-HX-00002 (Vessel Vent Scrubbing Liquid Cooler)</p>	PVP	<p><u>24590-PTF</u> -M5-V17T-00021001, Rev 2 -M6-PVP-00017001, Rev 0 -M6-PVP-00017002, Rev 0 -M6-PVP-00017003, Rev 0 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u> PVP-OXID-00001 (Vessel Vent VOC Oxidizer Unit)</p>	PVP	<p><u>24590-PTF</u> -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 7 -P1-P01T-P0002, Rev 7 -P1-P01T-00003, Rev 4 -P1-P01T-00004, Rev 6</p>	Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.
<p><u>Pretreatment Vessel Vent Process System (Cont.)</u> PVP-CLR-00001 (Vessel Vent Aftercooler)</p>	PVP	<p><u>24590-PTF</u> -M5-V17T-00021001, Rev 2 -M5-V17T-00021004, Rev 2 -P1-P01T-00001, Rev 7</p>	Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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
		-P1-P01T-P0002, 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</p> <p>-M5-V17T-00021004, Rev 2</p> <p>-P1-P01T-00001, Rev 7</p> <p>-P1-P01T-P0002, Rev 7</p> <p>-P1-P01T-00003, Rev 4</p> <p>-P1-P01T-00004, Rev 6</p>	Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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</p> <p>-M5-V17T-00021004, Rev 2</p> <p>-P1-P01T-P0002, Rev 7</p> <p>-P1-P01T-00003, Rev 4</p> <p>-P1-P01T-00004, Rev 6</p>	Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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</p> <p>-P1-P01T-P0002, Rev 7</p>	Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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
<p>PVV-HEPA-00002A (Vessel Vent Secondary HEPA Filter)</p> <p>PVV-HEPA-00002B (Vessel Vent Secondary HEPA Filter)</p>			
<p><u>Process Vessel Vent System (Cont.)</u></p> <p>PVV-FAN-00001A (Vessel Vent Exhaust Fan)</p> <p>PVV-FAN-00001B (Vessel Vent Exhaust Fan)</p>	<p>PVV</p>	<p><u>24590-PTF</u></p> <p>-M5-V17T-00021001, Rev 2</p> <p>-M5-V17T-00021004, Rev 2</p> <p>-P1-P01T-P0002, Rev 7</p> <p>-P1-P01T-00003, Rev 4</p> <p>-P1-P01T-00004, Rev 6</p>	<p>Section 4.1.2.16; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>Pretreatment Pulse Jet Mixer Exhaust Vent System</u></p> <p>PJV-HEPA-00001A (PJV Primary Exhaust HEPA Filter)</p> <p>PJV-HEPA-00001B (PJV Primary Exhaust HEPA Filter)</p> <p>PJV-HEPA-00001C (PJV Primary Exhaust HEPA Filter)</p> <p>PJV-HEPA-00001D (PJV Primary Exhaust HEPA Filter)</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 7</p>	<p>Section 4.1.2.17; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C 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
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>	PJV	<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 7</p>	Section 4.1.2.17; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.
<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>	PJV	<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>	Section 4.1.2.17; Table C-8; and Figures C1-1, C1-2 and C1-02A of Operating Unit Group 10, Addendum C of this Permit.
<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
*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 as specified in Permit Condition [III.10.H.1.](#) and Operating Unit Group 10, Addendum C
16 of this Permit, and Operating Unit Group 10, Appendices 9.1 through 9.15 and 9.17
17 of this Permit, as approved pursuant to Permit Conditions [III.10.H.5.a.](#) through [d.](#),
18 and [III.10.H.5.f.](#)

19 **III.10.H.1.a.ii** The Permittees will construct all containment systems for the LAW Vitrification
20 System as specified in Operating Unit Group 10, Addendum C of this Permit, and
21 Operating Unit Group 10, Appendices 9.2 and 9.4 through 9.14 of this Permit, as
22 approved pursuant to 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,
25 independent, qualified installation inspector, etc.) use the following statement or
26 equivalent pursuant to 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 the
31 following LAW Vitrification System components (e.g., the venting piping, etc.), as
32 required by the Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3) (applicable
33 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 the
35 information submitted in this document and all attachments and that, based on my inquiry
36 of those individuals immediately responsible for obtaining the information, I believe that
37 the information is true, accurate, and complete. I am aware that there are significant
38 penalties for submitting false information, including the possibility of fine and
39 imprisonment.”

40 **III.10.H.1.a.iv** The Permittees must ensure that proper handling procedures are adhered to in order
41 to prevent damage to the LAW Vitrification System during installation. Prior to
42 covering, enclosing, or placing the new LAW Vitrification System or component in
43 use, an independent, qualified, installation inspector or an independent, qualified,
44 registered professional engineer, either of whom is trained and experienced in the
45 proper installation of similar systems or components, must inspect the system for the
46 presence of any of the 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
11 that are back-filled, the Permittees must provide a backfill material that is a non-
12 corrosive, porous, homogeneous substance. The backfill must be installed so that it
13 is placed completely around the LAW Vitrification System and compacted to ensure
14 that the LAW 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
18 or components are found not to be tight, all repairs necessary to remedy the leak(s)
19 in the 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 [WAC 173-
21 303-III.680](#)(2) and (3)].

22 **III.10.H.1.a.vii** The Permittees must ensure the LAW Vitrification System equipment is supported
23 and protected against physical damage and excessive stress due to settlement,
24 vibration, 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
28 in Operating Unit Group 10, Appendices 9.9 and 9.11 of this Permit, as approved
29 pursuant to Permit Conditions [III.10.H.5.b.i.](#), [III.10.H.5.b.iv.](#), [III.10.H.5.b.v.](#),
30 [III.10.H.5.c.i.](#), [III.10.H.5.c.iv.](#), [III.10.H.5.c.v.](#), [III.10.H.5.d.i.](#), [III.10.H.5.d.iv.](#), and
31 [III.10.H.5.d.v.](#), or other corrosion protection if Ecology believes other corrosion
32 protection is necessary to ensure the integrity of the LAW Vitrification System
33 during use of the LAW Vitrification System. The installation of a corrosion
34 protection system that is field fabricated must be supervised by an independent
35 corrosion expert to ensure proper installation [[WAC 173-303-640](#)(3)(g), in
36 accordance with [WAC 173-303-680](#)(2) and (3)].

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

1 were performed [[WAC 173-303-640\(3\)\(a\)](#) and [WAC 173-303-640\(3\)\(h\)](#)], in
2 accordance with [WAC 173-303-680\(3\)](#)].

3 **III.10.H.1.a.x** The independent LAW 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.H.1.a.iii.](#), comply with all requirements
6 of [WAC 173-303-640\(3\)\(h\)](#) in accordance with [WAC 173-303-680](#), and will
7 consider, but not be limited to, the following LAW Vitrification System installation
8 documentation:

- 9 A. Field installation report with date of installation.
10 B. Approved welding procedures.
11 C. Welder qualification and certifications.
12 D. Hydro-test reports, as applicable, in accordance with the American Society of
13 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1;
14 American Petroleum Institute (API) Standard 620, or Standard 650, as applicable.
15 E. Tester credentials.
16 F. Field inspector credentials.
17 G. Field inspector reports.
18 H. Field waiver reports.
19 I. Non-compliance reports and corrective action (including field waiver reports) and
20 repair reports.

21 **III.10.H.1.a.xi** The Permittees will ensure periodic integrity assessments are conducted on the LAW
22 Vitrification System, listed in Permit Table [III.10.H.A](#), as approved/modified
23 pursuant to Permit Condition [III.10.H.5.](#), over the term of this Permit in accordance
24 with [WAC 173-303-680\(2\)](#) and (3) as specified in [WAC 173-303-640\(3\)\(b\)](#),
25 following the description of the integrity assessment program and schedule in
26 Operating Unit Group 10, Addendum E of this Permit, as approved pursuant to
27 Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#) Results of the integrity
28 assessments will be included in the WTP Unit operating record until ten (10) years
29 after post-closure, or corrective action is complete and certified, whichever is later.

30 **III.10.H.1.a.xii** The Permittees will address problems detected during the LAW Vitrification System
31 integrity assessments specified in Permit Condition [III.10.H.1.a.xi.](#) following the
32 integrity assessment program in Operating Unit Group 10, Addendum E of this
33 Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#)

34 **III.10.H.1.a.xiii** All process monitors/instruments, as specified in Permit Table [III.10.H.F](#), as
35 approved/modified pursuant to Permit Condition [III.10.H.5.](#), will be equipped with
36 operational alarms to warn of deviation, or imminent deviation from the limits
37 specified in Permit Table [III.10.H.F](#).

38 **III.10.H.1.a.xiv** The Permittees will install and test all process and leak detection system
39 monitors/instrumentation as specified in Permit Tables [III.10.H.C](#) and [III.10.H.F](#), as
40 approved/modified pursuant to Permit Condition [III.10.H.5](#), in accordance with
41 Operating Unit Group 10, Appendices 9.1, 9.2, and 9.14 of this Permit, as approved
42 pursuant to Permit Conditions [III.10.H.5.d.x.](#) and [III.10.H.5.f.xvi.](#)

43 **III.10.H.1.a.xv** Except during periods of LAW Vitrification System startup and shutdown, no
44 dangerous and/or mixed waste will be treated in the LAW Vitrification System unless

- 1 the operating conditions, specified under Permit Condition [III.10.H.1.c](#). are complied
2 with.
- 3 **III.10.H.1.a.xvi** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or
4 other materials in the LAW Vitrification System if these substances could cause the
5 subsystem, subsystem equipment, or the containment system to rupture, leak,
6 corrode, or otherwise fail [[WAC 173-303-640](#)(5)(a), in accordance with
7 [WAC 173-303-680](#)(2)]. This condition is not applicable to corrosion of LAW
8 Vitrification System sub-system or sub-system equipment that are expected to be
9 replaced as part of normal operations (e.g., melters).
- 10 **III.10.H.1.a.xvii** The Permittees will operate the LAW Vitrification System to prevent spills and
11 overflows using controls and practices as required under [WAC 173-303-640](#)(5)(b)
12 described in Permit Condition [III.10.C.5](#) and Operating Unit Group 10, Appendix
13 9.18 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.e](#).
14 [[WAC 173-303-640](#)(5)(b), in accordance with [WAC 173-303-680](#)(2) and (3), and
15 [WAC 173-303-806](#)(4)(c)(ix)].
- 16 **III.10.H.1.a.xviii** For routinely non-accessible LAW Vitrification System sub-systems, as specified in
17 Operating Unit Group 10, Addendum C of this Permit, as updated pursuant to Permit
18 Condition [III.10.H.5.e.vi](#), the Permittees will mark all routinely non-accessible LAW
19 Vitrification System sub-systems access points with labels, or signs, to identify the
20 waste contained in each LAW Vitrification System sub-system. The label, or sign,
21 must be legible at a distance of at least fifty (50) feet, and must bear a legend which
22 identifies the waste in a manner which adequately warns employees, emergency
23 response personnel, and the public of the major risk(s) associated with the waste
24 being stored or treated in the LAW Vitrification System sub-systems. For the
25 purposes of this permit condition, “routinely non-accessible” means personnel are
26 unable to enter these areas while waste is being managed in them
27 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 28 **III.10.H.1.a.xix** For all LAW Vitrification System sub-systems not addressed in Permit Condition
29 [III.10.H.1.a.xviii](#), the Permittees will mark all these LAW Vitrification System sub-
30 systems holding dangerous and/or mixed waste with labels, or signs, to identify the
31 waste contained in the LAW Vitrification System sub-systems. The labels, or signs,
32 must be legible at a distance of at least fifty (50) feet, and must bear a legend which
33 identifies the waste in a manner which adequately warns employees, emergency
34 response personnel, and the public of the major risk(s) associated with the waste
35 being stored or treated in the LAW Vitrification System sub-systems
36 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 37 **III.10.H.1.a.xx** The Permittees will ensure that the secondary containment systems for the LAW
38 Vitrification System sub-systems listed in Permit Tables [III.10.H.A](#). and [III.10.H.B](#),
39 as approved/modified pursuant to Permit Condition [III.10.H.5](#), are free of cracks or
40 gaps to prevent any migration of dangerous and/or mixed waste or accumulated
41 liquid out of the system to the soil, groundwater, or surface water at any time during
42 use of the LAW Vitrification System sub-systems. Any indication that a crack or gap
43 may exist in the containment systems will be investigated and repaired in accordance
44 with Operating Unit Group 10, Appendix 9.18 of this Permit, as approved pursuant to
45 Permit Condition [III.10.H.5.e.v](#). [[WAC 173-303-640](#)(4)(b)(i),
46 [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)(i)(B), and
2 [WAC 173-303-320](#)].

3 **III.10.H.1.a.xxii** The Permittees must immediately, and safely, remove from service any LAW
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.H.1.a.xxiii](#)., [A.](#) through [D.](#), and [F.](#) The affected LAW
7 Vitrification System or secondary containment system must be either repaired or
8 closed in accordance with Permit Condition [III.10.H.1.a.xxiii](#) [E.](#)
9 [[WAC 173-303-640](#)(7)(e) and (f), [WAC 173-303-640](#)(8), in accordance with
10 [WAC 173-303-680](#)(3)].

11 **III.10.H.1.a.xxii** .An impermeable coating, as specified in Operating Unit Group 10, Appendices 9.4,
12 9.5, 9.7, 9.9, 9.11, and 9.12 of this Permit, as approved pursuant to Permit Condition
13 [III.10.H.5.b.v.](#) will be maintained for all concrete containment systems and concrete
14 portions of containment systems for each LAW Vitrification System sub-systems
15 listed in Permit Tables [III.10.H.A](#) and [III.10.H.B](#), as approved/modified pursuant to
16 Permit Condition [III.10.H.5](#) (concrete containment systems that do not have a liner,
17 pursuant to [WAC 173-303-640](#)(4)(e)(i), in accordance with [WAC 173-303-680](#)(2),
18 and have construction joints, will meet the requirements of [WAC 173-303-](#)
19 [640](#)(4)(e)(ii)(C), in accordance with [WAC 173-303-680](#)(2). The coating will prevent
20 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 other
23 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 or
26 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 (3),
31 and [WAC 173-303-806](#)(4)(i)(i)(A)].

32 **III.10.H.1.a.xxiii** The Permittees will inspect all secondary containment systems for the LAW
33 Vitrification System sub-systems listed in Permit Tables [III.10.H.A](#) and [III.10.H.B](#),
34 as approved/modified pursuant to Permit Condition [III.10.H.5](#)., in accordance with
35 the Inspection Schedule specified in Operating Unit Group 10, Addendum E1 of this
36 Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#),
37 and take the following actions if a leak or spill of dangerous and/or mixed waste is
38 detected in these 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)(i)(B)]:

- 41 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the
42 LAW 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 accordance
45 with [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(7)(b). The
46 dangerous and/or mixed waste removed from containment areas of the LAW
47 Vitrification System sub-systems will be, as a minimum, managed as mixed waste.

- 1 D. If the cause of the release was a spill that has not damaged the integrity of the LAW
2 Vitrification System sub-system, the Permittees may return the LAW Vitrification
3 System sub-system to service in accordance with [WAC 173-303-680](#)(2) and (3) as
4 specified in [WAC 173-303-640](#)(7)(e)(ii). In such case, the Permittees will take
5 action to insure the incident that caused the dangerous and/or mixed waste to enter
6 the containment system will not reoccur [[WAC 173-303-320](#)(3)].
- 7 E. If the source of the dangerous and/or mixed waste is determined to be a leak from the
8 primary LAW Vitrification System into the secondary containment system, or the
9 system is unfit for use as determined through an integrity assessment or other
10 inspection, the Permittees will comply with the requirements of
11 [WAC 173-303-640](#)(7) and take the following actions:
 - 12 1. Close the LAW Vitrification System sub-system following procedures in
13 [WAC 173-303-640](#)(7)(e)(i), in accordance with [WAC 173-303-680](#) and
14 Operating Unit Group 10, Addendum H of this Permit, as approved
15 pursuant to Permit Condition [III.10.C.8.](#), or
 - 16 2. Repair and re-certify (in accordance with [WAC 173-303-810](#)(13)(a), as
17 modified pursuant to Permit Condition [III.10.H.1.a.iii.](#)) the LAW
18 Vitrification System, in accordance with Operating Unit Group 10,
19 Appendix 9.18 of this Permit, as approved pursuant to Permit Condition
20 [III.10.H.5.e.v.](#), before the LAW Vitrification System is placed back into
21 service [[WAC 173-303-640](#)(7)(e)(iii) and [WAC 173-303-640](#)(7)(f), in
22 accordance with [WAC 173-303-680](#)].
- 23 F. The Permittees will document in the operating record actions/procedures taken to
24 comply with A. through E. above as specified in [WAC 173-303-640](#)(6)(d), in
25 accordance with [WAC 173-303-680](#)(2) and (3).
- 26 G. In accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-680](#) (3), the Permittees
27 will notify and report releases to the environment to Ecology as specified in
28 [WAC 173-303-640](#)(7)(d).

29 **III.10.H.1.a.xxiv** If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire
30 water, liquids from damaged or broken pipes) cannot be removed from the secondary
31 containment system within twenty-four (24) hours, Ecology will be verbally notified
32 within twenty-four (24) hours of discovery. The notification will provide the
33 information in A, B, and C, listed below. The Permittees will provide Ecology with
34 a written demonstration within seven (7) business days, identifying at a minimum
35 [[WAC 173-303-640](#)(4)(c)(iv) and [WAC 173-303-640](#)(7)(b)(ii), in accordance with
36 [WAC 173-303-680](#)(3) and [WAC 173-303-806](#)(4)(i)(i)(B)]:

- 37 A. Reasons for delayed removal.
- 38 B. Measures implemented to ensure continued protection of human health and the
39 environment.
- 40 C. Current actions being taken to remove liquids from secondary containment.

41 **III.10.H.1.a.xxv** All air pollution control devices and capture systems in the LAW Vitrification
42 System will be maintained and operated at all times in a manner so as to minimize
43 the emissions of air contaminants and to minimize process upsets. Procedures for
44 ensuring that the air pollution control devices and capture systems in the LAW
45 Vitrification System are properly operated and maintained so as to minimize the
46 emission of air contaminants and process upsets will be established.

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

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

1 pursuant to Permit Condition [III.10.H.5.e.](#), and Operating Unit Group 10, Appendix 9.15
2 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), except as modified
3 pursuant to Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#), [III.10.H.3.](#), [III.10.H.4.](#), and in
4 accordance with the following:

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

- 1 frequency of one (1) towards the first waste feed cut-off parameter, specified on
2 Permit Table [III.10.H.F](#), from which the set-point is deviated:
- 3 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.H.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.H.1.c.viii** If any portion of the LAW Vitrification System is bypassed while treating dangerous
8 and/or mixed waste it will be regarded as non-compliance with the operating
9 conditions specified in Permit Condition [III.10.H.1.c](#). and the performance standards
10 specified in Permit Condition [III.10.H.1.b](#). After such a bypass event, the Permittees
11 will perform the 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.H.1.c.ix** The Permittees will control fugitive emissions from the LAW Vitrification System by
18 maintaining the melters under negative pressure.
- 19 **III.10.H.1.c.x** Except during periods of vitrification system startup and shutdown, compliance with
20 the operating conditions specified in Permit Condition [III.10.H.1.c](#). will be regarded
21 as compliance with the required performance standards identified in Permit
22 Condition [III.10.H.1.b](#). However, evidence that compliance with these operating
23 conditions is insufficient to ensure compliance with the performance standards, will
24 justify modification, revocation, or re-issuance of this Permit, in accordance with
25 Permit Conditions [III.10.C.2.e](#). and [III.10.C.2.f.](#), or [III.10.C.2.g](#).
- 26 **III.10.H.1.d** Inspection Requirements [[WAC 173-303-680\(3\)](#)]
- 27 **III.10.H.1.d.i** The Permittees will inspect the LAW Vitrification System in accordance with the
28 Inspection Schedules in Operating Unit Group 10, Addendum E1 of this Permit, as
29 modified in accordance with Permit Condition [III.10.C.5.c](#).
- 30 **III.10.H.1.d.ii** The inspection data for LAW Vitrification System will be recorded, and the records
31 will be placed in the WTP Unit operating record for the LAW Vitrification System,
32 in accordance with Permit Condition [III.10.C.4](#).
- 33 **III.10.H.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating
34 Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit
35 Condition [III.10.H.5.f.](#), and as modified by Permit Conditions [III.10.H.1.b.xii.](#),
36 [III.10.H.2.](#), [III.10.H.3.](#), and [III.10.H.4](#).
- 37 **III.10.H.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.H.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
42 the operating requirements established in the Permit achieve the performance
43 standards delineated in this Permit.

- 1 **III.10.H.1.e.ii** The Permittees will comply with the monitoring requirements specified in Operating
2 Unit Group 10, Appendices 9.2, 9.3, 9.7, 9.13, 9.15 and 9.18 of this Permit, as
3 approved pursuant to Permit Conditions [III.10.H.5.c.](#), [III.10.H.5.d.](#), [III.10.H.5.e.](#), and
4 [III.10.H.5.f.](#), as modified by Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#),
5 [III.10.H.3.](#), and [III.10.H.4.](#)
- 6 **III.10.H.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
7 hydrocarbon continuous emission monitors (CEM) specified in this Permit in
8 accordance with Performance Specification 4B and 8A of [40 CFR Part 60](#), Appendix
9 B, in accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and Operating
10 Unit Group 10 Appendix 9.15 of this Permit, as approved pursuant to Permit
11 Condition [III.10.H.5.f.](#), and as modified by Permit Conditions [III.10.H.1.b.xii.](#),
12 [III.10.H.2.](#), [III.10.H.3.](#), and [III.10.H.4.](#)
- 13 **III.10.H.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified on
14 Permit Tables [III.10.H.C.](#) and [F](#), as approved/modified pursuant to Permit Condition
15 [III.10.H.5.](#), in accordance with Operating Unit Group 10, Appendix 9.15 of this
16 Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), and as modified by
17 Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#), [III.10.H.3.](#), and [III.10.H.4.](#)
- 18 **III.10.H.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680\(3\)](#)]
- 19 **III.10.H.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the
20 LAW Vitrification System, all monitoring, calibration, maintenance, test data, and
21 inspection data compiled under the conditions of this Permit, in accordance with
22 Permit Conditions [III.10.C.4.](#) and [III.10.C.5.](#), as modified by Permit Conditions
23 [III.10.H.1.b.xii.](#), [III.10.H.2.](#), [III.10.H.3.](#), and [III.10.H.4.](#)
- 24 **III.10.H.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and
25 duration of all automatic waste feed cutoffs and/or lockouts, including the triggering
26 parameters, reason for the deviation, and recurrence of the incident. The Permittees
27 will also record all incidents of AWFCO system function failures, including the
28 corrective measures taken to correct the condition that caused the failure.
- 29 **III.10.H.1.f.iii** The Permittees will submit to Ecology a report semi-annually the first calendar year,
30 and annually thereafter each calendar year within ninety (90) days following the end
31 of the year. The report will include the following information:
- 32 A. Total dangerous and mixed waste feed processing time for the LAW Vitrification
33 System;
- 34 B. Date/Time of all LAW Vitrification System startups and shutdowns;
- 35 C. Date/Time/Duration/Cause/Corrective Action taken for all LAW Vitrification System
36 shutdowns caused by malfunction of either process or control equipment; and
- 37 D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
38 and/or mixed waste feed cut-off due to deviations from Permit Table [III.10.H.F](#), as
39 approved/modified pursuant to Permit Condition [III.10.H.5.](#)
- 40 **III.10.H.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within
41 ninety (90) days following the end of the year of all quarterly CEM Calibration Error
42 and Annual CEM Performance Specification Tests conducted in accordance with
43 Permit Condition [III.10.H.1.e.iii.](#)
- 44 **III.10.H.1.g** Closure

- 1 The Permittees will close the LAW Vitrification System in accordance with Operating
2 Unit Group 10, Addendum H of this Permit, as approved pursuant to Permit Condition
3 [III.10.C.8.](#)
- 4 **III.10.H.2 Shakedown Period [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
5 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
6 [WAC 173-303-680\(2\)](#) and (3)].**
- 7 **III.10.H.2.a** The shakedown period for the LAW Vitrification System will be conducted in
8 accordance with Permit Condition [III.10.H.1.](#), Operating Unit Group 10, Appendix 9.15
9 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), and as modified in
10 accordance with Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.2.](#), and [III.10.H.3.](#)
- 11 **III.10.H.2.b** Duration of the Shakedown Period
- 12 **III.10.H.2.b.i** The shakedown period for the LAW Vitrification System will begin with the initial
13 introduction of dangerous waste in the LAW Vitrification System following
14 construction and will end with the start of the demonstration test.
- 15 **III.10.H.2.b.ii** The shakedown period will not exceed the following limits, as defined by hours,
16 when the LAW Vitrification System is processing dangerous waste. The Permittees
17 may petition Ecology for one extension of each shakedown phase for seven hundred
18 and twenty (720) additional operating hours in accordance with Permit modification
19 procedures specified in Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#)
- 20 Shakedown Phase 1: 720 hours
21 Shakedown Phase 2: 720 hours
- 22 **III.10.H.2.b.iii** Shakedown Phase 2 will not be commenced until documentation has been submitted
23 to Ecology verifying that the LAW Vitrification System has operated at a minimum
24 of 75% of the shakedown Phase 1 feed-rate limit for two (2) separate eight (8)
25 consecutive hour periods with no AWFCOs.
- 26 **III.10.H.2.c** Allowable Waste Feed During the Shakedown Period
- 27 **III.10.H.2.c.i** The Permittees may feed the dangerous waste specified for the LAW Vitrification
28 System on the Part A Forms (Operating Unit Group 10, Addendum A of this Permit),
29 except for those wastes outside the waste acceptance criteria specified in the WAP,
30 Attachment 1, Addendum B of this Permit, as approved pursuant to Permit Condition
31 [III.10.C.3.](#), except Permit Conditions [III.10.H.2.c.ii.](#) through [v.](#) also apply.
- 32 **III.10.H.2.c.ii** The Permittees will not feed the following wastes to the LAW Vitrification System
33 during Shakedown Phase 1:
34 A. Acutely toxic dangerous waste listed in [WAC 173-303-081\(a\)\(2\)\(a\)\(i\)](#).
35 B. Mixed waste
- 36 **III.10.H.2.c.iii** The Permittees will not feed the following waste to the LAW Vitrification System
37 during Shakedown Phase 2:
38 A. Mixed waste
- 39 **III.10.H.2.c.iv** The feed-rates to the LAW Vitrification System will not exceed the limits in Permit
40 Tables [III.10.H.D](#) and [III.10.H.F](#), as approved/modified pursuant to Permit Condition
41 [III.10.H.5.](#)

