



Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending September 2, 2011



CHPRC-01528

Contract DE-AC06-08RL14788
Modification MO47

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OVERVIEW

CH2M HILL Plateau Remediation Company (CHPRC) is using funds from the American Recovery and Reinvestment Act (Recovery Act) to accelerate critical environmental cleanup across the Central Plateau and the 100K Area along the Columbia River to help pursue the U.S. Department of Energy (DOE) “2015 Vision” to shrink the Hanford Site cleanup footprint.

RL-0011 PLUTONIUM FINISHING PLANT D&D

CHPRC is accelerating critical decontamination and decommissioning work to cleanout and prepare the Plutonium Finishing Plant (PFP) for demolition ahead of the Tri-Party Agreement milestone of September 2016.

RL-0013 SOLID WASTE STABILIZATION & DISPOSITION

CHPRC is accelerating cleanup of Hanford’s legacy waste and fuels, including retrieving, repackaging, and shipping transuranic (TRU) waste and shipping mixed low-level waste (MLLW) and low-level waste (LLW) for treatment and/or disposal.

RL-0030 SOIL & GROUNDWATER REMEDIATION

In the ongoing effort to protect the Columbia River, CHPRC is constructing two groundwater treatment facilities; installing 265 wells for monitoring, extracting, and remediating groundwater; and decommissioning 280 wells that are no longer of service.

RL-0040 NUCLEAR FACILITY D&D REMAINDER OF HANFORD

Across the Central Plateau and along the outer zone of the Hanford Site, CHPRC is remediating 24 waste sites and decommissioning and demolishing (D&D) 34 facilities to reduce mortgage, surveillance, and maintenance costs on buildings that are no longer of service. The scope also includes cleanup along the outermost edges of the Hanford Site at the Arid Lands Ecology (ALE) Reserve and North Slope, preparing the U Plant for a first-of-its-kind canyon demolition, and preparing to disposition radioactive railcars in the 200 North Area.

RL-0041 100K AREA REMEDIATION

CHPRC is demolishing 15 reactor support facilities and sampling and/or remediating 23 waste sites to shrink the cleanup footprint of two reactors, K East and K West, located in the 100K Area along the Columbia River.

For More Information

To find out more about Recovery Act progress at the Hanford Site, visit www.hanford.gov/recovery.

For information about CHPRC, including weekly Recovery Act newsletters and videos, visit www.plateauremediation.hanford.gov or contact chprcc@rl.gov.

SUMMARY

The following chart outlines CHPRC’s progress on its main Recovery Act work goals. Progress on subprojects and other Recovery Act-funded activities are detailed throughout this report and accompanied by a short progress video available on www.youtube.com/hanfordplateau.

