

HANFORD 2012:

Accelerating Cleanup and
Shrinking the Site

transition the

CENTRAL PLATEAU

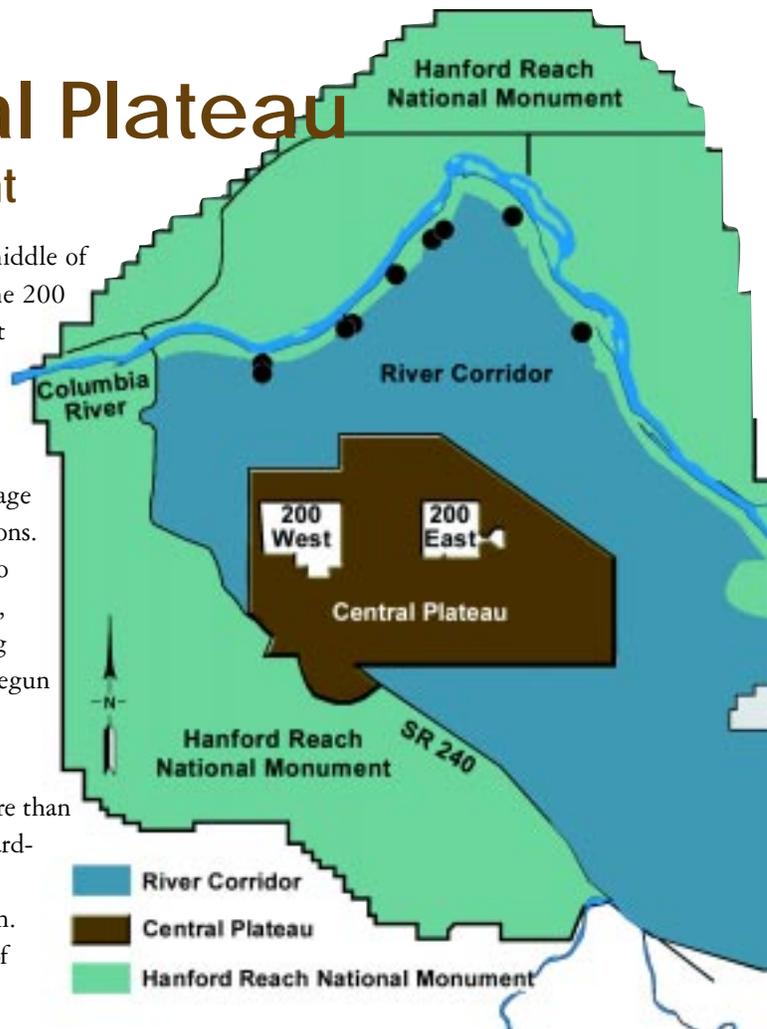
Outcome Two:

Transition the Central Plateau to Long-Term Waste Management

The Central Plateau is approximately 75 square miles near the middle of the Hanford Site and includes the 200 East and 200 West Areas. The 200 Areas are home to a large number of facilities formerly used for spent nuclear fuel processing and plutonium metal production, and to Hanford's 177 underground high-level radioactive waste storage tanks, which are managed by the DOE Office of River Protection.

DOE is transitioning the Central Plateau from primarily inactive storage to active waste characterization, treatment, storage, and disposal operations. New, state-of-the-art, environmentally compliant facilities will be used to support completion of the Hanford Site cleanup. Some of these facilities, including the Canister Storage Building, Waste Receiving and Processing Facility, and Environmental Restoration Disposal Facility, have already begun operation.

Although we will make a great deal of progress in the next 10 years, cleanup activities in the Central Plateau are expected to continue for more than 40 years. During this period, we will transition areas to long-term stewardship to monitor and verify the effectiveness of our cleanup actions in assuring protection of the public and the environment over the long term. A critical component of transitioning the Central Plateau is the DOE Office of River Protection.



DOE's Office of River Protection

In 1998, Congress separated the tank waste program from the rest of the Hanford Site cleanup, creating the Office of River Protection with a mission independent of the Richland Operations Office. The Office of River Protection plans to build a

Waste Treatment Plant to vitrify (turn to glass) the tank waste, providing a permanent solution to Hanford's tank waste challenge and protecting the Columbia River.

The Situation:

- ◆ 177 underground storage tanks (149 older, single-shell tanks and 28 newer double-shell tanks)
- ◆ 53 million gallons of highly radioactive waste
- ◆ 190 million curies of radioactivity
- ◆ Single-shell tanks are 50 years old, on average, and 30 years beyond their design life
- ◆ Sixty-seven of the single-shell tanks are suspected or known to have leaked approximately one million gallons (2 percent of the current tank waste volume) to the ground
- ◆ Currently, no tanks are known to be leaking

The Plan:

- ◆ The Office of River Protection awarded a contract in December 2000, to design and build the Waste Treatment Plant to treat the first increment of Hanford tank waste
- ◆ Facility construction is scheduled to begin in 2002
- ◆ First tank waste will be treated in 2007



Our Central Plateau cleanup mission includes:

- ◆ Stabilizing and safely storing Hanford's remaining plutonium prior to its shipment offsite
- ◆ Processing and disposing of thousands of cubic meters of radioactive waste
- ◆ Cleaning up hundreds of inactive waste disposal sites
- ◆ Dealing with over 100 square miles of radioactively and chemically contaminated groundwater
- ◆ Dispositioning of over 300 contaminated facilities, including five massive buildings called canyons, used for chemical processing of nuclear fuel
- ◆ Operating waste facilities and providing infrastructure in support of the cleanup mission

Our Plan

To address urgent cleanup challenges, we will:

- ◆ Stabilize plutonium
 - ◆ Complete all plutonium processing by 2005
 - ◆ Maintain plutonium in safe storage prior to offsite shipment beginning about 2010
- ◆ Remediate waste disposal sites and groundwater contamination
 - ◆ Continue characterization of high-priority legacy waste disposal sites in the subsurface and by 2008, adopt the remediation plan
 - ◆ Make decisions for remediation of groundwater plumes by 2015
 - ◆ Contain or remediate all imminent sources of groundwater contamination
- ◆ Disposition key facilities
 - ◆ Submit a request for approval to use large canyon buildings as disposal facilities for certain types of waste
 - ◆ Complete demolition of 233-S Plutonium Concentration Facility by 2005



Plutonium Finishing Plant Operations



Canister Storage Building

To modernize and operate waste management facilities, we will:

- ◆ Begin disposition of transuranic waste (TRU)
 - ◆ Complete the first five shipments of TRU offsite in 2000
 - ◆ Begin removal of buried TRU for treatment and offsite shipment by 2002
 - ◆ Begin treatment of remote-handled TRU by 2013
- ◆ Safely store highly radioactive materials
 - ◆ Begin storage of spent nuclear fuel from the K Basins in the Canister Storage Building during 2000 – complete transfer by 2005
 - ◆ Store vitrified waste logs from storage tanks
 - ◆ Provide for long-term storage of cesium/strontium capsules
- ◆ Support DOE Office of River Protection's tank waste remediation program to enable waste vitrification on schedule

To transition Hanford to long-term stewardship, we will:

- ◆ Make cleanup decisions and implement solutions to close disposal sites and facilities
- ◆ Develop monitoring and stewardship plans to protect public health and the environment in perpetuity