- 1 **III.10.H.2.c.v** The Permittees will conduct sufficient analysis of the dangerous waste treated in the
2 LAW Vitrification System to verify that the waste feed is within the physical and
3 chemical composition limits specified in this Permit.
- 4 **III.10.H.3** **Demonstration Test Period** [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
5 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
6 [WAC 173-303-680\(2\)](#) and (3)].
- 7 **III.10.H.3.a** Demonstration Test Period
- 8 **III.10.H.3.a.i** The Permittees will operate, monitor, and maintain the LAW Vitrification System as
9 specified in Permit Condition [III.10.H.1.](#), and Operating Unit Group 10, Appendix
10 9.15 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.](#), except as
11 modified in accordance with Permit Conditions [III.10.H.1.b.xii.](#), and [III.10.H.3.](#)
- 12 **III.10.H.3.a.ii** Operating Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to
13 Permit Condition [III.10.H.5.f.](#), will be resubmitted to Ecology for approval by the
14 Permittees as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and
15 [III.10.C.2.f.](#) at least one hundred and eighty (180) days prior to the start date of the
16 demonstration test. The revised Demonstration Test Plan will include applicable
17 EPA promulgated test methods and procedures in effect at the time of the re-
18 submittal and projected commencement and completion dates for the Demonstration
19 Test.
- 20 **III.10.H.3.a.iii** The Permittees will not commence the demonstration test period until documentation
21 has been submitted to Ecology verifying that the LAW Vitrification System has
22 operated at a minimum of 75% of the demonstration test period feed-rate limit for a
23 minimum of an eight (8) consecutive hours period on two (2) consecutive days.
- 24 **III.10.H.3.b** Performance Standards
- 25 The Permittees will demonstrate compliance with the performance standards specified in
26 Permit Condition [III.10.H.1.b.](#) during the Demonstration Test Period.
- 27 **III.10.H.3.c** Allowable Waste Feed During the Demonstration Test Period
- 28 **III.10.H.3.c.i** The Permittees may feed the dangerous waste specified for the LAW Vitrification
29 System in Part A Forms (Operating Unit Group 10, Addendum A of this Permit),
30 except for those waste outside the waste acceptance criteria specified in the WAP,
31 Operating Unit Group 10, Addendum B of this Permit, as approved pursuant to
32 Permit Condition [III.10.C.3.](#), except Permit Conditions [III.10.H.3.c.ii.](#) through [iv.](#)
33 also apply.
- 34 **III.10.H.3.c.ii** The Permittees will not feed mixed waste to the LAW Vitrification System.
- 35 **III.10.H.3.c.iii** The dangerous waste feed-rates to the LAW Vitrification System will not exceed the
36 limits in Permit Tables [III.10.H.D](#) and [E](#), as approved/modified pursuant to Permit
37 Condition [III.10.H.5.](#)
- 38 **III.10.H.3.c.iv** The Permittees will conduct sufficient analysis of the dangerous waste treated in the
39 LAW Vitrification System to verify that the dangerous waste is within the physical
40 and chemical composition limits specified in this Permit.
- 41 **III.10.H.3.d** Demonstration Data Submissions and Certifications
- 42 **III.10.H.3.d.i** The Permittees will submit to Ecology a complete demonstration test report within
43 one-hundred 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.I.D](#), [III.10.I.E](#) and [III.10.I.F](#).
- 3 **III.10.H.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
5 LAW Vitrification System:
- 6 A. The Permittees will submit a summary of data collected as required by the
7 Demonstration Test Plan to Ecology upon completion of the Demonstration Test.
- 8 B. A certification that the Demonstration Test has been carried out in accordance with
9 the approved Demonstration Test Plan and approved modifications within thirty (30)
10 days of the completion of the Demonstration Test [[WAC 173-303-807](#)(8)].
- 11 C. Calculations and analytical data showing compliance with the performance standards
12 specified in Permit Conditions [III.10.H.1.b.i](#), [III.10.H.1.b.iv](#), [III.10.H.1.b.v](#),
13 [III.10.H.1.b.vi](#), and [III.10.H.1.b.vii](#)
- 14 D. Laboratory data QA/QC summary for the information provided in [III.10.H.3.d.ii.C](#).
- 15 **III.10.H.3.d.iii** After successful completion of the Demonstration Test and receipt of Ecology's
16 approval, the Permittees will be authorized to commence feed of dangerous waste
17 and mixed waste to the LAW Vitrification System for the post-demonstration test
18 period indicated in Permit Tables [III.10.H.D](#) and [F](#), as approved/modified pursuant to
19 Permit Condition [III.10.H.5](#), in compliance with the operating requirements
20 specified in Permit Condition [III.10.H.1.c](#) and within the limitations specified in
21 Permit Condition [III.10.C.14](#).
- 22 **III.10.H.3.d.iv** RESERVED
- 23 **III.10.H.3.d.v** After successful completion of the Demonstration Test, Permittees submittal of the
24 following to Ecology and the Permittees receipt of approval of the following in
25 writing, the Permittees will be authorized to feed dangerous waste and mixed waste
26 to the LAW Vitrification System pursuant to Permit Section [III.10.I](#).
- 27 A. A complete Demonstration Test Report for the LAW Vitrification System and
28 updated Permit Tables [III.10.I.D](#), [III.10.I.E](#), and [III.10.I.F](#), as approved/modified
29 pursuant to Permit Conditions [III.10.H.5](#) and [III.10.C.11.c](#) or [III.10.C.11.d](#). The test
30 report will be certified in accordance with [WAC 173-303-807](#)(8), in accordance with
31 [WAC 173-303-680](#)(2) and (3).
- 32 B. A Final Risk Assessment Report completed pursuant to Permit Conditions
33 [III.10.C.11.c](#) or [III.10.C.11.d](#).
- 34 **III.10.H.3.d.vi** If any calculations or testing results show that one or more of the performance
35 standards listed in Permit Condition [III.10.H.1.b.](#), with the exception of Permit
36 Condition [III.10.H.1.b.x](#), for the LAW Vitrification System were not met during the
37 Demonstration Test, the Permittees will perform the following actions:
- 38 A. Immediately stop dangerous and mixed waste feed to the LAW Vitrification System
39 under the mode of operation that resulted in not meeting the performance standard(s).
- 40 B. Verbally notify Ecology within twenty-four (24) hours of discovery of not meeting
41 the performance standard(s) as specified in Permit Condition I.E.21.
- 42 C. Investigate the cause of the failure and submit a report of the investigation findings to
43 Ecology within fifteen (15) days of discovery of not meeting the performance
44 standard(s).

- 1 D. Submit to Ecology within fifteen (15) days of discovery of not meeting the
2 performance standard(s), documentation supporting a mode of operation where all
3 performance standards listed in Permit Condition [III.10.H.1.b.](#), with the exception of
4 Permit Condition [III.10.H.1.b.x.](#), for the LAW Vitrification System were met during
5 the demonstration test, if any such mode was demonstrated.
- 6 E. Based on the information provided to Ecology by the Permittees pursuant to Permit
7 Conditions [III.10.H.3.d.vi.A](#) through D above, and any additional information,
8 Ecology may provide in writing, direction to the Permittees to stop dangerous and/or
9 mixed waste feed to the LAW Vitrification System and/or amend the mode of
10 operation the Permittees are allowed to continue operations prior to Ecology approval
11 of a compliance schedule and/or revised Demonstration Test Plan pursuant to Permit
12 Conditions [III.10.H.3.d.vi.F](#) and [G](#).
- 13 F. If the performance standard listed in Permit Condition [III.10.H.1.b.i.](#) was not met
14 during the Demonstration Test, the Permittees will submit within one hundred and
15 twenty (120) days of discovery of not meeting the performance standard, a revised
16 Demonstration Test Plan (if appropriate), and a compliance schedule for Ecology
17 approval to address this deficiency. If a revised Demonstration Test Plan is
18 submitted, it will be accompanied by a request for approval to retest as a permit
19 modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The
20 revised Demonstration Test Plan (if submitted) must include substantive changes to
21 prevent failure from reoccurring.
- 22 G. If any of the performance standards listed in Permit Condition [III.10.H.1.b.](#), with the
23 exception of Permit Conditions [III.10.H.1.b.i.](#) or [III.10.H.1.b.x.](#), were not met during
24 the Demonstration Test the Permittees will submit to Ecology within one hundred
25 twenty (120) days of discovery of not meeting the performance standard(s), a revised
26 Demonstration Test Plan requesting approval to retest as a permit modification
27 pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The revised
28 Demonstration Test Plan must include substantive changes to prevent failure from
29 reoccurring.

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

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

- 1 **III.10.H.4 Post Demonstration Test Period [WAC 173-303-670(5), WAC 173-303-670(6),**
2 **and WAC 173-303-807(2), in accordance with WAC 173-303-680(2) and (3)].**
- 3 **III.10.H.4.a** The Permittees will operate, monitor, and maintain the LAW Vitrification System as
4 specified in Permit Condition [III.10.H.1.](#) and Operating Unit Group 10, Appendix 9.15 of
5 this Permit, as approved pursuant to Permit Condition [III.10.H.5.](#), except as modified in
6 accordance with Permit Conditions [III.10.H.1.b.xii.](#), [III.10.H.3.](#), and [III.10.H.4.](#)
- 7 **III.10.H.4.b** Allowable Waste Feed During the Post-Demonstration Test Period
- 8 **III.10.H.4.b.i** The Permittees may feed the dangerous and/or mixed waste specified for the LAW
9 Vitrification System on the Part A Forms (Operating Unit Group 10, Addendum A of
10 this Permit), except for those wastes outside the waste acceptance criteria specified in
11 the WAP, Operating Unit Group 10, Addendum B of this Permit, as approved
12 pursuant to Permit Condition [III.10.C.3.](#), and except Permit Conditions
13 [III.10.H.4.b.ii.](#) and [III.10.H.4.b.iii.](#) also apply.
- 14 **III.10.H.4.b.ii** The dangerous waste and mixed waste feed-rates to the LAW Vitrification System
15 will not exceed the limits in Permit Tables [III.10.H.D](#) and [F](#), as approved/modified
16 pursuant to Permit Condition [III.10.H.5.](#), or in Permit Condition [III.10.H.3](#)
- 17 **III.10.H.4.b.iii** The Permittees will conduct sufficient analysis of the dangerous waste and mixed
18 waste treated in LAW Vitrification System to verify that the waste feed is within the
19 physical and chemical composition limits specified in this Permit.
- 20 **III.10.H.5 Compliance Schedules**
- 21 **III.10.H.5.a** All information identified for submittal to Ecology in a. through f. of this compliance
22 schedule must be signed and certified in accordance with requirements in
23 [WAC 173-303-810\(12\)](#), as modified in accordance with Permit Condition [III.10.H.1.a.iii.](#)
24 [[WAC 173-303-806\(4\)](#)].
- 25 **III.10.H.5.b** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
26 to construction of each secondary containment and leak detection system for the LAW
27 Vitrification System (per level) as identified in Permit Tables [III.10.H.A](#) and [III.10.H.B](#),
28 engineering information as specified below, for incorporation into Operating Unit Group
29 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,
30 engineering information specified below will show the following as described in
31 [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#) (the information specified
32 below will include dimensioned engineering drawings and information on sumps and
33 floor drains):
- 34 **III.10.H.5.b.i** IQRPE Reports (specific to foundation, secondary containment, and leak detection
35 system) will include review of design drawings, calculations, and other information
36 on which the certification report is based and will include as applicable, but not
37 limited to, review of such information described below. Information (drawings,
38 specifications, etc.) already included in Operating Unit Group 10, Appendix 9.0 of
39 this Permit, may be included in the report by reference and should include drawing
40 and document numbers. IQRPE Reports will be consistent with the information
41 separately provided in [ii.](#) through [ix.](#) below [[WAC 173-303-640\(3\)\(a\)](#)], in accordance
42 with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)](#)];
- 43 **III.10.H.5.b.ii** Design drawings (General Arrangement Drawings, in plan) and specifications for the
44 foundation, secondary containment including liner installation details, and leak
45 detection methodology. These items should show the dimensions, volume
46 calculations, and location of the secondary containment system, and should include

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

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

- 1 2. Maintenance procedures
- 2 3. Redundant equipment
- 3 4. Redundant instrumentation
- 4 5. Alternate equipment
- 5 6. Alternate materials of construction
- 6 **III.10.H.5.c.x** A detailed description of how the sub-systems will be installed in compliance with
- 7 [WAC 173-303-640](#)(3)(c), (d), and (e), in accordance with [WAC 173-303-680](#) and
- 8 [WAC 173-303-806](#)(4)(i)(i)(B);
- 9 **III.10.H.5.c.xi** Sub-system design to prevent escape of vapors and emissions of acutely or
- 10 chronically toxic (upon inhalation) EHW, for incorporation into the Administrative
- 11 Record
- 12 [[WAC 173-303-640](#)(5)(e), in accordance with [WAC 173-303-680](#)(2) and
- 13 [WAC 173-303-806](#)(4)(i)(i)(B)];
- 14 **III.10.H.5.c.xii** Documentation that sub-systems are designed to prevent the accumulation of
- 15 hydrogen gases 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
- 17 [WAC 173-303-806](#)(4)(i)(v)].
- 18 **III.10.H.5.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f](#), prior to
- 19 installation of equipment for each sub-system as identified in Permit Tables [III.10.H.A](#)
- 20 and [III.10.H.B](#), not addressed in Permit Conditions [III.10.H.5.b](#). or [III.10.H.5.c](#).,
- 21 engineering information as specified below, for incorporation into Operating Unit Group
- 22 10, Appendices 9.1 through 9.14 of this Permit. At a minimum, engineering information
- 23 specified below will show the following as required pursuant to [WAC 173-303-640](#), in
- 24 accordance with [WAC 173-303-680](#) (the information specified below will include
- 25 dimensioned engineering drawings):
- 26 **III.10.H.5.d.i** IQRPE Reports (specific to sub-system equipment) will include a review of design
- 27 drawings, calculations, and other information as applicable on which the certification
- 28 report is based. The reports will include, but not be limited to, review of such
- 29 information described below. Information (drawings, specifications, etc.) already
- 30 included in Operating Unit Group 10, Appendix 9.0 of this Permit, may be included
- 31 in the report by reference and should include drawing and document numbers. The
- 32 IQRPE Reports will be consistent with the information provided separately in [ii](#).
- 33 through [xiii](#). below and the IQRPE Reports specified in Permit Conditions
- 34 [III.10.H.5.b](#). and [III.10.H.5.c](#). [[WAC 173-303-640](#)(3)(a), in accordance with
- 35 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];
- 36 **III.10.H.5.d.ii** Design drawings [Process Flow Diagrams, Piping and Instrumentation Diagrams
- 37 (including pressure control systems), specifications and other information specific to
- 38 equipment (these drawings should include all equipment such as pipes, valves,
- 39 fittings, pumps, instruments, etc.)] [[WAC 173-303-640](#)(3)(a), in accordance with
- 40 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];
- 41 **III.10.H.5.d.iii** Sub-system equipment design criteria (references to codes and standards, load
- 42 definitions, and load combinations, materials of construction, and analysis/design
- 43 methodology) and typical design details for the support of the sub-system equipment
- 44 [[WAC 173-303-640](#)(3)(a) and [WAC 173-303-640](#)(3)(f), in accordance with
- 45 [WAC 173-303-680](#) and [WAC 173-303-806](#)(4)(i)(i)(B)];

- 1 **III.10.H.5.d.iv** A description of materials and equipment used to provide corrosion protection for
2 external metal components in contact with soil and water, including factors affecting
3 the potential for corrosion [[WAC 173-303-640\(3\)\(a\)\(iii\)\(B\)](#)], in accordance with
4 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)];
- 5 **III.10.H.5.d.v** Materials selection documentation for equipment for each sub-system (e.g., physical
6 and chemical tolerances) [[WAC 173-303-640\(3\)\(a\)](#)], in accordance with
7 [WAC 173-303-680\(2\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)];
- 8 **III.10.H.5.d.vi** Vendor information (including, but not limited to, required performance warranties,
9 as available), consistent with information submitted under ii. above, for sub-system
10 equipment will be submitted for incorporation into the Administrative Record.
11 [[WAC 173-303-640\(3\)\(a\)](#)], in accordance with [WAC 173-303-680\(2\)](#),
12 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and [WAC 173-303-806\(4\)\(i\)\(iv\)](#)];
- 13 **III.10.H.5.d.vii** Sub-system, sub-system equipment, and leak detection system instrument control
14 logic narrative description (e.g., descriptions of fail-safe conditions, etc.)
15 [[WAC 173-303-680\(2\)](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)], and
16 [WAC 173-303-806\(4\)\(i\)\(v\)](#)].
- 17 **III.10.H.5.d.viii** System description related to sub-system equipment, and system descriptions related
18 to leak detection systems, for incorporation into the Administrative Record
19 [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B), and
20 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 21 **III.10.H.5.d.ix** A detailed description of how the sub-system equipment will be installed and tested
22 [[WAC 173-303-640\(3\)\(c\)](#) through (e), [WAC 173-303-640\(4\)\(b\)](#) and (c)], in
23 accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 24 **III.10.H.5.d.x** For process monitoring, control, and leak detection system instrumentation for the
25 LAW Vitrification System as identified in Permit Tables [III.10.H.C.](#) and [III.10.H.F.](#),
26 a detailed description of how the process monitoring, control, and leak detection
27 system instrumentation, will be installed and tested [[WAC 173-303-640\(3\)\(c\)](#)
28 through (e), [WAC 173-303-640\(4\)\(b\)](#) and (c), [WAC 173-303-806\(4\)\(c\)\(vi\)](#)], and
29 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 30 **III.10.H.5.d.xi** Mass and energy balance for projected normal operating conditions used in
31 developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,
32 including assumptions and formulas used to complete the mass and energy balance,
33 so that they can be independently verified, for incorporation into the Administrative
34 Record [[WAC 173-303-680\(2\)](#)], [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)], and
35 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 36 **III.10.H.5.d.xii** Documentation that sub-systems equipment are designed to prevent the accumulation
37 of hydrogen gas levels above the lower explosive limit for incorporation into the
38 Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)], and
39 [WAC 173-303-806\(4\)\(i\)\(v\)](#)];
- 40 **III.10.H.5.d.xiii** Leak detection system documentation (e.g. vendor information, etc.) consistent with
41 information submitted under Permit Condition [III.10.H.5.c.ii.](#) and Permit Conditions
42 [III.10.H.5.d.ii.](#), [vii.](#), [viii.](#), and [x.](#) above, will be submitted for incorporation into the
43 Administrative Record.
- 44 **III.10.H.5.e** Prior to initial receipt of dangerous and/or mixed waste in the WTP Unit, the Permittees
45 will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), the following as
46 specified below for incorporation into Operating Unit Group 10, Appendix 9.18 of this

1 Permit, except Permit Condition [III.10.H.5.e.i.](#), which will be incorporated into Operating
2 Unit Group 10, Addendum E of this Permit. All information provided under this permit
3 condition must be consistent with information provided pursuant to Permit Conditions
4 [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:

5 **III.10.H.5.e.i** Integrity assessment program and schedule for the LAW Vitrification System will
6 address the conducting of periodic integrity assessments on the LAW Vitrification
7 System over the life of the system, as specified in Permit Condition [III.10.H.5.b.ix.](#)
8 and [WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#), and
9 descriptions of procedures for addressing problems detected during integrity
10 assessments. The schedule must be based on past integrity assessments, age of the
11 system, materials of construction, characteristics of the waste, and any other relevant
12 factors [[WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#) and
13 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)].

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

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

35 **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

Row Number	Room Number	Orientation	Discipline	Sequence Number
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
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

Row Number	Room Number	Orientation	Discipline	Sequence Number
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
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
2 waste and accumulated liquids can be removed from the secondary containment
3 system within twenty-four (24) hours [[WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)].
- 4 **III.10.H.5.e.iv** Descriptions of operational procedures demonstrating appropriate controls and
5 practices are in place to prevent spills and overflows from the LAW Vitrification
6 System or containment systems in compliance with [WAC 173-303-640\(5\)\(b\)\(i\)](#)
7 through (iii), in accordance with [WAC 173-303-680](#) and
8 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#);
- 9 **III.10.H.5.e.v** Description of procedures for investigation and repair of the LAW Vitrification
10 System [[WAC 173-303-640\(6\)](#) and [WAC 173-303-640\(7\)\(e\)](#) and (f), in accordance
11 with [WAC 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 Addendum C, Narrative Description, Tables and Figures as identified in
14 Permit 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
16 sub-systems.
- 17 **III.10.H.5.e.vii** Description of procedures for management of ignitable and reactive, and
18 incompatible dangerous and/or mixed waste as specified in [WAC 173-303-640\(9\)](#)
19 and (10), in accordance with [WAC 173-303-680](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#).
- 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
23 System process and leak detection system monitors and instruments (to include, but
24 not be limited to: instruments and monitors measuring and/or controlling flow,
25 pressure, temperature, density, pH, level, humidity, and emissions) to provide the

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

9 **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
10 [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#) through (B)]:

- 11 A. Under column 1, update and complete list of dangerous and mixed waste LAW
12 Vitrification System sub-systems, including plant items that comprise each system
13 (listed by item number).
- 14 B. Under column 2, update and complete system designations.
- 15 C. Under column 3, replace the ‘Reserved’ with Operating Unit Group 10, Appendix 9.0
16 subsections (e.g., 9.1, 9.2, etc.) designated in Permit Conditions [III.10.H.5.b.](#), [c.](#), and
17 [d.](#) specific to LAW Vitrification System sub-system as listed in column 1.
- 18 D. Under column 4, update and complete list of narrative description, tables, and
19 figures.

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

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

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

44 **III.10.H.5.f.i** Analysis of each feed-stream to be fed during the demonstration test, including
45 dangerous waste, glass formers and reductants, process streams (e.g., volumes of air
46 leakage including control air, process air, steam, sparge bubbler air, air in-leakage

1 from melter cave, and gases from LAW Vitrification Vessel Ventilation System,
2 process water, etc.) that includes:

- 3 A. Levels of ash, metals, total chlorine (organic and inorganic), other halogens and
4 radionuclide surrogates.
5 B. Description of the physical form of the feed-streams.
6 C. An identification and quantification of organics that are present in the feed-stream,
7 including constituents proposed for DRE demonstration.

