

**LOW-ACTIVITY WASTE PRETREATMENT SYSTEM  
PART III, OPERATING UNIT GROUP 1  
UNIT-SPECIFIC PERMIT CONDITIONS**

**CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number

This page intentionally left blank.

DRAFT

1  
2  
3  
4  
5  
6

**LOW-ACTIVITY WASTE PRETREATMENT SYSTEM  
PART III, OPERATING UNIT GROUP 1  
UNIT-SPECIFIC PERMIT CONDITIONS**

DRAFT

1  
2  
3  
4  
5

This page intentionally left blank.

DRAFT

1  
2 **PART III, OPERATING UNIT GROUP 1 UNIT-SPECIFIC PERMIT CONDITIONS**  
3 **LOW-ACTIVITY WASTE PRETREATMENT SYSTEM**  
4

5  
6 **UNIT DESCRIPTION**

7 The first phase of the Low-Activity Waste Pretreatment System (LAWPS) consists of the Tank Side  
8 Cesium Removal (TSCR) System. The TSCR comprises a Low Activity Liquid Mixed-Waste Tank  
9 Storage and Treatment System. The facility also includes two storage areas for Spent Ion Exchange  
10 Columns (IXCs) that are generated during the treatment process.

11 TSCR is designed and operated to treat Double Shell Tank (DST) supernatant waste. The waste  
12 pretreated through TSCR is accumulated in DST 241-AP-106 for subsequent transfer to the Waste  
13 Treatment and Immobilization Plant (WTP) Low-Activity Waste (LAW) Facility for vitrification. TSCR  
14 is located immediately adjacent to the east side of the 241-AP Tank Farm in the 200 East Area of the  
15 Hanford site.

16 Construction of TSCR will begin in 2020 with waste management operations anticipated to begin in 2022.

17 This Chapter provides unit-specific Permit Conditions applicable to the Dangerous Waste Management  
18 Units (DWMUs) for Phase 1 of LAWPS.

19 **LIST OF ADDENDA SPECIFIC TO OPERATING UNIT GROUP 1**

- 20 Addendum A Part A Form  
21 Addendum B Waste Analysis Plan  
22 Addendum C Process Information  
23 Addendum D Reserved  
24 Addendum E Security Requirements  
25 Addendum F Preparedness and Prevention  
26 Addendum G Personnel Training  
27 Addendum H Closure Plan  
28 Addendum I Inspection Plan  
29 Addendum J Contingency Plan

1 **III.1.A COMPLIANCE WITH UNIT-SPECIFIC PERMIT CONDITIONS**

2 **III.1.A.1** The Permittees will comply with all Permit Conditions in this Chapter with respect to  
3 dangerous waste management and DWMUs associated with the LAWPS, in addition to  
4 requirements in Permit Part I-Standard Conditions and Part II-General Facility  
5 Conditions of the Permit.

6 In the event that the Part III, Unit-Specific Conditions for Operating Unit Group 1,  
7 LAWPS conflict with the Part I and/or Part II Conditions of the Permit, the unit-specific  
8 conditions for Operating Unit Group 1, LAWPS prevail.

9 **III.1.B GENERAL WASTE MANAGEMENT**

10 **III.1.B.1** Treatment or storage of dangerous and/or mixed waste in any new or modified portion of  
11 the facility may commence when the Permittees have submitted to Department of  
12 Ecology (Ecology), by certified mail, or hand delivery, a letter signed by the Permittees  
13 and signed and stamped by a registered professional engineer stating that the facility has  
14 been constructed or modified in compliance with the Permit in accordance with  
15 Washington Administrative Code (WAC) 173-303-810(14)(a); and

16 **III.1.B.1.a** The Permittee has received a Permit modification approval pursuant to Permit Conditions  
17 III.1.B.11 and III.1.B.12, and

18 **III.1.B.1.b** Ecology has inspected the modified or newly constructed facility and finds it is in  
19 compliance with the conditions the Permit, or

20 **III.1.B.1.b.i** Within fifteen (15) days of the date of receipt of the Permittees' letter, Ecology has not  
21 notified the Permittees of intent to inspect.

22 **III.1.B.2** The Permittees are authorized to accept dangerous and/or mixed waste at the DWMUs in  
23 LAWPS that satisfy the waste acceptance requirements described in Addendum B,  
24 "Waste Analysis Plan." [WAC 173-303-300]

25 **III.1.B.3** The Permittees are authorized to treat and store dangerous and/or mixed wastes  
26 physically located in the DWMUs at LAWPS TSCR Process Enclosure, and IXC Storage  
27 and Staging Pads as of the effective date of this Permit, and wastes accepted for treatment  
28 and storage within the LAWPS according to the requirements of Permit Condition  
29 III.1.B.2.

30 **III.1.B.4** All dangerous and/or mixed waste must be managed only in areas authorized for  
31 dangerous and/or mixed waste management under the Permit Conditions, except as  
32 allowed under WAC 173-303-170 through -230. The authorized dangerous and/or mixed  
33 waste management areas of the LAWPS Operating Unit Group (OUG) are specified in  
34 Conditions III.1.B, III.1.O, III.1.P and III.1.Q.

35 **III.1.B.5** Dangerous and/or mixed waste may be transferred from DWMUs within the LAWPS  
36 Operating Unit Group to an on-site DWMU or an off-site permitted TSD Facility using  
37 the manifest/tracking system required by Permit Condition II.P.

38 **III.1.B.6** The Permittees are authorized to treat and store dangerous and/or mixed waste in the  
39 DWMUs in LAWPS according to the following requirements:

- 1 **III.1.B.6.a** The Permittees are not authorized to store dangerous and/or mixed waste identified in  
 2 LAWPS OUG 1 until Compliance Schedule Items LAWPS-1 and LAWPS-2 are  
 3 completed in full, as detailed below.
- 4 • Permittees will submit a complete operating permit modification request for the  
 5 LAWPS OUG, which will also include related AP Farm operational requirements  
 6 to support the LAWPS operations.
  - 7 • Tri-Party Agreement Milestones will be in place for the long term treatment and  
 8 disposal pathway of the IXCs and waste media.
- 9 **III.1.B.6.b** The Permittees are authorized to treat, and store as necessary, dangerous and/or mixed  
 10 waste in the TSCR tank system as identified in LAWPS OUG 1, Addendum C, Sections  
 11 C.1, C.2, and Section C.3.
- 12 **III.1.B.6.c** The Permittees are authorized to store dangerous and/or mixed waste identified in  
 13 LAWPS OUG 1, Addendum C, Section C.3, in containers according to the requirements  
 14 of this Addendum. All container management activities pursuant to this Permit Condition  
 15 will take place within the container storage areas identified in LAWPS OUG 1,  
 16 Addendum C, Figures C-1 and C-5.
- 17 **III.1.B.7** The Permittees must complete Compliance Schedule interim requirements as specified in  
 18 Operating Unit Group 1, Appendix 1.0. If an interim requirement is not completed as  
 19 specified, the Permittees will, within 14 days, notify Ecology in writing of its  
 20 non-compliance. The notification will include the following:
- 21 **III.1.B.7.a** A description of any portion of the interim requirement completed;
- 22 **III.1.B.7.b** Summaries of any problems affecting timely completion of the interim requirement;
- 23 **III.1.B.7.c** A description of the plans for completing the remaining portion of the interim  
 24 requirement, including any alternatives;
- 25 **III.1.B.7.d** Projected interim requirement completion date.
- 26 **III.1.B.8** A modified Closure Plan must be submitted as a permit modification request with a  
 27 detailed description of the methods to be used during partial closures and final closure,  
 28 including, but not limited to, methods for removing, transporting, treating, storing, or  
 29 disposing of all dangerous wastes, and identification of the type(s) of DWMUs to be  
 30 used. [WAC 173-303-610(3)(a)]
- 31 **III.1.B.9** The Permittees will maintain the physical structure of the LAWPS as documented in the  
 32 applicable section of LAWPS OUG 1, Addendum C, Section C.2. [WAC 173-303-  
 33 630(7), -640(3) and (4)]
- 34 **III.1.B.10** The Permittees will maintain and operate systems for LAWPS documented in LAWPS  
 35 OUG 1, Addendum C, as necessary for proper operation of LAWPS, compliance with the  
 36 conditions of this Permit, and protection of human health and the environment.  
 37 For purposes of this Permit Condition, the Process Control and Monitoring system  
 38 documented in Addendum C, Section C.2.8, is considered to include indicators, sensors,  
 39 transducers, actuators and other control devices listed in Addendum I, Table I-1, that are  
 40 connected to, but remote from, the Monitor and Control System (MCS) computer.
- 41 **III.1.B.11** Permit modifications pursuant to this Permit for dangerous and/or mixed waste at the  
 42 request of the Permittees must be done according to the three-tiered modification system  
 43 specified in WAC 173-303-830(4) and Permit Condition I.C.3. The permit modification  
 44 request must include page changes to the Permit, attachments, and permit application  
 45 supporting documentation necessary to incorporate the proposed permit modification.

