

Hanford Update

Special
Edition

An Eye
on the
Budget

U.S. Department of Energy - Washington State Department of Ecology - U.S. Environmental Protection Agency

Spring 2006



The Waste Treatment Plant is a top priority for the Tri-Party Agencies.

The lab (left) is one of the buildings being built at the plant. Once finished, the plant will process waste from the tanks and stabilize it in glass.

Each year the U.S. Department of Energy (DOE) is required to prepare an annual budget submittal that is consistent with the Tri-Party Agreement (TPA) and meets regulatory requirements. The TPA is the regulatory document between DOE, the Washington State Department of Ecology, and the U.S. Environmental Protection Agency that guides cleanup at the Hanford Site.

DOE is currently working to the 2006 allocated budget. President Bush recently released the 2007 budget request to Congress for review and approval. DOE is formulating its 2008 budget requirements based on 2006 and 2007 budget information and identified cleanup activities.

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The U.S. Department of Energy

Key Commitments and Priorities

The U.S. Department of Energy has two offices at Hanford that are conducting cleanup activities. The Office of River Protection manages retrieval of waste and closure of the 177 underground waste tanks. They also manage the construction of the Waste Treatment Plant. The Richland Operations Office is responsible for spent nuclear fuel, remaining plutonium, all buried and solid wastes, and Hanford Site facilities. Both offices are committed to collaborating with regulators, stakeholders, and tribal nations and considering public feedback in planning activities.

Key Commitments

- Safely manage 53 million gallons of Hanford tank waste
- Build a robust Waste Treatment and Immobilization Plant (WTP)
- Manage WTP and Tank Farms as an integrated system
- Pursue supplemental treatment capabilities
- Rely on the Tri-Party Agreement (TPA) process to prioritize risk

Key Priorities

- Implement updated Energy Systems Acquisition Advisory Board-approved baseline for Tank Farms
- Continue design and construction of the WTP with focus on pretreatment and high-level waste
- Manage the Tank Farms in a safe and environmentally compliant condition and continue to retrieve single-shell tank waste at a reduced pace
- Utilize project efficiencies to accelerate mission critical activities



The Hose-in-Hose system allows workers to empty the K East Basin of its primary radiological inventory and prepare it for demolition.

Key Commitments

- Maintain compliance with TPA and regulatory requirements
- Safeguard special nuclear materials

Key Priorities

- Maintain safe and compliant facilities and provide essential services
- Maintain regulatory/TPA compliance and protect the groundwater
 - Complete containerization and consolidation of K East and K West sludge
 - Cleanup facilities and waste sites along the Columbia River corridor
 - Retrieve suspect transuranic waste from burial grounds and continue shipments to Waste Isolation Pilot Plant
 - Continue remedial investigation/feasibility studies on the Central Plateau
- Ship plutonium from the Plutonium Finishing Plant offsite



Waste Treatment Plant - January 2006

Planned Accomplishments for 2008

River Corridor & Central Plateau

The U.S. Department of Energy has five key focus areas that guide its plans for 2008.

More than 50 million gallons of liquid radioactive waste in 173 underground storage tanks

25 million cubic feet of buried or stored solid waste

1700 waste sites

500 contaminated buildings

270 billion gallons of contaminated groundwater spread out over 80 square miles

River Corridor

K Basin

- Maintain a safe and compliant operation
- Complete K West sludge retrieval
- Treat and dispose of closure sludge
- Decontaminate and deactivate closure activities

Nuclear Facility Decontamination & Decommissioning (D&D) – River Corridor/Central Plateau

- Continue 100 and 300 Area waste site remediation
- Continue 100 and 300 Area decommissioning/demolition of facilities
- Initiate interim safe storage at N Reactor
- Continue decontamination and demolition of K East Basin

Nuclear Facility D&D – Fast Flux Test Facility

- Complete deactivation and initiate long-term surveillance and maintenance
- Transfer fuel handling equipment to the Canister Storage Building

Central Plateau

Nuclear Material Stabilization/Disposition – Plutonium Finishing Plant

- Maintain Plutonium Finishing Plant complex facilities
- Maintain safe and secure storage of special nuclear materials
- Continue shipment of plutonium offsite