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

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

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

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

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

- 27 A. Manufacturer's name and model number for each sub-system.
28 B. Design capacity of each sub-system including documentation (engineering
29 calculations, manufacturer/vendor specifications, operating data, etc.) supporting
30 projected operational efficiencies (e.g., WESP projected removal efficiency for
31 individual metals, halogens, particulates, etc.) and compliance with performance
32 standards specified in Permit Condition [III.10.H.1.b.](#)
33 C. Detailed scaled engineering drawings, including Process Flow Diagrams, Piping and
34 Instrumentation Diagrams, Vessel Drawings (plan, and elevation with cross sections)
35 and General Arrangement Drawings.
36 D. Process Engineering Descriptions.
37 E. Mass and energy balance for each projected operating condition and each
38 demonstration test condition, including assumptions and formulas used to complete
39 the mass and energy balance, so that they can be independently verified for
40 incorporation into the Administrative Record.
41 F. Engineering Specifications/data sheets (materials of construction, physical and
42 chemical tolerances of equipment, and fan curves).
43 G. Detailed Description of Automatic Waste Feed Cutoff System addressing critical
44 operating parameters for all performance standards specified in Permit Condition
45 [III.10.H.1.b.](#)

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

- 1 **III.10.H.5.f.x** The test conditions proposed must demonstrate meeting the performance standards
2 specified in Permit Condition [III.10.H.1.b.](#) with the simultaneous operation of both
3 melters at capacity and input from the LAW Vitrification Vessel Ventilation System
4 at capacity to simulate maximum loading to the LAW Vitrification System off-gas
5 treatment system and to establish the corresponding operating parameter ranges. To
6 the extent that operation of one (1) melter or two (2) melters cannot be sustained
7 within the operating parameter range established at this maximum load, additional
8 demonstration test conditions must be included in the plan and performed to establish
9 operating parameter ranges for each proposed operating mode while demonstrating
10 meeting the performance standards specified in Permit Condition [III.10.H.1.b.](#).
- 11 **III.10.H.5.f.xi** Detailed description of procedures for start-up and shutdown of waste feed and
12 controlling emissions in the event of an equipment malfunction, including off-normal
13 and emergency shutdown procedures.
- 14 **III.10.H.5.f.xii** A calculation of waste residence time.
- 15 **III.10.H.5.f.xiii** Any request to extrapolate metal feed-rate limits from Demonstration Test levels
16 must include:
- 17 A. A description of the extrapolation methodology and rationale for how the approach
18 ensures compliance with the performance standards as specified in Permit Condition
19 [III.10.H.1.b.](#)
- 20 B. Documentation of the historical range of normal metal feed-rates for each feed
21 stream.
- 22 C. Documentation that the level of spiking recommended during the demonstration test
23 will mask sampling and analysis imprecision and inaccuracy to the extent that
24 extrapolation of feed-rates and emission rates from the Demonstration Test data will
25 be as accurate and precise as if full spiking were used.
- 26 **III.10.H.5.f.xiv** Documentation of the expected levels of constituents in LAW Vitrification System
27 input streams including, but not limited to, waste feed, glass former and reactants,
28 control air, process air, steam, sparge bubbler air, air in-Leakage from melter cave,
29 gases from LAW Vitrification Vessel Ventilation System, and process water.
- 30 **III.10.H.5.f.xv** Documentation justifying the duration of the conditioning required to ensure the
31 LAW Vitrification System had achieved steady-state operations under Demonstration
32 Test operating conditions.
- 33 **III.10.H.5.f.xvi** Documentation of LAW Vitrification System process and leak detection system
34 instruments and monitors as listed on Permit Tables [III.10.H.C](#), [III.10.H.F](#), [III.10.I.C](#),
35 and [III.10.I.F](#) to include:
- 36 A. Procurement specifications.
- 37 B. Location used.
- 38 C. Range, precision, and accuracy.
- 39 D. Detailed descriptions of calibration/functionality test procedures (either method
40 number ASTM) or provide a copy of manufacturer's recommended calibration
41 procedures.
- 42 E. Calibration/functionality test, inspection, and routine maintenance schedules and
43 checklists, including justification for calibration, inspection and maintenance
44 frequencies, criteria for identifying instruments found to be significantly out of

- 1 calibration, and corrective action to be taken for instruments found to be significantly
2 out of calibration (e.g., increasing frequency of calibration, instrument replacement,
3 etc.).
- 4 F. Equipment instrument control logic narrative description (e.g., descriptions of
5 failsafe conditions, etc.) [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B), and
6 [WAC 173-303-806](#)(4)(i)(v)].
- 7 **III.10.H.5.f.xvii** Outline of demonstration test report.
- 8

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>	<p>LMP</p>	<p><u>24590-LAW</u> -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 -P1-P01T-00002, Rev 7</p>	<p>Section 4.1.3.2, Table C-8, and Figures C1-1, C1-3 and C1-21 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Primary Offgas Process System</u> 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) LOP-FCLR-00004 (Melter 2 Standby Film Cooler)</p>	<p>LOP</p>	<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>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1, C1-3 and C1-21 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>LAW Primary Offgas Process System (Cont.)</u> LOP-SCB-00001 (Melter 1 Submerged Bed Scrubber) LOP-SCB-00002 (Melter 2 Submerged Bed Scrubber)</p>	<p>LOP</p>	<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</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>

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

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
		-NID-LOP-P0001, Rev 1 -P1-P01T-00002, Rev 7	
<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 0 -M6-LOP-00002004, Rev 0 -NID-LOP-00003, Rev 3 -P1-P01T-00002, Rev 7</p> <p><u>24590-WTP</u> -3PS-MKE0-T0001, Rev 5</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System</u> LVP-HEPA-00001A (Melter Offgas HEPA Filter) 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)</p>	LVP	<p><u>24590-LAW</u> -M5-V17T-00010, Rev 4 -M6-LVP-00001003, Rev 0 -P1-P01T-00005, Rev 6</p>	Section 4.1.3.3, Table C-8, Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u></p>	LVP	<p><u>24590-LAW</u> -M6-LVP-00005002, Rev 3</p>	Section 4.1.3.3, Table C-8, Figures C1-1 and

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-SCO-00001 (Thermal Catalytic Oxidizer – located on LVP-SKID-00002)			C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><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)</p>	LVP	<p><u>24590-LAW</u> -M6-LVP-00005002, Rev 3</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-ADBR-00001A (Offgas Mercury Adsorber – located on LVP-SKID-00001) LVP-ADBR-00001B (Offgas Mercury Adsorber – located on LVP-SKID-00001)</p>	LVP	<p><u>24590-LAW</u> -M5-V17T-00011, Rev 5 -M6-LVP-00004003, Rev 0 -P1-P01T-00005, Rev 6</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-SCB-00001 (Melter Offgas Caustic Scrubber)</p>	LVP	<p><u>24590-LAW</u> -P1-P01T-00005, Rev 6 -M6-LVP-00002002, Rev 0</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-HTR-00001A (Melter Offgas HEPA Preheater) LVP-HTR-00001B (Melter Offgas HEPA Preheater)</p>	LVP	<p><u>24590-LAW</u> -M5-V17T-00010, Rev 4 -M6-LVP-00001002, Rev 0 -P1-P01T-00005, Rev. 6</p>	Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.

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

Sub-system Description	Sub-system Designation	Engineering Description (Drawing Nos., Specification Nos., etc.)	Narrative Description, Tables and Figures
<p><u>LAW Secondary Offgas/Vessel Vent Process System (Cont.)</u> LVP-EXHR-00001A (Melter Offgas Exhauster) LVP-EXHR-00001B (Melter Offgas Exhauster) LVP-EXHR-00001C (Melter Offgas Exhauster)</p>	<p>LVP</p>	<p><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</p>	<p>Section 4.1.3.3, Table C-8, and Figures C1-1 and C1-3 in Operating Unit Group 10, Addendum C of this Permit.</p>

Table III.10.H.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 -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 -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 -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 -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					

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

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					

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.

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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 [F](#), 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,
23 Addendum C of this Permit, and Operating Unit Group 10, Appendices 9.1 through
24 9.17 of this Permit, as approved pursuant to Permit Conditions [III.10.H.5.a](#) through
25 [d](#) and [III.10.H.5.f](#).

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

31 **III.10.I.1.a.iii** Modifications to approved design, plans, and specifications in Operating Unit Group
32 10 of this Permit for the LAW Vitrification System will be allowed only in
33 accordance with Permit Conditions [III.10.C.2.e](#) and [f](#)., or [III.10.C.2.g](#)., [III.10.C.9.d](#).,
34 [e](#)., and [h](#).

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

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

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

7 **III.10.I.1.a.v** The Permittees will ensure periodic integrity assessments are conducted on the LAW
8 Vitrification System listed in Permit Table [III.10.I.A](#), as approved/modified pursuant
9 to Permit Condition [III.10.H.5](#), over the term of this Permit in accordance with
10 [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(3)(b), following the
11 description of the integrity assessment program and schedule in Operating Unit
12 Group 10, Addendum E of this Permit, as approved pursuant to Permit Conditions
13 [III.10.H.5.e.i](#) and [III.10.C.5.c](#). Results of the integrity assessments will be included
14 in the WTP Unit operating record until ten (10) years after post closure, or corrective
15 action is complete and certified, whichever is later.

16 **III.10.I.1.a.vi** The Permittees will address problems detected during the LAW Vitrification System
17 integrity assessments specified in Permit Condition [III.10.I.1.a.v](#), following the
18 description of the integrity assessment program in Operating Unit Group 10,
19 Addendum E of this Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i](#)
20 and [III.10.C.5.c](#).

21 **III.10.I.1.a.vii** All process monitors/instruments as specified in Permit Table [III.10.I.F](#), as
22 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#), will
23 be equipped with operational alarms to warn of deviation, or imminent deviation
24 from the limits specified in Permit Table [III.10.I.F](#).

25 **III.10.I.1.a.viii** The Permittees will install and test all process and leak detection system
26 monitors/instruments, as specified in Permit Tables [III.10.I.C](#) and [III.10.I.F](#), as
27 approved/modified pursuant to Permit Condition [III.10.H.5](#) and [III.10.H.3.d.v.](#), in
28 accordance with Operating Unit Group 10, Appendices 9.1, 9.2, and 9.14 of this
29 Permit, as approved pursuant to Permit Conditions [III.10.H.5.d.x](#) and
30 [III.10.H.5.f.xvi](#).

31 **III.10.I.1.a.ix** No dangerous and/or mixed waste will be treated in the LAW Vitrification System
32 unless the operating conditions, specified under Permit Condition [III.10.I.1.c](#) are
33 complied with.

34 **III.10.I.1.a.x** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or
35 other materials in the LAW Vitrification System if these substances could cause the
36 sub-system, sub-system equipment, or the containment system to rupture, leak,
37 corrode, or otherwise fail [[WAC 173-303-640](#)(5)(a), in accordance with
38 [WAC 173-303-680](#)(2)]. This condition is not applicable to corrosion of LAW
39 Vitrification System sub-system or sub-system equipment that are expected to be
40 replaced as part of normal operations (e.g., melters).

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

- 1 **III.10.I.1.a.xii** For routinely non-accessible LAW Vitrification System sub-systems, as specified in
2 Operating Unit Group 10, Addendum C of this Permit, as updated pursuant to Permit
3 Condition [III.10.H.5.e.vi.](#), the Permittees will mark all routinely non-accessible LAW
4 Vitrification System sub-systems access points with labels or signs to identify the
5 waste contained in each LAW Vitrification System sub-system. The label, or sign,
6 must be legible at a distance of at least fifty (50) feet and must bear a legend which
7 identifies the waste in a manner which adequately warns employees, emergency
8 response personnel, and the public of the major risk(s) associated with the waste
9 being stored or treated in the LAW Vitrification System sub-systems. For the
10 purposes of this permit condition, “routinely non-accessible” means personnel are
11 unable to enter these areas while waste is being managed in them
12 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 13 **III.10.I.1.a.xiii** For the LAW Vitrification System sub-systems not addressed in Permit Condition
14 [III.10.I.1.a.xii.](#), the Permittees will mark these LAW Vitrification System sub-
15 systems holding dangerous and/or mixed waste with labels or signs to identify the
16 waste contained in the LAW Vitrification System sub-systems. The labels, or signs,
17 must be legible at a distance of at least fifty (50) feet and must bear a legend which
18 identifies the waste in a manner which adequately warns employees, emergency
19 response personnel, and the public of the major risk(s) associated with the waste
20 being stored or treated in the LAW Vitrification System sub-systems
21 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 22 **III.10.I.1.a.xiv** The Permittees will ensure that the secondary containment systems for the LAW
23 Vitrification System sub-systems listed in Permit Tables [III.10.I.A](#) and [III.10.I.B](#), as
24 approved/modified pursuant to Permit Condition [III.10.H.5](#), are free of cracks or gaps
25 to prevent any migration of dangerous and/or mixed waste or accumulated liquid out
26 of the system to the soil, groundwater, or surface water at any time during use of the
27 LAW Vitrification System sub-systems. Any indication that a crack or gap may exist
28 in the containment systems will be investigated and repaired in accordance with
29 Operating Unit Group 10, Appendix 9.18 of this Permit, as approved pursuant to
30 Permit Condition [III.10.H.5.e.v.](#) [[WAC 173-303-640](#)(4)(b)(i),
31 [WAC 173-303-640](#)(4)(e)(i)(C), and [WAC 173-303-640](#)(6), in accordance with
32 [WAC 173-303-680](#)(2) and (3), [WAC 173-303-806](#)(4)(i)(i)(B), and
33 [WAC 173-303-320](#)].
- 34 **III.10.I.1.a.xv** The Permittees must immediately, and safely, remove from service any LAW
35 Vitrification System or secondary containment system which through an integrity
36 assessment is found to be “unfit for use” as defined in [WAC 173-303-040](#), following
37 Permit Condition [III.10.I.1.a.xvii.](#) [A](#) through [D](#), and [E](#). The affected LAW
38 Vitrification System or secondary containment system must be either repaired or
39 closed in accordance with Permit Condition [III.10.I.1.a.xvii.E](#)
40 [[WAC 173-303-640](#)(7)(e) and (f) and [WAC 173-303-640](#)(8), in accordance with
41 [WAC 173-303-680](#)(3)].
- 42 **III.10.I.1.a.xvi** An impermeable coating, as specified in Operating Unit Group 10, Appendices 9.4,
43 9.5, 9.7, 9.9, 9.11, and 9.12 of this Permit, as approved pursuant to Permit Condition
44 [III.10.H.5.b.v.](#), will be maintained for all concrete containment systems and concrete
45 portions of containment systems for the LAW Vitrification System sub-systems listed
46 in Permit Tables [III.10.I.A](#) and [III.10.I.B](#), as approved/modified pursuant to Permit
47 Condition [III.10.H.5](#) (concrete containment systems that do not have a liner, pursuant
48 to [WAC 173-303-640](#)(4)(e)(i), in accordance with [WAC 173-303-680](#)(2), and have
49 construction joints, will meet the requirements of [WAC 173-303-640](#)(4)(e)(ii)(C), in

1 accordance with [WAC 173-303-680](#)(2). The coating will prevent migration of any
2 dangerous and/or mixed waste into the concrete. All coatings will meet the following
3 performance standards:

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

14 **III.10.I.1.a.xvii** The Permittees inspect all secondary containment systems for the LAW Vitrification
15 System sub-systems listed in Permit Tables [III.10.I.A](#) and [III.10.I.B](#), as
16 approved/modified pursuant to Permit Condition [III.10.H.5](#), in accordance with the
17 Inspection Schedule specified in Operating Unit Group 10, Addendum E1 of this
18 Permit, as approved pursuant to Permit Conditions [III.10.H.5.e.i.](#) and [III.10.C.5.c.](#),
19 and take the following actions if a leak or spill of dangerous and/or mixed waste is
20 detected in these containment systems [[WAC 173-303-640](#)(5)(c) and
21 [WAC 173-303-640](#)(6), in accordance with [WAC 173-303-680](#)(2) and (3),
22 [WAC 173-303-320](#), and [WAC 173-303-806](#)(4)(i)(i)(B)].

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

1 System in accordance with Operating Unit Group 10, Appendix 9.18 of this
2 Permit, as approved pursuant to Permit Condition [III.10.H.5.e.v.](#), before the
3 LAW Vitrification System is placed back into service
4 [[WAC 173-303-640\(7\)\(e\)\(iii\)](#) and [WAC 173-303-640\(7\)\(f\)](#), in accordance
5 with [WAC 173-303-680](#)].

6 F. The Permittees will document in the WTP Unit operating record actions/procedures
7 taken to comply with A through E above, as specified in [WAC 173-303-640\(6\)\(d\)](#), in
8 accordance with [WAC 173-303-680\(2\)](#) and (3).

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

12 **III.10.I.1.a.xviii** If liquids (e.g., dangerous and/or mixed waste, leaks and spills, precipitation, fire
13 water, liquids from damaged or broken pipes) cannot be removed from the secondary
14 containment system within twenty-four (24) hours, Ecology will be verbally notified
15 within twenty-four (24) hours of discovery. The notification will provide the
16 information in A, B, and C, listed below. The Permittees will provide Ecology with a
17 written demonstration within seven (7) business days, identifying at a minimum
18 [[WAC 173-303-640\(4\)\(c\)\(iv\)](#) and [WAC 173-303-640\(7\)\(b\)\(ii\)](#), in accordance with
19 [WAC 173-303-680\(3\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)]:

20 A. Reasons for delayed removal.

21 B. Measures implemented to ensure continued protection of human health and the
22 environment.

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

24 **III.10.I.1.a.xix** All air pollution control devices and capture systems in the LAW Vitrification
25 System will be maintained and operated at all times in a manner so as to minimize
26 the emissions of air contaminants and to minimize process upsets. Procedures for
27 ensuring that the air pollution control devices and capture systems in the LAW
28 Vitrification System are properly operated and maintained so as to minimize the
29 emission of air contaminants and process upsets will be established.

30 **III.10.I.1.a.xx** In all future narrative permit submittals, the Permittees will include LAW
31 Vitrification sub-system names with the sub-system designation.

32 **III.10.I.1.a.xxi** For any portion of the LAW Vitrification System that has the potential for formation
33 and accumulation of hydrogen gases, the Permittees will operate the portion to
34 maintain hydrogen levels below the lower explosive limit
35 [[WAC 173-303-815\(2\)\(b\)\(ii\)](#)].

36 **III.10.I.1.a.xxii** For each LAW Vitrification System sub-system holding dangerous and/or mixed
37 waste that are acutely or chronically toxic by inhalation, the Permittees will operate
38 the system to prevent escape of vapors, fumes, or other emissions into the air
39 [[WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#) and [WAC 173-303-640\(5\)\(e\)](#), in accordance with
40 [WAC 173-303-680](#)].

41 **III.10.I.1.a.xxiii** The existing LAW building will retain capability to install the third melter before or
42 after hot start-up. No permanent systems, structures, or components shall be installed
43 in the melter cell, pour cave or wet process cell for the third melter that would
44 preclude future installation of the third melter.

- 1 **III.10.I.1.b** Performance Standards
- 2 **III.10.I.1.b.i** The LAW Vitrification System must achieve a destruction and removal efficiency
3 (DRE) of 99.99% for the principal organic dangerous constituents (PODCs) listed
4 below [[40 CFR §63.1203\(c\)\(1\)](#) and [40CFR §63.1203\(c\)\(2\)](#), in accordance with
5 [WAC 173-303-680\(2\)](#)];
- 6 RESERVED
- 7 DRE in this permit condition will be calculated in accordance with the formula given
8 below:
- 9 $DRE=[1-(W_{out}/W_{in})] \times 100\%$
- 10 Where:
- 11 W_{in} =mass feed rate of one principal organic dangerous constituent (PODC) in a
12 waste feed stream; and
- 13 W_{out} =mass emission rate of the same PODC present in exhaust emissions prior to
14 release to the atmosphere.
- 15 **III.10.I.1.b.ii** Particulate matter emissions from the LAW Vitrification System will not exceed 34
16 mg/dscm (0.015 grains/dscf) [[40 CFR §63.1203\(b\)\(7\)](#), in accordance with
17 [WAC 173-303-680\(2\)](#)];
- 18 **III.10.I.1.b.iii** Hydrochloric acid and chlorine gas emissions from the LAW Vitrification System
19 will not exceed 21 ppmv, combined [[40 CFR §63.1203\(b\)\(6\)](#), in accordance with
20 [WAC 173-303-680\(2\)](#)];
- 21 **III.10.I.1.b.iv** Dioxin and Furan TEQ emissions from the LAW Vitrification System will not
22 exceed 0.2 nanograms (ng)/dscm, [[40 CFR §63.1203\(b\)\(1\)](#), in accordance with
23 [WAC 173-303-680\(2\)](#)];
- 24 **III.10.I.1.b.v** Mercury emissions from the LAW Vitrification System will not exceed 45 µg/dscm
25 [[40 CFR §63.1203\(b\)\(2\)](#), in accordance with [WAC 173-303-680\(2\)](#)];
- 26 **III.10.I.1.b.vi** Lead and cadmium emissions from the LAW Vitrification System will not exceed
27 120 µg/dscm, combined [[40 CFR §63.1203\(b\)\(3\)](#), in accordance with
28 [WAC 173-303-680\(2\)](#)];
- 29 **III.10.I.1.b.vii** Arsenic, beryllium, and chromium emissions from the LAW Vitrification System
30 will not exceed 97 µg/dscm, combined [[40 CFR §63.1203\(b\)\(4\)](#), in accordance with
31 [WAC 173-303-680\(2\)](#)];
- 32 **III.10.I.1.b.viii** Carbon monoxide (CO) emission from the LAW Vitrification System will not exceed
33 100 parts per million (ppm) by volume, over an hourly rolling average (as measured
34 and recorded by the continuous monitoring system), dry basis
35 [[40 CFR §63.1203\(b\)\(5\)\(i\)](#), in accordance with [WAC 173-303-680\(2\)](#) and (3)];
- 36 **III.10.I.1.b.ix** Hydrocarbon emission from the LAW Vitrification System will not exceed 10 parts
37 per million (ppm) by volume, over an hourly rolling average (as measured and
38 recorded by the continuous monitoring system during demonstration testing required
39 by this Permit), dry basis and reported as propane [[40 CFR §63.1203\(b\)\(5\)\(ii\)](#), in
40 accordance with [WAC 173-303-680\(2\)](#) and (3)];
- 41 **III.10.I.1.b.x** If the emissions from the LAW Vitrification System exceed the emission rates listed
42 in Permit Table [III.10.I.E](#), as approved pursuant to Permit Condition [III.10.C.11.c](#), or

1 [d.](#), the Permittees will perform the following actions [[WAC 173-303-680](#)(2) and (3),
2 and [WAC 173-303-815](#)(2)(b)(ii)]:

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

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

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

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

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

44 The Permittees will operate the LAW Vitrification System in accordance with Operating
45 Unit Group 10, Addendum C of this Permit, as updated pursuant to Permit Condition
46 [III.10.H.5.e.vi.](#) and Operating Unit Group 10, Appendix 9.18 of this Permit, as approved
47 pursuant to Permit Condition [III.10.H.5.e.](#), 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 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
3 in accordance with and the following:

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

1 is counted at a frequency of one (1) towards the first waste feed cut-off parameter,
2 specified in Permit Table [III.10.I.F](#), from which the set-point is deviated:

- 3 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.I.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.I.1.c.viii** If greater than thirty (30) dangerous and/or mixed waste feed cut-off, combined, to
8 the LAW Vitrification System occur due to deviations from Permit Table [III.10.I.F](#),
9 as approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v](#),
10 within a thirty (30) day period, the Permittees will submit the written report required
11 to be submitted pursuant to Permit Condition [III.10.I.1.c.vii](#) to Ecology on the first
12 business day following the thirty-first exceedance. These dangerous and/or mixed
13 waste feed cut-offs to the LAW Vitrification System, whether automatically or
14 manually activated, are counted if the specified set-points are deviated from while
15 dangerous and/or mixed waste and waste residues continue to be processed in the
16 LAW Vitrification System. A cascade event is counted at a frequency of one (1)
17 towards the first waste feed cut-off parameter, specified on Permit Table [III.10.I.F](#),
18 from which the set-point is deviated:

19 In accordance with [WAC 173-303-680](#)(2) and (3), the Permittees may not resume
20 dangerous and/or mixed waste feed to the LAW Vitrification System until this written
21 report has been submitted, and

- 22 A. Ecology has authorized the Permittees, in writing, to resume dangerous and/or mixed
23 waste feed, or
- 24 B. Ecology has not, within seven (7) days, notified the Permittees in writing of the
25 following:
 - 26 1. The Permittees written report does not document that the corrective measures
27 taken will minimize future exceedances.
 - 28 2. The Permittees must take further corrective measures and document that
29 these further corrective measures will minimize future exceedances.

30 **III.10.I.1.c.ix** If any portion of the LAW Vitrification System is bypassed while treating dangerous
31 and/or mixed waste, it will be regarded as non-compliance with the operating
32 conditions specified in Permit Condition [III.10.I.1.c](#) and the performance standards
33 specified in Permit Condition [III.10.I.1.b](#). After such a bypass event, the Permittees
34 will perform the following actions:

- 35 A. Investigate the cause of the bypass event.
- 36 B. Take appropriate corrective measures to minimize future bypasses.
- 37 C. Record the investigation findings and corrective measures in the WTP Unit operating
38 record.
- 39 D. Submit a written report to Ecology within five (5) days of the bypass event
40 documenting the result of the investigation and corrective measures.

41 **III.10.I.1.c.x** The Permittees will control fugitive emissions from the LAW Vitrification System by
42 maintaining the melters under negative pressure.