- 1 **III.1.B.12** In addition to other requirements in WAC 173-303-830, within forty-five (45) days of a  
 2 permit change (i.e., permit modification) being put into effect or approved, the Permittees  
 3 will provide copies of the Permit attachments to incorporate the change (if not already  
 4 reflected in the change pages submitted in the original permit modification request). This  
 5 submittal does not require recertification in accordance with WAC 173-303-810(13).
- 6 **III.1.B.13** Treatment methods for secondary waste streams projected to be generated by the LAWPS  
 7 that are slated for disposal at the Hanford Site will be engineered to ensure that treated  
 8 secondary wastes will comply with the on-site disposal facility WAC and applicable Land  
 9 Disposal Restrictions (LDRs) prior to generation. Prior to treatment, secondary wastes  
 10 must be evaluated to ensure that selected treatment methods are still appropriate and  
 11 continue to comply with the on-site disposal facility WAC and applicable LDRs;
- 12 **III.1.B.13.a** The Permittees must meet LDR standards for disposal of final waste forms for  
 13 appropriate waste codes based on the DST Part A Permit Application, dated December  
 14 14, 2009. All waste forms subject to LDR standards must be demonstrated to meet all  
 15 applicable treatment standards and requirements (WAC 173-303-140/40 Code of Federal  
 16 Regulations [CFR] Part 268) prior to land disposal. For waste that has treatment  
 17 standards that are not concentration based, the generator and/or treatment facility must  
 18 demonstrate that the waste meets the applicable treatment standards using process  
 19 knowledge and/or by waste analysis, as required by this Permit and the applicable  
 20 sections of WAC 173-303-140/40 CFR 268.
- 21 **III.1.B.13.a.i** Ecology has determined that the High Level Waste Vitrification (HLVIT) treatment  
 22 standard is attached to this IX media waste in addition to the applicable 40 CFR 268.40  
 23 treatment standards for the dangerous waste codes other than D002 and D004-011  
 24 identified in the DST Part A.
- 25 **III.1.B.13.a.ii** Treated waste IX media from IX columns must be disposed of in a deep geologic  
 26 repository.
- 27 **III.1.B.13.a.iii** The permittees shall complete LDR certification paperwork in accordance with  
 28 40 CFR 268.7, incorporated by reference in WAC 173-303-140.
- 29 **III.1.C WASTE ANALYSIS**
- 30 **III.1.C.1** The Permittees will comply with all requirements of Addendum B, “Waste Analysis  
 31 Plan,” for sampling and waste analysis of all dangerous and/or mixed waste within the  
 32 LAWPS DWMUs. [WAC 173-303-300(5)]
- 33 **III.1.C.2** The Permittees will have an accurate and complete waste profile as described in  
 34 Addendum B, “Waste Analysis Plan,” for every feed qualification tank accepted for  
 35 treatment, and waste stream accepted for storage at the LAWPS DWMUs.  
 36 [WAC 173-303-300(2)]
- 37 **III.1.C.3** The Permittees will place a copy of each waste profile required by Permit Condition  
 38 III.1.C.2 in the Hanford Facility Operating Record, LAWPS OUG 1 file required by  
 39 Permit Condition II.I.1. [WAC 173-303-380(1)(a) and (b)]
- 40 **III.1.C.4** The Permittees will make a copy of the feed qualification characterization records  
 41 required by Condition III.1.C.2 available upon request. [WAC 173-303-380(1)(a) and  
 42 (b)]
- 43 **III.1.C.5** Records and results of waste analysis required by Addendum B, “Waste Analysis Plan,”  
 44 will be maintained in the Hanford Facility Operating Record, LAWPS OUG 1 file  
 45 required by Permit Condition II.I.1. [WAC 173-303-380(1)(c)]



- 1 **III.1.C.6** Although generator information is used for all parts of the waste stream analysis required  
 2 by WAC 173-303-300(2), the Permittee is responsible for the quality of the information.  
 3 Inaccurate or inadequate information from the generator is not a defense for  
 4 noncompliant management of waste stream at LAWPS DWMUs. [WAC 173-303-  
 5 300(1)]
- 6 **III.1.D RECORDKEEPING AND REPORTING**
- 7 **III.1.D.1** The unit-specific portion of the Hanford Facility Operating Record will include the  
 8 documentation specified in Permit Attachment 6, Permit Condition II.I, (applicable to the  
 9 LAWPS OUG), and other documentation specified in Operating Unit Group 1. Permit  
 10 Attachment 6 provides a list of required records, and the methods of submittal for the  
 11 facility and each unit group. Records will also include documentation related to the  
 12 operation of DST AP Farm as it relates to the LAWPS OUG. These specific records will  
 13 be determined in the development of the LAWPS Operating Permit.
- 14 **III.1.D.1.a** Records required by WAC 173-303-380(1)(k), and -(o) incorporated by reference.
- 15 **III.1.D.1.b** Records and results of sampling or waste analysis and waste feed qualifications required  
 16 by WAC 173-303-300, and Addendum B. [WAC 173-303-380(1)(c)]
- 17 **III.1.D.1.c** An inspection log summarizing inspections conducted pursuant to Permit Condition  
 18 III.1.H.1. [WAC 173-303-380(1)(e)]
- 19 **III.1.E SECURITY**
- 20 **III.1.E.1** The Permittees will comply with the Security requirements specific to LAWPS OUG 1,  
 21 in Addendum E and Permit Attachment 3 as required by Permit Condition II.M.  
 22 [WAC 173-303-310(2)]
- 23 **III.1.E.2** The Permittees will post warning signs at all entrances to the LAWPS OUG 1 DWMUs.  
 24 [WAC 173-303-310(2)(a)]
- 25 **III.1.F PREPAREDNESS AND PREVENTION**
- 26 **III.1.F.1** The Permittees will implement the practices specific to the LAWPS OUG 1 as described  
 27 in Addendum F, "Preparedness and Prevention." [WAC 173-303-340]
- 28 **III.1.F.1.a** The LAWPS fire protection system will consist of a Underwriters Laboratories-listed  
 29 water mist system capable of being activated by a smoke detection system.
- 30 **III.1.F.1.b** The Permittees will equip the LAWPS with the equipment specified in LAWPS OUG 1,  
 31 Addendum F, Section F.1.1.3.
- 32 **III.1.F.1.c** The Permittees will test and maintain the equipment specified in LAWPS OUG 1,  
 33 Addendum F, Section F.1.1.3 as necessary to assure proper operation in the event of  
 34 emergency.
- 35 **III.1.F.2** The Permittees will inspect the LAWPS to prevent malfunctions and deterioration,  
 36 operator errors, and discharges that may cause or lead to the release of dangerous waste  
 37 constituents to the environment, or a threat to human health. Inspections must be  
 38 conducted in accordance with the LAWPS OUG 1, Addendum I, "Inspection Plan."
- 39 **III.1.F.3** The Permittees will maintain access to communications or alarms as provided in the  
 40 LAWPS OUG 1, Addendum J, "Contingency Plan."

