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**FACT SHEET**

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

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1 **FACT SHEET**

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3 **UNIT DESCRIPTION**

4 The LLBG Trench 94 is a land-based unit in Hanford's 200 East Area, in the northeast corner of 218-E-12B  
5 Burial Ground. It covers a total area of about 49 hectares.

6 Trench 94 is designed for the receipt and final disposal of decommissioned, defueled reactor compartments.  
7 The Puget Sound Naval Shipyard in Bremerton, Washington prepares the compartments for disposal and  
8 transports them by barge to the Port of Benton. They then go over the road to the Hanford Site.

9 The first reactor compartment came to Trench 94 in April 1986. Trench 94 should continue to receive  
10 reactor compartments until closure begins (DOE/RL-88-20).

11 **TYPE AND QUANTITY OF WASTE**

12 The only waste in Trench 94 is defueled, decommissioned reactor compartments from United States Navy  
13 surface ships and submarines. The compartments each contain permanently installed lead shielding. The  
14 shielding is in the form of lead panels or poured-in-place lead within thick metal sheathing plates. The  
15 thick metal encapsulation of this lead meets the treatment standards of [40 CFR 268.42](#), Treatment Code  
16 MACRO, for disposal of radioactive lead solids, including lead shielding. Work during the reactor  
17 compartment preparation process maintains this encapsulation. Navy workers do not treat the lead  
18 shielding.

19 Decommissioned and defueled reactor compartments have radioactivity caused by exposure of structural  
20 components to neutrons during normal operation of the ships and submarines. In addition to radioactivity,  
21 the compartments contain lead used as shielding and polychlorinated biphenyls (PCBs). The lead is  
22 regulated as a state-only dangerous waste in accordance with [WAC 173-303](#). The PCBs are regulated in  
23 accordance with the Toxic Substances Control Act as PCB/radioactive waste under 40 CFR 761.50(b)(7).  
24 This allows for PCB disposal without taking into account the PCBs in the waste if the PCB waste meets  
25 certain criteria for PCB Bulk Product Waste under 40 CFR 761.62(b)(1).

26 The current design capacity for LLBG Trench 94 is 1,500,000 cubic meters. It may be expanded as  
27 needed.

28 **BASIS FOR PERMIT CONDITIONS**

29 This permit is intended to protect human health and the environment while ensuring proper management of  
30 waste at Trench 94. The permit addenda are incorporated into this permit and are enforceable by  
31 reference. The conditions and addenda are derived from the permit application. Ecology has reviewed  
32 the permit application for Trench 94 to ensure the unit meets dangerous waste facility standards. The  
33 permit includes requirements for complying with environmental standards and maintaining and modifying  
34 the permit. The permit conditions address specifics such as personnel training, adequate staffing, process  
35 controls, and inspection requirements.

36 **GENERAL WASTE MANAGEMENT REQUIREMENTS**

37 The Permit authorizes the Permittees to accept and dispose of wastes that satisfy the waste acceptance  
38 criteria and permit conditions. The Permittees may only accept decommissioned, defueled reactor  
39 compartments from the U.S. Navy for disposal in Trench 94. The Permit has stringent requirements and  
40 precautions to ensure the safety of workers and the public. The permit also has requirements to prevent  
41 hazards from ignitable, reactive, or incompatible wastes, and to prevent exceeding the facility's capacity.

42 The Permittees must maintain the integrity of the unit and its secondary containment systems. Waste  
43 loading and unloading operations must be conducted in accordance with unit-specific Permit requirements.

44 Trench 94 has an exemption from the liner/leachate collection and removal system requirements of [WAC](#)  
45 [173-303-665\(2\)](#) because each reactor compartment is sealed.

1 **WASTE ANALYSIS REQUIREMENTS**

2 The waste analysis plan (WAP) in Addendum B documents the overall waste acceptance processes that are  
3 undertaken for waste accepted for final disposal at the Low-Level Burial Ground (LLBG Trench 94).

4 Condition III.18.C.1 requires the Permittees to comply with the waste acceptance criteria in Addendum B  
5 for receipt and acceptance of decommissioned, defueled reactor compartments for disposal in Trench 94.

6 **RECORDKEEPING AND REPORTING**

7 The basis for Condition III.18.D is [WAC 173-303-380](#) and [WAC 173-303-810](#). The condition ensures the  
8 Permittees follow proper recordkeeping and reporting requirement procedures.

9 **SECURITY**

10 Trench 94 is within the secured area of Hanford, and physical barriers control access. The general security  
11 provision of Permit Attachment 3 and Condition II.L address access to the facility. Access to Trench 94 is  
12 subject to the general security provision of Condition II.L and Permit Attachment 3. In addition,  
13 Condition III.18.E and Addendum E require the Permittees to post warning signs specific to the LLBG  
14 Trench 94 Operating Unit. These requirements satisfy the security requirements of [WAC 173-303-310](#).

