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**PART III, OPERATING UNIT GROUP 17 CONDITIONS  
LOW LEVEL BURIAL GROUNDS (TRENCHES 31 & 34)**

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**PART III, OPERATING UNIT GROUP 17 CONDITIONS**  
**LOW LEVEL BURIAL GROUNDS (TRENCHES 31 & 34)**

**UNIT DESCRIPTION**

The Low Level Burial Ground (LLBG) Trenches 31 & 34 (also known as the mixed waste trenches) is a land-based TSD unit located in the 218-W-5 burial ground in the 200 West Area LLBG Trenches 31 & 34, approximately 37.2 hectares in size, began receiving waste for disposal in 1999.

LLBG Trenches 31 & 34 receive dangerous and/or mixed waste for disposal. Permittees may manage the following wastes at the LLBG Trenches 31 & 34 Operating Unit Group: dangerous or mixed waste that is generated from processes at the Hanford site, or waste that is specifically identified in Section II, paragraph 8 of the Settlement Agreement re: Washington v. Bodman, Civil No. 2:30-cv-05018-AAM, January 6, 2006. No other wastes may be managed at LLBG Trenches 31 and 34 unless authorized via a permit modification decision pursuant to Permit Condition I.C.3. Requests for Permit modifications must be accompanied by an analysis adequate for Ecology to comply with SEPA.

Dangerous and/or mixed waste may be stored on the asphalt waste storage units located at Trenches 31 & 34.

All dangerous and/or mixed waste destined for disposal in Trenches 31 & 34 must meet land disposal restriction (LDR) requirements [WAC 173-303-140, 40 CFR 268, and RCW-70.105] or other regulatory alternatives as described in Addendum B, Waste Analysis Plan.

The LLBG Trenches 31 & 34 have leachate collection and removal systems. The leachate collection tanks are operated in accordance with the generator provisions of [WAC 173-303-200](#).

**LIST OF ADDENDUMS**

Addendum A	Part A Form, dated October 1, 2008
Addendum B	Waste Analysis Plan
Addendum C	Process Information
Addendum C.1	Response Action Plan and Action Leakage rate for Trenches 31 & 34
Addendum D	Groundwater Monitoring Plan
Addendum E	Security
Addendum F	Preparedness and Prevention
Addendum G	Personnel Training
Addendum H	Closure Plan
Addendum I	Inspection Requirements
Addendum J	Contingency Plan

**DEFINITIONS**

Reserved

**ACRONYMS**

LLBG Low Level Burial Grounds

**III.17.A COMPLIANCE WITH PERMIT CONDITIONS**

**III.17.A.1** The Permittees will comply with all conditions in this Chapter and practices described in its addenda for LLBG Trenches 31 & 34 with respect to dangerous waste management Operating Unit Group 17, in addition to applicable requirements in Part I and II.

**III.17.A.2** The scope of these unit specific conditions is restricted to the operational waste as identified in Addendum C. Future expansion of the waste trench, or disposal of other

1 wastes not specified in this Permit, is prohibited unless authorized via modification of  
2 this Permit.

3 **III.17.B GENERAL WASTE MANAGEMENT STANDARDS**

4 **III.17.B.1** The Permittees are authorized to accept dangerous and/or mixed waste for disposal in  
5 218-W-5 (Trenches 31 & 34) in accordance with the waste acceptance criteria description  
6 in Addendum B. [[WAC 173-303-300](#)]

7 **III.17.B.2** The Permittees are authorized to manage and store treated and LDR compliant dangerous  
8 and/or mixed waste at the storage units adjacent to 218-W-5 (Trenches 31 & 34) in  
9 accordance with the description in Addendum C.

10 **III.17.C WASTE ANALYSIS/WASTE ACCEPTANCE**

11 **III.17.C.1** The Permittees will comply with the requirements (description) in Addendum B for  
12 sampling and analysis of all dangerous and/or mixed waste required by conditions in this  
13 Chapter [[WAC 173-303-300](#)].

14 **III.17.C.2 Modeling – Risk Budget Tool**

15 **III.17.C.2.a** As further specified below, the Permittees must create and maintain a modeling - risk  
16 budget tool, which models the future impacts of the planned waste forms to be disposed  
17 of in 218-W-5 (Trenches 31 & 34) including input from analysis performed and their  
18 impact to underlying vadose and ground water. [[WAC 173-303-815\(2\)\(b\)\(i\)](#)]

19 **III.17.C.2.b** This model will be submitted for Ecology review no later than 180 days after the issuance  
20 of this permit (or a later date if agreed to by Ecology).