1 **III.1.G CONTINGENCY PLAN**

2 **III.1.G.1** The Permittees will comply with LAWPS OUG 1, Addendum J, “Contingency Plan,” in  
3 addition to the requirements of Permit Condition II.A when applicable. [WAC 173-303-  
4 350]

5 **III.1.G.1.a** The Permittees will immediately carry out applicable provisions of Permit Condition  
6 II.A.1 and the LAWPS OUG 1, Addendum J, “Contingency Plan,” whenever there is a  
7 release of dangerous and/or mixed waste or dangerous waste constituents, or other  
8 emergency circumstance, any of which threatens human health or the environment.

9 **III.1.G.1.b** Prior to the initial receipt of dangerous and/or mixed waste in the LAWPS DWMUs, the  
10 Permittees will develop a Building Emergency Plan consistent with WAC 173-303-  
11 350(3), incorporated by reference, and place a copy in the Hanford Facility Operating  
12 Record, LAWPS OUG 1 file.

13 **III.1.G.1.c** After initial receipt of dangerous and/or mixed waste at the LAWPS, the Permittees will  
14 review and amend, if necessary, the applicable portions of LAWPS OUG 1, Addendum J,  
15 “Contingency Plan,” in accordance with the provision of WAC 173-303-350(5).  
16 Addendum J will be amended if necessary, as a permit modification pursuant to Permit  
17 Conditions III.1.B.11 and III.1.B.12.

18 **III.1.H INSPECTIONS**

19 **III.1.H.1** The Permittees will comply with LAWPS OUG 1, Addendum I, “Inspection Plan,”  
20 inspection schedule for tanks and containers in addition to the requirements of Permit  
21 Condition II.X. [WAC 173-303-320]

22 **III.1.H.2** When adverse conditions result in access restrictions to the active portions of LAWPS  
23 (Process Enclosure, IXC Storage Pad, and Staging Area), inspections will be performed  
24 immediately upon return to normal conditions. Any delayed or missed inspection will be  
25 recorded and entered into the LAWPS OUG 1 Operating Record.

26 **III.1.H.3** The Permittees will record and maintain inspection records in the LAWPS OUG 1  
27 Operating Record, compiled under the conditions of this Permit, in accordance with  
28 Permit Condition III.1.D.

29 **III.1.I PERSONNEL TRAINING**

30 **III.1.I.1** Prior to the initial receipt of dangerous and/or mixed waste in the LAWPS DWMUs, the  
31 Permittees will develop a Training Plan consistent with WAC 173-303-330, incorporated  
32 by reference, and place a copy in the Hanford Facility Operating Record LAWPS OUG 1  
33 file.

34 **III.1.I.2** The Permittees will ensure that the LAWPS systems are operated and maintained, at all  
35 times, by persons who are trained and qualified to perform these and any other duties that  
36 may reasonably be expected properly operate LAWPS systems.

37 **III.1.I.3** The Permittees will conduct personnel training in accordance with the LAWPS OUG 1,  
38 Addendum G, “Personnel Training,” pursuant to WAC 173-303-330. The Permittees will  
39 maintain documents in accordance with Permit Condition II.C.1 and WAC 173-303-  
40 330(2) and (3).

41 **III.1.J GENERAL REQUIREMENTS**

42 **III.1.J.1** The LAWPS OUG is prohibited from managing ignitable, reactive, or incompatible  
43 wastes. Therefore, the requirements of WAC 173-303-395(1) do not apply.

- 1 **III.1.J.2** The Permittees will conduct all construction subject to this Permit in accordance with the  
2 approved designs, plans, and specifications that are required by this Permit, except as  
3 specified in Conditions III.1.J.3 or III.1.J.4. For purposes of Conditions III.1.J.3 and  
4 III.1.J.4, the Ecology representative will be an Ecology construction inspector, project  
5 manager, or other designated representative of Ecology.
- 6 **III.1.J.3** The Permittees will submit a Nonconformance Report (NCR) or Construction Deficiency  
7 Report (CDR) to the Ecology representative(s), as applicable, within seven (7) calendar  
8 days of the Permittees becoming aware of incorporation of minor nonconformance or  
9 construction deficiency from the approved designs, plans, and specifications into the  
10 construction of critical systems, as defined in the Hanford Site-wide Permit definition  
11 section. Such minor nonconformance or construction deficiency will be defined, for the  
12 purposes of this Permit Condition, as nonconformance or construction deficiency that is  
13 necessary to accommodate proper construction and the substitution or the use of  
14 equivalent or superior materials or equipment that do not substantially alter the Permit  
15 Conditions or reduce the capacity of the facility to protect human health or the  
16 environment. Such minor nonconformance or construction deficiency will not be  
17 considered a modification of this Permit. If Ecology determines that the nonconformance  
18 or construction deficiency is not minor, it will notify the Permittees in writing that a  
19 permit modification is required for the deviation and whether prior approval is required  
20 from Ecology before work proceeds which affect the nonconforming or construction  
21 deficiency item.
- 22 **III.1.J.4** The Permittees will formally document, with a NCR or CDR, as applicable, incorporation  
23 of minor nonconformance or construction deficiency from the approved designs, plans,  
24 and specifications into the construction of non-critical systems subject to this Permit.  
25 Such minor nonconformance or construction deficiency will not be considered a  
26 modification of this Permit. All NCRs and CDRs will be maintained in the LAWPS  
27 OUG Record and will be made available to Ecology upon request or during the course of  
28 an inspection. If Ecology determines that the nonconformance or construction deficiency  
29 is not minor, it will notify the Permittees in writing that a permit modification is required  
30 for the deviation and whether prior approval is required from Ecology before work  
31 proceeds which affect the nonconforming or construction deficiency item.
- 32 **III.1.J.5** The Permittees will formally document changes to approved designs, plans, and  
33 specifications with design change documentation [e.g., Design Change Notice (DCN),  
34 Field Change Request (FCR), Field Change Notice (FCN), Specification Change Notice  
35 (SCN), and Supplier Deviation Disposition Request (SDDR)]. All design change  
36 documentation will be maintained in the LAWPS Operating Unit Group Record and will  
37 be made available to Ecology upon request or during the course of an inspection. For any  
38 design change documentation affecting any critical systems, the Permittees will provide  
39 copies to Ecology within seven (7) calendar days. If Ecology determines that the design  
40 change is not minor, it will notify the Permittees in writing that a permit modification is  
41 required for the design change and whether prior approval is required from Ecology  
42 before work affected by the design change may proceed.
- 43 **III.1.J.6** Equivalent Materials
- 44 **III.1.J.6.a** If certain equipment, materials, and administrative information (such as names, phone  
45 numbers, addresses, formatting) are specified in this Permit, the Permittees may use  
46 equivalent or superior substitutes. Use of such equivalent or superior items within the  
47 limits (e.g., ranges, tolerances, and alternatives) already clearly specified in sufficient  
48 detail in LAWPS OUG 1, are not considered a Permit modification. However, the

1 Permitees must place documentation of the substitution, accompanied by a narrative  
2 explanation and the date the substitution became effective in the LAWPS Operating Unit  
3 Group Record within seven (7) days of putting the substitution into effect, and submit  
4 documentation of the substitution to Ecology, for approval. Upon review of the  
5 documentation of the substitution, if deemed necessary, Ecology may require the  
6 Permitees to submit a permit modification in accordance with Permit Conditions  
7 III.1.B.11 and III.1.B.12.