- Initiate D&D of 216-Z-9 crib to support Tri-Party Agreement milestone

Solid Waste Stabilization and Disposition

- Maintain ready-to-serve capabilities for treatment/storage/disposal
- Maintain minimal mixed, low-level waste treatment
- Continue transuranic waste retrieval
- Certify transuranic waste
- Support Tank Closure and Waste Management Environmental Impact Statement
- Continue sludge treatment preparation
- Complete retrieval from Burial Ground 218-W-4C
- Start retrieval in Burial Ground 218-E-12B

Groundwater Protection

- Complete focused feasibility study and proposed plan for 300 Area uranium plume
- Continue pump and treat activities
- Maintain groundwater monitoring system
- Continue drilling wells for Central Plateau remedial investigation/feasibility study and M-24 milestone
- Support for remedial investigation/feasibility activities

Nuclear Facility D&D – Remainder of Hanford

- Continue remedial investigation/feasibility activities
- Maintain infrastructure systems at minimal level
- Continue surveillance and maintenance activities
- Continue essential services

Operate Waste Disposal Facility

- Operate the Hanford Site waste disposal facilities for low-level waste and mixed low-level wastes

Planned Accomplishments cont...

Waste Treatment Plant

- Continue design and construction of the WTP with focus on pretreatment and high-level waste facilities
- Continue design work on all facilities
- Continue pretreatment facility construction activities: placement of concrete and installation of structural steel, electrical systems, and plant equipment
- Continue high-level waste facility construction activities: installation of piping, insulation, HVAC, structural steel and the placement of concrete
- Install insulation in Low activity Waste facility
- Perform Balance of Facilities work on the Diesel Generators building, Glass Former Storage building, Chiller Compressor building, and the Chemical Storage building

Tank Farms

- Manage the Tank Farms in a safe and compliant manner
- Continue to retrieve single-shell waste at a reduced pace
- Initiate construction of the Demonstration Bulk Vitrification System
- Issue Hanford Environmental Impact Statement
- Implement updated approved Energy Systems Acquisition Advisory Board approved baseline

Influence Hanford's 2008 Cleanup Priorities

Comment Period: March 27 - June 2, 2006

It is important to the Tri-Party Agencies to hear your issues concerning Hanford cleanup and budget priorities so they can be considered in the development of the 2008 budget.

You can submit comments online at:

<http://www.hanford.gov/?page=215&parent=0>

Submit written comments to:

The Department of Energy
PO Box 450, MSIN H6-60
Richland, WA 99352

Erik Olds: Theodore_E_Erik_Olds@orp.doe.gov

Karen Lutz: Karen_Lutz@rl.gov

**Visit
www.hanford.gov
for more information
on the budget.**

Join us May 9, 2006 at 7 p.m. for a discussion on the Hanford Budget. Talaris Conference Center, University District, Seattle

The Washington State Department of Ecology, on behalf of the Tri-Party Agencies, would like to invite you to attend a discussion on the 2008 Hanford Budget. With 53 million gallons of radioactive waste and at least 80 square miles of contaminated groundwater, the Hanford Site on the Columbia River needs your help to move cleanup forward.

Where do you think the U.S. Department of Energy should be spending Hanford money? How much do you think the federal government should give to Hanford cleanup? Is the Waste Treatment Plant adequately funded? Should the primary focus be the groundwater? What are your cleanup priorities?

We want your help in answering these questions. Join us Tuesday, May 9 at the Talaris Conference Center, 4000 NE 41st St., Seattle, Washington. Open House: 6 p.m., Discussion: 7 p.m. Contact Tanya Williams, 509-372-7883.

Regulatory Perspective

U.S. Environmental Protection Agency

U.S. Environmental Protection Agency supports continued focus on cleanup work along the Columbia River



Webster wells have three casings and were installed in the 1970s and 1980s. They were used when sampling was conducted at various depths between the surface and the groundwater, so casings of various lengths were installed, one inside the other. The site's Groundwater Remediation Project is making good progress in identifying and decommissioning old wells drilled at Hanford over the years to monitor water levels or groundwater contamination, or to inject liquid waste. The work is important because many of the old wells can be pathways that allow contamination to reach groundwater.

Excellent progress has been made over the past several years in cleaning up waste sites along the Columbia.