PLUTONIUM FINISHING PLANT D&D



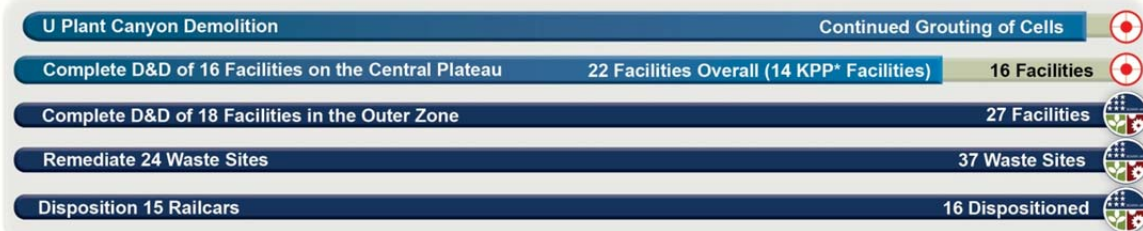
SOLID WASTE STABILIZATION & DISPOSITION



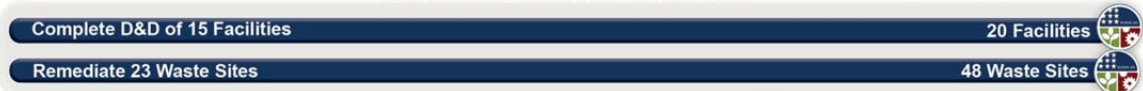
SOIL & GROUNDWATER REMEDIATION



NUCLEAR FACILITY D&D



100K AREA REMEDIATION



ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization & Disposition

RL-0011.R1: Plutonium Finishing Plant D&D

ACTIVITY	PFP WASTE REMOVAL & DISPOSITION	
	<i>Week of Sept. 2, 2011</i>	<i>Completed to Date with Recovery Act Funding</i>
KPP-1, Lab & Process Areas Ready for Demo		
Gloveboxes/hoods removed or dispositioned in place	-	130 gloveboxes/hoods
Add'l gloveboxes ready for removal/size reduction	-	1 gloveboxes/hoods
MLLW/LLW shipped	29 m ³	2,885 m ³
TRU shipped	12 m ³	679 m ³
Non-radioactive waste shipped	-	28 m ³
Process transfer line removed	45 feet	581 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	33 feet	15,096 feet
KPP-2 Fuel Vaults, Buildings Ready for Demo		
Fuel vaults and ancillary buildings ready for demo	-	28 structures
Ancillary buildings/structures removed or demolished	-	20 structures

The progress of D&D in the 234-5Z building was slowed significantly by a failure of an exhaust fan. Ventilation is being maintained by the steam turbine-powered backup fans; however, under the Limiting Condition of Operations (LCO) no intrusive work can be performed until normal ventilation is restored.

Process and Laboratory Areas

With all 97 gloveboxes and hoods previously removed, final area cleanout is continuing throughout the four 234-5Z laboratory and vault areas. Backside vault room 225 was emptied and declared as achieving the Key Performance Parameter (KPP) complete status, leaving only one vault room left to complete. This brings the number of laboratory and vault rooms completed to 14 of 47 rooms in these areas. Two crews working straight swing and straight graveyard shifts have been diverted to further accelerate cleanout of the Analytical and Standards Laboratories.

In the three former process areas, external isolations, process equipment removal, and decontamination continued on the 47 gloveboxes that remain in 10 of the 22 rooms in the former RMA and RMC Line process areas. In the RMA Line, fixative was applied to the interiors of the four HA-14 gloveboxes that remain in Room 235A-1 in preparation for removing them from building ventilation. In the RMC Line, external isolations and process equipment removal continued on gloveboxes throughout rooms 227, 228A-C, 230A, and 230B.

Infrastructure, support systems, and equipment removal

The process vacuum removal team was unable to resume removal of filters from deactivated final Filter Room 311 due to the loss of normal ventilation. The team is working to safely lay-up their former work areas due to a lack of funding and experienced staff to continue piping removal during the first quarter of fiscal year 2012. Removal of the final segment of process transfer line planned for this year was also delayed by the loss of ventilation, and the team will similarly lay up their work areas due to a lack of funding in the coming fiscal year. Glovebox 179-9 from the Plutonium Process Support Laboratory was shipped to Perma-Fix Northwest (PFNW) for size reduction and packaging. Nearly 3,600 cubic meters of waste have now been removed from PFP and shipped for disposal with Recovery Act funds.

2736-Z/ZB Vault Complex

PFP and CHPRC D&D Project staff continued readying the vault complex for demolition. Portions of the ceiling were removed in two rooms to provide access for removing the remaining ductwork, and all hazardous materials were removed from the storage vault cubicles. The 2736-Z vault and the 2736-ZA

vault ventilation facility are expected to be ready for demolition within the next week, leaving only the 2736-ZB support facility to be completed. Four vault complex structures and two ancillary facilities are expected to be demolished by the end of December 2011.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: Mixed Low-Level Waste (MLLW)/Low-Level Waste (LLW) Treatment

ACTIVITY	SOLID WASTE STABILIZATION & DISPOSITION <i>Total Completed with Recovery Act funds</i>
Ship 1,800 m ³ of MLLW/LLW for treatment and disposal	<ul style="list-style-type: none"> • 2,021 m³ shipped <ul style="list-style-type: none"> ○ 1,679 m³ treated and disposed ○ 342 m³ at offsite treatment facilities awaiting processing. Treatment is scheduled for FY11

Three shipments (29.4 m³) of MLLW debris from the Waste Retrieval Project were made to PFNW to undergo treatment by macro-encapsulation. The treated MLLW from the three shipments will be returned to the Hanford Site for disposal in the mixed waste disposal units.

