

American Recovery and Reinvestment Act Funding at the Hanford Site



U.S. DEPARTMENT OF
ENERGY

Environmental
Management

FACTS AT A GLANCE

Funds provided: \$1.961 billion



Hanford Mission: *The Office of River Protection and Richland Operations Office are the two Department of Energy (DOE) field offices responsible for cleanup of the Hanford Site.*

How were projects identified and selected: *Projects were selected based on three primary criteria: creating/saving jobs, reducing the footprint of the active area of Hanford cleanup, and reducing the overall cost of cleanup (life-cycle costs). DOE selected projects that are covered under current regulatory documents and current prime contracts, allowing work to begin quickly. The work supports strategies for cleaning up Hanford and are intended to be consistent with the priorities of regulatory agencies, tribes, and Hanford stakeholders.*

Where will information be posted:

www.hanford.gov/recovery

Information on hiring and contracting:

www.plateauremediation.com

www.washingtonclosure.com

www.wrpstoc.com

Note: Projects listed are those selected for American Recovery and Reinvestment Act funding and are activities that will be conducted in addition to work supported by annual funding at Hanford.

Richland Operations Office: \$1.635 billion

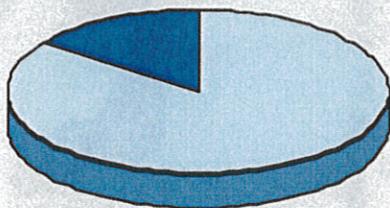
Columbia River Corridor Cleanup

- ▶ Demolish facilities and remediate waste sites near the K Reactors. Includes disposition of the K East Reactor.
- ▶ Remediate trenches at the 618-10 Burial Grounds and remediate newly identified waste sites in the 100 Areas.
- ▶ Accelerate groundwater remediation near the Columbia River: Build new/expand current treatment systems, install monitoring and treatment wells, test new methods for containing and treating contaminants.

Central Plateau Cleanup

- ▶ Continue development of regulatory decision documents (e.g., Records of Decision, Dangerous Waste Closure Plans).
- ▶ Outer Zone, 200 North Area: Demolish spent fuel transfer facilities, remediate waste sites, dispose of locomotive and rail cars.
- ▶ Outer Zone: Complete cleanup of contaminated soil surrounding the B/C Cribs (known as the B/C Control Area), remediate up to 20 miscellaneous waste sites, decommission excess wells
- ▶ Outer Zone: Complete closure plans for two landfills that once received non-radioactive, hazardous waste and solid waste.
- ▶ Inner Zone, Plutonium Finishing Plant: Clean out and prepare 25 facilities for demolition, remove processing equipment from facilities.
- ▶ Inner Zone, U Plant: Demolish 5 remaining ancillary facilities, grout-fill processing cells.
- ▶ Inner Zone: Demolish 14 industrial facilities in the 200 East/West Areas, demolish the plutonium criticality laboratory (209-E).

Total Funding by DOE Field Office



□ Richland Operations Office
■ Office of River Protection

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Central Plateau Cleanup, cont'd

