



Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending September 16, 2011



CHPRC-01530

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 16, 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	-	2,930 m ³
TRU shipped	-	688 m ³
Non-radioactive waste shipped	2 m ³	30 m ³
Process transfer line removed	-	581 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	72 feet	15,228 feet
KPP-2 Fuel Vaults, Buildings Ready for Demo		
Fuel vaults and ancillary buildings ready for demo	2	30 structures
Ancillary buildings/structures removed or demolished	-	20 structures

On Sept. 15, 2011, DOE-RL authorized PFP to exit from the Limiting Conditions of Operation resulting from the failure of a major ventilation exhaust fan and the need for repairs on others. Based on this approval, and with four fans maintained and operating satisfactorily, PFP declared that normal ventilation had been restored and authorized the restart of intrusive D&D on Sept. 16.

Process and Laboratory Areas

With all 97 gloveboxes and hoods removed from the four 234-5Z laboratory and backside vault areas, only miscellaneous cleanout actions remain to be completed. Cleanout work was completed in the last of the 234-5Z backside vault rooms, Vault 173, and it was declared as achieving the Key Performance Parameter. Process vacuum piping removal was completed in Rooms 143 and 149 of the Analytical Laboratories, and Room 221C of the Standards Laboratory.

In the three former process areas, glovebox disposition and area cleanout were previously completed in the Room 235D Radioactive Acid Digestion 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. Gloveboxes HA-14S and -14P were removed from building ventilation following the restart of D&D on Sept 16. Progress in other areas was limited due to the restrictions on intrusive work throughout most of the week.

Infrastructure, support systems, and equipment removal

With restart of D&D authorized, preparations began to resume the removal of 100 remaining HEPA filters from deactivated filter room 311. Two gloveboxes were shipped to Perma-Fix Northwest (PFNW) for size reduction and packaging as TRU waste, including glovebox 188-1 from the Plutonium Process Support Laboratory and glovebox HA-16L from the RMA Line. The insulator crew removed 72 feet of asbestos insulation during the week, and 17 drums of hazardous, non-radioactive waste were shipped to offsite treatment, storage, and disposal facilities.

2736-Z/ZB Vault Complex

The 2736-Z Vault Facility and the 2736-ZA Vault Ventilation Facility were declared ready for demolition. PFP and CHPRC D&D Project staff continued to prepare the 2736-ZB Vault Support Facility for demolition. Wall and ceiling removal to access the rest of the contaminated ductwork was completed, and the inside of the exhaust duct plenum was painted to fix internal contamination.

Preparations continued to remove the last section of the ductwork that has to be removed prior to demolition, and to paint the interior surfaces of additional ductwork that will remain in place for removal during demolition.



Workers demobilize after painting/fixing contamination inside of the Stack Z-7 exhaust plenum that served room 642 stabilization operations at the 2376-ZB Vault Support Facility.

Photo 1



Workers continue demobilizing after painting/fixing contamination inside of the Stack Z-7 exhaust plenum at the Plutonium Finishing Plant's 2376-ZB Vault Support Facility.

Photo 2

RL-0013 Solid Waste Stabilization & Disposition

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

ACTIVITY

Ship 1,800 m³ of MLLW/LLW for treatment and disposal

SOLID WASTE STABILIZATION & DISPOSITION

Total Completed with Recovery Act funds

- 2,052 m³ shipped
 - 1,786 m³ treated and disposed
 - 266 m³ at offsite treatment facilities awaiting processing. Treatment is scheduled for FY11 and 1st quarter FY12

Two shipments (14.0 m³) of MLLW debris from the Waste Retrieval Project were made to PFNW for treatment by macroencapsulation. Additionally, one shipment (1.8 m³) of legacy LLW was shipped from the Central Waste Complex (CWC) to PFNW by means of a road-closure shipment. The processed M/LLW will be returned to Hanford 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"> • 151 m³ are staged, pending shipment • 2,452 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 4B burial ground, workers loaded and shipped 60 drums (12.5 m³) from 4B Trench 7 to PFNW. Portable assay was completed on all retrieved drums from 4B Trench 7. Drums from 4B Trench 7 were vented in the Mobile Drum Venting System (MDVS). Drums from 4B Trench 7 drums were also batched for shipment. Eight 55-gallon TRU waste drums from 4B Trench 7 were overpacked into two standard waste boxes (SWB) for shipment to the CWC. Cleanup and radiological down-posting was performed at 4B Trench 7. Backfilling activities were performed and lay-up activities initiated.