15 **PREPAREDNESS AND PREVENTION**

16 The basis for Condition III.18.F and Addendum F is [WAC 173-303-340](#). They cover preparedness and  
17 prevention requirements. The Permit has specific requirements to control ignition sources and to manage  
18 ignitable and reactive wastes. The Permittees will prevent ignitable and reactive wastes from exposure to  
19 excessive heat and sources of ignition. The Permittees must store incompatible in approved separate  
20 secondary containment to prevent mixing.

21 **CONTINGENCY PLAN**

22 Contingency plan requirements are established in Condition II.A, Condition III.18.G, and Addendum J.

23 **INSPECTIONS**

24 Conditions II.X, III.18.H, and Addendum I establish inspection requirements. Condition II.X requires that  
25 each Hanford dangerous waste management unit have a written inspection schedule and that the Permittees  
26 conduct periodic inspections following that schedule. Addendum I has a schedule for inspecting  
27 monitoring equipment, safety and emergency equipment, and security systems. The inspections are to  
28 detect and prevent malfunctions, deterioration, operator error, or discharges from the unit that could harm  
29 human health or the environment.

30 Condition II.X includes requirements for the Permittees to take action to correct problems revealed during  
31 these inspections, and overall inspection recordkeeping requirements. The basis for these conditions is  
32 [WAC 173-303-320](#).

33 **TRAINING**

34 Conditions II.C and III.18.I require the Permittees to develop and maintain a training program that ensures  
35 dangerous waste management employees have the skills and knowledge they need to do their work safely.  
36 The Permittees must also develop and maintain a written training plan with unit-specific details and  
37 requirements described in Addendum G and keep it at Trench 94. The training program and written  
38 training plan must meet the requirements of [WAC 173-303-330](#).

39 **OTHER GENERAL REQUIREMENTS**

40 RESERVED

41 **CLOSURE PLAN**

42 Trench 94 will be closed according to current applicable [WAC 173-303](#) regulations, United States  
43 Department of Energy (USDOE) requirements, and best management practices. The trench will be

1 integrated with the overall cleanup activities performed under the Tri-Party Agreement (Permit Attachment  
2 1). Condition III.18.K requires the Permittees to close Trench 94 in accordance with the Closure Plan in  
3 Addendum H.

#### 4 **LANDFILL MANAGEMENT STANDARDS**

5 Conditions in III.18.N contain the requirements for landfills including the final cover requirements in  
6 accordance with WAC 173-303-665(6)(a).

#### 7 **GROUNDWATER MONITORING**

8 Conditions in III.18.O contain the groundwater requirements for Trench 94.

9 The groundwater conditions underlying Trench 94 have been changing over the past several years. The  
10 groundwater level has dropped. Wells have gone dry. Past groundwater characterization may no longer  
11 be valid for a groundwater monitoring program ensuring compliance with [WAC 173-303-645](#). A RCRA  
12 monitoring network around a unit requires a subsurface geological evaluation, using direct and indirect  
13 methods or both.

14 Ecology is establishing a compliance schedule and work requirements to gather this characterization  
15 information for Trench 94. We also require the Permittees to submit a proposed groundwater monitoring  
16 plan, once characterization work has been completed. The basis for these conditions is [WAC](#)  
17 [173-303-815](#)(3).

18 Ecology will require USDOE to complete geophysical investigation activities by September 30, 2014.  
19 This will determine whether new monitoring wells will be feasible and appropriate to continue to monitor  
20 the groundwater. Should it be determined that new groundwater monitoring wells are not feasible, we will  
21 require USDOE to submit a plan for achieving regulatory compliance. Groundwater monitoring for  
22 Trench 94 in the meantime will continue to be performed in accordance with the *Interim Status*  
23 *Groundwater Monitoring Plan for the LLBG WMA-2* (DOE/RL-2009-76).

#### 24 **REQUESTED VARIANCES OR ALTERNATIVES**

25 The Permittees have requested a waiver to the liner/leachate collection system requirements. The request  
26 for exemption applies only to the decommissioned, defueled reactor compartments disposed in Trench 94  
27 of the 218-E-12B Burial Ground. The request does not apply to any other waste at the 218-E-12B Burial  
28 Ground or to any other burial ground on the Hanford Site, and it is limited to regulatory requirements  
29 addressing liner/leachate collection systems.

30 *The Hanford Facility Dangerous Waste Permit Application, Low-Level Burial Grounds* (DOE/RL-88-20,  
31 Revision 2), submitted in June 2002, included the Appendix 4D titled "Request for Exemption from Lined  
32 Trench Requirements at 218-E-12B Burial Ground Trench 94" (Administrative Record Accession Number  
33 D9090693).

#### 34 **STATE ENVIRONMENTAL POLICY ACT (SEPA)**

35 The SEPA determination for LLBG Trench 94 is in the Hanford-Wide Permit Fact Sheet.

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