8 **III.1.J.6.b** If Ecology determines that a substitution was not equivalent to the original, they will  
9 notify the Permitees that the Permitees' claim of equivalency has been denied, of the  
10 reasons for the denial, and that the original material or equipment must be used. If the  
11 product substitution is denied, the Permitees will comply with the original approved  
12 product specification, find an acceptable substitution, or apply for a permit modification  
13 in accordance with Permit Conditions III.1.B.11 and III.1.B.12.

14 **III.1.J.7** Upon completion of the LAWPS construction subject to this Permit, the Permitees will  
15 produce as-built drawings of the project which incorporate the design and construction  
16 modifications resulting from all change documentation as well as modifications made  
17 pursuant to Permit Conditions III.1.B.11 and III.1.B.12. The Permitees will place the  
18 as-built drawings into the LAWPS Operating Unit Group Record within twelve (12)  
19 months of completing construction.

20 **III.1.J.8** Permitees will provide Ecology operating and monitoring data, with regular weekly  
21 reports and quarterly summaries. Permitees will maintain access for site visits for  
22 Ecology to the TSCR Control Enclosure.

23 **III.1.J.9** The Permitees will provide Ecology access to the LAWPS site during construction to  
24 support Ecology's construction oversight requirements.

25 **III.1.K CLOSURE**

26 **III.1.K.1** The Permitees must close DWMUs in the LAWPS OUG in accordance with LAWPS  
27 OUG 1, Addendum H, "Closure Plan," and Permit Condition II.J. [WAC 173-303-  
28 610(3)(a)] Modifications to Addendum H will be made according to provisions of Permit  
29 Condition I.C.3

30 **III.1.K.2** One hundred eighty (180) days prior to commencing final closure of OUG 1, the  
31 Permitees must submit to Ecology, for review and approval, a revised Closure Plan,  
32 including all documentation required by Permit Condition II.D, as a permit modification  
33 pursuant to Permit Conditions III.1.C.2.e and III.1.C.2.f.

34 **III.1.K.3** To achieve clean closure, the Permitees will remove dangerous waste, dangerous waste  
35 constituents, and dangerous waste residues throughout the closing unit and throughout  
36 any areas affected by releases from the closing unit to concentrations that do not exceed  
37 numeric cleanup levels determined using residential exposure assumptions according to  
38 the Model Toxics Control Act (MTCA) Regulations, Chapter 173-340 WAC and all  
39 structures, equipment, bases, liners, and other materials containing or contaminated with  
40 dangerous waste, constituents, or residues have met specific waste removal and  
41 decontamination standards approved by Ecology, in accordance with WAC 173-303-  
42 610(2)(b)(i)-(ii).

- 1 **III.1.K.4** Documentation supporting the Independent Qualified Registered Professional Engineer’s  
 2 certification of closure must be submitted to Ecology with the closure certification  
 3 required by WAC 173-303-610(6). In addition to the items in LAWPS OUG 1,  
 4 “Sampling and Analysis Plan,” the documentation must include the following and other  
 5 information Ecology may request.
- 6 **III.1.K.4.a** Sampling procedures that were followed;
- 7 **III.1.K.4.b** Soil and concrete locations that were sampled;
- 8 **III.1.K.4.c** Sample labeling and handling procedures that were followed, including chain of custody  
 9 procedures;
- 10 **III.1.K.4.d** Description of procedures that were followed to decontaminate concrete or metal to meet  
 11 the clean closure standards approved by Ecology, in accordance with the closure  
 12 performance standards of WAC 173-303-610(2)(a)(ii) and in a manner that minimizes or  
 13 eliminates post-closure escape of dangerous waste constituents, or to achieve a “clean  
 14 debris surface” as specified in 40 CFR 268.45, Table 1, concrete surfaces, as incorporated  
 15 by reference in WAC 173-303-140. [WAC 173-303-610(2)(b)(ii)]
- 16 **III.1.K.4.e** Laboratory and field data, including supporting Quality Assurance/Quality Control  
 17 summary;
- 18 **III.1.K.4.f** Report that summarizes closure activities;
- 19 **III.1.K.4.g** Copy of all field notes taken by the Independent Qualified Registered Professional  
 20 Engineer; and
- 21 **III.1.K.4.h** Copy of all contamination survey results.
- 22 **III.1.L** **POST CLOSURE – RESERVED**
- 23 **III.1.O** **CONTAINERS**
- 24 **III.1.O.1** Container Storage Unit Standards
- 25 **III.1.O.1.a** Storage of containers is limited to IXCs and media traps containing spent crystalline  
 26 silicotitane media that are generated during LAWPS operations.
- 27 **III.1.O.1.b** Container management of waste streams other than those allowed under Permit Condition  
 28 III.1.O.1.a are subject to large quantity generator requirements in accordance with  
 29 WAC 173-303-170 through -230.
- 30 **III.1.O.1.b.i** Storage of containers is limited to the IXC staging area and IXC storage pad in  
 31 accordance with LAWPS OUG 1, Addendum C, Section C.2.6 and C.5.
- 32 **III.1.O.1.b.ii** Permittees will place documentation of any damage to and subsequent repairs of  
 33 containers in container storage areas in the Hanford Facility Operating Record, LAWPS  
 34 OUG 1 file required by Permit Conditions II.I.1. [WAC 173-303-630(7)]
- 35 **III.1.O.1.c** As part of or in addition to the requirements of Permit Conditions III.1.O.1.a and  
 36 III.1.O.1.b, the Permittees will ensure the integrity of container storage area pads  
 37 described in Addendum C, Section C.2.6 and C.5 as necessary to ensure containers are  
 38 maintained in a safe and stable condition.
- 39 **III.1.O.2** Container Management Standards
- 40 **III.1.O.2.a** The Permittees will maintain and manage containers in accordance with the requirements  
 41 of Addendum C, Section C.2.6 and C.5. [WAC 173-303-630(2)]

- 1 **III.1.O.2.b** The Permittees will comply with the requirements for managing wastes in containers.  
2 [WAC 173-303-630(5)]
- 3 **III.1.O.2.c** The Permittees will ensure wastes are compatible with containers and with other wastes  
4 stored in containers according to the requirements of Addendum C, Section C.2.6 and  
5 C.5. [WAC 173-303-630(4), WAC 173-303-630(9)]
- 6 **III.1.O.2.d** The Permittees will ensure design and construction of the container storage areas are  
7 adequately sloped to remove precipitation and prevent containers from coming into  
8 contact with precipitation according to the requirements of Addendum C, Section C.5.  
9 [WAC 173-303-630(7)(c)]
- 10 **III.1.O.2.e** The Permittees will ensure all containers placed into storage are labeled in accordance  
11 with WAC 173-303-630(3) and Addendum C, Section C.5 and Section C.6.5.  
12 [WAC 173-303-41 630(7)(c)(ii)]
- 13 **III.1.O.2.f** The Permittees will post entrances and access points to IXC staging area and IXC storage  
14 pad with signs meeting the requirements of WAC 173-303-310(2)(a),
- 15 **III.1.O.2.g** The Permittees will submit to Ecology a copy of the final TSCR Factory Acceptance  
16 Testing (FAT) report demonstrating removal of IXC media from an ion exchange  
17 column. The report shall document proof of concept results showing that IX media can  
18 be physically removed from a column prior to LAWPS Unit Group operational.
- 19 **III.1.O.2.h** Submit to Ecology a test plan, and associated schedule, that evaluates the performance of  
20 the IX waste media over time as it relates to the ability for it to be extracted. This test  
21 plan will also evaluate if the physical form of the media will change over time and can  
22 still be extracted after 30 plus years in the column. Perform testing related to test plan  
23 and provide results of testing in reports.
- 24 **III.1.O.2.h.i** At the end of each calendar year, provide Ecology annual updates of the testing results.
- 25 **III.1.O.2.h.ii** Three months after the completion of the test plan document in Permit Condition  
26 III.1.O.2.g.i, the final report must be formally submitted to Ecology.
- 27 **III.1.O.2.i** The LAWPS OUG is prohibited from storing ignitable, reactive, or incompatible waste.  
28 [WAC 173-330-630(8), WAC 173-303-630(9)]
- 29

