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**PART III, OPERATING UNIT GROUP 18 CONDITIONS
LOW LEVEL BURIAL GROUNDS TRENCH 94**

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PART III, OPERATING UNIT GROUP 18 CONDITIONS
LOW LEVEL BURIAL GROUNDS TRENCH 94

UNIT DESCRIPTION

The LLBG Trench 94 Operating Unit 18 is a land-based unit located in the 200 East Area of the Hanford Facility in the northeast corner of 218-E-12B Burial Ground. Trench 94 covers a total area of approximately 49 hectares and is designed for the receipt and final disposal of decommissioned, defueled, reactor compartments (RCs). The first defueled RC was placed in Trench 94 in April 1986. The RCs are prepared for disposal by the Puget Sound Naval Shipyard (PSNS) in Bremerton, Washington, and transported by barge to the Port of Benton to the Hanford Site.

The RCs destined for disposal in LLBG Trench 94 are considered state-only mixed waste and meets land disposal restriction (LDR) requirements [[WAC 173-303-140](#) and RCW-70.105].

Disposal of mixed waste in Trench 94 requires an exemption from the liner/leachate collection system requirements. This documentation includes an exemption request for Trench 94 for the disposal of RCs contained in Addendum C, Section C.2.

LIST OF ADDENDUMS

Addendum A	Part A Form
Addendum B	Waste Analysis Plan
Addendum C	Process Information
Addendum D	Groundwater Monitoring
Addendum E	Security
Addendum F	Preparedness and Prevention Requirements
Addendum G	Personnel Training Matrix
Addendum H	Closure Plan
Addendum I	Inspection Requirements
Addendum J	Contingency Plan

DEFINITIONS

Reserved

ACRONYMS

LLBG Low Level Burial Ground Trench 94 Operating Unit 18.

- 1 **III.18.A COMPLIANCE WITH PERMIT CONDITIONS**
- 2 **III.18.A.1** The Permittees will comply with all conditions in this Chapter and its addenda for LLBG
3 Trench 94 with respect to dangerous waste management Operating Unit Group 18, in
4 addition to applicable requirements in Part I and II.
- 5 **III.18.B GENERAL WASTE MANAGEMENT STANDARDS**
- 6 **III.18.B.1** The Permittees are authorized to accept and dispose of decommissioned, defueled reactor
7 compartments in LLBG Trench 94 in accordance with the waste acceptance criteria in
8 Addendum B. [[WAC 173-303-300](#)]
- 9 **III.18.C WASTE ANALYSIS**
- 10 **III.18.C.1** The Permittees will comply with the requirements in Addendum B for receipt and
11 acceptance of decommissioned, defueled reactor compartments for disposal in Trench 94.
12 Packaging of the reactor compartments shall be consistent with the trench liner
13 exemption in Addendum C. [[WAC 183-303-300](#)]
- 14 **III.18.C.2 Modeling – Risk Budget Tool**
- 15 **III.18.C.2.a** The Permittees must create and maintain a modeling - risk budget tool, which models the
16 future impacts of LLBG Trench 94 waste forms and their impact to underlying vadose
17 and ground water. [[WAC 173-303-815\(2\)\(b\)\(i\)](#)]
- 18 **III.18.C.2.b** This model will be submitted for Ecology review as soon as possible after issuance of
19 Final Tank Closure and Waste Management EIS, and at least 180 days following the
20 issuance of the LLBG Trench 94 final status permit
- 21 **III.18.C.2.c** The model will be updated at least 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 Trench 94.
- 25 **III.18.C.2.d** This modeling-risk budget tool will be conducted in manner that is consistent with state
26 and federal requirements, and represents a cumulative risk analysis of all waste
27 previously disposed of in LLBG Trench 94.
- 28 **III.18.C.2.e** The groundwater impact should be modeled in a concentration basis and should be
29 compared against various performance standards including but not limited to drinking
30 water standards (40 CFR 141 and 40 CFR 143).
- 31 **III.18.C.2.f** Ecology will review modeling assumptions, input parameters, and results and will
32 provide comments to the Permittees. Ecology comments will be dispositioned through
33 the Review Comment Record process and will be reflected in further modeling to modify
34 the IDF ILAW waste acceptance as appropriate.
- 35 **III.18.C.2.g** The modeling-risk budget tool will include a sensitivity analysis reflecting parameters,
36 their uncertainties, and changes to parameters as requested by Ecology.
- 37 **III.18.C.2.h** If these modeling efforts indicate results within 75% of a performance standard
38 (including but not limited to federal drinking water standards [40 CFR 141 and
39 40 CFR 143]), Ecology and the Permittees will meet to discuss mitigation measures or
40 modified waste acceptance criteria for specific waste forms.
- 41 **III.18.D RECORDKEEPING AND REPORTING**
- 42 **III.18.D.1** The Permittees will comply with the following recordkeeping and reporting requirements
43 applicable to all Operating Unit Group 18 waste management activities [[WAC 183-303-
44 380](#)]:

- 1 **III.18.D.1.a** All records required by Permit Condition II.I.2 will be placed into the LLBG Trench 94
2 Unit Specific Operating Record.
- 3 **III.18.D.1.b** Records and results of waste analysis and general waste analysis [[WAC 173-303-810](#)]
- 4 **III.18.E SECURITY**
- 5 **III.18.E.1** The Permittees will post warning signs at all entrances to the LLBG Trench 94 as
6 specified in Addendum E. [[WAC 173-303-310](#)(2)(a)]
- 7 **III.18.F PREPAREDNESS AND PREVENTION**
- 8 **III.18.F.1** The Permittees will comply with the Preparedness and Prevention requirements in
9 Addendum F. [[WAC 173-303-340](#)]
- 10 **III.18.G CONTINGENCY PLAN**
- 11 **III.18.G.1** The Permittees will comply with Addendum J in addition to the requirements of Permit
12 Condition II.A when applicable. [[WAC 173-303-350](#)]
- 13 **III.18.H INSPECTIONS**
- 14 **III.18.H.1** The Permittees will comply with the inspection requirements and schedules of Table I.1
15 in Addendum I (inspections applicable to the operating unit as a whole and/or to
16 individual dangerous waste management units within the operating unit, if any).
- 17 **III.18.I TRAINING**
- 18 **III.18.I.1** The Permittees will include the training requirements described in Addendum G of
19 Operating Unit Group 18 into the written training plan required by Permit Condition II.C.
- 20 **III.18.J OTHER GENERAL REQUIREMENTS- RESERVED**
- 21 **III.18.K CLOSURE**
- 22 **III.18.K.1** The Permittees will close LLBG Trench 94 in accordance with the Closure Plan in
23 Addendum H and Permit Condition II.J. [[WAC 173-303-610](#)(3)(b)]
- 24 **III.18.L POSTCLOSURE--RESERVED**
- 25 **III.18.M COMPLIANCE SCHEDULES-RESERVED**
- 26 **III.18.N LANDFILLS**
- 27 **III.18.N.1** Permittees will conduct all LLBG Trench 94 operations in a manner to protect the landfill
28 from damage.
- 29 **III.18.N.2** At final closure of the landfill, the Permittees will cover the landfill with a final cover
30 (closure cap) designed and constructed to: (1) Provide long-term minimization of
31 migration of liquids through the closed landfill; (2) Function with minimum maintenance;
32 (3) Promote drainage and minimize erosion or abrasion of the cover; and (4)
33 Accommodate settling and subsidence so that the cover's integrity is maintained. [[WAC](#)
34 [173-303-665](#)(6)(a)]
- 35 **III.18.N.3** Design and construction details of the cover shall be submitted to Ecology for
36 incorporation into the Permit prior to installation. The instrumentation must be designed
37 to adequately measure the soil water content and storage so that all waster inputs may be
38 known and a water balance calculated to determine the effectiveness of the cover. In
39 addition, other information submitted may include elevations, bulk densities, gas
40 exchanges, biota mass, plant height/rooting depth, plant leaf area indexes, etc. to ensure
41 the cover functions according to Permit Condition III.18.N.2.
- 42

- 1 **III.18.O GROUNDWATER**
- 2 **III.18.O.1** The Permittees will implement the groundwater monitoring plans contained in
3 Addendum D to this Chapter.
- 4 **III.18.O.2** The Permittees will complete geophysical investigation by September 30, 2014 for the
5 purposes of establishing groundwater monitoring at the LLBG Trench 94.
- 6 **III.18.O.3** Within 180 days from the completion of the geophysical investigation, the Permittees
7 must prepare and submit a groundwater monitoring plan. The plan must include the
8 locations of the point of compliance wells, monitoring, sampling, and, reporting
9 requirements. Should it be determined that groundwater monitoring wells are not
10 feasible, the Permittees will submit a plan for achieving regulatory compliance.

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