21 **III.17.C.2.c** The model will be updated at least once every 5 years. The model will be updated more  
22 frequently if needed, to support permit modifications or SEPA Threshold Determinations  
23 whenever a new waste stream or significant expansion is being proposed for LLBG  
24 Trenches 31 & 34.

25 **III.17.C.2.d** This modeling-risk budget tool will be constructed in a manner that represents a  
26 cumulative risk analysis of all waste previously disposed of in the entire Trenches 31 &  
27 34 and those wastes expected to be disposed of in the future for the entire Trenches 31 &  
28 34.

29 **III.17.C.2.e** The groundwater impact should be modeled in a concentration basis and should be  
30 compared against various performance standards including but not limited to drinking  
31 water standards [40 CFR 141 and 40 CFR 143].

32 **III.17.C.2.f** Ecology will review the modeling assumptions, input parameters, and results and will  
33 provide comments to the Permittees. Ecology comments will be dispositioned through  
34 the Review Comment Record process and will be reflected in further modeling to modify  
35 the LLBG Trenches 31 & 34 waste acceptance as appropriate.

36 **III.17.C.2.g** The modeling-risk budget tool will include a sensitivity analysis reflecting parameters,  
37 their uncertainties, and changes to parameters as requested by Ecology.

38 **III.17.C.2.h** If these modeling efforts indicate results within 75% of a performance standard  
39 (including but not limited to federal drinking water standards [40 CFR 141 and  
40 40 CFR 143]), Ecology and the Permittees will meet to discuss mitigation measures or  
41 modified waste acceptance criteria for specific waste forms.

42 **III.17.C.3** When considering all the waste forms to be disposed of in LLBG Trenches 31 and 34, the  
43 Permittees will ensure that all wastes meet the waste acceptance criteria of the  
44 Liner/leachate system described in Addendum B.

45 **III.17.D RECORDKEEPING AND REPORTING**

- 1 **III.17.D.1** The Permittees will comply with the following recordkeeping and reporting requirements  
2 applicable to all Operating Unit Group 17 waste management activities [[WAC 173-303-  
3 380](#)]:
- 4 **III.17.D.1.a** All records required by Condition II.I.2 will be placed into the LLBG Unit Specific  
5 Operating Record and.
- 6 **III.17.D.1.b** The Permittees will maintain in the LLBG Unit Specific Operating Record all records  
7 required by [WAC 173-303-380](#)(1)(k), and –(o), incorporated by reference.
- 8 **III.17.D.1.c** The Permittees will maintain in the LLBG Unit Specific Operating Record all records  
9 and results of waste analysis; waste determinations (as required by Subpart CC); 40 CFR  
10 268.4(a), and 268.7. [[WAC 173-303-380](#)(1)(c)]
- 11 **III.17.E SECURITY**
- 12 **III.17.E.1** The Permittees will post warning signs at all entrances to the LLBG as specified in  
13 Addendum E. [[WAC 173-303-310](#)(2)(a)]
- 14 **III.17.F PREPAREDNESS AND PREVENTION**
- 15 **III.17.F.1** The Permittees will comply with the Preparedness and Prevention requirements in  
16 Addendum F. [[WAC 173-303-340](#)]
- 17 **III.17.G CONTINGENCY PLAN**
- 18 **III.17.G.1** The Permittees will comply with Addendum J in addition to the requirements of  
19 Condition II.A when applicable. [[WAC 173-303-350](#)]
- 20 **III.17.H INSPECTIONS**
- 21 **III.17.H.1** The Permittees will perform inspections of the LLBG Trenches 31 & 34 according to the  
22 inspection plan in Permit Addendum I.
- 23 **III.17.I TRAINING**
- 24 **III.17.I.1** The Permittees will include the training requirements described in Addendum G of this  
25 Chapter specific to the dangerous waste management units and waste management  
26 activities at Operating Unit Group 17 into the written training plan required by Condition  
27 II.C.
- 28 **III.17.J** Reserved
- 29 **III.17.K CLOSURE**
- 30 **III.17.K.1** The Permittees will close LLBG Trenches 31 & 34 in accordance with the Closure Plan  
31 in Addendum H and Condition II.J. [[WAC 173-303-610](#)(3)(b)]
- 32 **III.17.K.2 Landfill Cap**
- 33 **III.17.K.2.a** At final closure of the landfill, the Permittees will cover the landfill with a final cover  
34 (closure cap) designed and constructed to: 1) Provide long-term minimization of  
35 migration of liquids through the closed landfill; 2) Function with minimum maintenance;  
36 3) Promote drainage and minimize erosion or abrasion of the cover; 4) Accommodate  
37 settling and subsidence so that the cover's integrity is maintained; and 5) have a  
38 permeability less than or equal to the permeability of any bottom liner system or natural  
39 subsoils present. [[WAC 173-303-665](#)(6)(a)]
- 40 **III.17.K.2.b** Description of information for instrumentation selected for installation within the cover  
41 to demonstrate the performance of the cover shall be submitted to Ecology for  
42 incorporation into the Permit prior to installation. The instrumentation must adequately  
43 measure the soil water content and storage so that all water inputs may be known and a