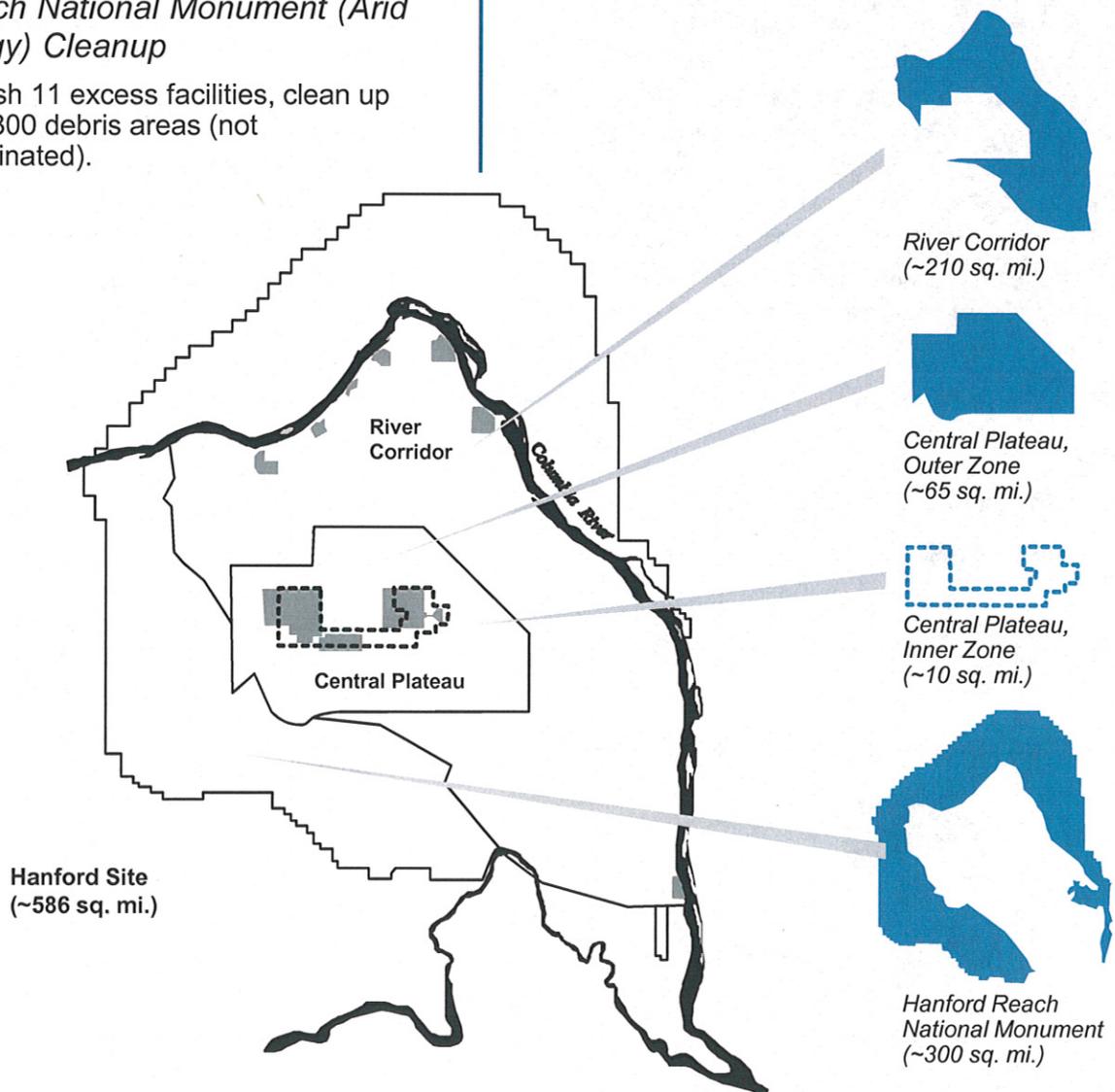
- ▶ Groundwater Remediation: Accelerate construction of a facility and install additional wells in the 200 West Area to treat and contain contaminated groundwater in the Central Plateau.
- ▶ Inner Zone, Environmental Restoration Disposal Facility: Construct two new disposal cells, expand operations to accommodate more trucks hauling cleanup debris to the disposal facility.
- ▶ Inner Zone, Transuranic (TRU) and Solid Waste: Continue retrieving and re-packaging contact-handled TRU waste, initiate retrieval of remote-handled TRU waste, continue building backlog of waste for shipments of TRU waste off the site, complete treatment of backlog of legacy mixed, low-level waste.

Hanford Reach National Monument (Arid Lands Ecology) Cleanup

- ▶ Demolish 11 excess facilities, clean up nearly 300 debris areas (not contaminated).