In addition, several enhancements have been made to groundwater treatment systems. Key issues related to groundwater cleanup include understanding the nature and extent of subsurface contamination and the potential impacts of that contamination on future groundwater quality, as well as developing strategies to mitigate the potential impacts of subsurface contamination to protect and restore groundwater.

Cleanup progress at Hanford is resource constrained

The current U.S. Department of Energy funding profile for Central Plateau cleanup does not support near-term efforts to implement recent or upcoming cleanup decisions. A flat funding profile for the Richland Operations Office is not consistent with EPA expectations that cleanup work should begin as soon as Records of Decision are in place.

Given the resource limitations of the federal budget, the agencies are committed to working together to set cleanup priorities.

Many tough cleanup decisions remain in the Central Plateau

EPAs goal is a comprehensive and durable cleanup.

The goal is to select and implement a cleanup strategy that “is protective of human health and the environment, cost effective, utilizes permanent solutions, alternative treatment technologies or resource recovery technologies to the maximum extent practicable.” (CERCLA section 121) Institutional controls should be used to supplement, not supplant, engineering controls.

Regulatory Perspective

Washington State Department of Ecology

The Washington State Department of Ecology (Ecology) is concerned about the fiscal-year 2007 and 2008 budget proposal for funding Hanford cleanup

Ecology is not convinced U.S. Department of Energy (DOE) has aggressively pursued or requested adequate funding to meet its long-term schedule and commitments for cleanup at Hanford

Safeguards and Security - Ecology reiterates its concern over cleanup dollars going to missions at Hanford not directly related to cleanup. DOE should move plutonium off-site to meet the Tri-Party Agreement (TPA) schedule for Plutonium Finishing Plant cleanup.

Waste Treatment Plant - Ecology is very concerned over current projections to delay Waste Treatment Plant (WTP) project milestones. Ecology has not agreed to change WTP hot commissioning (2011).

Supplemental Treatment - Ecology is concerned that funding to conduct the Bulk Vitrification System Demonstration is cut in FY 07 and 08. Ecology disagrees with the decision to stop the funding before treating tank S-109 waste and evaluating the adequacy of bulk vitrification as a viable supplemental technology.

Tank Farm Operations - Ecology is very concerned over current projections to delay Tank Farm retrieval schedules.

- Ecology has not agreed to change milestones for single-shell tank tank farm closure (2024)
- Ecology does not support slowing tank retrievals to match delays in operation of the WTP
- Ecology supports double-shell tank space-saving measures and operation of the 242-A Evaporator
- Ecology will support a demonstration closure and does not agree that resolution of Section 3116 issues should delay closure

The greatest single health and safety risk at Hanford is **53 million gallons of radioactive waste** – much of it sitting in obsolete, leak-prone tanks that are decades past their design life.

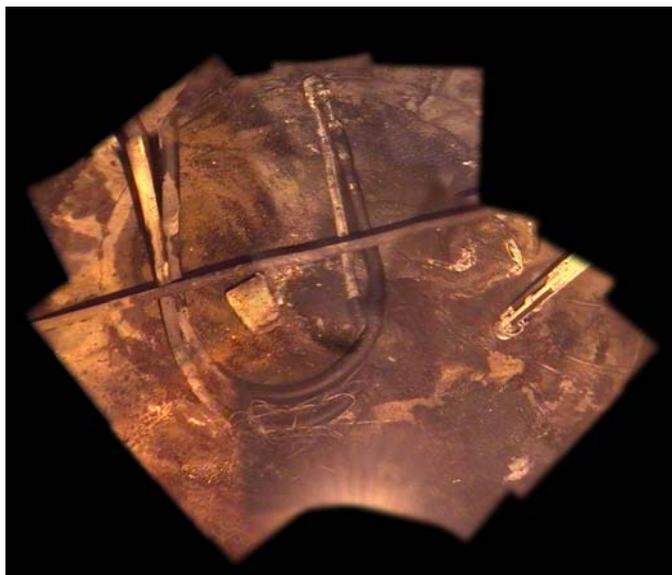
The radioactive waste must be removed from these tanks without delay. To do this we must complete the WTP, empty the tanks, and convert the **waste into stable glass**.

