FACT SHEET

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

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**UNIT DESCRIPTION**

The LLBG Trench 94 is a land-based unit in Hanford’s 200 East Area, in the northeast corner of 218-E-12B Burial Ground. It covers a total area of about 49 hectares. Trench 94 is designed for the receipt and final disposal of decommissioned, defueled reactor compartments. The Puget Sound Naval Shipyard in Bremerton, Washington prepares the compartments for disposal and transports them by barge to the Port of Benton. They then go over the road to the Hanford Site. The first reactor compartment came to Trench 94 in April 1986. Trench 94 should continue to receive reactor compartments until closure begins (DOE/RL-88-20).

**TYPE AND QUANTITY OF WASTE**

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

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

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

**BASIS FOR PERMIT CONDITIONS**

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

**GENERAL WASTE MANAGEMENT REQUIREMENTS**

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

The Permittees must maintain the integrity of the unit and its secondary containment systems. Waste loading and unloading operations must be conducted in accordance with unit-specific Permit requirements. Trench 94 has an exemption from the liner/leachate collection and removal system requirements of WAC 173-303-665(2) because each reactor compartment is sealed.
WASTE ANALYSIS REQUIREMENTS
The waste analysis plan (WAP) in Addendum B documents the overall waste acceptance processes that are undertaken for waste accepted for final disposal at the Low-Level Burial Ground (LLBG Trench 94).
Condition III.18.C.1 requires the Permittees to comply with the waste acceptance criteria in Addendum B for receipt and acceptance of decommissioned, defueled reactor compartments for disposal in Trench 94.

RECORDKEEPING AND REPORTING

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

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

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

INSPECTIONS
Conditions II.X, III.18.H, and Addendum I establish inspection requirements. Condition II.X requires that each Hanford dangerous waste management unit have a written inspection schedule and that the Permittees conduct periodic inspections following that schedule. Addendum I has a schedule for inspecting monitoring equipment, safety and emergency equipment, and security systems. The inspections are to detect and prevent malfunctions, deterioration, operator error, or discharges from the unit that could harm human health or the environment.
Condition II.X includes requirements for the Permittees to take action to correct problems revealed during these inspections, and overall inspection recordkeeping requirements. The basis for these conditions is WAC 173-303-320.

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

OTHER GENERAL REQUIREMENTS
RESERVED

CLOSURE PLAN
Trench 94 will be closed according to current applicable WAC 173-303 regulations, United States Department of Energy (USDOE) requirements, and best management practices. The trench will be
integrated with the overall cleanup activities performed under the Tri-Party Agreement (Permit Attachment 1). Condition III.18.K requires the Permittees to close Trench 94 in accordance with the Closure Plan in Addendum H.

**LANDFILL MANAGEMENT STANDARDS**

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

**GROUNDWATER MONITORING**

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

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

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

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

**REQUESTED VARIANCES OR ALTERNATIVES**

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


**STATE ENVIRONMENTAL POLICY ACT (SEPA)**

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