RL-0013C:R1.2: TRU Waste

ACTIVITY	SOLID WASTE STABILIZATION & DISPOSITION <i>Total Completed with Recovery Act funding</i>
Retrieve 2,500 m ³ of suspect TRU waste	<ul style="list-style-type: none"> • 210 m³ are staged, pending shipment • 2,265 m³ shipped to a treatment, storage, or disposal facility
Retrieve 50 m ³ of suspect remote-handled TRU waste	<ul style="list-style-type: none"> • 3 m³ are staged, pending shipment. • 84 m³ shipped to a treatment, storage, or disposal facility

At the 3A burial ground a 9 x 9 x 5 foot waste container of secondary waste was shipped to PFNW.

At the 4B burial ground, workers completed multiple shipments including secondary waste in 9 x 9 x 5 foot boxes and four 55-gallon drums to PFNW, one metal box and one duct container (6.9 m³) from Trench 11 to PFNW, and Box 101 (37.4 m³) also from Trench 11. Box 101 was transported to the Central Waste Complex (CWC) for storage. Ninety drums were removed from Trench 7 and a portable assay was performed on these drums in the 4B Process Area. Drums were also vented in the Mobile Drum Venting System (MDVS) in the 4C Process Area.

At the 12B burial ground 108 drums (22.5 m³) were repacked into 8 x 4 x 4 foot boxes and shipped to PFNW and 64 drums (13.3 m³) repacked into 16 standard waste boxes (SWBs) were sent to CWC. LLW and SWBs filled with TRU waste were repacked into 8 x 4 x 4 foot boxes and prepared for shipment. Fifty-five drums were x-rayed in the Real-Time Radiography System.

TRU Repackaging & Shipments

ACTIVITY	SOLID WASTE STABILIZATION & DISPOSITION <i>Total Completed with Recovery Act funding</i>
Repackage 850 m ³ of WIPP certifiable TRU waste	<ul style="list-style-type: none"> • 1,161 m³ have been repackaged
Disposition 2,000 m ³ of contacted-handled TRU waste	<ul style="list-style-type: none"> • 2,346 m³ have been disposed

In conjunction with the Central Characterization Program, three TRUPACT-II shipments left the Hanford Site bound for the Waste Isolation Pilot Plant (WIPP), for a total of 217 shipments completed since shipments resumed in March 2010.

RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone

RL-0030.R1: Central Plateau Soil & Groundwater

ACTIVITY	Complete to Date with Recovery Act funds
Install 265 wells and/or boreholes along the river and in the Central Plateau	303
Decommission 280 old wells and boreholes that are no longer of service	280
Construct the 200 West Groundwater Treatment Facility	97% complete

200 West Groundwater Treatment Facility

Recent construction of the process and transfer facilities included (listed by facility):

- *Process buildings*
 - Radiological Building: Construction Acceptance Testing (CAT) continues for all disciplines. Two of three CATs are complete, pending final CAT documentation. The water purveyor valved in water to the water service in support of testing the backflow preventer.
 - Bio-Process Building: In process work continues for all disciplines. Electrical Utilities aligned electrical power and energized the Bio Building.
 - Bio Pad: Continued installation and CAT by all disciplines and loaded packing media air strippers.
- *Transfer buildings*
 - Extraction Building #1: Construction punchlist items continued. Acceptance Test Procedure continued.
 - Extraction Building #2: Construction punchlist items continued. CAT complete.
 - Injection Building #1: Construction punchlist items continued. CAT complete.
 - Injection Building #2: Construction punchlist items and tracking of CAT short list continued.



Photo 1

Workers are constructing piping between the Radiological and Biological Treatment Buildings that will make up the 200 West Groundwater Treatment Facility.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

RL-0040.R1.1: U Plant/Other D&D

CENTRAL PLATEAU FACILITIES DEMOLISHED WITH RECOVERY ACT FUNDS

- 211U Cold Chemical Makeup Tank Farm
- 211UA Cold Chemical Makeup Tank Farm Addition
- 203UX Gas Storage Facility
- 2701M Office Bldg
- 272E Fabrication, Mockup Shop Bldg
- 2716E Power Maintenance Storage Bldg
- 2722W Welding Laboratory Bldg
- 224UA UO3 Calcination/Load-out Facility
- 2710W Coal Handlers Shed*
- 2701EC 209E Guard Station*
- 2902E Water Storage Tank*
- 2734EA Gas Cylinder Storage Bldg
- 275E Carpenter Shop Bldg
- MO104 Mobile Office
- MO405 Mobile Office
- MO840 Mobile Office
- X8 Motor Car Shed
- 224U UO3 Plant Concentration/Load-out Bldg
- 284WB Package Boiler Plant
- 209EA 90 Day Storage Pad*
- 2902W Water Storage Tank*
- 284E Power House & Steam Plant