Ecology expects **consistency and commitment** from DOE — to comply with the schedules in the TPA and to continue cleanup progress and momentum at Hanford.

Ecology is concerned that funding constraints and flat funding ultimately result in less cleanup.

- Flat funding (with “hotel” costs, inflation, escalation, etc. included) means fewer actual dollars for cleanup
- Ecology expects actual cleanup progress on the Central Plateau (e.g., digging up sites, treating groundwater)
- Ecology expects DOE-Richland Operations Office (RL) to complete the Columbia River component of the River Corridor Baseline Assessment
- Ecology expects DOE-RL to request funds to meet M-91 TPA milestones (Post-1970 TRU Retrieval)
- With 3,500 to 7,000 wells to be decommissioned by 2012, Ecology does not agree that well decommissioning should be an “over-target” activity

Tank C-201 retrieved using Vacuum Retrieval Technology



The bottom of Tank C-201 after using Vacuum Retrieval Technology.

Waste retrieval has been completed on the fourth underground single-shell radioactive waste storage tank at the Hanford Site in southeastern Washington State. Tank C-201 was declared empty on Friday, March 24, 2006.

“To date we have 4 tanks retrieved out of a total of 16 tanks in the C Farm,” said Zack Smith, Assistant Manager for Tank Farms Operations with the Department of Energy’s Office of River Protection. “We are currently retrieving waste from three additional tanks and will begin outfitting a fourth tank, C-204, completing the retrieval in the C-200 series.”

Vacuum retrieval is an adaptation of technology developed for the petroleum industry. Its use at Hanford is the first time it has been applied in a radioactive environment. While not appropriate for use in all of Hanford’s tanks, it is ideal for those tanks known or suspected to have leaked because it uses less water than other available methods in the retrieval process.

When water is used, it is applied at high pressure and low volume, and is removed almost as quickly as it is applied.

This is the third tank where the vacuum retrieval technology has been used at Hanford.

Tank C-201 is a 55,000-gallon tank and is located in C-Farm in the 200 East Area. It was used between 1947 and 1956 and received waste from nearby processing facilities. Liquids were removed from the tank in 1981.

When retrieval began, C-201 held approximately 860 gallons of solid material. With C-201 retrieval now at its end, the team will shift its focus to tank C-204, the last of the four C-200 series tanks. Reconfiguration of the equipment to C-204 is expected to kick off in the near future.

Waste retrieval is also underway on three additional single-shell tanks. Retrieval from tank S-112 is more than 99% complete, retrieval from tank S-102 is approximately 56% complete, and retrieval of C-103 is more than 60% complete to date. These tanks range between 530,000 to 760,000 gallons and were in service in the 1940’s and 1950’s.

RCRA Permit Modifications

The U.S. Department of Energy transmitted Class 1 modifications to the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit for quarter ending March 31, 2006, to State of Washington, Department of Ecology (Ecology). Pursuant to WAC 173-303-830(4)(a)(i)(B), the Permittees of the Hanford Facility RCRA Permit are providing notice. Hanford Facility RCRA Permit Condition I.C.3, allows for quarterly notification of Class 1 modifications to be made to Ecology. Contact Greta Davis, Ecology on (509) 372-7894 for further information about the Class 1 modifications.

Hanford Update

The Hanford Update newsletter provides general information about Tri-Party Agreement cleanup and compliance activities. It also contains information on public meetings, workshops, and other opportunities to participate in Hanford Site decisions. The newsletter is available on the Internet at www.hanford.gov/tpa/updates.html.

Hanford Happenings

March 27 - June 2, 2006: 2008 Budget Comment Period,
Contact Karen Lutz, 509-376-4766

April 28 - June 12, 2006: Puget Sound Naval Shipyard Comment Period,
Contact Madeleine Brown, 509-372-7936

May 1 - May 31, 2006: Proposed Amendment to the Environmental Restoration Disposal Facility, Contact David Einan, 509-376-3883

May 9, 2006: Tri-Party Budget meeting, Seattle, WA, Talaris Conference Center,
Contact Tanya Williams, 509-372-7883

June 1-2, 2006: Hanford Advisory Board meeting, Lewiston, Idaho,
Contact Erik Olds, 509-372-8656



Hanford Cleanup Line: 800-321-2008

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