



Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending September 9, 2011



CHPRC-01529

Contract DE-AC06-08RL14788
Modification MO47

Contents

OVERVIEW	3
SUMMARY	4
ACCOMPLISHMENTS	5
RL-0011 Nuclear Materials Stabilization & Disposition.....	5
RL-0011.R1: Plutonium Finishing Plant D&D.....	5
RL-0013 Solid Waste Stabilization & Disposition	8
RL-0013C:R1.1: Mixed Low-Level Waste (MLLW)/Low-Level Waste (LLW) Treatment	8
RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone.....	9
RL-0030.R1: Central Plateau Soil & Groundwater	9
RL-0040 Nuclear Facility D&D – Remainder of Hanford	10
RL-0040.R1.1: U Plant/Other D&D	10
RL-0040.R1.2: Outer Zone D&D/Waste Sites	15
RL-0041 Nuclear Facility D&D – River Corridor Closure Project.....	16
RL-0041.R1.1: 100K Area Remediation	16
UPCOMING EVENTS	17

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 9, 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	46 m ³	2,931m ³
TRU shipped	8 m ³	687 m ³
Non-radioactive waste shipped	-	28 m ³
Process transfer line removed	-	581 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	60 feet	15,156 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

D&D progress within the 234-5Z building continued to be impacted by the failure of a primary exhaust fan. Subsequent inspection of the other six primary fans/motors revealed the need for additional maintenance and adjustments prior to restarting any of the fans. Immediate actions were completed and four of the six fans were repaired and restarted at the end of the week, returning the building to normal ventilation. The other two fans remain out of service and not available for backup pending further analysis and/or repairs. Additional safety analysis and approvals will be required prior to restart of intrusive D&D activities, and actions were initiated toward this end.

Process and Laboratory Areas

With all 97 gloveboxes and hoods previously removed from the four 234-5Z laboratory and backside vault areas, only miscellaneous cleanout actions remain to be completed. The last of the 234-5Z backside vault rooms, Vault 173, was inspected to determine what actions remain to declare it as achieving the Key Performance Parameter (KPP), and the work was scheduled for the coming week.

In the three former process areas, glovebox disposition and area cleanout were previously completed in the Room 235D of the Radioactive Acid Digestive Test Unit process area, while 47 gloveboxes remain to be removed from 10 of the 22 rooms in the former RMA and RMC Line process areas. Progress was limited in these two areas due to the restrictions on intrusive work.

Infrastructure, support systems, and equipment removal

No additional progress was made in disposition of process transfer lines or removal of HEPA filters from deactivated Filter Room 311 due to the loss of normal ventilation. Forty-two drums containing 8 cubic meters of TRU waste were shipped to the Central Waste Complex (CWC), and 46 cubic meters of LLW was shipped to the Environmental Restoration Disposal Facility (ERDF).

2736-Z/ZB Vault Complex

PFP and CHPRC D&D Project staff continued to ready the last of six vault complex buildings for demolition. Additional sections of the ceiling were removed from two rooms in the 2736-ZB Vault Support Facility to provide access for removal of remaining ductwork, and preparations are under way to begin this work. Final walk downs were conducted of the 2736-Z Vault Facility and the 2736-ZA Vault Ventilation Facility, and a few minor items were identified for removal prior to demolition; both

structures are expected to be declared ready for demolition next week. The four vault complex structures and two ancillary facilities are expected to be demolished by the end of December.



Photo 1

A radiological control technician pre-surveys ceiling for removal from below contaminated ducting to be painted in room 637 of the Plutonium Finishing Plant 2736-Z/ZB Vault Complex.



Photo 2

D&D workers removing ceiling from room 637 of the Plutonium Finishing Plant 2736-Z/ZB Vault Complex to expose contaminated ducting prior to painting.



Photo 3

Contaminated ducting to be painted and removed from room 637 of the Plutonium Finishing Plant 2736-Z/ZB Vault Complex.

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
Ship 1,800 m ³ of MLLW/LLW for treatment and disposal	<i>Total Completed with Recovery Act funds</i>
	<ul style="list-style-type: none"> • 2,036 m³ shipped <ul style="list-style-type: none"> ○ 1,736 m³ treated and disposed ○ 300 m³ remains in-process at offsite treatment facilities. Some treatment will carryover in to FY2012

Two shipments (15.0 m³) of MLLW debris from the Waste Retrieval Project were made to Perma-Fix Northwest (PFNW) for treatment by macroencapsulation. The treated MLLW from the two shipments will be returned to Hanford for disposal in the Mixed Waste Disposal Units.

RL-0013C:R1.2: Transuranic (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"> • 172 m³ are staged, pending shipment • 2,384 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 four roll-on/roll-off containers were shipped to ERDF.

At the 4B burial ground, a large box (25.8 m³) was shipped from Trench 11 to CWC and drum removal activities in Trench 7 were completed with 78 55-gallon drums (16.6 m³) being removed. All 55-gallon drums were overpacked into 85-gallon drums due to the deteriorated condition of the drums. Two 10-liter containers (0.83 m³) were removed from Trench 7; both were overpacked into 3 x 3 x 6.5 foot Type A overpack containers. Portable assay and venting were performed for TRU drums removed from Trench 7.