1 water balance calculated to determine the effectiveness of the cover. In addition, other  
2 measurements submitted may include elevations, bulk densities, gas exchanges, biota  
3 mass, plant height/rooting depth, plant leaf area indexes, etc. to ensure the cover  
4 functions according to Condition III.17.K.2.a.

5 **III.17.L POSTCLOSURE**

6 **III.17.L.1** Following certification of closure according to the requirements of the closure plan in  
7 Addendum H, the Permittees will initiate post-closure care and maintenance. [[WAC 173-](#)  
8 [303-665\(6\)](#)]

9 **III.17.M CRITICAL SYSTEMS**

10 **III.17.M.1** The Critical Systems will include the following: The leachate collection and removal  
11 system (LCRS), leachate collection tank (LCT), leak detection system (LDS), liner  
12 system (LS), and closure cap. Drawings for the LCRS, LCT, LDS, and LS are identified  
13 in Addendum C of this Permit. .

14 **III.17.M.2** The Permittees will operate the LLBG Trenches 31 & 34 in accordance with the  
15 description and all specifications contained in Addendum C (Process Information).

16 **III.17.M.3** The Permittees will be subject to the permit modification requirement of Permit  
17 Condition I.C.3 with respect to any change to the critical systems associated with  
18 dangerous waste management unit, Operating Group 17.

19 **III.17.N CONTAINERS**

20 **III.17.N.1** The Permittees will store and dispose of dangerous waste or mixed waste in accordance  
21 with the Provision of Addendum C.

22 **III.17.O COMPLIANCE SCHEDULES (RESERVED)**

23 **III.17.P LANDFILLS TRENCHES 31 & 34**

24 **III.17.P.1** Landfill Liner Integrity Management & Landfill Operations

25 **III.17.P.1.a** Permittees will conduct all LLBG Trenches 31 & 34 operations in a manner to protect the  
26 landfill from damage.

27 **III.17.P.1.b** Permittees will ensure that waste placement in LLBG Trenches 31 & 34, and the  
28 selection and operation of any equipment used within Trenches 31 & 34 do not pose a  
29 risk of puncture or other damage to the primary liner. Only equipment that can be  
30 adequately supported by the operations layer, considering the geotechnical properties of  
31 the operating layer soils and the design and configuration of such equipment, will be used  
32 within the lined portion of the Trenches.

33 **III.17.P.2 Leachate Collection Component Management**

34 **III.17.P.2.a** Permittees will operate all leachate collection systems to minimize clogging during the  
35 active life and post closure period.

36 **III.17.P.2.b** Permittees will operate leak detection systems according to the corresponding  
37 requirements in Addendum C.

38 **III.17.P.2.c** The Permittees will comply with the requirements in Addendum C.1 for the action  
39 leakage rate and response action plan for Trenches 31 & 34, except that Section 3.0 is  
40 modified to only require notification to Ecology. [[WAC 173-303-665\(8\)](#) and (9)]

41 **III.17.P.3 Rainwater Management and Instrumentation**

42 **III.17.P.3.a** Permittees will manage the rainwater in the leachate collection and removal system  
43 (LCRS) in a manner that does not allow the fluid head to exceed operating limit.

1 **III.17.P.3.b** The Permittees will verify that monitoring gauges and instruments are in current  
2 calibration; as well as calibrate instrumentation at intervals suggested by the  
3 manufacturer or according to the engineering's recommendation to meet Condition I.E.4.

4 **III.17.Q GROUND WATER AND GROUND WATER MONITORING**

5 **III.17.Q.1** The Permittees will comply with the requirements of Permit Addendum D, Groundwater  
6 Monitoring Plan. [[WAC 173-303-645](#)]

7 **III.17.Q.2** No later than thirty (30) days after the effective date of this permit, the Permittees will  
8 submit a draft final status groundwater monitoring plan for Ecology review and approval.

9 **III.17.Q.3** No later than sixty (60) days following Ecology approval of the final status groundwater  
10 monitoring plan, the Permittees will submit a Class 2 permit modification to include the  
11 final status groundwater monitoring plan into the permit.  
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