**Table III.1.O Low-Activity Waste Pretreatment System Operating Unit Group  
Container Storage Areas**

Container Storage Area	Capacity per Container (solid gallons) <sup>a</sup>	Maximum Number of Containers
IXC staging area	158 per IXC	3
IXC storage pad	158 per IXC	150
	2.5 per media trap	3

<sup>a</sup>Capacity is for crystalline silicotitane ion exchange media and represents the nominal media charge in each column.

- 30
- 31 **III.1.P TANK SYSTEMS**
- 32 **III.1.P.1 Tank System Requirements**
- 33 **III.1.P.1.a** The Permittees may store and treat in the TSCR tank system all dangerous and/or mixed  
34 waste listed in the LAWPS OUG 1, Addendum A, “Part A Form,” of this Permit and in

1 accordance with the LAWPS OUG 1, Addendum B, "Waste Analysis Plan," pursuant to  
 2 Permit Condition III.1.C of this Permit. Total tank system dangerous and/or mixed waste  
 3 storage and treatment at the Facility will not exceed the volume(s) specified in  
 4 Addendum A, "Part A Form," of this permit.

5 **III.1.P.1.b** Prior to initial receipt of dangerous and/or mixed waste in the LAWPS, the Permittees  
 6 will obtain, and keep on file in the LAWPS OUG operating record, written statements by  
 7 those persons required to certify the design of the tank system and supervise the  
 8 installation of the tank system in accordance with the requirements of WAC 173-303-  
 9 640(3)(b), (c), (d), (e), (f), and (g), attesting that each tank system and corresponding  
 10 containment system were properly designed and installed. [WAC 173-303-640(3)(a),  
 11 WAC 173-303-640(3)(h)]

12 **III.1.P.1.b.i** The Permittees will develop a schedule for conducting Integrity Assessments (IA).  
 13 The schedule will meet the requirements of Addendum C, Section C.6.1.2, and  
 14 consideration of the factors in WAC 173-303-640(2)(e) or WAC 173-303-640(3)(b) as  
 15 applicable. Results of the integrity assessments will be included in the LAWPS OUG  
 16 operating record until ten (10) years after closure, or corrective action is complete and  
 17 certified, whichever is later.

18 **III.1.P.1.b.ii** The Permittees will maintain a copy of the schedule required by Permit Condition  
 19 III.1.P.1.b.i, in the Hanford Facility Operating Record, LAWPS OUG file, and conduct  
 20 integrity assessments according to the schedule. The Permittees will document results of  
 21 integrity assessments conducted according to the IA in the Hanford Facility Operating  
 22 Record, LAWPS OUG file.

23 **III.1.P.1.b.iii** The Permittees will address problems if any detected during tank integrity assessments  
 24 specified in Permit Condition III.1.P.1.b.i following the integrity assessment program  
 25 Addendum C.

26 **III.1.P.1.b.iv** If the tank system is found to be leaking, or is unfit for use, as defined in WAC 173-303-  
 27 040, the Permittees must follow the requirements of WAC 173-303-640(7), incorporated  
 28 by reference. [WAC 173-303-640(3)(b)]

29 **III.1.P.1.b.v** The Permittees will ensure all certification required by specialists (e.g., Independent  
 30 Qualified Registered Professional Engineer; Independent Corrosion Expert; Independent  
 31 Qualified Installation Inspector; etc.) use the following statement or equivalent pursuant  
 32 to WAC 173-303-810(13):

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

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

- 1 **III.1.P.1.c** The Permittees will construct the TSCR unit tank systems as approved/modified pursuant  
 2 to the LAWPS OUG 1 Permit. Modifications to approved design, plans, and  
 3 specifications in LAWPS OUG 1 of this Permit for the TSCR unit tank systems will be  
 4 allowed only in accordance with Permit Conditions III.1.B.11 and III.1.B.12.
- 5 **III.1.P.1.d** The Permittees must ensure that proper handling procedures are adhered to in order to  
 6 prevent damage to the system during installation. Prior to covering, enclosing, or placing  
 7 a new tank system or component in use, an Independent Qualified Installation Inspector  
 8 or an Independent Qualified Registered Professional Engineer, either of whom is trained  
 9 and experienced in the proper installation of tank systems or components, must inspect  
 10 the system for the presence of any of the following items:
- 11 **III.1.P.1.d.i** Weld breaks;
- 12 **III.1.P.1.d.ii** Punctures;
- 13 **III.1.P.1.d.iii** Scrapes of protective coatings;
- 14 **III.1.P.1.d.iv** Cracks;
- 15 **III.1.P.1.d.v** Corrosion;
- 16 **III.1.P.1.d.vi** Other structural damage or inadequate construction/installation.
- 17 All discrepancies must be remedied before the tank system is covered, enclosed, or  
 18 placed in use. [WAC 173-303-640(3)(c)]
- 19 **III.1.P.1.e** The Permittees must test for tightness all new tanks and ancillary equipment prior to  
 20 those components being covered, enclosed, or placed into use. If a tank system is found  
 21 not to be tight, all repairs necessary to remedy the leak(s) in the system must be  
 22 performed prior to the tank system being covered, enclosed, or placed in use.  
 23 [WAC 173-303-640(3)(e)]
- 24 **III.1.P.1.f** The Permittees must ensure ancillary equipment is supported and protected against  
 25 physical damage and excessive stress due to settlement, vibration, expansion, or  
 26 contraction. [WAC 173-303-640(3)(f)]
- 27 **III.1.P.1.g** The Permittees must provide the type and degree of corrosion protection recommended  
 28 by an Independent Corrosion Expert, based on the information provided in and pursuant  
 29 to the LAWPS OUG 1 Permit or other corrosion protection if Ecology believes other  
 30 corrosion protection is necessary to ensure the integrity of the tank system during use of  
 31 the tank system. The installation of a corrosion protection system that is field fabricated  
 32 must be supervised by an Independent Corrosion Expert to ensure proper installation.  
 33 [WAC 173-303-640(3)(g)]
- 34 **III.1.P.1.h** The independent tank system installation inspection and subsequent written statements  
 35 will be certified in accordance with WAC 173-303-810(13)(a) and comply with all  
 36 requirements of WAC 173-303-640(3)(h) and will consider, but not be limited to, the  
 37 following tank system installation documentation:
- 38 **III.1.P.1.h.i** Field installation report with date of installation;
- 39 **III.1.P.1.h.ii** Approved welding procedures;
- 40 **III.1.P.1.h.iii** Welder qualifications and certification;
- 41 **III.1.P.1.h.iv** Hydro-test reports, as applicable, in accordance with the American Society of Mechanical  
 42 Engineers Boiler and Pressure Vessel Code, Section VIII, Division 1, API Standard 620,  
 43 or Standard 650 as applicable;