At the 12B burial ground, workers continued loading 8 x 4 x 4 foot boxes for shipment to PFNW and standard waste boxes (SWBs) to CWC, 37 drums were x-rayed using the Real-Time Radiography System, 72 drums (15 m³) were shipped to PFNW, and 64 drums (13.3 m³) were shipped to CWC.

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"> • 1,226 m³ have been repackaged
Disposition 2,000 m ³ of contacted-handled TRU waste	<ul style="list-style-type: none"> • 2,510 m³ have been disposed

The current campaign of TRU waste shipments was completed Aug. 31 with a total of 217 TRUPACT-II shipments completed since the start in March 2010. In conjunction with the Central Characterization Program 77 shipments were completed to Idaho and 140 were sent to the Waste Isolation Pilot Plant. There are no additional shipments planned with Recovery Act resources.

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

RL-0030.R1: Central Plateau Soil & Groundwater

ACTIVITY	<i>Complete to Date with Recovery Act funds</i>
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: All three Construction Acceptance Tests (CATs) are complete. Concrete-penetrating floor sealer placement continues. Construction punchlist items continue.
 - Bio-Process Building: CAT testing continued in all areas. Motor pumps are in progress to complete CATs on schedule.
 - Bio Pad: Continued installation and CAT testing by all disciplines. Government-furnished vapor granular activated carbon was placed on completed concrete-penetrating sealed pad.
- *Transfer buildings*

- Extraction Building #1: Construction punchlist items continued. Acceptance Test Procedure continued.
- Extraction Building #2: Construction punchlist items continued. CAT is complete.
- Injection Building #1: Construction punchlist items continued. CAT is complete.
- Injection Building #2: Construction punchlist items continued. CAT short list tracking continued.



Photo 4

Construction of the 200 West Groundwater Treatment Facility nears completion.

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
- 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

PLANNED FOR D&D/IN PROGRESS

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

- 2710W Coal Handlers Shed*
 - 2701EC 209E Guard Station*
 - 2902E Water Storage Tank*
 - 209EA 90 Day Storage Pad*
 - 2902W Water Storage Tank*
 - 284E Power House & Steam Plant
- TOTAL:170,926 square feet

*Not part of the Key Performance Parameter

U Canyon

CHPRC and subcontractors AGECE and Central Pre-Mix poured another 1,771 cubic yards of grout into U Canyon void spaces. Grouting has now reached 21,867 cubic yards, or 88.6 percent of a recalculated total of 24,673 cubic yards. Cells 2, 13, and 17 – the final cells to be completed – are scheduled to receive grout this week.



Photo 5

Grout operations have now filled U Canyon void spaces with 21,867 cubic yards of grout, with three more process cells remaining to complete.

200 West Area Industrial Facilities

Demolition began on the 284-W Power House.



Photo 6

Demolition begins on the 284-W Power House after asbestos abatement was completed last week.



Photo 7

CHPRC crews demolish the last of the 284-W Power House coal conveyor.



Photo 8

The west end of the 284-W Power House where the coal conveyor stood, just days after demolition began.



Photo 9

Demolition is progressing quickly and safely on the 284-W Power House.

209-E Criticality Mass Laboratory

CHPRC crews continued size reducing and removing slab tanks from the 209-E facility and loaded out another SWB of TRU waste. 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	6652M Fallout Laboratory
212P Electrical Storage & Transformer Shop	6652R Acid Storage Shed
212R Storage Building	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: Backfill is ongoing and on schedule to be completed next week.
 - 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 is complete.
- *BC Control Area*
 - Excavation of Zone A and removal of the stockpile to ERDF is complete. A cumulative total of ~ 483,000 tons of soil was deposited at ERDF. DOE Richland Operations Office and regulator comments on the On-Scene Coordinator Report have been incorporated. The document is on schedule to be completed and transmitted 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

With its 15 KPP demolitions completed last week, CHPRC D&D has now completed demolition of the 181-KE and 181-KW River Pumphouse Structures, disposing of debris from the structures' 65-foot-long pumps. Crews also continued demolition of the 190-KE Main Pumphouse and the 183.1-KE Headhouse, and asbestos abatement inside the 190-KW Main Pumphouse. The 190-KW building will be demolished in fiscal year 2012 with carryover Recovery Act funds.



Photo 10

Cleanup and below-grade demolition continue at the 190-KE Main Pump House.

Waste Sites

RL-41 waste sites have been transferred to Base or non-Recovery Act funding.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

- Complete demo-ready actions for the 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 the 234-5Z building.
- Complete temporary lay up of work areas where process vacuum piping and process transfer lines were previously being removed.
- Continue removal of asbestos insulation from throughout 234-5Z building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Five MLLW shipments (15.6 m³) planned for shipment to offsite treatment facilities.
- One legacy LLW shipment (1.8 m³) planned from CWC to PFNW.

RL-0013C:R1.2: TRU Waste

- TRU Retrieval
 - 3A burial ground
 - Continue lay-up activities for Trenches 8 and 17.
 - 4B/4C burial ground
 - Continue 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 mobile drum venting system and load the drums into SWBs for shipping.
 - Continue lay-up activities.
 - 12B burial ground
 - Complete the shipments of all removed waste and continue lay-up 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.
- Continue 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.