Office of River Protection: \$326 million

- ▶ Tank Farm Upgrades to enhance reliability and operability: install new corrosion probe and cathodic protection system; refurbish/replace leak detectors; remove obsolete equipment; upgrade electrical system; procure spare pumps, valves and filters to reduce down-time.
- ▶ Infrastructure Upgrades to support Waste Treatment Plant Startup in 2019: increase capacity and extend life of the 242-A Evaporator; evaluate additional evaporator capacity; prepare the 222-S Laboratory to support tank waste vitrification; upgrade the slurry transfer line between west and east tank farms; upgrade facilities that will receive and treat Waste Treatment Plant effluent; modify the Canister Storage Building to store vitrified tank waste.



20 Years of Cleanup at Hanford

The U.S. Department of Energy is responsible for the largest nuclear cleanup effort in the world, managing the legacy of five decades of nuclear weapons production. At its peak, this national weapons complex consisted of 16 major facilities, including vast reservations of land in the States of Idaho, Nevada, South Carolina, Tennessee, and Washington.

Nowhere in the DOE Complex is cleanup more challenging than at the Hanford Site in southeastern Washington. Hanford made more than 20 million pieces of uranium metal fuel for nine nuclear reactors along the Columbia River. Five huge plants in the center of the Hanford Site processed 110,000 tons of fuel from the reactors, discharging an estimated 450 billion gallons of contaminated liquids to soil disposal sites and 53 million gallons of radioactive waste to 177 large underground tanks. Plutonium production ended in the late 1980s.

Hanford cleanup began in 1989, when a landmark agreement was reached between DOE, the U.S. Environmental Protection Agency, and Washington State. Known as the Tri-Party Agreement, the accord established hundreds of milestones for bringing the Hanford site into compliance with federal and state environmental regulations.

After 20 years of cleanup, considerable progress has been made at Hanford, reducing the risk the site poses to the health and safety of workers, the public, and the environment.

Hanford Site Cleanup	
Before Cleanup Began (1989)	Examples of Cleanup Work Completed (2009)
53 million gallons of waste in 177 underground tanks, 67 of which have leaked in the past	<ul style="list-style-type: none"> • All pumpable liquids removed • Tanks integrity assessment under way • 7 tanks emptied, 4 more under way
2,300 tons of spent nuclear fuel deteriorating in leak-prone, water-filled basins near the river	<ul style="list-style-type: none"> • Moved all spent fuel to dry storage, removing 95 percent of the radioactivity along the river
20 tons of leftover plutonium materials in various forms at the Plutonium Finishing Plant	<ul style="list-style-type: none"> • All material stabilized, packaged and being shipped out of Washington State (to be completed in 2009)
80 square miles of contaminated groundwater	<ul style="list-style-type: none"> • Active treatment in place along the Columbia River and on the Central Plateau (center of the site), 3.6 billion gallons treated, new technologies being tested and deployed
No treatment capability for underground tank waste	<ul style="list-style-type: none"> • Waste Treatment Plant under construction – 47 percent complete
800 waste sites and 496 facilities near the Columbia River requiring cleanup	<ul style="list-style-type: none"> • Cleaned up more than half of the waste sites and demolished one-third of the facilities near the river, 8 million tons of debris removed
70,000 drums worth of plutonium-contaminated waste buried or stored on the site	<ul style="list-style-type: none"> • 45,000 drums worth of waste retrieved • 432 shipments of waste to the national repository in New Mexico
9 retired nuclear reactors along the river requiring constant surveillance and maintenance	<ul style="list-style-type: none"> • 5 reactors in interim safe storage (with all associated facilities demolished) and work on 2 more reactors under way
850 waste sites and 970 facilities on the Central Plateau (center of the site) requiring cleanup	<ul style="list-style-type: none"> • Cleaned up 39 waste sites and one-quarter (260) of the facilities on the Central Plateau