At the 12B burial ground workers continued to load 8 x 4 x 4 ft. boxes and SWBs for shipment to PFNW and CWC, respectively. Thirty-five drums were X-rayed in the Real-Time Radiography (RTR) System. Twelve drums were shipped to PFNW (2.5 m³) and 32 drums to CWC (6.7 m³).

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 last Recovery Act-funded 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

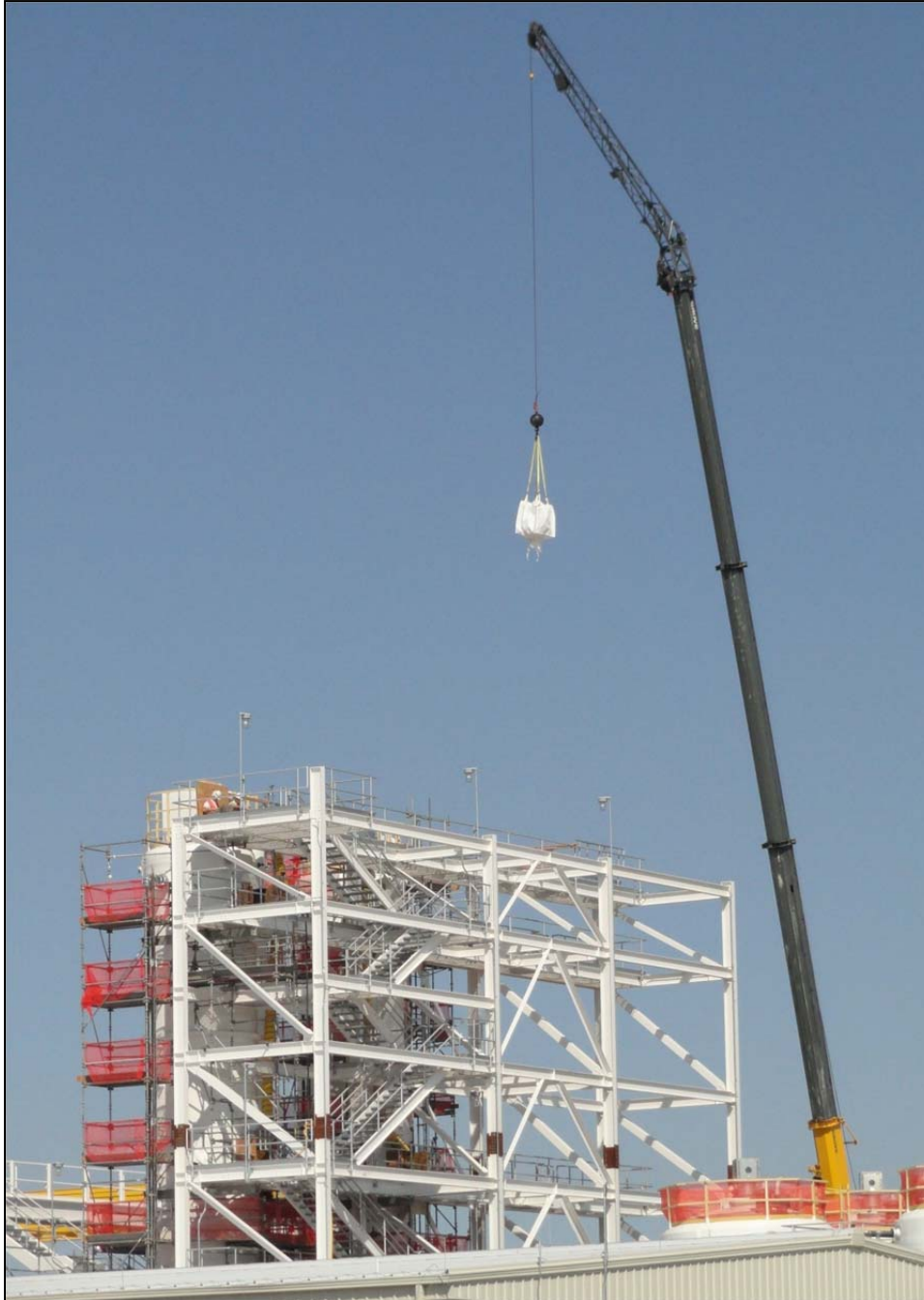
ACTIVITY	<i>Complete to Date with Recovery Act funds</i>
Install 265 wells and/or boreholes along the river and in the Central Plateau	303
Decommission 280 old wells and boreholes that are no longer of service	280
Construct the 200 West Groundwater Treatment Facility	99% complete