43 **III.10.I.1.c.xi** Except during periods of vitrification system startup and shutdown, compliance with
44 the operating conditions specified in Permit Condition [III.10.I.1.c](#) will be regarded as
45 compliance with the required performance standards identified in Permit Condition

- 1 [III.10.I.1.b.](#) However, evidence that compliance with these operating conditions is
2 insufficient to ensure compliance with the performance standards, will justify
3 modification, revocation, or re-issuance of this Permit, in accordance with Permit
4 Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#)
- 5 **III.10.I.1.d** Inspection Requirements [[WAC 173-303-680\(3\)](#)]
- 6 **III.10.I.1.d.i** The Permittees will inspect the LAW Vitrification System in accordance with the
7 Inspection Schedules in Operating Unit Group 10, Addendum E1 of this Permit, as
8 modified in accordance with Permit Condition [III.10.C.5.c.](#)
- 9 **III.10.I.1.d.ii** The inspection data for LAW Vitrification System will be recorded, and the records
10 will be placed in the WTP Unit operating record for LAW Vitrification System, in
11 accordance with Permit Condition [III.10.C.4.](#)
- 12 **III.10.I.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating
13 Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to Permit
14 Condition [III.10.H.5.f.](#) and as modified by Permit Conditions [III.10.H.3,](#)
15 [III.10.I.1.b.x.,](#) [III.10.I.1.b.xii.,](#) and [III.10.I.1.h.](#)
- 16 **III.10.I.1.e** Monitoring Requirements [[WAC 173-303-670\(5\),](#) [WAC 173-303-670\(6\),](#)
17 [WAC 173-303-670\(7\),](#) and [WAC 173-303-807\(2\),](#) in accordance with
18 [WAC 173-303-680\(3\)](#)]
- 19 **III.10.I.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
20 and analysis of the dangerous and/or mixed waste and exhaust emissions to verify
21 that the operating requirements established in the Permit achieve the performance
22 standards delineated in this Permit.
- 23 **III.10.I.1.e.ii** The Permittees will comply with the monitoring requirements specified in the
24 Operating Unit Group 10, Appendices 9.2, 9.3, 9.7, 9.13, 9.15 and 9.18 of this
25 Permit, as approved pursuant to Permit Condition [III.10.H.5,](#) and as modified by
26 Permit Conditions [III.10.H.3,](#) [III.10.I.1.h.,](#) [III.10.I.1.b.x.,](#) and [III.10.I.1.b.xii.](#)
- 27 **III.10.I.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
28 hydrocarbon continuous emission monitors (CEM) specified in this Permit in
29 accordance with Performance Specifications 4B and 8A of [40 CFR Part 60,](#)
30 Appendix B, in accordance with Appendix to Subpart EEE of [40 CFR Part 63,](#) and
31 Operating Unit Group 10 Appendix 9.15 of this Permit, as approved pursuant to
32 Permit Condition [III.10.H.5.f.,](#) and as modified by Permit Conditions [III.10.H.3,](#)
33 [III.10.I.1.h.,](#) [III.10.I.1.b.x.,](#) and [III.10.I.1.b.xii.](#)
- 34 **III.10.I.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified in
35 Permit Tables [III.10.I.C](#) and [F,](#) as approved/modified pursuant to Permit Conditions
36 [III.10.H.5](#) and [III.10.H.3.d.v.,](#) in accordance with Operating Unit Group 10,
37 Appendix 9.15 of this Permit, as approved pursuant to Permit Condition [III.10.H.5.f.,](#)
38 and as modified by Permit Conditions [III.10.H.3,](#) [III.10.I.1.h.,](#) [III.10.I.1.b.x.,](#) and
39 [III.10.I.1.b.xii.](#)
- 40 **III.10.I.1.e.v** The Permittees shall calibrate, inspect, and maintain or replace the following Melter
41 1 and Melter 2 cooling water flow and temperature instruments in accordance with
42 manufacturer's recommendations, or as specified in this permit, or otherwise agreed
43 to by Ecology (Melter 1: FT/TI&FI-1206, FT/TI&FI-1209, FT/TI&FI-1215,
44 FT/TI&FI-1218, FT/TI&FI-1221, FT/TI&FI-1224, FT/TI&FI-1227, FT/TI&FI-1233,
45 FT/TI&FI-1236, FT/TI&FI-1536, FT/TI&FI-1539; Melter 2: FT/TI&FI-2206,
46 FT/TI&FI-2209, FT/TI&FI-2215, FT/TI&FI-2218, FT/TI&FI-2221, FT/TI&FI-2224,

- 1 FT/TI&FI-2227, FT/TI&FI-2233, FT/TI&FI-2236, FT/TI&FI-2536, FT/TI&FI-
2 2539).
- 3 **III.10.I.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680](#)(3)]
- 4 **III.10.I.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the
5 LAW Vitrification System, all monitoring, calibration, maintenance, test data, and
6 inspection data compiled under the conditions of this Permit, in accordance with
7 Permit Conditions [III.10.C.4](#) and [5](#), as modified by Permit Conditions [III.10.H.3](#),
8 [III.10.I.1.h](#), [III.10.I.1.b.x](#), and [III.10.I.1.b.xii](#).
- 9 **III.10.I.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and
10 duration of all automatic waste feed cutoffs and/or lockouts, including the triggering
11 parameters, reason for the deviation, and recurrence of the incident.
12 The Permittees will also record all incidents of AWFCO system function failures,
13 including the corrective measures taken to correct the condition that caused the
14 failure.
- 15 **III.10.I.1.f.iii** The Permittees will submit to Ecology an annual report each calendar year within
16 ninety (90) days following the end of the year. The report will include the following
17 information:
- 18 A. Total dangerous and/or mixed waste feed processing time for the LAW Vitrification
19 System.
- 20 B. Date/Time of all LAW Vitrification System startups and shutdowns.
- 21 C. Date/Time/Duration/Cause/Corrective Action taken for all LAW Vitrification System
22 shutdowns caused by malfunction of either process or control equipment.
- 23 D. Date/Time/Duration/Cause/Corrective Action taken for all instances of dangerous
24 and/or mixed waste feed cut-off due to deviations from Permit Table [III.10.I.F](#), as
25 approved/modified pursuant to Permit Conditions [III.10.H.5](#) and [III.10.H.3.d.v](#).
- 26 **III.10.I.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within
27 ninety (90) days following the end of the year of all quarterly CEM Calibration Error
28 and Annual CEM Performance Specification Tests conducted, in accordance with
29 Permit Condition [III.10.I.1.e.iii](#).
- 30 **III.10.I.1.f.v** The Permittees shall maintain operating and calibration/maintenance records for
31 Ecology's inspection for the following Melter 1 and Melter 2 cooling water flow and
32 temperature instruments (Melter 1: FT/TI&FI-1206, FT/TI&FI-1209, FT/TI&FI-
33 1215, FT/TI&FI-1218, FT/TI&FI-1221, FT/TI&FI-1224, FT/TI&FI-1227,
34 FT/TI&FI-1233, FT/TI&FI-1236, FT/TI&FI-1536, FT/TI&FI-1539; Melter 2:
35 FT/TI&FI-2206, FT/TI&FI-2209, FT/TI&FI-2215, FT/TI&FI-2218, FT/TI&FI-2221,
36 FT/TI&FI-2224, FT/TI&FI-2227, FT/TI&FI-2233, FT/TI&FI-2236, FT/TI&FI-2536,
37 FT/TI&FI-2539).
- 38 **III.10.I.1.f.vi** The Permittees shall maintain refractory thermocouple temperature data for Ecology
39 inspection.
- 40 **III.10.I.1.g** Closure
- 41 The Permittees will close the LAW Vitrification System in accordance with Operating
42 Unit Group 10, Addendum H of this Permit, as approved pursuant to Permit Condition
43 [III.10.C.8](#).

1 **III.10.I.1.h** Periodic Emission Re-testing Requirements [[WAC 173-303-670\(5\)](#),
2 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
3 [WAC 173-303-680\(2\)](#) and (3)]

4 **III.10.I.1.h.i** Dioxin and Furan Emission Testing

5 A. Within eighteen (18) months of commencing operation pursuant to Permit Section
6 [III.10.I](#), the Permittees will submit to Ecology for approval, a Dioxin and Furan
7 Emission Test Plan (DFETP) for the performance of emission testing of the LAW
8 Vitrification System gases for dioxin and furans during “Normal Operating
9 Conditions” as a permit modification in accordance with Permit Conditions
10 [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The DFETP will include all elements applicable to
11 dioxin and furan emission testing included in the “Previously Approved
12 Demonstration Test Plan,” applicable EPA promulgated test methods and procedures
13 in effect at the time of the submittal, and projected commencement and completion
14 dates for dioxin and furan emission test. “Normal Operating Conditions” will be
15 defined for the purposes of this permit condition as follows:

- 16 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
17 automatic waste feed cut-off parameters specified in Permit Table [III.10.I.F](#)
18 (as approved/modified pursuant to Permit Conditions [III.10.H.5](#) and
19 [III.10.H.3.d.v.](#)), that were established to maintain compliance with Permit
20 Condition [III.10.I.1.b.iv.](#) as specified in Operating Unit Group 10, Appendix
21 9.15 of this Permit (as approved pursuant to Permit Condition [III.10.H.3.d.](#), and
22 in accordance with [III.10.I.1.b.xii.](#) and [III.10.I.1.c.xi.](#)), are held within the range
23 of the average value over the previous twelve (12) months and the set-point
24 value specified in Permit Table [III.10.I.F](#). The average value is defined as the
25 sum of the rolling average values recorded over the previous twelve (12) months
26 divided by the number of rolling averages recorded during that time. The
27 average value will not include calibration data, malfunction data, and data
28 obtained when not processing dangerous and/or mixed waste.
- 29 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the
30 average value over the previous twelve (12) months and the set-point value
31 specified on Permit Table [III.10.I.D](#) (as approved/modified pursuant to Permit
32 Conditions [III.10.H.5](#) and [III.10.H.3.d.v.](#)). Feed-rate of organics as measured by
33 TOC are held within the range of the average value over the previous twelve
34 (12) months. The average value is defined as the sum of the rolling average
35 values recorded over the previous twelve (12) months divided by the number of
36 rolling averages recorded during that time. The average value will not include
37 data obtained when not processing dangerous and/or mixed waste.

38 For purposes of this permit condition, the “Previously Approved Demonstration Test
39 Plan” is defined to include the Demonstration Test Plan approved pursuant to Permit
40 Condition [III.10.H.5.f.](#)

41 B. Within sixty (60) days of Ecology’s approval of the DFETP, or within thirty-one (31)
42 months of commencing operation pursuant to Permit Section [III.10.I](#), whichever is
43 later, the Permittees will implement the DFETP approved pursuant to Permit
44 Condition [III.10.I.1.h.i.A.](#)

45 C. The Permittees will resubmit the DFETP, approved pursuant to Permit Condition
46 [III.10.I.1.h.i.A.](#), revised to include applicable EPA promulgated test methods and
47 procedures in effect at the time of the submittal, and projected commencement and

1 completion dates for dioxin and furan emission test as a permit modification in
2 accordance with Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) at twenty-four (24)
3 months from the implementation date of the testing required pursuant to Permit
4 Condition [III.10.I.1.h.i.A](#) and at reoccurring eighteen (18) month intervals from the
5 implementation date of the previously approved DFETP. The Permittees will
6 implement these newly approved revised DFETPs, every thirty-one (31) months from
7 the previous approved DFETP implementation date or within sixty (60) days of the
8 newly Ecology approved revised DFETP, whichever is later, for the duration of this
9 Permit.

10 D. The Permittees will submit a summary of operating data collected pursuant to the
11 DFETPs in accordance with Permit Conditions [III.10.I.1.h.i.A](#) and [C](#) to Ecology upon
12 completion of the tests. The Permittees will submit to Ecology the complete test
13 report within ninety (90) calendar days of completion of the testing. The test reports
14 will be certified as specified in [WAC 173-303-807](#)(8), in accordance with
15 [WAC 173-303-680](#)(2) and (3).

16 E. If any calculations or testing results collected pursuant to the DFETPs in accordance
17 with Permit Conditions [III.10.I.1.h.i.A](#) and [C](#). show that one or more of the
18 performance standards listed in Permit Condition [III.10.I.1.b.](#), with the exception of
19 Permit Condition [III.10.I.1.b.x.](#), for the LAW Vitrification System were not met
20 during the emission test, the Permittees will perform the following actions:

- 21 1. Immediately stop dangerous and/or mixed waste feed to the LAW Vitrification
22 System under the mode of operation that resulted in not meeting the
23 performance standard(s).
- 24 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
25 meeting the performance standard(s), as specified in Permit Condition I.E.21.
- 26 3. Investigate the cause of the failure and submit a report of the investigation
27 findings to Ecology within fifteen (15) days of discovery of not meeting the
28 performance standard(s).
- 29 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
30 performance standard(s) documentation supporting a mode of operation where
31 all performance standards listed in Permit Condition [III.I.1.b.](#), with the
32 exception of Permit Condition [III.10.I.1.b.x.](#), for the LAW Vitrification System
33 were met during the demonstration test, if any such mode was demonstrated.
- 34 5. Based on the information provided to Ecology by the Permittees pursuant to
35 Permit Conditions [III.10.I.1.h.i.E.1](#) through [4](#) above, and any additional
36 information, Ecology may provide in writing, direction to the Permittees to stop
37 dangerous waste and mixed waste feed to the LAW Vitrification System and/or
38 amend the mode of operation the Permittees are allowed to continue operations
39 prior to Ecology approval of the revised Demonstration Test Plan pursuant to
40 Permit Condition [III.10. I.1.h.i.E.6](#).
- 41 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
42 not meeting the performance standard(s) a revised Demonstration Test Plan
43 requesting approval to retest as a permit modification pursuant to Permit
44 Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The revised Demonstration Test Plan
45 must include substantive changes to prevent failure from reoccurring reflecting
46 performance under operating conditions representative of the extreme range of
47 normal conditions, and include revisions to Permit Tables [III.10.I.D](#) and [F](#).

- 1 F. If any calculations or testing results collected pursuant to the DFETPs in accordance
2 with Permit Conditions [III.10.I.1.h.i.A](#) and [C](#) show that any emission rate for any
3 constituent listed in Permit Table [III.10.I.E](#), as approved/modified pursuant to Permit
4 Conditions [III.10.C.11.c](#) or [d](#) is exceeded for LAW Vitrification System during the
5 emission test, the Permittees will perform the following actions:
- 6 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
7 exceeding the emission rate(s), as specified in Permit Condition I.E.21.
 - 8 2. Submit to Ecology additional risk information to indicate that the increased
9 emissions impact is off-set by decreased emission impact from one or more
10 constituents expected to be emitted at the same time, and/or investigate the
11 cause and impact of the exceedance and submit a report of the investigation
12 findings to Ecology within fifteen (15) days of this discovery of exceeding the
13 emission rate(s).
 - 14 3. Based on the notification and any additional information, Ecology may provide,
15 in writing, direction to the Permittees to stop dangerous and/or mixed waste feed
16 to the LAW Vitrification System and/or to submit a revised Demonstration Test
17 Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e](#) and [f](#),
18 or [III.10.C.2.g](#). The revised Demonstration Test Plan must include substantive
19 changes to prevent failure from reoccurring reflecting performance under
20 operating conditions representative of the extreme range of normal conditions,
21 and include revisions to Permit Tables [III.10.I.D](#) and [III.10.I.F](#).

22 **III.10.I.1.h.ii** Non-organic Emission Testing

- 23 A. Within forty-eight (48) months of commencing operation pursuant to Permit Section
24 [III.10.I](#), the Permittees will resubmit to Ecology for approval the “Previously
25 Approved Demonstration Test Plan” revised as a permit modification in accordance
26 with Permit Conditions [III.10.C.2.e](#) and [III.10.C.2f](#). The revised Demonstration Test
27 Plan (RDTP) will include applicable EPA promulgated test methods and procedures
28 in effect at the time of the submittal, projected commencement and completion dates
29 for emission testing to demonstrate performance standards specified in Permit
30 Conditions [III.10.I.1.b.ii](#), [iii](#), [v](#), [vi](#), and [vii](#), and non-organic emissions as specified
31 in Permit Table [III.10.I.E](#), as approved/modified pursuant to Permit Conditions
32 [III.10.H.3.d](#) and [III.10.C.11.c](#) or [d](#), under “Normal Operating Conditions.”
33 “Normal Operating Conditions” will be defined for the purposes of this permit
34 condition as follows:
- 35 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
36 automatic waste feed cut-off parameters specified in Permit Table [III.10.I.F](#), as
37 approved/modified pursuant to Permit Conditions [III.10.H.3.d](#) and
38 [III.10.C.11.c](#) or [d](#), that were established to maintain compliance with Permit
39 Conditions [III.10.I.1.b.ii](#), [iii](#), [v](#), [vi](#), and [vii](#), and non-organic emissions, as
40 specified in Permit Table [III.10.I.E](#), as specified in Operating Unit Group 10,
41 Appendix 9.15 of this Permit (as approved pursuant to Permit Conditions
42 [III.10.H.3.d](#) and [III.10.C.11.c](#) or [d](#)), are held within the range of the average
43 value over the previous twelve (12) months and the set-point value specified in
44 Permit Table [III.10.I.F](#). The average value is defined as the sum of the rolling
45 average values recorded over the previous twelve (12) months divided by the
46 number of rolling averages recorded during that time. The average value will
47 not include calibration data, malfunction data, and data obtained when not
48 processing dangerous or mixed waste.

- 1 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the
2 average value over the previous twelve (12) months and the set-point value
3 specified in Permit Table [III.10.I.D](#), as approved/modified pursuant to Permit
4 Conditions [III.10.H.3.d](#) and [III.10.C.11.c](#) or [d](#). The average value is defined as
5 the sum of all rolling average values recorded over the previous twelve (12)
6 months divided by the number of rolling averages recorded during that time.
7 The average value will not include data obtained when not processing dangerous
8 or mixed waste.

9 For purposes of this permit condition, the “Previously Approved Demonstration Test
10 Plan” is defined to include the Demonstration Test Plan approved pursuant to Permit
11 Condition [III.10.H.5.f](#).

- 12 B. Within sixty (60) days of Ecology’s approval of the RDTP, or within sixty (60)
13 months of commencing operation pursuant to Permit Section [III.10.I](#), whichever is
14 later, the Permittees will implement the RDTP approved pursuant to Permit
15 Condition [III.10.I.1.h.ii.A](#).
- 16 C. The Permittees will resubmit the RDTP, approved pursuant to Permit Condition
17 [III.10.I.1.h.ii.A](#), revised to include applicable EPA promulgated test methods and
18 procedures in effect at the time of the submittal, and projected commencement and
19 completion dates for emission test as a permit modification in accordance with
20 Permit Conditions [III.10.C.2.e](#) and [f](#). at forty-eight (48) months from the
21 implementation date of the testing required pursuant to Permit Condition
22 [III.10.I.1.h.ii.A](#) and at reoccurring forty-eight (48) month intervals from the
23 implementation date of the previously approved RDTP. The Permittees will
24 implement these newly approved revised RDTP, every sixty (60) months from the
25 previous approved RDTP implementation date or within sixty (60) days of the newly
26 Ecology approved revised RDTP, whichever is later, for the duration of this Permit.
- 27 D. The Permittees will submit a summary of operating data collected pursuant to the
28 RDTPs in accordance with Permit Conditions [III.10.I.1.h.ii.A](#) and [C](#) to Ecology upon
29 completion of the tests. The Permittees will submit to Ecology the complete test
30 report within ninety (90) calendar days of completion of the testing. The test reports
31 will be certified pursuant to [WAC 173-303-807](#)(8), in accordance with
32 [WAC 173-303-680](#)(2) and (3).
- 33 E. If any calculations or testing results collected pursuant to the RDTPs in accordance
34 with Permit Conditions [III.10.I.1.h.ii.A](#) and [C](#) show that any emission rate for any
35 constituent listed in Permit Table [III.10.I.E](#), as approved/modified pursuant to Permit
36 Conditions [III.10.H.3.d](#) and [III.10.C.11.c](#) or [d](#), is exceeded for LAW Vitrification
37 System during the emission test, the Permittees will perform the following actions:
- 38 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
39 exceeding the emission rate(s), as specified in Permit condition I.E.21;
- 40 2. Submit to Ecology additional risk information to indicate that the increased
41 emissions impact is off-set by decreased emission impact from one or more
42 constituents expected to be emitted at the same time, and/or investigate the
43 cause and impact of the exceedance and submit a report of the investigation
44 findings to Ecology within fifteen (15) days of this discovery of exceeding the
45 emission rate(s); and
- 46 3. Based on the notification and any additional information, Ecology may provide,
47 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.](#) and [f.](#),
3 or [III.10.C.2.g.](#) The revised Demonstration Test Plan must include substantive
4 changes to prevent failure from reoccurring reflecting performance under
5 operating conditions representative of the extreme range of normal conditions,
6 and include revisions to Permit Tables [III.10.I.D](#) and [III.10.I.F.](#)

7 F. If any calculations or testing results collected pursuant to the RDTPs in accordance
8 with Permit Conditions [III.10.I.1.h.ii.A](#) and [C](#) show that one or more of the
9 performance standards listed in Permit Condition [III.10.I.1.b.](#), with the exception of
10 Permit Condition [III.10.I.1.b.x.](#), for the LAW Vitrification System were not met
11 during the emission test, the Permittees will perform the following actions:

- 12 1. Immediately stop dangerous and/or mixed waste feed to the LAW Vitrification
13 System under the mode of operation that resulted in not meeting the
14 performance standard(s);
- 15 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
16 meeting the performance standard(s), as specified in Permit condition I.E.21;
- 17 3. Investigate the cause of the failure and submit a report of the investigation
18 findings to Ecology within fifteen (15) days of discovery of not meeting the
19 performance standard(s);
- 20 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
21 performance standard(s) documentation supporting a mode of operation where
22 all performance standards listed in Permit Condition [III.1.1.b.](#), with the
23 exception of Permit Condition [III.10.I.1.b.x.](#), for the LAW Vitrification System
24 were met during the demonstration test, if any such mode was demonstrated;
- 25 5. Based on the information provided to Ecology by the Permittees pursuant to
26 Permit Conditions [III.10.I.1.h.ii.F.1](#) through [4](#) above, and any additional
27 information, Ecology may provide in writing, direction to the Permittees to stop
28 dangerous and/or mixed waste feed to the LAW Vitrification System and/or
29 amend the mode of operation the Permittees are allowed to continue operations
30 prior to Ecology approval of the revised Demonstration Test Plan pursuant to
31 Permit Condition [III.10.I.1.h.ii.F.6](#); and
- 32 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
33 not meeting the performance standard(s) a revised Demonstration Test Plan
34 requesting approval to retest as a permit modification pursuant to Permit
35 Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan must
36 include substantive changes to prevent failure from reoccurring reflecting
37 performance under operating conditions representative of the extreme range of
38 normal conditions, and include revisions to Permit Tables [III.10.I.D](#) and [F.](#)

39 **III.10.I.1.h.iii** Other Emission Testing

40 A. Within seventy-eight (78) months of commencing operation pursuant to Permit
41 Section [III.10.I.](#), the Permittees will resubmit to Ecology for approval the “Previously
42 Approved Demonstration Test Plan” revised as a permit modification in accordance
43 with Permit Conditions [III.10.C.2.e.](#) and [f.](#) The Revised Demonstration Test Plan
44 (RDTP) will include applicable EPA promulgated test methods and procedures in
45 effect at the time of the submittal, projected commencement and completion dates for
46 emission testing to demonstrate performance standards as specified in Permit
47 Conditions [III.10.I.1.b.viii.](#) and [ix.](#), and emissions as specified in Permit Table
48 [III.10.I.E.](#), as approved/modified pursuant to Permit Conditions [III.10.H.3.d.](#) and

1 [III.10.C.11.c.](#) or [d.](#), not addressed under Permit Conditions [III.10.I.1.h.i.](#) or [ii.](#) under
2 “Normal Operating Conditions.” “Normal Operating Conditions” will be defined for
3 the purposes of this permit condition as follows:

- 4 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
5 automatic waste feed cut-off parameters specified in Permit Table [III.10.I.F.](#), as
6 approved/modified pursuant to Permit Condition [III.10.H.3.d.](#) and [III.10.C.11.c.](#)
7 or [d.](#), that were established to maintain compliance with Permit Conditions
8 [III.10.I.1.b.viii.](#) and [ix.](#), and emissions as specified in Permit Table [III.10.I.E.](#),
9 not addressed under Permit Conditions [III.10.I.1.h.i.](#) or [ii.](#) as specified in
10 Operating Unit Group 10, Appendix 9.15 of this Permit, as approved pursuant to
11 Permit Condition [III.10.H.3.d.](#), and in accordance with Permit Conditions
12 [III.10.I.1.b.xii.](#) and [III.10.I.1.c.xi.](#) are held within the range of the average value
13 over the previous twelve (12) months and the set-point value specified on Permit
14 Table [III.10.I.F.](#) The average value is defined as the sum of all rolling average
15 values recorded over the previous twelve (12) months divided by the number of
16 rolling averages recorded during that time. The average value will not include
17 calibration data, malfunction data, and data obtained when not processing
18 dangerous and/or mixed waste.
- 19 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the
20 average value over the previous twelve (12) months and the set-point value
21 specified in Permit Table [III.10.I.D.](#), as approved/modified pursuant to Permit
22 Conditions [III.10.H.3.d.](#) and [III.10.C.11.c.](#) or [d.](#) Feed-rate of organics as
23 measured by TOC are held within the range of the average value over the
24 previous twelve (12) months. The average value is defined as the sum of the
25 rolling average values recorded over the previous twelve (12) months divided by
26 the number of rolling averages recorded during that time. The average value
27 will not include data obtained when not processing dangerous and/or mixed
28 waste.

29 For purposes of this permit condition, the “Previously Approved Demonstration Test
30 Plan” is defined to include the Demonstration Test Plan approved pursuant to Permit
31 Condition [III.10.H.5.f.](#)

- 32 B. Within sixty (60) days of Ecology’s approval of the RDTP, or within ninety-one (91)
33 months of commencing operation pursuant to Permit Section [III.10.I.](#), whichever is
34 later, the Permittees will implement the RDTP approved pursuant to Permit
35 Condition [III.10.I.1.h.iii.A.](#)
- 36 C. The Permittees will submit a summary of operating data collected pursuant to the
37 RDTPs in accordance with Permit Condition [III.10.I.1.h.iii.A](#) to Ecology upon
38 completion of the tests. The Permittees will submit to Ecology the complete test
39 report within ninety (90) calendar days of completion of the testing. The test reports
40 will be certified as specified in [WAC 173-303-807\(8\)](#), in accordance with Permit
41 Condition [WAC 173-303-680\(2\)](#) and (3).
- 42 D. If any calculations or testing results show that one or more of the performance
43 standards listed in Permit Condition [III.10.I.1.b.](#), with the exception of Permit
44 Condition [III.10.I.1.b.x.](#), for the LAW Vitrification System were not met during the
45 emission test, the Permittees will perform the following actions:
 - 46 1. Immediately stop dangerous and/or mixed waste feed to the LAW Vitrification
47 System under the mode of operation that resulted in not meeting the
48 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 I.E.21.
- 3 3. Investigate the cause of the failure and submit a report of the investigation
4 findings to Ecology within fifteen (15) days of discovery of not meeting the
5 performance standard(s).
- 6 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
7 performance standard(s) documentation supporting a mode of operation where
8 all performance standards listed in Permit Condition [III.I.1.b.](#), with the
9 exception of Permit Condition [III.10.I.1.b.x.](#), for the LAW Vitrification System
10 were met during the demonstration test, if any such mode was demonstrated.
- 11 5. Based on the information provided to Ecology by the Permittees pursuant to
12 Permit Conditions [III.10.I.1.h.iii.D.1](#) through [4](#) above, and any additional
13 information, Ecology may provide in writing, direction to the Permittees to stop
14 dangerous and/or mixed waste feed to the LAW Vitrification System and/or
15 amend the mode of operation the Permittees are allowed to continue operations
16 prior to Ecology approval of the revised Demonstration Test Plan, pursuant to
17 Permit Condition [III.10. I.h.1.iii.D.6](#).
- 18 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
19 not meeting the performance standard(s) a revised Demonstration Test Plan
20 requesting approval to retest as a permit modification pursuant to Permit
21 Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan must
22 include substantive changes to prevent failure from reoccurring reflecting
23 performance under operating conditions representative of the extreme range of
24 normal conditions, and include revisions to Permit Tables [III.10.I.D](#) and
25 [III.10.I.F](#).
- 26 E. If any calculations or testing results show that any emission rate for any constituent
27 listed in Permit Table [III.10.I.E](#), as approved/modified pursuant to Permit Conditions
28 [III.10.C.11.c.](#) or [d.](#), is exceeded for LAW Vitrification System during the emission
29 test, the Permittees will perform the following actions:
 - 30 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
31 exceeding the emission rate(s), as specified in Permit Condition I.E.21.
 - 32 2. Submit to Ecology additional risk information to indicate that the increased
33 emissions impact is off-set by decreased emission impact from one or more
34 constituents expected to be emitted at the same time, and/or investigate the
35 cause and impact of the exceedance of the emission rate(s) and submit a
36 report of the investigation findings to Ecology within fifteen (15) days of the
37 discovery of the exceedance of the emission rate(s).
 - 38 3. Based on the notification and any additional information, Ecology may
39 provide, in writing, direction to the Permittees to stop dangerous and/or
40 mixed waste feed to the LAW Vitrification System and/or to submit a revised
41 Demonstration Test Plan as a permit modification pursuant to Permit
42 Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#) The revised Demonstration
43 Test Plan must include substantive changes to prevent failure from
44 reoccurring reflecting performance under operating conditions representative
45 of the extreme range of normal conditions, and include revisions to Permit
46 Tables [III.10.I.D](#) and [F](#).