TOTAL:170,926 square feet

PLANNED FOR D&D/IN PROGRESS

- 209E Critical Mass Laboratory
- 284W Power House & Steam Plant
- 2718E 209E Fissile Material Storage*

*Not part of the Key Performance Parameter

U Canyon

CHPRC and subcontractors AGECE and Central Pre-Mix poured another 1,558 cubic yards of grout into U Canyon void spaces. In total, grouting has reached 88.2 percent, with 19,734 cubic yards poured of a planned total of 22,381.



Photo 2

Grout operations have filled 88.2 percent of U Canyon void spaces with grout, placing 19,734 cubic yards of a planned total of 22,381 cubic yards.

200 West Area Industrial Facilities

Asbestos abatement is complete inside the 284-W Power House building. Demolition of the building is scheduled to begin this week.

209-E Criticality Mass Laboratory

CHPRC crews continued size reducing and removing slab tanks from the 209-E facility. Upon removal of all 11 tanks, the 209-E facility will be downgraded to a Less Than Hazard Category 3 (non-nuclear) facility and demolished.

RL-0040.R1.2: Outer Zone D&D/Waste Sites

OUTER ZONE FACILITIES DEMOLISHED WITH RECOVERY ACT FUNDS

212N Storage Building
212P Electrical Storage & Transformer Shop
212R Storage Building

6652M Fallout Laboratory
6652R Acid Storage Shed
6652C Space Science Laboratory



614 Monitor Station	6652CSHED Storage Building
646 Radioecology Field Laboratory	6652D Pump House
6652G ALE Field Storage Building	6652T Fire Protection Lower Pump House
6652H ALE Laboratory 1	6652U Rattlesnake Mountain Upper Pump House
6652I ALE Headquarters	623A Plant Radio Relay Bldg
6652J ALE Laboratory II	T520-6 Navy MARS Radio Station
6652S Sentry Shed*	6631 Radio Telescope Pedestal*
6634 ENW Tower and Building*	6630 Hodges Well Pumphouse*
6635 Crown Castle/Cingular Tower and Building*	6636 Columbia Communication Tower and Building*
6637 Tri City Amateur Radio Tower and Building*	6633 Franklin County Communication Building*
6632 Verizon Telephone Enclosure*	TOTAL: 62,748 square feet

*Not part of the Key Performance Parameter

North Slope Debris Removal

CHPRC crews have completed cleanup of debris sites in Areas 10-18 of the Hanford Reach National Monument, completing North Slope debris cleanup ahead of the Sept. 30, 2011 deadline. Decommissioning of two wells remains.

D&D of Railcars Located on the 212-R Rail Spur

All railcars have been removed from the 212-N site, with demobilization under way.

Waste Sites

Recent activities regarding the outer zone waste sites included (listed by operable unit or site):

- **200-MG-1**
 - 216-S-19: Excavation is finished. Verification samples were evaluated and confirmed that the site has been cleaned to meet Remedial Action Objectives. A backfill concurrence form was approved and backfill was initiated.
 - 216-S-26: Backfill is complete.
 - 600-281: Backfill is complete.
 - 600-49: Closure documents are complete and the reclassification form has been signed.
 - 600-228: Backfill has begun.
- **BC Control Area**
 - Excavation of Zone A and removal of the stockpile to the Environmental Restoration Disposal Facility (ERDF) is complete. A Draft A On-Scene Coordinator Report has been delivered. Regulator review is complete and comments will be incorporated this week. The document is scheduled to complete transmittal within the next two weeks.