- 1 **III.1.P.1.h.v** Tester credentials;
- 2 **III.1.P.1.h.vi** Field inspector credentials;
- 3 **III.1.P.1.h.vii** Field inspector reports;
- 4 **III.1.P.1.h.viii** Field waiver reports; and
- 5 **III.1.P.1.h.ix** Non-compliance reports and corrective action (including field waiver reports) and repair  
6 reports.
- 7 **III.1.P.1.i** Replacement of any component of the tank system, e.g., ion exchange columns, are  
8 subject to the Permit Conditions as detailed in III.1.P.1, specifically including Permit  
9 Condition III.1.P.1.h.
- 10 **III.1.P.2** Tank System Operating Requirements
- 11 **III.1.P.2.a** The Permittees will operate the TSCR tank system to prevent spills and overflows using  
12 the description of controls and practices as required under WAC 173-303-640(5)(b)  
13 described in Addendum C. [WAC 173-303-640(5)(b), WAC 173-303-806(4)(c)(ix)]
- 14 **III.1.P.2.b** The Permittees will comply with the requirements of Addendum C, Section C.6.4. and  
15 C.6.4.1. [WAC 173-303-640(5)(b)]
- 16 **III.1.P.2.c** The Permittees will comply with the requirements of Addendum C, Section C.6.5.  
17 [WAC 173-303-640(5)(d)]
- 18 **III.1.P.2.d** The Permittees will comply with the requirements of WAC 173-303-640(7), incorporated  
19 by reference, in response to spills or leaks from the TSCR tank system. [WAC 173-303-  
20 640(5)(c)]
- 21 **III.1.P.2.e** TSCR is prohibited from receiving ignitable or reactive waste. [WAC 173-303-640(9)]
- 22 **III.1.P.2.f** TSCR is prohibited from receiving incompatible waste. WAC 173-303-640(10),  
23 incorporated by reference.
- 24 **III.1.P.2.g** No dangerous and/or mixed waste will be managed in the TSCR unit tank system unless  
25 the operating conditions, specified under Permit Condition III.1.P.2 are complied with.
- 26 **III.1.P.2.h** The Permittees will install and test all process and leak detection system  
27 monitoring/instrumentation, as specified in Permit Tables III.1.P.A, in accordance with  
28 LAWPS OUG 1 Permit Appendices 2.2 and 2.6.
- 29 **III.1.P.2.i** The Permittees will not place dangerous and/or mixed waste, treatment reagents, or other  
30 materials in the TSCR Unit tank system if these substances could cause the tank system  
31 to rupture, leak, corrode, or otherwise fail. [WAC 173-303-640(5)(a)]
- 32 **III.1.P.2.j** The Permittees will ensure that the secondary containment systems for the TSCR Unit  
33 tank systems are free of cracks or gaps to prevent any migration of dangerous and/or  
34 mixed waste or accumulated liquid out of the system to the soil, groundwater, or surface  
35 water at any time that waste is in the tank system. Any indication that a crack or gap may  
36 exist in the containment systems will be investigated and repaired. [WAC 173-303-320,  
37 WAC 173-303-640(4)(b)(i), WAC 173-303-2 640(4)(e)(i)(C), WAC 173-303-640(6), and  
38 WAC 173-303-806(4)(c)(vii)]
- 39 **III.1.P.2.k** The Permittees will inspect all secondary containment systems for TSCR Unit tank  
40 systems in accordance with LAWPS OUG 1, Addendum I, "Inspection Plan," and take  
41 the following actions if a leak or spill of dangerous and/or mixed waste is detected in  
42 these containment systems [WAC 173-303-320, WAC 173-303-640(5)(c), WAC 173-303-  
43 30 640(6), WAC 173-303-640(7), WAC 173-303-806(4)(a)(v)]:

- 1 **III.1.P.2.k.i** Immediately and safely stop the flow of dangerous and/or mixed waste into the tank  
2 system or secondary containment system, in accordance with procedures based on all  
3 applicable safety analysis documentation;
- 4 **III.1.P.2.k.ii** Determine the source of the dangerous and/or mixed waste;
- 5 **III.1.P.2.k.iii** Remove the waste from the secondary containment area pursuant to WAC173-303-  
6 640(7)(b). The waste removed from containment areas of TSCR unit tank systems will  
7 be managed as dangerous and/or mixed waste;
- 8 **III.1.P.2.k.iv** If the cause of the release was a spill that has not damaged the integrity of the tank  
9 system, the Permittees may return the tank system to service pursuant to WAC 173-303-  
10 640(7)(e)(ii). In such a case, the Permittees will take action to ensure the incident that  
11 caused liquid to enter the containment systems of these tank systems will not reoccur  
12 [WAC 173-303-320(3)];
- 13 **III.1.P.2.k.v** If the source of the dangerous and/or mixed waste is determined to be a leak from a  
14 primary TSCR Unit tank system, or the system is unfit for use as determined through an  
15 integrity assessment or other inspection, the Permittees must comply with the  
16 requirements of WAC 173-303-640(7) and take the following actions [WAC 173-303-  
17 640(5)(c)];
- 18       A. Close the tank system according to procedures in WAC 173-303-640(7)(e)(i), and  
19       LAWPS OUG 1, Addendum H, "Closure Plan," as approved pursuant to III.1.K;  
20       or
- 21       B. Repair and re-certify (in accordance with WAC 173-303-810(13)(a)) the tank  
22       system before the tank system is placed back into service [WAC 173-303-  
23       640(7)(e) and (f), and WAC 173-303-806(4)(c)(vii)];
- 24 **III.1.P.2.k.vi** The Permittees will document in the operating record actions/procedures taken to comply  
25 with III.1.P.2.k.i through v above in accordance with WAC 173-303-640(6)(d);
- 26 **III.1.P.2.k.vii** The Permittees will notify and report releases to the environment to Ecology in  
27 accordance with WAC 173-303-640(7)(d).
- 28 **III.1.P.2.l** The Permittees will submit to Ecology, prior to initial receipt of dangerous and/or mixed  
29 waste at the LAWPS, descriptions of operational procedures demonstrating appropriate  
30 controls and practices are in place to ensure the LAWPS DWMUs will be operated in a  
31 safe and reliable manner that will not result in damage to regulated tank systems.
- 32 **III.1.P.2.m** If liquids (e.g., dangerous and/or mixed waste leaks and spills, precipitation, fire water  
33 liquids from damaged or broken pipes) cannot be removed from the secondary  
34 containment system within twenty-four (24) hours, Ecology will be verbally notified  
35 within twenty-four (24) hours of discovery. The notification will provide the information  
36 in A, B, and C listed below. The Permittees will provide Ecology with a written  
37 demonstration within seven (7) business days, identifying at a minimum [WAC 173-303-  
38 640(4)(c)(iv), WAC 173-303-640(7)(b)(ii), WAC 173-303-806(4)(c)(vii)]:
- 39       A. Reasons for delayed removal;
- 40       B. Measures implemented to ensure continued protection of human health and the  
41       environment;
- 42       C. Current actions being taken to remove liquids from secondary containment.
- 43 **III.1.P.2.n** The Permittees will operate the LAWPS tank system in accordance with LAWPS OUG 1,  
44 Addendum C, "Process Information."