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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
^a Permit 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
^a Permit 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.			
^b Dimensions 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
*Permit 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

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
<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.I.D. of this Permit</p>			

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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
15 [III.10.J.5](#).) as specified in Permit Condition [III.10.J.1](#) and Operating Unit Group 10,
16 Addendum C of this Permit, and Operating Unit Group 10, Appendices 10.1 through
17 10.15 and 10.17 of this Permit, as approved pursuant to Permit Conditions
18 [III.10.J.5.a](#) through [d](#)., and [III.10.J.5.f](#).

19 **III.10.J.1.a.ii** The Permittees will construct all containment systems for the HLW Vitrification
20 System as specified in Operating Unit Group 10, Addendum C of this Permit, and
21 Operating Unit Group 10, Appendices 10.2, 10.4, through 10.14 of this Permit, as
22 approved pursuant to 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,
25 independent qualified installation inspector, etc.) use the following statement or
26 equivalent pursuant to 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 (name(s)).
30 My duties were: (e.g., installation inspector, testing for tightness, etc.), for the following
31 HLW Vitrification system components (e.g., the venting piping, etc.), as required by the
32 Dangerous Waste Regulations, namely, [WAC 173-303-640](#)(3) (applicable paragraphs
33 (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 the
35 information submitted in this document and all attachments and that, based on my inquiry
36 of those individuals immediately responsible for obtaining the information, I believe that
37 the information is true, accurate, and complete. I am aware that there are significant
38 penalties for submitting false information, including the possibility of fine and
39 imprisonment.”

40 **III.10.J.1.a.iv** The Permittees must ensure that proper handling procedures are adhered to in order
41 to prevent damage to the HLW Vitrification System during installation. Prior to
42 covering, enclosing, or placing the new HLW Vitrification System or component in
43 use, an independent, qualified, installation inspector or an independent, qualified,
44 registered professional engineer, either of whom is trained and experienced in the

1 proper installation of similar systems or components, must inspect the system for the
2 presence of any of the 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
13 that are back-filled, the Permittees must provide a backfill material that is a non-
14 corrosive, porous, homogeneous substance. The backfill must be installed so that it
15 is placed completely around the HLW Vitrification System and compacted to ensure
16 that the HLW 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
20 or components are found not to be tight, all repairs necessary to remedy the leak(s) in
21 the 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
25 and protected against physical damage and excessive stress due to settlement,
26 vibration, 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
29 recommended by an independent corrosion expert, based on the information provided
30 in Operating Unit Group 10, Appendices 10.9 and 10.11 of this Permit, as approved
31 pursuant to Permit Conditions [III.10.J.5.b.i.](#), [III.10.J.5.b.iv.](#), [III.10.J.5.b.v.](#),
32 [III.10.J.5.c.i.](#), [III.10.J.5.c.iv.](#), [III.10.J.5.c.v.](#), [III.10.J.5.d.i.](#), [III.10.J.5.d.iv.](#), and
33 [III.10.J.5.d.v.](#), or other corrosion protection if Ecology believes other corrosion
34 protection is necessary to ensure the integrity of the HLW Vitrification System
35 during use of the HLW Vitrification System. The installation of a corrosion
36 protection system that is field fabricated must be supervised by an independent
37 corrosion expert to ensure proper installation [[WAC 173-303-640](#)(3)(g), in
38 accordance with [WAC 173-303-680](#)(2) and (3)].

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

- 1 and installed, and that repairs, in accordance with [WAC 173-303-640](#)(3)(c) and (e),
2 were performed [[WAC 173-303-640](#)(3)(a) and [WAC 173-303-640](#)(3)(h), in
3 accordance with [WAC 173-303-680](#)(3)].
- 4 **III.10.J.1.a.x** The independent HLW Vitrification System installation inspection and subsequent
5 written statements will be certified in accordance with [WAC 173-303-810](#)(13)(a), as
6 modified pursuant to Permit Condition [III.10.J.1.a.iii.](#), comply with all requirements
7 of [WAC 173-303-640](#)(3)(h) in accordance with [WAC 173-303-680](#), and will
8 consider, but not be limited to, the following LAW Vitrification System installation
9 documentation:
- 10 A. Field installation report with date of installation.
11 B. Approved welding procedures.
12 C. Welder qualification and certifications.
13 D. Hydro-test reports, as applicable, in accordance with the American Society of
14 Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1;
15 American Petroleum Institute (API) Standard 620, or Standard 650, as applicable;
16 E. Tester credentials.
17 F. Field inspector credentials.
18 G. Field inspector reports.
19 H. Field waiver reports.
20 I. Non-compliance reports and corrective action (including field waiver reports) and
21 repair reports.
- 22 **III.10.J.1.a.xi** The Permittees will ensure periodic integrity assessments are conducted on the HLW
23 Vitrification System, listed in Permit Table [III.10.J.A.](#), as approved/modified pursuant
24 to Permit Condition [III.10.J.5.](#), over the term of this Permit, in accordance with
25 [WAC 173-303-680](#)(2) and (3) as specified in [WAC 173-303-640](#)(3)(b), following the
26 description of the integrity assessment program and schedule in Operating Unit
27 Group 10, Addendum E of this Permit, as approved pursuant to Permit Conditions
28 [III.10.J.5.e.i.](#) and [III.10.C.5.c.](#) Results of the integrity assessments will be included in
29 the WTP Unit operating record until ten (10) years after post-closure, or corrective
30 action is complete and certified, whichever is later.
- 31 **III.10.J.1.a.xii** The Permittees will address problems detected during the HLW Vitrification System
32 integrity assessments specified in Permit Condition [III.10.J.1.a.xi.](#) following the
33 integrity assessment program in Operating Unit Group 10, Addendum E of this
34 Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i.](#) and [III.10.C.5.c.](#)
- 35 **III.10.J.1.a.xiii** All process monitors/instruments as specified in Permit Table [III.10.J.F.](#) as
36 approved/modified pursuant to Permit Condition [III.10.J.5.](#), will be equipped with
37 operational alarms to warn of deviation, or imminent deviation from the limits
38 specified in Permit Table [III.10.J.F.](#)
- 39 **III.10.J.1.a.xiv** The Permittees will install and test all process and leak detection system
40 monitors/instrumentation as specified in Permit Tables [III.10.J.C](#) and [III.10.J.F.](#), as
41 approved/modified pursuant to Permit Condition [III.10.J.5.](#) in accordance with
42 Operating Unit Group 10, Appendices 10.1, 10.2, and 10.14 of this Permit, as
43 approved pursuant to Permit Conditions [III.10.J.5.d.x.](#) and [III.10.J.5.f.xvi.](#)
- 44 **III.10.J.1.a.xv** Except during periods of HLW Vitrification System start up and shut down, no
45 dangerous and/or mixed waste will be treated in the HLW Vitrification System unless

- 1 the operating conditions specified under Permit Condition [III.10.J.1.c](#). are complied
2 with.
- 3 **III.10.J.1.a.xvi** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or
4 other materials in the HLW Vitrification System if these substances could cause the
5 subsystem, subsystem equipment, or the containment system to rupture, leak,
6 corrode, or otherwise fail [[WAC 173-303-640](#)(5)(a), in accordance with
7 [WAC 173-303-680](#)(2)]. This condition is not applicable to corrosion of HLW
8 Vitrification System sub-system and sub-system equipment that are expected to be
9 replaced as part of normal operations (e.g., melters).
- 10 **III.10.J.1.a.xvii** The Permittees will operate the HLW Vitrification System to prevent spills and
11 overflows using description of controls and practices as required under
12 [WAC 173-303-640](#)(5)(b) described in Permit Condition [III.10.C.5](#), and Operating
13 Unit Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit
14 Condition [III.10.J.5.e](#). [[WAC 173-303-640](#)(5)(b), in accordance with
15 [WAC 173-303-680](#)(2) and (3), and [WAC 173-303-806](#)(4)(c)(ix)].
- 16 **III.10.J.1.a.xviii** For routinely non-accessible HLW Vitrification System sub-systems, as specified in
17 Operating Unit Group 10, Addendum C of this Permit, as updated pursuant to Permit
18 Condition [III.10.J.5.e.vi](#)., the Permittees will mark all routinely non-accessible HLW
19 Vitrification System sub-systems access points with labels or signs to identify the
20 waste contained in each HLW Vitrification System sub-system. The label, or sign,
21 must be legible at a distance of at least fifty (50) feet, and must bear a legend which
22 identifies the waste in a manner which adequately warns employees, emergency
23 response personnel, and the public of the major risk(s) associated with the waste
24 being stored or treated in the HLW Vitrification System sub-systems. For the
25 purposes of this permit condition, “routinely non-accessible” means personnel are
26 unable to enter these areas while waste is being managed in them
27 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 28 **III.10.J.1.a.xix** For all HLW Vitrification System sub-systems not addressed in Permit Condition
29 [III.10.J.1.a.xviii](#)., the Permittees will mark all these HLW Vitrification System sub-
30 systems holding dangerous and/or mixed waste with labels or signs to identify the
31 waste contained in the HLW Vitrification System sub-systems. The labels, or signs,
32 must be legible at a distance of at least fifty (50) feet, and must bear a legend which
33 identifies the waste in a manner which adequately warns employees, emergency
34 response personnel, and the public of the major risk(s) associated with the waste
35 being stored or treated in the HLW Vitrification System sub-systems
36 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 37 **III.10.J.1.a.xx** The Permittees will ensure that the containment systems for the HLW Vitrification
38 System sub-systems listed in Permit Tables [III.10.J.A](#). and [III.10.J.B](#)., as
39 approved/modified pursuant to Permit Condition [III.10.J.5](#)., are free of cracks or gaps
40 to prevent any migration of dangerous and/or mixed waste or accumulated liquid out
41 of the system to the soil, groundwater, or surface water at any time during use of the
42 HLW Vitrification System sub-systems. Any indication that a crack or gap may exist
43 in the containment systems will be investigated and repaired in accordance with
44 Operating Unit Group 10, Appendix 10.18 of this Permit, as approved pursuant to
45 Permit Condition [III.10.J.5.e.v](#). [[WAC 173-303-640](#)(4)(b)(i),
46 [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)(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 [F](#). The affected HLW
7 Vitrification System, or secondary containment system, must be either repaired or
8 closed 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
10 [WAC 173-303-680](#)(3)].

11 **III.10.J.1.a.xxii** An impermeable coating, as specified in Operating Unit Group 10, Appendices 10.4,
12 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
16 pursuant to Permit Condition III.10.J.5 (concrete containment systems that do not
17 have a liner, 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
19 [WAC 173-303-640](#)(4)(e)(ii)(C), in accordance with [WAC 173-303-680](#)(2). The
20 coating will prevent migration of any dangerous and mixed waste into the concrete.
21 All coatings will meet the following performance standards:

- 22 A. The coating must seal the containment surface such that no cracks, seams, or other
23 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 or
26 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 (3),
31 and [WAC 173-303-806](#)(4)(i)(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 Schedule specified in Operating Unit Group 10, Addendum E1 of this
36 Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i.](#) and [III.10.C.5.c.](#), and
37 take the following actions if a leak or spill of dangerous and/or mixed waste is
38 detected in these 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)(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 accordance
45 with [WAC 173-303-680](#)(2) and (3), as specified in [WAC 173-303-640](#)(7)(b). The
46 dangerous and/or mixed waste removed from containment areas of the HLW
47 Vitrification System sub-systems will be, as a minimum, managed as mixed waste.

- 1 D. If the cause of the release was a spill has not damaged the integrity of the HLW
 2 Vitrification System sub-system, the Permittees may return the HLW Vitrification
 3 System sub-system to service in accordance with [WAC 173-303-680](#)(2) and (3), as
 4 specified in [WAC 173-303-640](#)(7)(e)(ii). In such case, the Permittees will take
 5 action to ensure the incident that caused the dangerous and/or mixed waste to enter
 6 the containment system will not re-occur [[WAC 173-303-320](#)(3)].
- 7 E. If the source of the dangerous and/or mixed waste is determined to be a leak from the
 8 primary HLW Vitrification System into the secondary containment system, or the
 9 system is unfit for use as determined through an integrity assessment or other
 10 inspection, the Permittees will comply with the requirements of
 11 [WAC 173-303-640](#)(7) and take the following actions:
- 12 1. Close the HLW Vitrification System Sub-system following procedures in
 13 [WAC 173-303-640](#)(7)(e)(i), in accordance with [WAC 173-303-680](#) and
 14 Operating Unit Group 10, Addendum H of this Permit, as approved pursuant to
 15 Permit Condition [III.10.C.8.](#), or
 - 16 2. Repair and re-certify (in accordance with [WAC 173-303-810](#)(13)(a), as
 17 modified pursuant to Permit Condition [III.10.J.1.a.iii.](#)) the HLW Vitrification
 18 System in accordance with Operating Unit Group 10, Appendix 10.18 of this
 19 Permit, as approved pursuant to Permit Condition [III.10.J.5.e.v.](#), before the
 20 HLW Vitrification System is placed back into service
 21 [[WAC 173-303-640](#)(7)(e)(iii) and [WAC 173-303-640](#)(7)(f), in accordance with
 22 [WAC 173-303-680](#)].
- 23 F. The Permittees will document, in the WTP Unit operating record, actions/procedures
 24 taken to comply with A. through E. above, as specified in [WAC 173-303-640](#)(6)(d),
 25 in accordance with [WAC 173-303-680](#)(2) and (3).
- 26 G. In accordance with [WAC 173-303-680](#)(2) and [WAC 173-303-680](#) (3), the Permittees
 27 will notify and report releases to the environment to Ecology, as specified in
 28 [WAC 173-303-640](#)(7)(d).

29 **III.10.J.1.a.xxiv** If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire
 30 water, liquids from damaged or broken pipes) cannot be removed from the secondary
 31 containment system within twenty-four (24) hours, Ecology will be verbally notified
 32 within twenty-four (24) hours of discovery. The notification will provide the
 33 information in A, B, and C, listed below. The Permittees will provide Ecology with
 34 a written demonstration within seven (7) business days, identifying at a minimum
 35 [[WAC 173-303-640](#)(4)(c)(iv) and [WAC 173-303-640](#)(7)(b)(ii), in accordance with
 36 [WAC 173-303-680](#)(3) and [WAC 173-303-806](#)(4)(i)(i)(B)]:

- 37 A. Reasons for delayed removal;
- 38 B. Measures implemented to ensure continued protection of human health and the
 39 environment;
- 40 C. Current actions being taken to remove liquids from secondary containment.

41 **III.10.J.1.a.xxv** All air pollution control devices and capture systems in the HLW Vitrification
 42 System will be maintained and operated at all times in a manner so as to minimize
 43 the emissions of air contaminants and to minimize process upsets. Procedures for
 44 ensuring that the air pollution control devices and capture systems in the HLW

- 1 Vitrifaction System are properly operated and maintained so as to minimize the
2 emission of air 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 Vitrifaction 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 Group
6 10 of this Permit for the HLW Vitrifaction 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.](#),
8 [e.](#), and [h.](#)
- 9 **III.10.J.1.a.xxviii** For any portion of the HLW Vitrifaction System that has the potential for formation
10 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 Vitrifaction System sub-system holding dangerous waste which are
14 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\(4\)\(i\)\(i\)\(B\)\]](#) 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 Vitrifaction System must achieve a destruction and removal efficiency
20 (DRE) of 99.99% for the principal organic dangerous constituents (PODCs) listed
21 below
22 [\[40 CFR §63.1203\(c\)\(1\)\]](#) and [40-CFR 63.1203\(c\)\(2\)](#), in accordance with
23 [WAC 173-303-680\(2\)](#)].
- 24 RESERVED
- 25 DRE in this Permit condition will be calculated in accordance with the formula given
26 below:
- 27 $DRE=[1-(W_{out}/W_{in})] \times 100\%$
- 28 Where:
- 29 W_{in} =mass feed rate of one principal organic dangerous constituent (PODC) in a
30 waste feed stream; and
- 31 W_{out} =mass emission rate of the same PODC present in exhaust emissions prior to
32 release to the atmosphere.
- 33 **III.10.J.1.b.ii** Particulate matter emissions from the HLW Vitrifaction System will not exceed 34
34 mg/dscm (0.015 grains/dscf) [\[40 CFR §63.1203\(b\)\(7\)\]](#), in accordance with
35 [WAC 173-303-680\(2\)](#)]:
- 36 **III.10.J.1.b.iii** Hydrochloric acid and chlorine gas emissions from the HLW Vitrifaction System
37 will not exceed 21 ppmv, combined [\[40 CFR §63.1203\(b\)\(6\)\]](#), in accordance with
38 [WAC 173-303-680\(2\)](#)]:
- 39 **III.10.J.1.b.iv** Dioxin and Furan TEQ emissions from the HLW Vitrifaction System will not
40 exceed 0.2 nanograms (ng)/dscm [\[40 CFR §63.1203\(b\)\(1\)\]](#), in accordance with
41 [WAC 173-303-680\(2\)](#)]:
- 42 **III.10.J.1.b.v** Mercury emissions from the HLW Vitrifaction System will not exceed 45 µg/dscm,
43 [\[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
2 120 µg/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
5 will not exceed 97 µg/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
8 100 parts per million (ppm) by volume, over an hourly rolling average (as measured
9 and recorded by the continuous monitoring system), dry [[40 CFR §63.1203\(b\)\(5\)\(i\)](#)],
10 in 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
12 per million (ppm) by volume, over an hourly rolling average (as measured and
13 recorded by the continuous monitoring system during demonstration testing required
14 by this Permit), dry basis, and reported as propane [[40 CFR §63.1203\(b\)\(5\)\(ii\)](#)], in
15 accordance with [WAC 173-303-680\(2\)](#)]:
- 16 **III.10.J.1.b.x** If the emissions from the HLW Vitrification System exceed the emission rates listed
17 in Permit Table [III.10.J.E](#), as approved pursuant to Permit Condition [III.10.C.11.b.](#),
18 the Permittees will notify Ecology, in accordance with Permit Condition
19 [III.10.J.3.d.vii](#). [[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 [III.10.J.1.b.ix.](#)
21 above, will be met for the HLW Vitrification System by limiting feed rates as specified in
22 Permit Tables [III.10.J.D](#) and [III.10.J.F](#), as approved/modified pursuant to Permit
23 Condition [III.10.J.5.](#), compliance with operating conditions specified in Permit Condition
24 [III.10.J.1.c.](#) (except as specified in Permit Condition [III.10.J.1.b.xii.](#)), and compliance
25 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
27 waste management units contained in the HLW Building, but not included in Permit
28 Table [III.10.J.A](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), will
29 be as specified in Permit Sections [III.10.D](#), [III.10.E](#), [III.10.F](#) and consistent with
30 assumptions and basis which are reflected in Operating Unit Group 10, Appendix
31 6.3.1 of this Permit, as approved pursuant to Permit Condition [III.10.C.11.b](#). For the
32 purposes of this permit condition, Operating Unit Group 10, Appendix 6.3.1 will be
33 superseded by Appendix 6.4.1 upon its approval pursuant to either Permit Conditions
34 [III.10.C.11.c.](#) or [III.10.C.11.d.](#) [[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,
37 compliance with the operating conditions specified in Permit Condition [III.10.J.1.c.](#),
38 will be regarded as compliance with the required performance standards identified in
39 Permit Conditions [III.10.J.1.b.i.](#) through [x.](#) However, if it is determined that during
40 the effective period of this Permit that compliance with the operating conditions in
41 Permit Condition [III.10.J.1.c.](#) is not sufficient to ensure compliance with the
42 performance standards specified in Permit Conditions [III.10.J.1.b.i.](#) through [x.](#), the
43 Permit may be modified, revoked, or reissued pursuant to Permit Conditions
44 [III.10.C.2.e.](#) and [III.10.C.2.f.](#), or [III.10.C.2.g.](#)
- 45 **III.10.J.1.c** Operating Conditions [[WAC-303-670\(6\)](#)], in accordance with [WAC 173-303-680\(2\)](#) and
46 (3)].

1 The Permittees will operate the HLW Vitrification System in accordance with Operating
2 Unit Group 10, Addendum C 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
13 [III.10.J.F](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), to
14 automatically cut-off and/or lock-out the dangerous and mixed waste feed to the
15 HLW Vitrification System when the monitored operating conditions deviate from the
16 set-points specified in Permit Table [III.10.J.F](#).
- 17 **III.10.J.1.c.iii** The Permittees will operate the AWFCO systems, specified in Permit Table
18 [III.10.J.F](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), to
19 automatically cut-off and/or lock-out the dangerous and mixed waste feed to the
20 HLW Vitrification System when all instruments specified on Permit Table [III.10.H.F](#)
21 for measuring the monitored 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
23 [III.10.J.F](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), to
24 automatically cut-off and/or lock out the dangerous and/or mixed waste feed to the
25 HLW Vitrification System when any portion of the HLW Vitrification System is
26 bypassed. The terms “bypassed” and “bypass event” as used in Permit Sections
27 [III.10.J](#) and [III.10.K](#) will mean if any portion of the HLW Vitrification System is
28 bypassed so that gases are not treated as 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
30 [III.10.J.F](#), as approved/modified pursuant to Permit Condition [III.10.J.5.](#), the
31 Permittees will immediately, manually cut-off the dangerous and mixed waste feed
32 to the HLW Vitrification System. The Permittees will not restart the dangerous
33 and/or mixed waste feed until the problem causing the malfunction has been
34 identified and corrected.
- 35 **III.10.J.1.c.vi** The Permittees will manually cut-off the dangerous and mixed waste feed to the
36 HLW Vitrification System when the operating conditions deviate from the limits
37 specified in Permit Condition [III.10.J.1.c.i.](#), unless the deviation automatically
38 activates the waste feed cut-off sequence specified in Permit Conditions
39 [III.10.J.1.c.ii.](#), [III.10.J.1.c.iii.](#), and/or [III.10.J.1.c.iv.](#)
- 40 **III.10.J.1.c.vii** If greater than thirty (30) dangerous and mixed waste feed cut-offs, combined, to the
41 HLW Vitrification System occur due to deviations from Permit Table [III.10.J.F](#), as
42 approved/modified pursuant to Permit Condition [III.10.J.5.](#), within a sixty (60) day
43 period, the Permittees will submit a written report to Ecology within five (5) calendar
44 days of the thirty-first exceedance including the information specified below. These
45 dangerous and mixed waste feed cut-offs to the HLW Vitrification System, whether
46 automatically or manually activated, are counted if the specified set-points are
47 deviated from while dangerous waste, mixed waste, and waste residues continue to

- 1 be processed in the HLW Vitrification System. A cascade event is counted at a
 2 frequency of one (1) towards the first waste feed cut-off parameter, specified on
 3 Permit Table [III.10.J.F](#), from which the set-point is deviated:
- 4 A. The parameter(s) that deviated from the set-point(s) in Permit Table [III.10.J.F](#).
 5 B. The magnitude, dates, and duration of the deviations.
 6 C. Results of the investigation of the cause of the deviations.
 7 D. Corrective measures taken to minimize future occurrences of the deviations.
- 8 **III.10.J.1.c.viii** If any portion of the HLW Vitrification System is bypassed while treating dangerous
 9 and/or mixed waste, it will be regarded as non-compliance with the operating
 10 conditions specified in Permit Condition [III.10.J.1.c](#), and the performance standards
 11 specified in Permit Condition [III.10.J.1.b](#). After such a bypass event, the Permittees
 12 will perform the following actions:
- 13 A. Investigate the cause of the bypass event.
 14 B. Take appropriate corrective measures to minimize future bypasses.
 15 C. Record the investigation findings and corrective measures in the operating record.
 16 D. Submit a written report to Ecology within five (5) days of the bypass event
 17 documenting the result of the investigation and corrective measures.
- 18 **III.10.J.1.c.ix** The Permittees will control fugitive emissions from the HLW Vitrification System by
 19 maintaining the melter under negative pressure.
- 20 **III.10.J.1.c.x** Except during periods of HLW Vitrification System startup and shutdown,
 21 compliance with the operating conditions specified in Permit Condition [III.10.J.1.c](#).
 22 will be regarded as compliance with the required performance standards identified in
 23 Permit Condition [III.10.J.1.b](#). However, evidence that compliance with these
 24 operating conditions is insufficient to ensure compliance with the performance
 25 standards, will justify modification, revocation, or re-issuance of this Permit, in
 26 accordance with Permit Conditions [III.10.C.2.e](#), and [III.10.C.2.f](#), or [III.10.C.2.g](#).
- 27 **III.10.J.1.d** Inspection Requirements [[WAC 173-303-680\(3\)](#)].
- 28 **III.10.J.1.d.i** The Permittees will inspect the HLW Vitrification System in accordance with the
 29 Inspection Schedules in Operating Unit Group 10, Addendum E1 of this Permit, as
 30 modified in accordance with Permit Condition [III.10.C.5.c](#).
- 31 **III.10.J.1.d.ii** The inspection data for HLW Vitrification System will be recorded, and the records
 32 will be placed in the WTP Unit operating record for the HLW Vitrification System,
 33 in accordance with Permit Condition [III.10.C.4](#).
- 34 **III.10.J.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating
 35 Unit Group 10, Appendix 10.15 of this Permit, as approved pursuant to Permit
 36 Condition [III.10.J.5.f](#), and as modified by Permit Conditions [III.10.J.1.b.xii](#),
 37 [III.10.J.2](#), [III.10.J.3](#), and [III.10.J.4](#).
- 38 **III.10.J.1.e** Monitoring Requirements [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
 39 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
 40 [WAC 173-303-680\(3\)](#)]
- 41 **III.10.J.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
 42 and analysis of the dangerous and mixed waste and exhaust emissions to verify that