RL-0041 Nuclear Facility D&D – River Corridor Closure Project

RL-0041.R1.1: 100K Area Remediation

100K AREA FACILITIES DEMOLISHED WITH RECOVERY ACT FUNDS

- 183KW Chlorine Vault
- 183.1KW Headhouse
- 183.2KW Sedimentation Basin
- 183.3KW Filter Basin
- 183.7KW Pipe Tunnel
- 110KE Gas Storage Facility
- 110KW Gas Storage Facility
- 1605KE Guard House
- 1605KW Guard House
- 181KE River Pumphouse
- 183.4KE Clearwell
- 183.3KE Filter Basin
- 116KE Reactor Exhaust Stack
- 118KE Horizontal Control Rod Storage
- MO048 Construction Lunch Trailer
- MO969 Ops/HPT Change Trailer
- 115KE Gas Recirculation
- 185K Potable Water Treatment Plant
- 117KE Exhaust Air Filter Bldg
- 1717K Maintenance Shop
- 1717AKE Electrical Storage Shed
- 181KW River Pumphouse
- 183.4KW Clearwell
- 1720K Administrative Bldg

PLANNED FOR D&D/IN PROGRESS

- 183.1KE Headhouse
- 190KE Main Pumphouse
- 190KW Main Pumphouse

Facility D&D

CHPRC D&D crews completed demolition and loadout of the 183.4-KE and 183.4-KW Clearwells, 183.3-KE Filter Basin, and 1720-K Main Administrative Office Building. Rock from approved sources was placed at the sites of the demolished 181-KE and 181-KW River Pumphouse structures. The physical work for CHPRC's KPP of 15 100K buildings demolished with Recovery Act Funds is now complete.



Photo 3

The site of the former 181-KE River Pumphouse Structure as the last loads of rock are placed. CHPRC subcontractor Watts Construction placed rock from approved sources at the sites of both 100-K River Pumphouses, completing re-contouring of the Columbia River shoreline.



Photo 4

The 181-KW River Pump House during a site walkdown in October 2010.



Photo 5

The site of 181-KW River Pumphouse Structure in September 2011 after rock from approved sources was placed at the site.



Photo 6

CHPRC crews use the completed 183.4-KE Clearwell (foreground) as a staging area during the ongoing demolition of the 190-KE Main Pumphouse.



Photo 7

The site of the former 183.4-KW Clearwell. The 190-KW Main Pumphaouse (center) is scheduled for demolition in the first quarter of FY2012 with carryover Recovery Act funds.

Waste Sites

RL-41 waste sites have been transferred to Base funding.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

RL-0011.R1: Plutonium Finishing Plant D&D

- Complete demo-ready actions for 2736-Z, ZA, and ZB buildings, and initiate demolition of the PFP vault complex and two ancillary buildings.
- Complete final area cleanout in the Standards, Analytical, and Plutonium Process Support Laboratories and the 234-5Z vault rooms.
- D&D the remaining gloveboxes in the RMA/RMC Line process areas.
- Remove the remaining 100 HEPA filters from deactivated Filter Room 311 in 234-5Z building.
- Complete temporary lay up of work areas where process vacuum piping and process transfer lines were previously being removed.
- Continue removing asbestos insulation from throughout the 234-5Z building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Two MLLW shipments (15 m³) planned from WRP to PFNW.
- One LLW shipment (1.8 m³) planned from CWC to PFNW.

RL-0013C:R1.2: TRU Waste

- TRU Retrieval
 - 4B/4C burial ground
 - Complete Trench 7 excavation in the 4B burial ground.
 - Continue the portable assay of removed drums from Trench 7 of the 4B burial ground.
 - Perform a ground-penetrating radar sub-surface scan in Trench 11 of the 4B burial ground to validate the completion of container removal.
 - Ship containers from Trench 11 of the 4B burial ground to PFNW and CWC.
 - Continue venting TRU waste drums at the 4C Process Area in the MDVS and load the drums into SWBs for shipping.
 - Continue preparations for closeout activities.
 - 12B burial ground
 - Complete the shipments of all removed waste and continue closeout activities.
- TRU Repackaging and Shipments
 - No planned shipments.
- Suspect TRU Waste Shipments
 - No planned shipments

RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone

RL-0030.R1: Central Plateau Soil & Groundwater

- Continue construction of the 200 West Groundwater Treatment Facility.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

RL-0040.R1.1: U Plant/Other D&D

- Continue pouring grout into U Canyon cells.
- Continue size-reduction of slab tanks inside the 209-E Criticality Mass Laboratory.
- Begin demolition of the 284-W Power House.

RL-0040.R1.2: Outer Zone D&D/Waste Sites

- Continue planning for and remediating 200-MG-1 waste sites.

RL-0041 Nuclear Facility D&D – River Corridor Closure Project

RL-0041.R1.1: 100K Area Remediation

- Continue demolition of 190-KE Main Pump House.