- 1 **III.1.P.2.n.i** The Permittees will operate the LAWPS tank system in order to maintain the systems and  
2 process parameters, as approved/modified pursuant to Permit Condition III.1.P.2.p, within  
3 the operating trips and operating ranges specified in Permit Table III.1.P.A, and consistent  
4 with assumptions and basis which are reflected in LAWPS OUG 1, Addendum F,  
5 “Preparedness and Prevention.” [WAC 173-303-815(2)(b)(i) and WAC 173-303-  
6 640(5)(b)]
- 7 **III.1.P.2.n.ii** The Permittees will calibrate/function test the instruments listed in Permit Table III.1.P.A  
8 in accordance with LAWPS OUG 1 Appendices of this Permit, as approved pursuant to  
9 Permit Condition III.1.P.2.n.i.
- 10 **III.1.P.2.o** Prior to initial receipt of dangerous and/or mixed waste in the LAWPS, the Permittees  
11 will submit to Ecology the following as specified below for incorporation into the  
12 LAWPS OUG 1 Appendices. All information provided under this permit condition must  
13 be consistent with information submitted for this Permit and approved by Ecology.
- 14 **III.1.P.2.o.i** Integrity assessment program and schedule for LAWPS tank systems will conduct  
15 periodic integrity assessments on the TSCR tank systems over the life of the tank, if the  
16 life expectancy of the TSCR facility exceeds the approximate 5-year lifespan, in  
17 accordance with WAC 173-303-640(3)(b), and descriptions of procedure for addressing  
18 problems detected during integrity assessments. The schedule must be based on the age  
19 of the tank system, materials of construction, characteristics of the waste, and any other  
20 relevant factors [WAC 173-303-640(3)(b), WAC 173-303-806(4)(c)(vi)];
- 21 **III.1.P.2.o.ii** Detailed plans and descriptions, demonstrating the leak detection system is operated so  
22 that it will detect the failure of either the primary or secondary containment structure or  
23 the presence of any release of dangerous and/or mixed waste, or accumulated liquid in  
24 the secondary containment system within twenty-four (24) hours. [WAC 173-303-  
25 640(4)(c)(iii)]
- 26 **III.1.P.2.o.iii** Detailed operational plans and descriptions, demonstrating that spilled or leaked waste  
27 and accumulated liquids can be removed from the secondary containment system within  
28 twenty-four (24) hours [WAC 173-303-806(4)(c)(vii)];
- 29 **III.1.P.2.o.iv** Descriptions of operational procedures demonstrating appropriate controls and practices  
30 are in place to prevent spills and overflows from tanks or containment systems in  
31 compliance with WAC 173-303-640(5)(b)(i) through (iii) [WAC 173-303-640(5)(b),  
32 WAC 173-303-806(4)(c)(ix)];
- 33 **III.1.P.2.o.v** Description of procedures for investigation and repair of tank systems [WAC 173-303-  
34 320, WAC 173-303-640(6), WAC 173-303-640(7)(e) and (f), WAC 173-303-806(4)(a)(v),  
35 WAC 173-303-806(4)(c)(vii)];
- 36 **III.1.P.2.o.vi** A description of the tracking system used to track dangerous and/or mixed waste  
37 throughout the TSCR Unit tank system, pursuant to WAC 173-303-380;
- 38 **III.1.P.2.o.vii** Permit Table III.1.P.A will be completed for TSCR Unit tank system process and leak  
39 detection system monitors and instruments (to include but not limited to: instruments and  
40 monitors measuring and/or controlling flow, pressure, temperature, density, pH, level,  
41 humidity, and emission). Process monitors and instruments for non-waste management  
42 operations (e.g., utilities, raw chemical storage, non-contact cooling waters, etc.) are  
43 excluded from this Permit Condition.
- 44 **III.1.P.2.o.viii** Supporting documentation for operating trips and expected operating range as specified  
45 in Permit Table III.1.P.A for the TSCR Unit tank systems are to include but not be limited  
46 to the following:

- 1 A. Procurement specifications;  
2 B. Location used;  
3 C. Range, precision, and accuracy;  
4 D. Detailed descriptions of calibration/functionality test procedures (e.g., method  
5 number [ASTM] or provide a copy of the manufacturer's recommended  
6 calibration procedures.  
7 E. Calibration/functionality test, inspection, and routine maintenance schedules and  
8 checklists, including justification for calibration, inspection, and maintenance  
9 frequencies, criteria for identifying instruments found to be significantly out of  
10 calibration, and corrective action to be taken for instruments found to be  
11 significantly out of calibration (e.g., increasing frequency of calibration,  
12 instrument replacement, etc.).
- 13 **III.1.P.3** Sample Port
- 14 **III.1.P.3.a** The Permittees will install a sample port on the Tank AP-108 drop-leg assembly in order  
15 to sample and analyze the air return from the TSCR skid to the AP Tank Farm.
- 16 **III.1.P.3.a.i** The Permittees will sample this air return to determine the levels of hazardous  
17 constituents in the air stream.
- 18 **III.1.P.3.a.ii** The ports will be sampled at an agreed to frequency. This frequency will be determined  
19 prior to the start of operations.
- 20 **III.1.P.3.a.iii** The samples will be analyzed for flowrate, total organics and mercury and a report will  
21 be submitted to Ecology.

1

**Table III.1.P.A Tank Side Cesium Removal Tank System Process and Leak Detection System Instruments and Parameters**

<b>Instrument Tag Number</b>	<b>Type and Location</b>	<b>Monitored Parameter</b>	<b>Expected Operating Range</b>	<b>Vessel Overflow</b>	<b>Accuracy</b>	<b>Action Level</b>	<b>Control Function</b>
RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED	RESERVED

2

DRAFT

1  
2  
3  
4  
5

This page intentionally left blank.

DRAFT

- 1 **III.1.Q WASTE TRANSFER LINES**
- 2 **III.1.Q.1** Hose-in-Hose Waste Transfer Line Requirements
- 3 **III.1.Q.1.a** Hose-in-Hose Transfer Lines (HIHTLs) will comply with the requirements of Addendum C,  
4 Sections C.3.1. and C.6.3.2. [WAC 173-303-640(4)]
- 5 **III.1.Q.1.b** Use of individual HIHTLs are limited to a maximum of three years of service following  
6 first exposure to waste, after which they must be replaced with new HIHTLs.
- 7 **III.1.Q.1.c** When a HIHTL connection is broken and remade, leak testing will be required and  
8 reviewed by an Independent Qualified Installation Inspector or Independent Qualified  
9 Registered Professional Engineer.
- 10 **III.1.Q.1.d** If the TSCR unit exceeds the approximate 5-year duration for Phase 1, the Permittees will  
11 replace HIHTL waste transfer lines with hard-walled pipe transfer lines.
- 12 **III.1.Q.1.e** When HIHTLs are removed from service they will be correctly managed under the  
13 generator regulations in the WAC 173-303-170 through 230.
- 14 **III.1.Q.1.f** The Permittees will submit to Ecology, prior to initial receipt of dangerous and/or mixed  
15 waste in the TSCR Unit, descriptions of operational procedures demonstrating  
16 appropriate controls and practices are in place to ensure the TSCR HIHTLs will be  
17 operated in a safe and reliable manner that will not result in damage to regulated  
18 HIHTLs.
- 19 **III.1.Q.1.g** The following information from the Annual HIHTL status report will be kept in the  
20 Operating Record for the LAWPS OUG.
- 21 A. HIHTL assembly serial number.
- 22 B. Location – Originating point (from) and destination point (to) of the HIHTL.
- 23 C. Hose assembly drawing number.
- 24 D. Date of manufacture of the HIHTL.
- 25 E. HIHTL in-service date.
- 26 F. Service life expiration date – For HIHTLs that have not been exposed to mixed  
27 waste, the expiration date is 7 years from the date of manufacture (shelf life).  
28 For HIHTLs that have been put in service, the expiration date is 3 years from the  
29 initial date of mixed waste use (service life).
- 30 G. HIHTL length.
- 31 H. Shelf life expired HIHTLs that have not been used – Shelf life expired hoses that  
32 have not been used and are expired will be identified to prevent mixed waste use.
- 33 I. Disposal package identification number (PIN) – The PIN for the container that  
34 the HIHTL was placed in for shipping.
- 35 **III.1.Q.1.h** The Permittee must ensure that proper handling procedures are adhered to in order to prevent  
36 damage to the TSCR HIHTL transfer system during installation. Prior to covering,  
37 enclosing, or placing the system in use, an Independent, Qualified Installation Inspector  
38 or an Independent Qualified Registered Professional Engineer, either of whom is trained  
39 and experienced in the proper installation of tank systems or components, must inspect  
40 the system. The Permittee shall provide to Ecology a copy of the installation assessment  
41 prior to the start of operations. [WAC 173-303-640(3)(c)]

