



Solid and Liquid Waste Treatment and Disposal Project

Restore the River Corridor - Transition the Central Plateau - Prepare for the Future



Corroded drum uncovered during TRU waste retrieval



Treated mixed low level waste disposed in a lined disposal trench in the low level burial grounds



T Plant provides waste storage, sampling, treatment, and repackaging



TRU waste being loaded into TRUPACT-II shipping containers



Naval reactor compartment trench in the 218-E-12B burial ground



Hanford workers retrieve suspect transuranic waste from the low level burial grounds

Background

Waste disposal is an enormous undertaking at the Hanford Site. Not only is there legacy waste from the plutonium production days, but more solid and liquid wastes are being generated during cleanup of the site. The treatment, storage, and disposal facilities for handling these wastes are located on the Central Plateau in the middle of the Hanford Site. Solid wastes consist of low level, mixed low level, and transuranic, or TRU, waste. Low level (LLW) and mixed low level (MLLW) wastes are disposed of in lined disposal cells in the 200 West Area of the Site or at the Environmental Restoration Disposal Facility (ERDF). The TRU waste is packaged and certified for disposal at the Waste Isolation Pilot Plant, a deep geological repository near Carlsbad, New Mexico. Liquid wastes are stored in the Liquid Effluent Retention Facility, three 7.5 million gallon storage pools, and treated in the 200 East Area at the Effluent Treatment Facility.

Transuranic (TRU) waste consists of equipment and debris contaminated with long-lived radioactivity, typically plutonium, which requires special handling due to the long half-lives of the radioactive isotopes. "Suspect" TRU waste refers to the retrievably stored waste in the low-level burial grounds (LLBG). This suspect waste was originally designated as TRU waste, but may no longer meet the current definition of TRU waste. Hanford had over 75,000 drum-equivalents of suspect TRU waste, generated since 1970, that was stored below ground in about 37,000 drums and boxes. The containers were placed in retrievable storage until the Waste Isolation Pilot Plant became available for disposal. The containers are being retrieved for processing and disposal.

Project Scope

The Solid and Liquid Waste Treatment and Disposal (SLWTD) Project provides solid and liquid waste storage, treatment, and disposal services in support of Hanford Site cleanup. The project

operates the Waste Receiving and Processing Facility, T Plant, Central Waste Complex, and LLBG to provide for treatment, storage, and disposal of solid LLW, MLLW, and TRU wastes. The project also operates two liquid waste treatment facilities.

Solid and Liquid Waste Treatment and Disposal Project

The Solid and Liquid Waste Treatment and Disposal Project is retrieving suspect TRU waste from the low-level burial grounds, and certifying and shipping TRU waste to the Waste Isolation Pilot Plant for disposal. Liquid wastes are treated at the 200 Area Effluent Treatment Facility. Additionally, the project has received LLW and MLLW generated at various sites throughout the DOE Complex. However, based on an agreement with the State of Washington, the Department of Energy will not accept most new off-site waste until after a new environmental impact statement (EIS) is completed.

Significance

The project reduces risk to the environment and site workers by safely treating and disposing of solid and liquid wastes generated at Hanford. The TRU Certification Project is shipping waste to the Waste Isolation Pilot Plant, which provides permanent off-site disposal of Hanford generated TRU wastes. The retrieval of suspect TRU waste from the low-level burial grounds is reducing a risk to the environment by removing waste containers that have been buried for more than 30 years. Many of the containers are degrading and may pose an increasing risk to the environment and workers the longer the containers remain in the ground. Hanford also will be one of two sites capable of disposing of LLW and MLLW from off-site generators, after the EIS is completed.

The low-level burial grounds also receive for disposal reactor compartments removed from U.S. Navy decommissioned, defueled nuclear powered ships.

Progress as of April 2006

- Shipped more than 1,400 cubic meters of TRU waste to the Waste Isolation Pilot Plant in New Mexico.
- Completed retrieval of more than 3,500 cubic meters of suspect TRU waste from the low-level burial grounds since 2003. Completed calendar year 2004 TPA milestone four months ahead of schedule.
- Removed 16 metric tons of fuel from the T Plant Canyon and packaged the fuel for interim storage at the Canister Storage Building.
- Processed more than 210 million gallons of liquid waste in the 200 Area Effluent Treatment Facility since the facility began operation in 1995.
- Disposed of more than 44,000 cubic meters of low level and mixed low level wastes since 1997.
- Treated more than 4,500 cubic meters of mixed low level wastes since December 31, 2002.

For more
information



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