- 1 the operating requirements established in the Permit achieve the performance
2 standards delineated in this Permit.
- 3 **III.10.J.1.e.ii** The Permittees will comply with the monitoring requirements specified in Operating
4 Unit Group 10, Appendices 10.2, 10.3, 10.7, 10.13, 10.15, and 10.18 of this Permit,
5 as 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.](#),
7 and [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
10 accordance with Performance Specification 4B and 8A of [40 CFR Part 60](#), Appendix
11 B, in accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and Operating
12 Unit Group 10 Appendix 10.15 of this Permit, as approved pursuant to Permit
13 Condition [III.10.J.5.f.](#), and as modified by Permit Conditions [III.10.J.1.b.xii.](#),
14 [III.10.J.2.](#), [III.10.J.3.](#), and [III.10.J.4.](#)
- 15 **III.10.J.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified on
16 Permit Tables [III.10.J.C](#) and [F](#), as approved/modified pursuant to Permit Condition
17 [III.10.J.5.](#), in accordance with Operating Unit Group 10, Appendix 10.15 of this
18 Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#), and as modified by
19 Permit Conditions [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
22 HLW Vitrification System, all monitoring, calibration, maintenance, test data, and
23 inspection data compiled under the conditions of this Permit, in accordance with
24 Permit Conditions [III.10.C.4.](#) and [III.10.C.5.](#), as modified by Permit Conditions
25 [III.10.J.1.b.xii.](#), [III.10.J.2.](#), [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
27 duration of all automatic waste feed cut-offs and/or lockouts, including the triggering
28 parameters, reason for the deviation, and recurrence of the incident. The Permittees
29 will also record all incidents of AWFCO system function failures, including the
30 corrective measures 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,
32 and annually thereafter each calendar year within ninety (90) days following the end
33 of the 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 System
38 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
43 ninety (90) days following the end of the year of all quarterly CEM Calibration Error

- 1 and Annual CEM Performance Specification Tests conducted in accordance with
2 Permit 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
17 construction 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
26 to Ecology verifying that the HLW Vitrification System has operated at a minimum
27 of 75% of the shakedown Phase 1 feed-rate limit for two (2) separate eight (8)
28 consecutive hour 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
31 System on the Part A Forms (Operating Unit Group 10, Addendum A of this Permit),
32 except for those waste outside the waste acceptance criteria specified in the WAP,
33 Operating Unit Group 10, Addendum B of this Permit, as approved pursuant to
34 Permit Condition [III.10.C.3.](#), except Permit Conditions [III.10.J.2.c.ii.](#) through [v.](#) also
35 apply.
- 36 **III.10.J.2.c.ii** The Permittees will not feed the following waste to the HLW Vitrification System
37 during Shakedown Phase 1:
- 38 A. Acutely toxic dangerous waste listed in [WAC 173-303-081\(a\)\(2\)\(a\)\(i\).](#)
39 B. Mixed waste
- 40 **III.10.J.2.c.iii** The Permittees will not feed the following waste to the HLW Vitrification System
41 during Shakedown Phase 2:
- 42 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
13 10.15 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#), except as
14 modified 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
16 Permit Condition [III.10.J.5.f.](#), will be re-submitted to Ecology for approval by the
17 Permittees as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and
18 [III.10.C.2.f.](#) at least one hundred and eighty (180) days prior to the start date of the
19 demonstration test. The revised Demonstration Test Plan will include applicable
20 EPA promulgated test methods and procedures in effect at the time of the re-
21 submittal and projected commencement and completion dates for the Demonstration
22 Test.
- 23 **III.10.J.3.a.iii** The Permittees will not commence the demonstration test period until documentation
24 has been submitted to Ecology verifying that the HLW Vitrification System has
25 operated at a minimum of 75% of the demonstration test period feed-rate limit for a
26 minimum of an eight (8) consecutive hours period on two (2) consecutive days.
- 27 **III.10.J.3.b** Performance Standards
- 28 The Permittees will demonstrate compliance with the performance standards specified in
29 Permit Condition [III.10.J.1.b.](#) during the Demonstration Test Period.
- 30 **III.10.J.3.c** Allowable Waste Feed During the Demonstration Test Period
- 31 **III.10.J.3.c.i** The Permittees may feed the dangerous waste specified for the HLW Vitrification
32 System in Part A Forms (Operating Unit Group 10, Addendum A of this Permit),
33 except for those waste outside the waste acceptance criteria specified in the WAP,
34 Operating Unit Group 10, Addendum B of this Permit, as approved pursuant to
35 Permit Condition [III.10.C.3.](#), except Permit Conditions [III.10.J.3.c.ii.](#) through [iv.](#) also
36 apply.
- 37 **III.10.J.3.c.ii** The Permittees will not feed mixed waste to the HLW Vitrification System.
- 38 **III.10.J.3.c.iv.** The dangerous waste feed-rates to the HLW Vitrification System will not exceed the
39 limits in Permit Tables [III.10.J.D](#) and [F](#), as approved/modified pursuant to Permit
40 Condition [III.10.J.5](#).
- 41 **III.10.J.3.c.v.** The Permittees will conduct sufficient analysis of the dangerous waste treated in the
42 HLW Vitrification System to verify that the dangerous waste is within the physical and
43 chemical composition limits specified in this Permit.

- 1 **III.10.J.3.d** Demonstration Data Submissions and Certifications
- 2 **III.10.J.3.d.i** The Permittees will submit to Ecology a complete demonstration test report within
3 one hundred and eighty (180) calendar days of completion of the Demonstration Test
4 including all data collected during the Demonstration Test and updated Permit Tables
5 [III.10.K.D](#), [III.10.K.E](#), and [III.10.K.F](#).
- 6 **III.10.J.3.d.ii** The Permittees must submit the following information to Ecology prior to receiving
7 Ecology's approval to commence feed of dangerous waste and mixed waste to the
8 HLW Vitrification System:
- 9 A. The Permittees will submit a summary of data collected as required during the
10 Demonstration Test to Ecology upon completion of the Demonstration Test.
- 11 B. A certification that the Demonstration Test has been carried out in accordance with
12 the approved Demonstration Test Plan and approved modifications within thirty (30)
13 days of the completion of the Demonstration Test [[WAC 173-303-807](#)(8)].
- 14 C. Calculations and analytical data showing compliance with the performance standards
15 specified in Permit Conditions [III.10.J.1.b.i](#), [III.10.J.1.b.iv](#), [III.10.J.1.b.v](#),
16 [III.10.J.1.b.vi](#), and [III.10.J.1.b.vii](#)
- 17 D. Laboratory data QA/QC summary for the information provided in
18 [III.10.J.3.d.ii.C](#).
- 19 **III.10.J.3.d.iii** After successful completion of the Demonstration Test and receipt of Ecology's
20 approval, the Permittees will be authorized to commence feed of dangerous waste
21 and mixed waste to the HLW Vitrification System for the post-demonstration test
22 period indicated in Permit Tables [III.10.J.D](#) and [E](#), as approved/modified pursuant to
23 Permit Condition [III.10.J.5](#)., in compliance with the operating requirements specified
24 in Permit Condition [III.10.J.1.c](#). and within the limitations specified in Permit
25 Condition.[III.10.C.14](#).
- 26 **III.10.J.3.d.iv** RESERVED
- 27 **III.10.J.3.d.v** After successful completion of the Demonstration Test, Permittees submittal of the
28 following to Ecology, and Permittees receipt of Ecology approval of the following in
29 writing, the Permittees will be authorized to feed dangerous waste and mixed waste
30 to the HLW Vitrification System pursuant to Permit Section [III.10.K](#).
- 31 A. A complete Demonstration Test Report for the HLW Vitrification System and
32 updated Permit Tables [III.10.K.D](#), [III.10.K.E](#), and [III.10.K.F](#), as approved/modified
33 pursuant to Permit Conditions [III.10.J.5](#) and [III.10.C.11.c](#). or [III.10.C.11.d](#)., the test
34 report will be certified in accordance with [WAC 173-303-807](#)(8), in accordance with
35 [WAC 173-303-680](#)(2) and (3).
- 36 B. A Final Risk Assessment Report completed pursuant to Permit Conditions
37 [III.10.C.11.c](#). or [III.10.C.11.d](#).
- 38 **III.10.J.3.d.vi** If any calculations or testing results show that one or more of the performance
39 standards listed in Permit Condition [III.10.J.1.b](#)., with the exception of Permit
40 Condition [III.10.J.1.b.x](#)., for the HLW Vitrification System were not met during the
41 Demonstration Test, the Permittees will perform the following actions:
- 42 A. Immediately stop dangerous and mixed waste feed to the HLW Vitrification System
43 under the mode of operation that resulted in not meeting the performance standard(s).
- 44 B. Verbally notify Ecology within twenty-four (24) hours of discovery of not meeting
45 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 findings to
 2 Ecology within fifteen (15) days of discovery of not meeting the performance
 3 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 of
 7 Permit Condition [III.10.J.1.b.x.](#), for the HLW Vitrification System were met during
 8 the demonstration test, if any such mode was demonstrated.
- 9 E. Based on the information provided to Ecology by the Permittees, pursuant to Permit
 10 Conditions [III.10.J.3.d.vi.A](#) through D above, and any additional information,
 11 Ecology may provide, in writing, direction to the Permittees to stop dangerous and/or
 12 mixed waste feed to the LAW Vitrification System and/or amend the mode of
 13 operation the Permittees are allowed to continue operations prior to Ecology approval
 14 of a compliance schedule and/or revised Demonstration Test Plan, pursuant to Permit
 15 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 to
 24 prevent failure from reoccurring.
- 25 G. If any of the performance standards listed in Permit Condition [III.10.J.1.b.](#), with the
 26 exception of Permit Conditions [III.10.J.1.b.i.](#) or [III.10.J.1.b.x.](#), were not met during
 27 the Demonstration Test, the Permittees will submit to Ecology within one hundred
 28 and twenty (120) days of discovery of not meeting the performance standard(s), a
 29 revised Demonstration Test Plan requesting approval to retest as a permit
 30 modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#) The
 31 revised Demonstration Test Plan must include substantive changes to prevent failure
 32 from reoccurring.

33 **III.10.J.3.d.vii**

34 If any calculations or testing results show that any emission rate for any constituent
 35 listed in Permit Table [III.10.J.E](#), as approved pursuant to Permit Condition
 36 [III.10.C.11.b.](#), is exceeded for HLW Vitrification System during the Demonstration
 Test, the Permittees will perform the following actions:

- 37 A. Verbally notify Ecology within twenty-four (24) hours of the discovery of exceeding
 38 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 emissions
 40 impact is offset by decreased emission impact from one or more constituents
 41 expected to be emitted at the same time, and/or investigate the cause and impact of
 42 the exceedance of the emission rate(s) and submit a report of the investigation
 43 findings to Ecology within fifteen (15) days of the discovery of exceeding the
 44 emission rate(s).
- 45 C. Based on the notification and any additional information, Ecology may provide, in
 46 writing, direction to the Permittees to stop dangerous and/or mixed waste feed to the
 47 HLW Vitrification System and/or to submit a revised Demonstration Test Plan as a
 48 permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [III.10.C.2.f.](#), or

- 1 [III.10.C.2.g.](#) The revised Demonstration Test Plan must include substantive changes
2 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, Addendum A of
12 this Permit), except for those waste outside the waste acceptance criteria specified in
13 the WAP, Operating Unit Group 10, Addendum B of this Permit, as approved
14 pursuant to Permit Condition [III.10.C.3.](#), and except Permit Conditions [III.10.J.4.b.ii.](#)
15 and [III.10.J.4.b.iii.](#) also apply.
- 16 **III.10.J.4.b.ii** The dangerous waste and mixed waste feed rates to the HLW Vitrification System
17 will not exceed the limits in Permit Tables [III.10.J.D](#) and [F](#), as approved/modified
18 pursuant to 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
20 waste treated in HLW Vitrification System to verify that the waste feed is within the
21 physical 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
38 on which the certification report is based and will include, but not limited to, review
39 of such information described below. Information (drawings, specifications, etc.)
40 already included in Operating Unit Group 10, Appendix 10.0 of this Permit, may be
41 included in the report by reference and should include drawing and document
42 numbers. IQRPE Reports will be consistent with the information separately provided

- 1 in ii. through ix. 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
5 detection methodology. These items should show the dimensions, volume
6 calculations, and location of the secondary containment system, and should include
7 items such as 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
9 with [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,
11 load definitions, and load combinations, materials of construction, and
12 analysis/design methodology) and typical design details for the support of the
13 secondary containment system. This information will demonstrate the foundation
14 will be capable of providing support to the secondary containment system, resistance
15 to pressure gradients above and below the system, and capable of preventing failure
16 due to settlement, compression, or uplift [[WAC 173-303-640](#)(4)(c)(ii), in accordance
17 with [WAC 173-303-680](#)(2) and [WAC 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
20 potential 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
24 liner 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
26 System will be installed in compliance with [WAC 173-303-640](#)(3)(c), in accordance
27 with [WAC 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
29 secondary containment sumps and floor drains the information, as specified in each
30 column heading 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
33 into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A),
34 and [WAC 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
3 10, Appendix 10.0 of this Permit, may be included in the report by reference and
4 should include drawing and document numbers. The IQRPE Reports will be
5 consistent with the information separately provided in ii. through xii. below and the
6 IQRPE Report specified in Permit Condition [III.10.J.5.b.](#) [[WAC 173-303-640\(3\)\(a\)](#)],
7 in accordance with [WAC 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),
10 Mechanical Drawings, and specifications, and other information specific to
11 subsystems (to show location and physical attributes of each subsystem specific to
12 miscellaneous units)] [[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
15 load combinations, materials of construction, and analysis/design methodology) and
16 typical design details to support the sub-systems. Structural support calculations
17 specific to off-specification, non-standard, and field-fabricated subsystems will be
18 submitted for incorporation into the Administrative Record. Documentation will
19 include, but not be limited to, supporting specifications (test data, treatment
20 effectiveness report, etc.), supporting projected operational capability (e.g., WESP
21 projected removal efficiency for individual metals, halogens, particulates, etc.), and
22 compliance with performance standards specified in Permit Condition [III.10.J.1.b](#)
23 [[WAC 173-303-640\(3\)\(a\)](#)], in 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
27 potential 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
30 tolerances) [[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
34 be 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
38 into the Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806\(4\)\(i\)\(i\)\(A\)](#)
39 through (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
41 developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,
42 including assumptions and formulas used to complete the mass and energy balance,
43 so that they can be independently verified for incorporation into the Administrative

- 1 Record [[WAC 173-303-680](#)(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
4 including:
- 5 A. A report which includes an analysis of credible potential bypass events and
6 recommendations for prevention/minimization of the potential, impact, and
7 frequency of the bypass event to include at a minimum:
- 8 1. Operating procedures
9 2. Maintenance procedures
10 3. Redundant equipment
11 4. Redundant instrumentation
12 5. Alternate equipment
13 6. Alternate materials of construction
- 14 **III.10.J.5.c.x** A detailed description of how the sub-systems will be installed in compliance with
15 [WAC 173-303-640](#)(3)(b), (c), (d), and (e), in accordance with [WAC 173-303-680](#)
16 and [WAC 173-303-806](#)(4)(i)(i)(B);
- 17 **III.10.J.5.c.xi** Sub-system design to prevent escape of vapors and emissions of acutely or
18 chronically toxic (upon inhalation) EHW, for incorporation into the Administrative
19 Record [[WAC 173-303-640](#)(5)(e), in accordance with [WAC 173-303-680](#), (2), and
20 [WAC 173-303-806](#)(4)(i)(i)(B)];
- 21 **III.10.J.5.c.xii** Documentation that sub-systems are designed to prevent the accumulation of
22 hydrogen gases levels above the lower explosive limit for incorporation into the
23 Administrative Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A), and
24 [WAC 173-303-806](#)(4)(i)(v)];
- 25 **III.10.J.5.d** The Permittees will submit to Ecology, pursuant to Permit Condition [III.10.C.9.f.](#), prior
26 to installation of equipment for each sub-system as identified in Permit Tables [III.10.J.A](#)
27 and [III.10.J.B](#), not addressed in Permit Conditions [III.10.J.5.b.](#) or [III.10.J.5.c.](#),
28 engineering information as specified below, for incorporation into Operating Unit Group
29 10, Appendices 10.1 through 10.14 of this Permit. At a minimum, engineering
30 information specified below will show the following as required pursuant to in
31 [WAC 173-303-640](#), in accordance with [WAC 173-303-680](#) (the information specified
32 below will include dimensioned engineering drawings):
- 33 **III.10.J.5.d.i** IQRPE Reports (specific to sub-system equipment) will include a review of design
34 drawings, calculations, and other information as applicable on which the certification
35 report is based. The reports will include, but not be limited to, review of such
36 information described below. Information (drawings, specifications, etc.) already
37 included in Operating Unit Group 10, Appendix 10.0 of this Permit, may be included
38 in the report by reference and should include drawing and document numbers. The
39 IQRPE Reports will be consistent with the information provided separately in ii.
40 through xiii. below and the IQRPE Reports specified in Permit Conditions
41 [III.10.J.5.b.](#) and [III.10.J.5.c.](#) [[WAC 173-303-640](#)(3)(a), in accordance with
42 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(I)(I)(A) through (B)];
- 43 **III.10.J.5.d.ii** Design drawings [Process Flow Diagrams, Piping and Instrumentation Diagrams
44 (including pressure control systems), and specifications, and other information
45 specific to equipment (these drawings should include all equipment such as pipes,

- 1 valves, fittings, pumps, instruments, etc.)] [[WAC 173-303-640](#)(3)(a), in accordance
2 with [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A) through (B)];
- 3 **III.10.J.5.d.iii** Sub-system equipment design criteria (references to codes and standards, load
4 definitions and load combinations, materials of construction, and analysis/design
5 methodology) and 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)(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
10 the 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)(i)(A)];
- 12 **III.10.J.5.d.v** Materials selection documentation for equipment for each sub-system (e.g., physical
13 and chemical tolerances) [[WAC 173-303-640](#)(3)(a), in accordance with
14 [WAC 173-303-680](#)(2) and [WAC 173-303-806](#)(4)(i)(i)(A)];
- 15 **III.10.J.5.d.vi** Vendor information (including, but not limited to, required performance warranties,
16 as 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)(i)(A) through (B), and [WAC 173-303-806](#)(4)(i)(iv)];
- 20 **III.10.J.5.d.vii** Sub-system, sub-system equipment, and leak detection system instrument control
21 logic narrative description (e.g., descriptions of fail-safe conditions, etc.)
22 [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B), and
23 [WAC 173-303-806](#)(4)(i)(v)];
- 24 **III.10.J.5.d.viii** System description related to sub-system equipment, and system descriptions related
25 to leak detection systems, for incorporation into the Administrative Record
26 [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and
27 [WAC 173-303-806](#)(4)(i)(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)(i)(B)];
- 31 **III.10.J.5.d.x** For process monitoring, control, and leak detection system instrumentation for the
32 HLW Vitrification System as identified in Permit Tables [III.10.J.C.](#) and [III.10.J.F.](#), a
33 detailed description of how the process monitoring, control, and leak detection
34 system instrumentation will be installed and tested [[WAC 173-303-640](#)(3)(c) through
35 (e), [WAC 173-303-640](#)(4)(b) and (c), [WAC 173-303-806](#)(4)(c)(vi), and
36 [WAC 173-303-806](#)(4)(i)(i)(B)];
- 37 **III.10.J.5.d.xi** Mass and energy balance for projected normal operating conditions used in
38 developing the Piping and Instrumentation Diagrams and Process Flow Diagrams,
39 including assumptions and formulas used to complete the mass and energy balance,
40 so that they can be independently verified, for incorporation into the Administrative
41 Record [[WAC 173-303-680](#)(2), [WAC 173-303-806](#)(4)(i)(i)(B), and
42 [WAC 173-303-806](#)(4)(i)(v)];
- 43 **III.10.J.5.d.xii** Documentation that sub-systems equipment are designed to prevent the accumulation
44 of hydrogen gas levels above the lower explosive limit into the Administrative
45 Record [[WAC 173-303-680](#), [WAC 173-303-806](#)(4)(i)(i)(A), and
46 [WAC 173-303-806](#)(4)(i)(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.](#)
15 and as specified in [WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#),
16 and descriptions of procedures for addressing problems detected during integrity
17 assessments. The schedule must be based on past integrity assessments, age of the
18 system, materials of construction, characteristics of the waste, and any other relevant
19 factors [[WAC 173-303-640\(3\)\(b\)](#), in accordance with [WAC 173-303-680](#) and
20 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 21 **III.10.J.5.e.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated
22 so that it will detect the failure of either the primary or secondary containment
23 structure or the presence of any release of dangerous and/or mixed waste or
24 accumulated liquid in the secondary containment system within twenty-four (24)
25 hours [[WAC 173-303-640\(4\)\(c\)\(iii\)](#)]. Detection of a leak of at least 0.1 gallons per
26 hour within twenty-four (24) hours is defined as being able to detect a leak within
27 twenty-four (24) hours. Any exceptions to this criteria must be approved by Ecology
28 in accordance with [WAC 173-303-680](#), [WAC 173-303-640\(4\)\(c\)\(iii\)](#), and
29 [WAC 173-303-806\(4\)\(i\)\(i\)\(b\)](#);
- 30 **III.10.J.5.e.iii** Detailed operational plans and descriptions, demonstrating that spilled or leaked
31 waste and accumulated precipitation liquids can be removed from the secondary
32 containment system within twenty-four (24) hours [[WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)];
- 33 **III.10.J.5.e.iv** Descriptions of operational procedures demonstrating appropriate controls and
34 practices are in place to prevent spills and overflows from the HLW Vitrification
35 System or containment systems in compliance with [WAC 173-303-640\(5\)\(b\)\(i\)](#)
36 through (iii), in accordance with [WAC 173-303-680](#) and
37 [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#);
- 38 **III.10.J.5.e.v** Description of procedures for investigation and repair of the HLW Vitrification
39 System [[WAC 173-303-640\(6\)](#) and [WAC 173-303-640\(7\)\(e\)](#) and (f), in accordance
40 with [WAC 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 Addendum C, Narrative Description, Tables and Figures as identified in
43 Permit Tables [III.10.J.A](#) and [III.10.J.B](#), as modified pursuant to Permit Condition
44 [III.10.H.5.e.x.](#) and updated to identify routinely non-accessible LAW Vitrification
45 sub-systems.
- 46 **III.10.J.5.e.vii** Description of procedures for management of ignitable and reactive, and
47 incompatible 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)(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
9 the information as specified in each column heading. Process and leak detection
10 system monitors and instruments for critical systems, as specified in Operating Unit
11 Group 10, Appendix 2.0 and as updated pursuant to Permit Condition
12 [III.10.C.9.b](#), and for operating parameters as required to comply with Permit
13 Condition [III.10.C.3.e.iii](#)., will be addressed. Process monitors and instruments for
14 non-waste management operations (e.g., utilities, raw chemical storage, non-contact
15 cooling waters, etc.) are excluded from this permit condition [[WAC 173-303-680](#),
16 [WAC 173-303-806](#)(4)(i)(i)(A) through (B), and [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)(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 [III.10.J.5.b](#).,
25 [c](#)., and [d](#). specific to HLW Vitrification System sub-system, as listed in column 1.
- 26 D. Under column 4, update and complete list of narrative description, tables, and
27 figures.
- 28 **III.10.J.5.f** One hundred and eighty (180) days prior to initial receipt of dangerous and/or mixed
29 waste in the WTP Unit, the Permittees will submit for review and receive approval for
30 incorporation into Operating Unit Group 10, Appendix 10.15 of this Permit, a
31 Demonstration Test Plan for the HLW Vitrification System to demonstrate that the HLW
32 Vitrification Systems meets the performance standards specified in Permit Condition
33 [III.10.J.1.b](#). In order to incorporate the Demonstration Test Plan for the HLW
34 Vitrification System into Operating Unit Group 10, Appendix 10.15, Permit Condition
35 [III.10.C.2.g](#). process will be followed. The Demonstration Test Plan will include, but not
36 be limited to, the following information. The Demonstration Test Plan will also be
37 consistent with the information provided pursuant to Permit Conditions [III.10.J.5.b](#)., [c](#)., [d](#).
38 and [e](#)., [III.10.C.3.e.v](#). and [III.10.C.11.b](#)., as approved by Ecology and consistent with the
39 schedule described in Operating Unit Group 10, Appendix 1.0 of this Permit. The
40 documentation required pursuant to Permit Condition [III.10.J.5.f.xvi](#)., in addition to being
41 incorporated into Operating Unit Group 10, Appendix 10.15, will be incorporated by
42 reference in Operating Unit Group 10, Addendum E of this Permit.
- 43 *Notes: (1) The following should be consulted to prepare this Demonstration Test Plan:*
44 *“Guidance on Setting Permit Conditions and Reporting Trial Burn Results Volume II of*
45 *the Hazardous Waste Incineration Guidance Series”, and EPA/625/6-89/019 and Risk*
46 *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
7 dangerous waste, glass formers and reductants, process streams (e.g., control air,
8 process air, steam, sparge bubbler air, air in-leakage from melter cave, and gases
9 from HLW Vitrification Vessel Ventilation System, process water, etc.) that includes:

- 10 A. Levels of ash, levels of metals, total chlorine (organic and inorganic), other halogens
11 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-stream,
14 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
24 [III.10.K.1.b.i.](#) These trial PODCs will be specified based on destructibility,
25 concentration or mass in the waste and the dangerous waste constituents or
26 constituents in [WAC 173-303-9905](#);

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

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

33 **III.10.J.5.f.v** A detailed engineering description of the HLW Vitrification System, including:

- 34 A. Manufacturer's name and model number for each sub-system.
35 B. Design capacity of each sub-system including documentation (engineering
36 calculations, manufacturer/vendor specifications, operating data, etc.) supporting
37 projected operational efficiencies (e.g., WESP projected removal efficiency for
38 individual metals, halogens, particulates, etc.) and compliance with performance
39 standards specified in Permit Condition [III.10.J.1.b.](#)
40 C. Detailed scaled engineering drawings, including Process Flow Diagrams, Piping and
41 Instrumentation Diagrams, Vessel Drawings (plan, and elevation with cross sections)
42 and General Arrangement Drawings.
43 D. Process Engineering Descriptions.
44 E. Mass and energy balances for each projected operating condition and each
45 demonstration test condition, including assumptions and formulas used to complete

- 1 mass and energy balances so that they can be independently verified for
2 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 stack
15 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
18 monitoring frequency, and planned analytical procedures for sample analysis
19 including, but not 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 sample
23 method procedures, (2) sampling train configuration schematic, (3) sampling
24 recovery flow sheet, (4) detailed analytical method procedures, and (5) sampling
25 preparation and analysis flow sheet. The detailed procedures should clearly flag
26 where the method has provided decision points (e.g., choices of equipment materials
27 of construction, choices of clean-up procedures or whether additional clean-up
28 procedures will be incorporated, whether pretest surveys or laboratory validation
29 work will be performed, enhancements to train to accommodate high moisture
30 content in stack gas, etc.) and what is being proposed along with the basis for the
31 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 sample
35 method procedures, (2) sampling recovery/compositing procedures, and (3) detailed
36 analytical method procedures. The detailed procedures should clearly flag where the
37 method has provided decision points (e.g., choices of equipment materials of
38 construction, choices of clean-up procedures or whether additional clean-up
39 procedures will be incorporated, whether pretest surveys or laboratory validation
40 work will be performed, etc.) and what is being proposed along with the basis for the
41 decision.
- 42 **III.10.J.5.f.vii** A detailed test schedule for each condition for which the demonstration test is
43 planned, including projected date(s), duration, quantity of dangerous waste to be fed,
44 and other relevant factors;
- 45 **III.10.J.5.f.viii** A detailed test protocol including, for each test condition, the ranges of feed-rate for
46 each feed system, and all other relevant parameters that may affect the ability of the

- 1 HLW Vitrification System to meet performance standards specified in Permit
2 Condition [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
6 submittal of Permit Tables [III.10.J.D](#), [III.10.J.F](#), [III.10.K.D](#), and [III.10.K.F](#) completed
7 with the information as specified in each column heading for each HLW Vitrification
8 System waste feed cut-off parameter and submittal of supporting documentation for
9 Permit 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
12 melter at capacity and input from the HLW Vitrification Vessel Ventilation System at
13 capacity to simulate maximum loading to the HLW Vitrification System off-gas
14 treatment system 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
17 and 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
20 must include:
- 21 A. A description of the extrapolation methodology and rationale for how the approach
22 ensures compliance with the performance standards, as specified in Permit Condition
23 [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 test
27 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 will
29 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 Vitrification System
31 input streams, including, but not limited to, waste feed, glass former and reactants,
32 control air, process air, steam, sparge bubbler air, air in-leakage from melter cave,
33 gases from HLW Vitrification Vessel Ventilation System, and process water.
- 34 **III.10.J.5.f.xv** Documentation justifying the duration of the conditioning required to ensure the
35 HLW Vitrification System had achieved steady-state operations under Demonstration
36 Test operating conditions.
- 37 **III.10.J.5.f.xvi** Documentation of HLW Vitrification 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](#),
39 and [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 provide a
44 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 significantly
5 out of calibration (e.g., increasing frequency of calibration, instrument replacement,
6 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), and
9 [WAC 173-303-806](#)(4)(i)(v)]
- 10 **III.10.J.5.f.xvii** Outline of demonstration test report.