- 1 **III.1.Q.1.i** The Permittee must test the TSCR HIHTL transfer system for leak tightness prior to  
 2 being covered, enclosed, or placed in use. If the system is found not to be tight, all  
 3 repairs necessary to remedy the leak(s) in the system must be performed prior to the  
 4 system being covered, enclosed, or placed into use. The Permittee shall provide to  
 5 Ecology a copy of the tightness testing procedure and results prior to the start of  
 6 operations. [WAC 173-303-640(3)(e)]
- 7 **III.1.Q.1.j** The Permittee will provide detailed plans and a description of how the secondary  
 8 containment and leak detection system for the TSCR HIHTL transfer system will be  
 9 installed, operated, and maintained. [WAC 173-303-806(4)(c)(vii)]
- 10 A. Based on the Permittees' design and calculations, the TSCR HIHTL leak  
 11 detection systems are capable of detecting a leak equal to or less than 5 gph  
 12 within 24 hours. When these lines are transitioned to hard walled lines the  
 13 Permittees will follow permit condition III.1.Q.2.g. [WAC 173-303-  
 14 640(4)(c)(iii)]
- 15 B. The secondary containment for the TSCR HIHTL transfer system must be sloped  
 16 or operated to drain and remove liquids resulting from leaks. Leaked waste must  
 17 be removed from the secondary containment system within 24 hours, or in as  
 18 timely a manner as is possible to prevent harm to human health and the  
 19 environment, if the Permittee can demonstrate to Ecology that removal of the  
 20 released waste or accumulated precipitation cannot be accomplished within  
 21 24 hours. [WAC 173-303-640(4)(c)(iv)]
- 22 C. Until such time as the secondary containment for the TSCR HIHTL transfer  
 23 system meets the requirements of -640(4), a functional leak test or other integrity  
 24 assessment, as approved by Ecology, must be conducted on the system annually.  
 25 [WAC 173-303-640(4)(i)(iii)]
- 26 **III.1.Q.1.k** Since TSCR HIHTLs are installed with low points which do not readily drain, the TSCR  
 27 HIHTL transfer system shall employ an integrated system of administrative and  
 28 engineered leak detection systems. The leak detection system shall include in-pit leak  
 29 detection, and inspection of radiological conditions along HIHTL transfer routes.
- 30 **III.1.Q.2** Hard Walled Waste Transfer Lines Requirements
- 31 **III.1.Q.2.a** Hard Walled Pipe Transfer lines will comply with the requirements of Addendum C,  
 32 Section C.3.2. [WAC 173-303-640(4)(b)]
- 33 **III.1.Q.2.b** The Permittees will construct the TSCR unit hard walled waste transfer lines as  
 34 approved/modified pursuant to the LAWPS OUG 1 Permit. Modifications to approved  
 35 design, plans, and specifications in LAWPS OUG 1 of this Permit will be allowed only in  
 36 accordance with Permit Conditions III.1.B.11 and III.1.B.12.
- 37 **III.1.Q.2.c** Prior to initial receipt of dangerous and/or mixed waste in the LAWPS, the Permittees  
 38 will obtain, and keep on file in the LAWPS OUG operating record, written statements by  
 39 those persons required to certify the design and supervise the installation of the hard  
 40 walled waste transfer lines, attesting that the waste transfer lines were properly designed  
 41 and installed.
- 42 **III.1.Q.2.d** The Permittees will ensure all certification required by specialists (e.g., Independent  
 43 Qualified Registered Professional Engineer; Independent Corrosion Expert; Independent  
 44 Qualified Installation Inspector; etc.) use the statement or equivalent, as provided in  
 45 Permit Condition III.1.P.1.b.v. [WAC 173-303-810(13)]



- 1 **III.1.Q.2.e** The Permittees must ensure hard walled waste transfer lines are supported and protected  
 2 against physical damage and excessive stress due to settlement, vibration, expansion, or  
 3 contraction. [WAC 173-303-640(3)(f)]
- 4 **III.1.Q.2.f** The Permittees will install and test all process and leak detection system  
 5 monitoring/instrumentation, as specified in Permit Tables III.1.P.A, in accordance with  
 6 LAWPS OUG 1 Permit Appendices 2.2 and 2.6.
- 7       A. The leak detection system for the TSCR waste transfer lines must be designed  
 8 and operated so that it will detect a leak of 0.1 gph within 24 hours, or at the  
 9 earliest practicable time if the Permittee can demonstrate to Ecology that existing  
 10 leak detection technologies or site conditions will not allow detection of a release  
 11 of 0.1 gph within 24 hours. The demonstration shall quantify that the sensitivity  
 12 of the waste transfer line leak detection systems is capable of detecting a leak  
 13 equal to or less than XX gph within 24 hours. [WAC 173-303-640(4)(c)(iii)]
- 14       B. The secondary containment for the TSCR waste transfer lines must be sloped or  
 15 operated to drain and remove liquids resulting from leaks. Leaked waste must be  
 16 removed from the secondary containment system within 24 hours, or in as timely  
 17 a manner as is possible to prevent harm to human health and the environment, if  
 18 the Permittee can demonstrate to Ecology that removal of the released waste or  
 19 accumulated precipitation cannot be accomplished within 24 hours.  
 20 [WAC 173-303-640(4)(c)(iv)]
- 21       C. A functional leak test or other integrity assessment as approved by Ecology must  
 22 be conducted on the system annually. [WAC 173-303-640(4)(i)(iii)]
- 23 **III.1.Q.2.g** The Permittees will notify and report releases to the environment to Ecology in  
 24 accordance with WAC 173-303-640(7)(d).
- 25 **III.1.Q.2.h** The independent installation inspection and subsequent written statements will be  
 26 certified in accordance with WAC 173-303-810(13)(a) and comply with all requirements  
 27 of WAC 173-303-640(3)(h) and will consider, but not be limited to, the following  
 28 documentation:
- 29 **III.1.Q.2.h.i** Field installation report with date of installation;
- 30 **III.1.Q.2.h.ii** Approved welding procedures;
- 31 **III.1.Q.2.h.iii** Welder qualifications and certification;
- 32 **III.1.Q.2.h.iv** Hydro-test reports, as applicable, in accordance with the American Society of Mechanical  
 33 Engineers 31.3 Process Piping code as applicable;
- 34 **III.1.Q.2.h.v** Tester credentials;
- 35 **III.1.Q.2.h.vi** Field inspector credentials;
- 36 **III.1.Q.2.h.vii** Field inspector reports;
- 37 **III.1.Q.2.h.viii** Field waiver reports; and
- 38 **III.1.Q.2.h.ix** Non-compliance reports and corrective action (including field waiver reports) and repair  
 39 reports.

1  
2  
3  
4  
5

This page intentionally left blank.

DRAFT