



Legacy Waste Disposition at WVDP



Fact Sheet

Types of Waste at WVDP

Low-Level Waste (LLW)

LLW consists of legacy waste in storage and newly generated wastes from ongoing site activities. LLW may be Class A, B, or C, and may contain Resource Conservation and Recovery Act (RCRA) hazardous constituents, causing it to be classified as mixed low-level waste (MLLW).

Transuranic (TRU) Waste

The WVDP's TRU waste consists of legacy waste in storage and newly generated wastes from Main Plant Process Building decontamination activities. TRU waste is waste that is contaminated with alpha-emitting radionuclides with half-lives greater than 20 years and concentrations greater than 100nCi/g. TRU waste processing and packaging is being done within approved criteria.

High-Level Waste (HLW)

During solidification of liquid HLW from underground waste tanks at WVDP (1996-2002), 275 canisters of vitrified HLW and 3 non-conforming HLW canisters were relocated to an interim concrete storage pad onsite.



Legacy Waste Container Being Removed from Main Plant

The West Valley Demonstration Project is required to process, ship and dispose of all legacy waste off-site. When work by contractor CHBWV began in August 2011, Transuranic (TRU) waste and low-level waste (LLW) remained in the WVDP's storage facilities awaiting processing.

The WVDP utilizes a number of waste processing facilities to process radioactive waste containers and drums. Legacy waste is retrieved from three storage buildings and transported to one of the on-site facilities using fork trucks. The processing location is decided based on the waste type, container configuration, and available processing facility.

The starting inventory of legacy waste included more than 5,000 containers, with approximately 3,100 requiring disposition. Some of the starting inventory of containers were already empty, others were de-scoped (taken out of the contract work), and some were TRU waste that will remain in onsite storage until a disposal path is identified.



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The project Waste Management Team is on track to complete the disposition of legacy waste in 2018, except transuranic waste (TRU).

Also onsite are three large vessels that were originally classified as *suspect TRU waste (*treated as TRU waste until formally characterized). Non-destructive assay (NDA) along with waste characterization were able to classify the Dissolver (3C-1) as LLW and the Separator as MLLW respectively. The Reboiler remained mixed-TRU. 3C-1 is currently being processed in the Remote-Handled Waste Facility (RHWF), and will be size reduced and repackaged in the RHWF to accommodate offsite transportation. The Separator was shipped offsite for treatment and disposal. The Reboiler shell was packaged for disposal offsite. Its tube bundle was packaged as TRU waste for onsite storage.

The process to ship legacy waste begins with planning and loading the stored waste containers into overpack containers. These containers range in size from 6' x 4' x 4' (Standard B-25) to 12' x 6' x 6' (SR Box), and specialty boxes with added shielding.

Final characterization of the waste is performed after it is packaged. The waste package is then verified that it meets required limits for shipping, including dose rates, weight, labeling, etc. This information is important to know for proper shipping and receiving.

The shipper completes the proper paperwork, obtains the necessary permits, and receives his/her driver instructions (i.e., loading instructions, allowable routes, etc.) to complete the shipment.

CHBWV's Waste Management Program undergoes two annual audits every year. One audit is completed internally by a Waste



HLW Onsite Storage Pad



Filled Waste Boxes Moved to Onsite Shipment-Ready Area

Certified Official; and the other audit is completed by the disposal site where the waste is being shipped.

Both audits provide a direct and comprehensive review of the program to ensure its integrity and compliance with operating standards, policies, and regulations.

The West Valley Demonstration Project (WVDP) is a U.S. Department of Energy-led environmental remediation project located approximately 35 miles south of Buffalo, NY. CH2M HILL BWXT, West Valley, LLC (CHBWV) was formed to meet the specific requirements of Phase 1 Decommissioning – Facility Disposition Project. The limited-liability partnership combines the experience and capabilities of CH2M HILL Constructors Inc. (CH2M HILL), Babcock & Wilcox Technical Services Group, Inc. (B&W), and Environmental Chemical Corporation (ECC).