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 -M6-HMP-00001002, Rev 1 -M6-HMP-00003001, Rev 0 -M6-HMP-00004001, Rev 1 -M6-HMP-00006001, Rev 1 -M6-HMP-00006002, Rev 0 -M6-HMP-00007001, Rev 0 -M6-HMP-00008001, Rev 0 -M6-HMP-00013002, Rev 1 -M6-HMP-00013003, Rev 0 -M6-HMP-20001001, Rev 0 -M6-HMP-20001002, Rev 0 -M6-HMP-20003001, Rev 0 -M6-HMP-20004001, Rev 0 -M6-HMP-20006001, Rev 0 -M6-HMP-20008001, Rev 0 -M6-HMP-20013002, Rev 0 -M6-HMP-20013003, Rev 0 -M5-V17T-P0002, Rev 1 -M5-V17T-P20002, Rev 1 -MOD-HMP-00001, Rev 2 -MOD-HMP-00002, Rev 2 -MF-HMP-00001, Rev 0 -MF-HMP-00002, Rev 0 -MF-HMP-00003, Rev 0 -N1D-HMP-P0001, Rev 0 -P1-P01T-00002, Rev 7 -3PS-AE00-T0001, Rev 5</p>	<p>Section 4.1.4.2; Table C-8; and Figures C1-1, C1-4, C1-27 and C1-54 in Operating Unit Group 10, Addendum C 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, Rev1 -M5-V17T-P20002, Rev 1 -M6-HMP-00002001, Rev 0 -M6-HMP-00002002, Rev 0 -M6-HMP-20002001, Rev 0 -M6-HMP-20002001, Rev 0</p>	<p>Section 4.1.4.3; Table C-8; and Figures C1-1, C1-4 and C1-27-in Operating Unit Group 10, Addendum C 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>		-3YD-HOP-00001 ^a	
<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>	HOP	<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-P0016, Rev 0</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>	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C of this Permit.
<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>	HOP	<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>	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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>24590-WTP</u> -3PS-MKE0-T0001, Rev 5</p>	
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-HEPA-00001A (Melter 1 Primary Offgas HEPA Filter)</p> <p>HOP-HEPA-00001B (Melter 1 Primary Offgas HEPA Filter)</p> <p>HOP-HEPA-00002A (Melter 1 Secondary Offgas HEPA Filter)</p> <p>HOP-HEPA-00002B (Melter 1 Secondary Offgas HEPA Filter)</p> <p>HOP-HEPA-00007A (Melter 2 Primary Offgas HEPA Filter)</p> <p>HOP-HEPA-00007B (Melter 2 Primary Offgas HEPA Filter)</p> <p>HOP-HEPA-00008A (Melter 2 Secondary Offgas HEPA Filter)</p> <p>HOP-HEPA-00008B (Melter 2 Secondary Offgas HEPA Filter)</p>	<p>HOP</p>	<p><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</p> <p><u>24590-WTP</u> -3PS-MKH0-T0002, Rev 4</p>	<p>Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C of this Permit.</p>
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-ADBR-00001A (Melter 1 Activated Carbon Adsorber – located on Activated Carbon Adsorber Skid HOP-ADBR-00001)</p> <p>HOP-ADBR-00001B (Melter 1 Activated Carbon Adsorber – located</p>	<p>HOP</p>	<p><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</p>	<p>Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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>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><u>24590-WTP</u> -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><u>24590-HLW</u> -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 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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><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-P0019, Rev 0 -MKD-HOP-P0020, Rev 0</p>	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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
		-N1D-HOP-00004, Rev 5 -N1D-HOP-00005, Rev 5 -P1-PO1T-00002, Rev 7 -3PS-MBTV-T0002, Rev 1 <u>24590-LAW</u> -3PS-MBTV-T0001, Rev 5	
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-SCR-00001 (NO_x Selective Catalytic Reducer – located on Catalyst Skid HOP-SKID-00005)</p> <p>HOP-SCR-00002 (NO_x Selective Catalytic Reducer – located on Catalyst Skid HOP-SKID-00007)</p>	HOP	<p><u>24590-HLW</u></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-P0019, Rev 0 -MKD-HOP-P0020, Rev 0 -N1D-HOP-00004, Rev 5 -N1D-HOP-00005, Rev 5 -P1-PO1T-00002, Rev 7 -3PS-MBTV-T0002, Rev 1 <u>24590-LAW</u> -3PS-MBTV-T0001, Rev 5	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C of this Permit.
<p><u>Melter Offgas Treatment Process System (Cont.)</u></p> <p>HOP-HX-00001 (Catalyst Skid Preheater – located on Catalyst Skid HOP-SKID-00005)</p> <p>HOP-HX-00003 (Catalyst Skid Preheater – located on Catalyst Skid HOP-SKID-00007)</p>	HOP	<p><u>24590-HLW</u></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-P0019, Rev 0 -MKD-HOP-P0020, Rev 0 -N1D-HOP-00008, Rev 2 -P1-PO1T-P0002, Rev 7	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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
		-3PS-MBTV-T0002, Rev 1 <u>24590-LAW</u> -3PS-MBTV-T0001, Rev 5	
<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>	HOP	<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-P0019, Rev 0 -MKD-HOP-P0020, Rev 0 -P1-PO1T-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>	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C of this Permit.
<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>	HOP	<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 7 -NID-HOP-P0006, Rev 1 -P1-P01T-00001, Rev 9 -3PS-MBT0-TP001, Rev 2</p>	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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-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 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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-P0018, Rev 2</p> <p>-P1-P01T-00001, Rev 9</p> <p><u>24590-WTP</u></p> <p>-3PS-MACS-TP004, Rev 0</p>	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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-TP004, Rev 0	Section 4.1.4.3; Table C-8; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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 4.1.4.3; and Figures C1-1 and C1-4 in Operating Unit Group 10, Addendum C 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
<p>PJV-HEPA-00004B (PJV System HEPA Filter (Standby Primary))</p> <p>PJV-HEPA-00005B (PJV System HEPA Filter (Standby Secondary))</p> <p>PJV-HEPA-00004A (PJV System HEPA Filter (Primary))</p> <p>PJV-HEPA-00005A (PJV System HEPA Filter (Secondary))</p> <p>PJV-FAN-00002A (Pulse Jet Vent Extraction Fan)</p> <p>PJV-FAN-00002B (Pulse Jet Vent Extraction Fan)</p>			
<p><u>Process Vessel Vent Extraction System</u></p> <p>PVV system contains ancillary equipment only.</p>	<p>PVV</p>	<p><u>24590-HLW</u> -M6-PVV-00001, Rev 4 -M6-PVV-20001, Rev 2</p>	
<p>^aSystem Descriptions are maintained in the Administrative Record, and are listed here for information only.</p>			

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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
^a 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
<p>*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.</p>								

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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 [F](#), 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,
23 Addendum C of this Permit, and Operating Unit Group 10, Appendices 10.1 through
24 10.17 of this Permit, as approved pursuant to Permit Conditions [III.10.J.5.a](#) through
25 [d](#) and [III.10.J.5.f](#).

26 **III.10.K.1.a.ii** The Permittees will maintain the design and construction of all containment systems
27 for the HLW Vitrification System as specified in Operating Unit Group 10,
28 Addendum C of this Permit, and Operating Unit Group 10, Appendices 10.2 and 10.4
29 through 10.14 of this Permit, as approved pursuant to Permit Conditions [III.10.J.5.a](#),
30 through [d](#).

31 **III.10.K.1.a.iii** Modifications to approved design, plans, and specifications in Operating Unit Group
32 10, of this Permit, for the HLW Vitrification System will be allowed only in
33 accordance with Permit Conditions [III.10.C.2.e](#) and [f](#), or [III.10.C.2.g](#), [III.10.C.9.d](#),
34 [e](#), and [h](#).

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

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

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

7 **III.10.K.1.a.v** The Permittees will ensure periodic integrity assessments are conducted on the HLW
8 Vitrification System listed in Permit Table [III.10.I.A](#), as approved/modified pursuant
9 to Permit Condition [III.10.J.5](#), over the term of this Permit, in accordance with
10 [WAC 173-303-680](#)(2) and (3), as specified in [WAC 173-303-640](#)(3)(b) following the
11 description of the integrity assessment program and schedule in Operating Unit
12 Group 10, Addendum E of this Permit, as approved pursuant to Permit Conditions
13 [III.10.J.5.e.i](#) and [III.10.C.5.c](#). Results of the integrity assessments will be included in
14 the WTP Unit operating record until ten (10) years after post-closure, or corrective
15 action is complete and certified, whichever is later.

16 **III.10.K.1.a.vi** The Permittees will address problems detected during the HLW Vitrification System
17 integrity assessments specified in Permit Condition [III.10.K.1.a.v](#) following the
18 description of the integrity assessment program in Operating Unit Group 10,
19 Addendum E of this Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i](#)
20 and [III.10.C.5.c](#).

21 **III.10.K.1.a.vii** All process monitors/instruments as specified in Permit Table [III.10.K.F](#), as
22 approved/modified pursuant to Permit Condition [III.10.J.5](#) and [III.10.J.3.d.v.](#), will be
23 equipped with operational alarms to warn of deviation, or imminent deviation from
24 the limits specified in Permit Table [III.10.K.F](#).

25 **III.10.K.1.a.viii** The Permittees will install and test all process and leak detection system
26 monitors/instruments, as specified in Permit Tables [III.10.K.C](#) and [III.10.K.F](#), as
27 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.10.J.3.d.v.](#), in
28 accordance with Operating Unit Group 10, Appendices 10.1, 10.2, and 10.14 of this
29 Permit, as approved pursuant to Permit Conditions [III.10.J.5.d.x](#) and [III.10.J.5.f.xvi](#).

30 **III.10.K.1.a.ix** No dangerous and/or mixed waste will be treated in the HLW Vitrification System
31 unless the operating conditions, specified under Permit Condition [III.10.K.1.c](#) are
32 complied with.

33 **III.10.K.1.a.x** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or
34 other materials in the HLW Vitrification System if these substances could cause the
35 sub-system, sub-system equipment, or the containment system to rupture, leak,
36 corrode, or otherwise fail [[WAC 173-303-640](#)(5)(a), in accordance with
37 [WAC 173-303-680](#)(2)]. This condition is not applicable to corrosion of HLW
38 Vitrification System sub-system or sub-system equipment that are expected to be
39 replaced as part of normal operations (e.g., melter).

40 **III.10.K.1.a.xi** The Permittees will operate the HLW Vitrification System to prevent spills and
41 overflows using the description of controls and practices as required under
42 [WAC 173-303-640](#)(5)(b), described in Permit Condition [III.10.C.5](#), and Operating
43 Unit Group 10, Appendix 10.18 of this Permit, as approved pursuant to Permit
44 Condition [III.10.J.5.e](#). [[WAC 173-303-640](#)(5)(b), in accordance with
45 [WAC 173-303-680](#)(2) and (3), [WAC-173-303-806](#)(4)(c)(ix)].

46 **III.10.K.1.a.xii** For routinely non-accessible HLW Vitrification System sub-systems, as specified in
47 Operating Unit Group 10, Addendum C of this Permit, as updated pursuant to Permit

- 1 Condition [III.10.J.5.e.vi.](#), the Permittees will mark all routinely non-accessible HLW
 2 Vitrification System sub-systems access points with labels or signs to identify the
 3 waste contained in each HLW Vitrification System sub-system. The label, or sign,
 4 must be legible at a distance of at least fifty (50) feet, and must bear a legend which
 5 identifies the waste in a manner which adequately warns employees, emergency
 6 response personnel, and the public of the major risk(s) associated with the waste
 7 being stored or treated in the HLW Vitrification System sub-systems. For the
 8 purposes of this permit condition, “routinely non-accessible” means personnel are
 9 unable to enter these areas while waste is being managed in them
 10 [[WAC 173-303-640](#)(5)(d), in accordance with
 11 [WAC 173-303-680](#)(2)].
- 12 **III.10.K.1.a.xiii** For all the HLW Vitrification System sub-systems not addressed in Permit Condition
 13 [III.10.K.1.a.xii.](#), the Permittees will mark all these HLW Vitrification System sub-
 14 systems holding dangerous and/or mixed waste with labels or signs to identify the
 15 waste contained in the HLW Vitrification System sub-systems. The labels, or signs,
 16 must be legible at a distance of at least fifty (50) feet, and must bear a legend which
 17 identifies the waste in a manner which adequately warns employees, emergency
 18 response personnel, and the public of the major risk(s) associated with the waste
 19 being stored or treated in the HLW Vitrification System sub-systems
 20 [[WAC 173-303-640](#)(5)(d), in accordance with [WAC 173-303-680](#)(2)].
- 21 **III.10.K.1.a.xiv** The Permittees will ensure that the secondary containment systems for the HLW
 22 Vitrification System sub-systems listed in Permit Tables [III.10.K.A](#) and [III.10.K.B](#),
 23 as approved/modified pursuant to Permit Condition [III.10.J.5](#), are free of cracks or
 24 gaps to prevent any migration of dangerous and/or mixed waste or accumulated
 25 liquid out of the system to the soil, groundwater, or surface water at any time during
 26 the use of the HLW Vitrification System sub-systems. Any indication that a crack or
 27 gap may exist in the containment systems will be investigated and repaired in
 28 accordance with Operating Unit Group 10, Appendix 10.18 of this Permit, as
 29 approved pursuant to Permit Condition [III.10.J.5.e.v.](#) [[WAC 173-303-640](#)(4)(b)(i),
 30 [WAC 173-303-640](#)(4)(e)(i)(C), and [WAC 173-303-640](#)(6), in accordance with
 31 [WAC 173-303-680](#)(2) and (3), [WAC 173-303-806](#)(4)(i)(i)(B), and
 32 [WAC 173-303-320](#)].
- 33 **III.10.K.1.a.xv** The Permittees must immediately and safely remove from service any HLW
 34 Vitrification System or secondary containment system which through an integrity
 35 assessment is found to be “unfit for use” as defined in [WAC 173-303-040](#), following
 36 Permit Condition [III.10.K.1.a.xvii.A](#) through [D](#), and [E](#). The affected HLW
 37 Vitrification System or secondary containment system must be either repaired or
 38 closed in accordance with Permit Condition [III.10.K.1.a.xvii.E](#).
 39 [[WAC 173-303-640](#)(7)(e) and (f) and [WAC 173-303-640](#)(8), in accordance with
 40 [WAC 173-303-680](#)(3)].
- 41 **III.10.K.1.a.xvi** An impermeable coating, as specified in Operating Unit Group 10, Appendices 10.4,
 42 10.5, 10.7, 10.9, 10.11, and 10.12 of this Permit, as approved pursuant to Permit
 43 Condition [III.10.J.5.b.v.](#), will be maintained for all concrete containment systems and
 44 concrete portions of containment systems for the HLW Vitrification System sub-
 45 systems listed in Permit Tables [III.10.K.A](#) and [III.10.K.B](#), as approved/modified
 46 pursuant to Permit Condition [III.10.J.5](#) (concrete containment systems that do not
 47 have a liner, pursuant to [WAC 173-303-640](#)(4)(e)(i), in accordance with
 48 [WAC 173-303-680](#)(2), and have construction joints, will meet the requirements of
 49 [WAC 173-303-640](#)(4)(e)(ii)(C), in accordance with [WAC 173-303-680](#)(2). The

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

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

13 **III.10.K.1.a.xvii**

The Permittees will inspect all secondary containment systems for the HLW
14 Vitrification System sub-systems listed in Permit Tables [III.10.K.A](#) and [III.10.K.B](#),
15 as approved/modified pursuant to Permit Condition [III.10.J.5.](#), in accordance with the
16 Inspection Schedule specified in Operating Unit Group 10, Addendum E1 of this
17 Permit, as approved pursuant to Permit Conditions [III.10.J.5.e.i.](#) and [III.10.C.5.c.](#), and
18 take the following actions if a leak or spill of dangerous and/or mixed waste is
19 detected in these containment systems [[WAC 173-303-640\(5\)\(c\)](#),
20 [WAC 173-303-640\(6\)](#) in accordance with [WAC 173-303-680\(2\)](#) and (3),
21 [WAC 173-303-320](#), and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)]:

- 22 A. Immediately, and safely, stop the flow of dangerous and/or mixed waste into the
23 HLW Vitrification System sub-systems or secondary containment system.
- 24 B. Determine the source of the dangerous and/or mixed waste.
- 25 C. Remove the dangerous and/or mixed waste from the containment area in accordance
26 with [WAC 173-303-680\(2\)](#) and (3), as specified in [WAC 173-303-640\(7\)\(b\)](#). The
27 dangerous and/or mixed waste removed from containment areas of the HLW
28 Vitrification System will be, at a minimum, managed as mixed waste.
- 29 D. If the cause of the release was a spill that has not damaged the integrity of the HLW
30 Vitrification System sub-system, the Permittees may return the HLW Vitrification
31 System sub-system to service in accordance with [WAC 173-303-680\(2\)](#) and (3), as
32 specified in [WAC 173-303-640\(7\)\(e\)\(ii\)](#). In such case, the Permittees will take
33 action to ensure the incident that caused the dangerous and/or mixed waste to enter
34 the containment system will not reoccur.
- 35 E. If the source of the dangerous and/or mixed waste is determined to be a leak in from
36 the primary HLW Vitrification System into the secondary containment system, or the
37 system is unfit for use as determined through an integrity assessment or other
38 inspection, the Permittees will comply with the requirements of
39 [WAC 173-303-640\(7\)](#) and take the following actions:
- 40 1. Close the HLW Vitrification System sub-system following procedures in
41 [WAC 173-303-640\(7\)\(e\)\(i\)](#), in accordance with [WAC 173-303-680](#), and
42 Operating Unit Group 10, Addendum H of this Permit, as approved pursuant
43 to Permit Condition [III.10.C.8](#).
 - 44 2. Repair and re-certify (in accordance with [WAC 173-303-810\(13\)\(a\)](#), as
45 modified pursuant to Permit Condition [III.10.K.1.a.iii.](#)) the HLW
46 Vitrification System, in accordance with Operating Unit Group 10, Appendix
47 10.18 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.e.v.](#),

- 1 before the HLW Vitrification System is placed back into service
2 [[WAC 173-303-640\(7\)\(e\)\(iii\)](#) and [WAC 173-303-640\(7\)\(f\)](#), in accordance
3 with [WAC 173-303-680](#)].
- 4 F. The Permittees will document in the operating record actions/procedures taken to
5 comply with A through E above, as specified in [WAC 173-303-640\(6\)\(d\)](#), in
6 accordance with [WAC 173-303-680\(2\)](#) and (3).
- 7 G. In accordance with [WAC 173-303-680\(2\)](#) and (3), the Permittees will notify and
8 report releases to the environment to Ecology as specified in
9 [WAC 173-303-640\(7\)\(d\)](#).
- 10 **III.10.K.1.a.xviii** If liquids (e.g., dangerous and/or mixed waste, leaks and spills, precipitation, fire
11 water, liquids from damaged or broken pipes) cannot be removed from the secondary
12 containment system within twenty-four (24) hours; Ecology will be verbally notified
13 within twenty-four (24) hours of discovery. The notification will provide the
14 information in A, B, and C, listed below. The Permittees will provide Ecology with
15 a written demonstration within seven (7) business days, identifying at a minimum
16 [[WAC 173-303-640\(4\)\(c\)\(iv\)](#) and [WAC 173-303-640\(7\)\(b\)\(ii\)](#), in accordance with
17 [WAC 173-303-680\(3\)](#) and [WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#)]:
- 18 A. Reasons for delayed removal.
19 B. Measures implemented to ensure continued protection of human health and the
20 environment.
21 C. Current actions being taken to remove liquids from secondary containment.
- 22 **III.10.K.1.a.xix** All air pollution control devices and capture systems in the HLW Vitrification
23 System will be maintained and operated at all times in a manner so as to minimize
24 the emissions of air contaminants and to minimize process upsets. Procedures for
25 ensuring that the air pollution control devices and capture systems in the HLW
26 Vitrification System are properly operated and maintained so as to minimize the
27 emission of air contaminants and process upsets will be established.
- 28 **III.10.K.1.a.xx** In all future narrative permit submittals, the Permittees will include HLW
29 Vitrification sub-system names with the sub-system designation.
- 30 **III.10.K.1.a.xxi** For any portion of the HLW Vitrification System which has the potential for
31 formation and accumulation of hydrogen gases, the Permittees will operate the
32 portion to maintain hydrogen levels below the lower explosive limit
33 [[WAC 173-303-815\(2\)\(b\)\(ii\)](#)].
- 34 **III.10.K.1.a.xxii** For each HLW Vitrification System sub-system holding dangerous waste which are
35 acutely or chronically toxic by inhalation, the Permittees will operate the system to
36 prevent escape of vapors, fumes, or other emissions into the air
37 [[WAC 173-303-806\(4\)\(i\)\(i\)\(B\)](#) and [WAC 173-303-640\(5\)\(e\)](#), in accordance with
38 [WAC 173-303-680](#)].
- 39 **III.10.K.1.b** Performance Standards
- 40 **III.10.K.1.b.i** The HLW Vitrification System must achieve a destruction and removal efficiency
41 (DRE) of 99.99% for the principal organic dangerous constituents (PODCs) listed
42 below
43 [[40 CFR §63.1203\(c\)\(1\)](#) and [40CFR §63.1203\(c\)\(2\)](#), in accordance with
44 [WAC 173-303-680\(2\)](#)]:
- 45 RESERVED

1 DRE in this Permit Condition will be calculated in accordance with the formula given
2 below:

3
$$\text{DRE} = [1 - (W_{\text{out}}/W_{\text{in}})] \times 100\%$$

4 Where:

5 W_{in} = mass feed-rate of one principal organic dangerous constituent (PODC) in a
6 waste feed stream; and

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

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

1 findings to Ecology within fifteen (15) days of the discovery of exceeding the
2 emission rate(s).

- 3 C. Based on the notification and any additional information, Ecology may provide, in
4 writing, direction to the Permittees to stop dangerous and/or mixed waste feed to the
5 HLW Vitrification System and/or to submit a revised Demonstration Test Plan as a
6 permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [f.](#), or
7 [III.10.C.2.g.](#) The revised Demonstration Test Plan must include substantive changes
8 to prevent failure from reoccurring.

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

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

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

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

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

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

45 **III.10.K.1.c.ii** The Permittees will operate the AWFCO systems, specified in Permit Table
46 [III.10.K.F](#), as approved/modified pursuant to Permit Conditions [III.10.J.5](#) and
47 [III.J.3.d.v.](#), to automatically cut-off and/or lock-out the dangerous and/or mixed

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

1 waste feed cut-offs to the HLW Vitrification System, whether automatically or
2 manually activated, are counted if the specified set-points are deviated from while
3 dangerous and/or mixed waste and waste residues continue to be processed in the
4 HLW Vitrification System.

5 A cascade event is counted at a frequency of one (1) towards the first waste feed cut-
6 off parameter, specified on Permit Table [III.10.K.F](#), from which the set-point is
7 deviated:

8 In accordance with [WAC 173-303-680](#)(2) and (3), the Permittees may not resume
9 dangerous and/or mixed waste feed to the HLW Vitrification System until this written
10 report has been submitted; and

- 11 A. Ecology has authorized the Permittees, in writing, to resume dangerous and/or mixed
12 waste feed, or
- 13 B. Ecology has not, within seven (7) days, notified the Permittees in writing of the
14 following:
- 15 1. The Permittees written report does not document that the corrective measures
16 taken will minimize future exceedances.
 - 17 2. The Permittees must take further corrective measures and document that these
18 further corrective measures will minimize future exceedances.

19 **III.10.K.1.c.ix** If any portion of the HLW Vitrification System is bypassed while treating dangerous
20 and/or mixed waste, it will be regarded as non-compliance with the operating
21 conditions specified in Permit Condition [III.10.K.1.c](#), and the performance standards
22 specified in Permit Condition [III.10.K.1.b](#). After such a bypass event, the Permittees
23 will perform the following actions:

- 24 A. Investigate the cause of the bypass event.
- 25 B. Take appropriate corrective measures to minimize future bypasses.
- 26 C. Record the investigation findings and corrective measures in the operating record.
- 27 D. Submit a written report to Ecology within five (5) days of the bypass event
28 documenting the result of the investigation and corrective measures.

29 **III.10.K.1.c.x** The Permittees will control fugitive emissions from the HLW Vitrification System by
30 maintaining the melter under negative pressure.

31 **III.10.K.1.c.xi** Compliance with the operating conditions specified in Permit Condition [III.10.K.1.c](#)
32 will be regarded as compliance with the required performance standards identified in
33 Permit Condition [III.10.K.1.b](#). However, evidence that compliance with these
34 operating conditions is insufficient to ensure compliance with the performance
35 standards, will justify modification, revocation, or re-issuance of this Permit, in
36 accordance with Permit Conditions [III.10.C.2.e](#) and [f.](#), or [III.10.C.2.g](#).

37 **III.10.K.1.d** Inspection Requirements [[WAC 173-303-680](#)(3)]

38 **III.10.K.1.d.i** The Permittees will inspect the HLW Vitrification System in accordance with the
39 Inspection Schedules in Operating Unit Group 10, Addendum E1 of this Permit, as
40 modified in accordance with Permit Condition [III.10.C.5.c](#).

- 1 **III.10.K.1.d.ii** The inspection data for HLW Vitrification System will be recorded, and the records
2 will be placed in the WTP Unit operating record for HLW Vitrification System, in
3 accordance with Permit Condition [III.10.C.4](#).
- 4 **III.10.K.1.d.iii** The Permittees will comply with the inspection requirements specified in Operating
5 Unit Group 10, Appendix 10.15 of this Permit, as approved pursuant to Permit
6 Condition [III.10.J.5.f.](#), and as modified by Permit Conditions [III.10.J.3](#),
7 [III.10.K.1.b.x.](#), [III.10.K.1.b.xii.](#), and [III.10.K.1.h.](#)
- 8 **III.10.K.1.e** Monitoring Requirements [[WAC 173-303-670\(5\)](#), [WAC 173-303-670\(6\)](#),
9 [WAC 173-303-670\(7\)](#), and [WAC 173-303-807\(2\)](#), in accordance with
10 [WAC 173-303-680\(3\)](#)]
- 11 **III.10.K.1.e.i** Upon receipt of a written request from Ecology, the Permittees will perform sampling
12 and analysis of the dangerous and/or mixed waste and exhaust emissions to verify
13 that the operating requirements established in the permit achieve the performance
14 standards delineated in this Permit.
- 15 **III.10.K.1.e.ii** The Permittees will comply with the monitoring requirements specified in the
16 Operating Unit Group 10, Appendices 10.2, 10.3, 10.7, 10.13, 10.15, and 10.18 of
17 this Permit, as approved pursuant to Permit Condition [III.10.J.5](#), and as modified by
18 Permit Conditions [III.10.J.3](#), [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii.](#)
- 19 **III.10.K.1.e.iii** The Permittees will operate, calibrate, and maintain the carbon monoxide and
20 hydrocarbon continuous emission monitors (CEM) specified in this Permit in
21 accordance with Performance Specifications 4B and 8A of [40 CFR Part 60](#),
22 Appendix B, in accordance with Appendix to Subpart EEE of [40 CFR Part 63](#), and
23 Operating Unit Group 10 Appendix 10.15 of this Permit, as approved pursuant to
24 Permit Condition [III.10.J.5.f.](#), and as modified by Permit Conditions [III.10.J.3](#),
25 [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii.](#)
- 26 **III.10.K.1.e.iv** The Permittees will operate, calibrate, and maintain the instruments specified on
27 Permit Tables [III.10.K.C](#) and [F](#), as approved/modified pursuant to Permit Conditions
28 [III.10.J.5](#) and [III.J.3.d.v.](#), in accordance with Operating Unit Group 10, Appendix
29 10.15 of this Permit, as approved pursuant to Permit Condition [III.10.J.5.f.](#), and as
30 modified by Permit Conditions [III.10.J.3](#), [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii.](#)
- 31 **III.10.K.1.e.v** The Permittees shall calibrate, inspect, and maintain or replace the following cooling
32 water flow and temperature instruments: (Melter 1: FT/FI-0306, FT/FI-0316, FT/FI-
33 0321, FT/FI-0326, FT/FI-0336, TE/TT/TI-0352; Melter 2: FT/FI-2306, FT/FI-2316,
34 FT/FI-2321, FT/FI-2326, FT/FI-2336, TE/TT/TI-2352) in accordance with
35 manufacturer's recommendations.
- 36 **III.10.K.1.f** Recordkeeping Requirements [[WAC 173-303-380](#) and [WAC 173-303-680\(3\)](#)]
- 37 **III.10.K.1.f.i** The Permittees will record and maintain in the WTP Unit operating record for the
38 HLW Vitrification System, all monitoring, calibration, maintenance, test data, and
39 inspection data compiled under the conditions of this Permit, in accordance with
40 Permit Conditions [III.10.C.4](#) and [5](#) as modified by Permit Conditions [III.10.J.3](#),
41 [III.10.K.1.h.](#), and [III.10.K.1.b.x.](#) and [xii.](#)
- 42 **III.10.K.1.f.ii** The Permittees will record in the WTP Unit operating record the date, time, and
43 duration of all automatic waste feed cut-offs and/or lockouts, including the triggering
44 parameters, reason for the deviation, and recurrence of the incident. The Permittees

- 1 will also record all incidents of AWFCO system function failures, including the
2 corrective measures taken to correct the condition that caused the failure.
- 3 **III.10.K.1.f.iii** The Permittees will submit to Ecology an annual report each calendar year within
4 ninety (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 HLW Vitrification
7 System.
- 8 B. Date/Time of all HLW Vitrification System startups and shutdowns.
- 9 C. Date/Time/Duration/Cause/Corrective Action taken for all HLW Vitrification System
10 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.K.F](#), as
13 approved/modified pursuant to Permit Conditions [III.10.J.5](#) and [III.10J.3.d.v](#).
- 14 **III.10.K.1.f.iv** The Permittees will submit an annual report to Ecology each calendar year within
15 ninety (90) days following the end of the year of all quarterly CEM Calibration Error
16 and Annual CEM Performance Specification Tests conducted in accordance with
17 Permit Condition [III.10.K.1.e.iii](#).
- 18 **III.10.K.1.f.v** The Permittees shall maintain operating and calibration/maintenance records for
19 Ecology’s inspection for the following cooling water flow and temperature
20 instruments (Melter 1: FT/FI-0306, FT/FI-0316, FT/FI-0321, FT/FI-0326, FT/FI-
21 0336, TE/TT/TI-0352; Melter 2: FT/FI-2306, FT/FI-2316, FT/FI-2321, FT/FI-2326,
22 FT/FI-2336, TE/TT/TI-2352).
- 23 **III.10.K.1.f.vi** The Permittees shall maintain refractory thermocouple temperature data for Ecology
24 inspection.
- 25 **III.10.K.1.g** Closure
- 26 The Permittees will close the HLW Vitrification System in accordance with Operating
27 Unit Group 10, Addendum H of this Permit, as approved pursuant to Permit Condition
28 [III.10.C.8](#).
- 29 **III.10.K.1.h** Periodic Emission Re-testing Requirements [[WAC 173-303-670](#)(5),
30 [WAC 173-303-670](#)(7), and [WAC 173-303-807](#)(2), in accordance with
31 [WAC 173-303-680](#)(2) and (3)].
- 32 **III.10.K.1.h.i** Dioxin and Furan Emission Testing
- 33 A. Within eighteen (18) months of commencing operation pursuant to Permit Section
34 [III.10.K](#), the Permittees will submit to Ecology for approval, a Dioxin and Furan
35 Emission Test Plan (DFETP) for the performance of emission testing of the HLW
36 Vitrification System gases for dioxin and furans during “Normal Operating
37 Conditions” as a permit modification in accordance with Permit Conditions
38 [III.10.C.2.e](#) and [f](#). The DFETP will include all elements applicable to dioxin and
39 furan emission testing included in the “Previously Approved Demonstration Test
40 Plan,” applicable EPA promulgated test methods and procedures in effect at the time
41 of the submittal, and projected commencement and completion dates for dioxin and
42 furan emission test. “Normal Operating Conditions” will be defined for the purposes
43 of this permit condition as follows:
- 44 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
45 automatic waste feed cut-off parameters specified on Permit Table [III.10.K.F](#)

1 (as approved/modified pursuant to Permit Conditions [III.10.J.5](#) and
2 [III.10.J.3.d.v](#)), that were established to maintain compliance with Permit
3 Condition [III.10.K.1.b.iv.](#), as specified in Operating Unit Group 10, Appendix
4 10.15 of this Permit (as approved pursuant to Permit Condition [III.10.J.3.d.](#) and
5 in accordance with [III.10.K.1.b.xii.](#) and [III.10.K.1.c.xi.](#)), are held within the
6 range of the average value over the previous twelve (12) months and the set-
7 point value specified on Permit Table [III.10.K.F.](#) The average value is defined
8 as the sum of the rolling average values recorded over the previous twelve (12)
9 months divided by the number of rolling averages recorded during that time.
10 The average value will not include calibration data, malfunction data, and data
11 obtained when not processing dangerous and/or mixed waste.

- 12 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of the
13 average value over the previous twelve (12) months and the set-point value
14 specified on Permit Table [III.10.K.D](#) (as approved/modified pursuant to Permit
15 Conditions [III.10.J.5](#) and [III.10.J.3.d.v](#)). Feed-rate of organics as measured by
16 TOC are held within the range of the average value over the previous twelve
17 (12) months. The average value is defined as the sum of the rolling average
18 values recorded over the previous twelve (12) months divided by the number of
19 rolling averages recorded during that time. The average value will not include
20 data obtained when not processing dangerous and/or mixed waste.

21 For purposes of this permit Condition, the “Previously Approved Demonstration Test
22 Plan” is defined to include the Demonstration Test Plan approved pursuant to Permit
23 Condition [III.10.J.5.f](#).

- 24 B. Within sixty (60) days of Ecology’s approval of the DFETP, or within thirty-one (31)
25 months of commencing operation pursuant to Permit Section [III.10.K](#), whichever is
26 later, the Permittees will implement the DFETP approved, pursuant to Permit
27 Condition [III.10.K.1.h.i.A](#).
- 28 C. The Permittees will resubmit the DFETP, approved pursuant to Permit Condition
29 [III.10.K.1.h.i.A](#), revised to include applicable EPA promulgated test methods and
30 procedures in effect at the time of the submittal, and projected commencement and
31 completion dates for dioxin and furan emission test as a permit modification in
32 accordance with Permit Conditions [III.10.C.2.e.](#) and [f.](#) at twenty-four (24) months
33 from the implementation date of the testing required pursuant to Permit Condition
34 [III.10.K.1.h.i.A](#).and at reoccurring eighteen (18) month intervals from the
35 implementation date of the previously approved DFETP. The Permittees will
36 implement these newly approved revised DFETPs every thirty-one (31) months from
37 the previous approved DFETP implementation date or within sixty (60) days of the
38 newly Ecology approved revised DFETP, whichever is later, for the duration of this
39 Permit.
- 40 D. The Permittees will submit a summary of operating data collected pursuant to the
41 DFETPs in accordance with Permit Conditions [III.10.K.1.h.i.A](#) and C to Ecology
42 upon completion of the tests. The Permittees will submit to Ecology the complete
43 test report within ninety (90) calendar days of completion of the testing. The test
44 reports will be certified as specified in [WAC 173-303-807](#)(8), in accordance with
45 [WAC 173-303-680](#)(2) and (3).
- 46 E. If any calculations or testing results collected pursuant to the DFETPs in accordance
47 with Permit Conditions [III.10.K.1.h.i.A](#) and C show that one or more of the
48 performance standards listed in Permit Condition [III.10.K.1.b.](#), with the exception of

1 Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System were not met
2 during the emission test, the Permittees will perform the following actions:

- 3 1. Immediately stop dangerous and/or mixed waste feed to the HLW Vitrification
4 System under the mode of operation that resulted in not meeting the
5 performance standard(s).
- 6 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
7 meeting the performance standard(s) as specified in Permit Condition I.E.21.
- 8 3. Investigate the cause of the failure and submit a report of the investigation
9 findings to Ecology within fifteen (15) days of discovery of not meeting the
10 performance standard(s).
- 11 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
12 performance standard(s) documentation supporting a mode of operation where
13 all performance standards listed in Permit Condition [III.K.1.b.](#), with the
14 exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System
15 were met during the demonstration test, if any such mode was demonstrated.
- 16 5. Based on the information provided to Ecology by the Permittees, pursuant to
17 Permit Conditions [III.10.K.1.h.i.E.](#) 1 through 4 above, and any additional
18 information, Ecology may provide, in writing, direction to the Permittees to stop
19 dangerous and/or mixed waste feed to the HLW Vitrification System and/or
20 amend the mode of operation the Permittees are allowed to continue operations
21 prior to Ecology approval of the revised Demonstration Test Plan pursuant to
22 Permit Condition [III.10. K.1.h.i.E.](#) 6.
- 23 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
24 not meeting the performance standard(s) a revised Demonstration Test Plan
25 requesting approval to retest as a permit modification pursuant to Permit
26 Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan must
27 include substantive changes to prevent failure from reoccurring reflecting
28 performance under operating conditions representative of the extreme range of
29 normal conditions, and include revisions to Permit Tables [III.10.K.D](#) and [F.](#)

30 F. If any calculations or testing results collected pursuant to the DFETPs in accordance
31 with Permit Conditions [III.10.K.1.h.i.A](#) and [C](#) show that any emission rate for any
32 constituent listed in Permit Table [III.10.K.E](#), as approved/modified pursuant to
33 Permit Conditions [III.10.C.11.c.](#) or [d.](#), is exceeded for HLW Vitrification System
34 during the emission test, the Permittees will perform the following actions:

- 35 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
36 exceeding the emission rate(s) as specified in Permit Condition I.E.21;
- 37 2. Submit to Ecology additional risk information to indicate that the increased
38 emissions impact is off-set by decreased emission impact from one or more
39 constituents expected to be emitted at the same time, and/or investigate the
40 cause and impact of the exceedance and submit a report of the investigation
41 findings to Ecology within fifteen (15) days of this discovery of exceeding the
42 emission rate(s); and
- 43 3. Based on the notification and any additional information, Ecology may provide,
44 in writing, direction to the Permittees to stop dangerous and/or mixed waste feed
45 to the HLW Vitrification System and/or to submit a revised Demonstration Test
46 Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [f.](#),
47 or [III.10.C.2.g.](#) The revised Demonstration Test Plan must include substantive
48 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.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 with

1 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 newly
7 Ecology approved revised RDTP, whichever is later, for the duration of this Permit.

- 8 D. The Permittees will submit a summary of operating data collected pursuant to the
9 RDTPs in accordance with Permit Conditions [III.10.K.1.h.ii.A](#) and C to Ecology
10 upon completion of the tests. The Permittees will submit to Ecology the complete
11 test report within ninety (90) calendar days of completion of the testing. The test
12 reports will be certified pursuant to [WAC 173-303-807](#)(8), in accordance with
13 [WAC 173-303-680](#)(2) and (3).
- 14 E. If any calculations or testing results collected pursuant to the DFETPs in accordance
15 with Permit Conditions [III.10.K.1.h.ii.A](#) and C show that any emission rate for any
16 constituent listed in Permit Table [III.10.K.E](#), as approved/modified pursuant to
17 Permit Conditions [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), is exceeded for HLW
18 Vitrification System during the emission test, the Permittees will perform the
19 following actions:
- 20 1. Verbally notify Ecology within twenty-four (24) hours of the discovery of
21 exceeding the emission rate(s) as specified in Permit Condition I.E.21.
 - 22 2. Submit to Ecology additional risk information to indicate that the increased
23 emissions impact is off-set by decreased emission impact from one or more
24 constituents expected to be emitted at the same time, and/or investigate the
25 cause and impact of the exceedance and submit a report of the investigation
26 findings to Ecology within fifteen (15) days of this discovery of exceeding the
27 emission rate(s).
 - 28 3. Based on the notification and any additional information, Ecology may provide,
29 in writing, direction to the Permittees to stop dangerous and/or mixed waste feed
30 to the HLW Vitrification System and/or to submit a revised Demonstration Test
31 Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [f.](#),
32 or [III.10.C.2.g.](#) The revised Demonstration Test Plan must include substantive
33 changes to prevent failure from reoccurring reflecting performance under
34 operating conditions representative of the extreme range of normal conditions,
35 and include revisions to Permit Tables [III.10.K.D](#) and [III.10.K.F](#).
- 36 F. If any calculations or testing results collected pursuant to the DFETPs in accordance
37 with Permit Conditions [III.10.K.1.h.ii.A](#) and C show that one or more of the
38 performance standards listed in Permit Condition [III.10.K.1.b.](#), with the exception of
39 Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System were not met
40 during the emission test, the Permittees will perform the following actions:
- 41 1. Immediately stop dangerous and/or mixed waste feed to the HLW Vitrification
42 System under the mode of operation that resulted in not meeting the
43 performance standard(s).
 - 44 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
45 meeting the performance standard(s), as specified in Permit Condition I.E.21.
 - 46 3. Investigate the cause of the failure and submit a report of the investigation
47 findings to Ecology within fifteen (15) days of discovery of not meeting the
48 performance standard(s).

- 1 4. Submit to Ecology within fifteen (15) days of discovery of not meeting the
2 performance standard(s) documentation supporting a mode of operation where
3 all performance standards listed in Permit Condition [III.K.1.b.](#), with the
4 exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System
5 were met during the demonstration test, if any such mode was demonstrated.
- 6 5. Based on the information provided to Ecology by the Permittees pursuant to
7 Permit Conditions [III.10.K.1.h.ii.F.1](#) through 4 above, and any additional
8 information, Ecology may provide, in writing, direction to the Permittees to stop
9 dangerous and/or mixed waste feed to the HLW Vitrification System and/or
10 amend the mode of operation the Permittees are allowed to continue operations
11 prior to Ecology approval of the revised Demonstration Test Plan pursuant to
12 Permit Condition [III.10.K.1.h.ii.F.6](#).
- 13 6. Submit to Ecology within one hundred and twenty (120) days of discovery of
14 not meeting the performance standard(s) a revised Demonstration Test Plan
15 requesting approval to retest as a permit modification pursuant to Permit
16 Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration Test Plan must
17 include substantive changes to prevent failure from reoccurring reflecting
18 performance under operating conditions representative of the extreme range of
19 normal conditions, and include revisions to Permit Tables [III.10.K.D](#) and [F.](#)

20 **III.10.K.1.h.iii** Other Emission Testing

- 21 A. Within seventy-eight (78) months of commencing operation pursuant to Permit
22 Section [III.10.K](#), the Permittees will resubmit to Ecology for approval the
23 “Previously Approved Demonstration Test Plan” revised as a permit modification in
24 accordance with Permit Conditions [III.10.C.2.e.](#) and [f.](#) The revised Demonstration
25 Test Plan (RDTP) will include applicable EPA promulgated test methods and
26 procedures in effect at the time of the submittal, projected commencement and
27 completion dates for emission testing to demonstrate performance standards as
28 specified in Permit Conditions [III.10.K.1.b.viii.](#) and [ix.](#), and emissions as specified on
29 Permit Table [III.10.K.E](#), as approved/modified pursuant to Permit Conditions
30 [III.10.J.3.d.](#) and [III.10.C.11.c.](#) or [d.](#), not addressed under Permit Conditions
31 [III.10.K.1.h.i.](#) or [ii.](#) under “Normal Operating Conditions.” “Normal Operating
32 Conditions” will be defined for the purposes of this permit Condition as follows:
 - 33 1. Carbon monoxide emissions, dangerous and/or mixed waste feed-rate, and
34 automatic waste feed cut-off parameters specified on Permit Table
35 [III.10.K.F](#), as approved/modified pursuant to Permit Condition [III.10.J.3.d.](#)
36 and [III.10.C.11.c.](#) or [d.](#), that were established to maintain compliance with
37 Permit Conditions [III.10.K.1.b.viii.](#) and [ix.](#), and emissions as specified on
38 Permit Table [III.10.K.E](#), not addressed under Permit Conditions
39 [III.10.K.1.h.i.](#) or [ii.](#) as specified in Operating Unit Group 10, Appendix 10.15
40 of this Permit, as approved pursuant to Permit Condition [III.10.J.3.d.](#), and in
41 accordance with Permit Conditions [III.10.K.1.b.xii.](#) and [III.10.K.1.c.xi.](#) are
42 held within the range of the average value over the previous twelve (12)
43 months and the set-point value specified on Permit Table [III.10.K.F](#).
44 The average value is defined as the sum of all rolling average values
45 recorded over the previous twelve (12) months divided by the number of
46 rolling averages recorded during that time. The average value will not
47 include calibration data, malfunction data, and data obtained when not
48 processing dangerous and/or mixed waste; and

- 1 2. Feed-rate of metals, ash, and chlorine/chloride are held within the range of
2 the average value over the previous twelve (12) months and the set-point
3 value specified on Permit Table [III.10.K.D](#), as approved/modified pursuant to
4 Permit Conditions [III.10.J.3.d](#) and [III.10.C.11.c](#), or [d](#). Feed-rate of organics
5 as measured by TOC are held within the range of the average value over the
6 previous twelve (12) months. The average value is defined as the sum of the
7 rolling average values recorded over the previous twelve (12) months divided
8 by the number of rolling averages recorded during that time.
9 The average value will not include data obtained when not processing
10 dangerous and/or mixed waste.

11 For purposes of this permit Condition, the “Previously Approved
12 Demonstration Test Plan” is defined to include the Demonstration Test Plan
13 approved pursuant to Permit Condition [III.10.J.5.f](#).

- 14 B. Within sixty (60) days of Ecology’s approval of the RDTP, or within ninety-one (91)
15 months of commencing operation pursuant to Permit Section [III.10.K](#), whichever is
16 later, the Permittees will implement the RDTP approved pursuant to Permit
17 Condition [III.10.K.1.h.iii.A](#).
- 18 C. The Permittees will submit a summary of operating data collected pursuant to the
19 RDTPs in accordance with Permit Condition [III.10.K.1.h.iii.A](#) to Ecology upon
20 completion of the tests. The Permittees will submit to Ecology the complete test
21 report within ninety (90) calendar days of completion of the testing. The test reports
22 will be certified as specified in [WAC 173-303-807](#)(8), in accordance with Permit
23 Condition [WAC 173-303-680](#)(2) and (3).
- 24 D. If any calculations or testing results show that one or more of the performance
25 standards listed in Permit Condition [III.10.K.1.b.](#), with the exception of Permit
26 Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System were not met during the
27 emission test, the Permittees will perform the following actions:
- 28 1. Immediately stop dangerous and/or mixed waste feed to the HLW Vitrification
29 System under the mode of operation that resulted in not meeting the
30 performance standard(s).
 - 31 2. Verbally notify Ecology within twenty-four (24) hours of discovery of not
32 meeting the performance standard(s), as specified Permit Condition I.E.21.
 - 33 3. 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 4. 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.K.1.b.](#), with the
39 exception of Permit Condition [III.10.K.1.b.x.](#), for the HLW Vitrification System
40 were met during the demonstration test, if any such mode was demonstrated.
 - 41 5. Based on the information provided to Ecology by the Permittees pursuant to
42 Permit Conditions [III.10.K.1.h.iii.D.1](#) through [4](#) 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 HLW Vitrification System and/or
45 amend the mode of operation the Permittees are allowed to continue operations
46 prior to Ecology approval of the revised Demonstration Test Plan, pursuant to
47 Permit Condition [III.10.K.1.h.iii.D.6](#).

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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 [II.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.](#)
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- E. If any calculations or testing results show that any emission rate for any constituent listed in Permit Table [III.10.K.E](#), as approved/modified pursuant to Permit Condition [III.10.C.11.c.](#) or [d.](#), is exceeded for HLW Vitrification System during the emission test, the Permittees will perform the following actions:
1. Verbally notify Ecology within twenty-four (24) hours of the discovery of exceeding the emission rate(s) as specified in Permit Condition I.E.21;
 2. Submit to Ecology additional risk information to indicate that the increased emissions impact is off-set by decreased emission impact from one or more constituents expected to be emitted at the same time, and/or investigate the cause and impact of the exceedance of the emission rate(s) and submit a report of the investigation findings to Ecology within fifteen (15) days of the discovery of the exceedance of the emission rate(s); and
 3. Based on the notification 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 to submit a revised Demonstration Test Plan as a permit modification pursuant to Permit Conditions [III.10.C.2.e.](#) and [f.](#), or [III.10.C.2.g.](#) 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.](#)
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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).			

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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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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

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Table III.10.K.E – HLW Vitrification System Estimated Emission Rates (RESERVED)

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

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**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

*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

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