200 West Groundwater Treatment Facility

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

- *Process buildings*
 - Radiological Building: Concrete-penetrating floor sealer placement and completion of construction punchlist items continued.

-
- Biological Treatment Building and Pad: Construction Acceptance Testing (CAT) continued in all areas. Construction punchlist activities are being completed. Motor bumps were completed. Grouting of equipment is ongoing as is touch-up painting.
 - Loading of media air strippers is complete.
 - Hydrostatic test is 99 percent for the Biological Treatment Building and Pad (121 of 122 tests completed). The hydrotest count was revised to 122 from 117. Several tests were divided into subsequent smaller tests.
 - *Transfer buildings*
 - Extraction Building #1: Construction punchlist items and Acceptance Test Procedure continued.
 - Extraction Building #2: Construction punchlist items continued. Epoxy flooring is complete. CAT is complete.
 - Injection Building #1: Construction punchlist items continued. Installation of epoxy flooring was initiated.
 - Injection Building #2: Construction punchlist items continued. CAT short list tracking is complete. Installation of epoxy flooring was initiated.



Loading of media for the air stripper tower is complete at the 200 West Groundwater Treatment Facility.

Photo 3

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
- 2734EA Gas Cylinder Storage Bldg
- 275E Carpenter Shop Bldg
- MO104 Mobile Office
- MO405 Mobile Office
- MO840 Mobile Office
- X8 Motor Car Shed

PLANNED FOR D&D/IN PROGRESS

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

- 2722W Welding Laboratory Bldg
- 224UA UO3 Calcination/Load-out Facility
- 2710W Coal Handlers Shed*
- 2701EC 209E Guard Station*
- 2902E Water Storage Tank*
- 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

*Not part of the Key Performance Parameter

U Canyon

CHPRC and subcontractors AGECE and Central Pre-Mix poured another 2,161 cubic yards of grout into U Canyon void spaces. Grouting has reached 23,490 cubic yards, or 92.9 percent of a recalculated total of 25,281 cubic yards. Cells 2, 13, and 17 - the final cells to be filled with grout - were completed. Grouting of ventilation ducts remains, followed by a final pour into any remaining spaces on the canyon deck level that will complete grouting of canyon void spaces in preparation for the building's eventual demolition.



Photo 4

As the sun comes up at U Canyon, members of the grout operations team gather for a pre-job safety meeting. Grouting has now filled U Canyon void spaces with 23,490 cubic yards of grout. All process cells are complete, with grouting of ventilation ducts remaining before a final pour onto the canyon deck that will complete grouting of canyon void spaces in preparation for the building's eventual demolition.

200 West Area Industrial Facilities

Demolition is in progress on the 284-W Power House.



Photo 5

CHPRC crews prepare to lower one of the 284-W Power House's four internal boilers.



Photo 6

The last of the 284-W Power House's four coal-fired boilers is lowered to the ground, leaving only further processing, loadout, and disposal of building debris.



Photo 7

Demolition, size-reduction, and loadout of debris continues at the 284-W Power House on an overnight shift.



Photo 8

The 284-W Power House demolition site after less than two weeks of demolition.

209-E Criticality Mass Laboratory

CHPRC crews are size-reducing Tank 106, the last of the 11 contaminated slab tanks in the facility. Upon removal of the tank, the 209-E facility will be downgraded to a Less Than Hazard Category 3 (non-nuclear) facility and demolished.

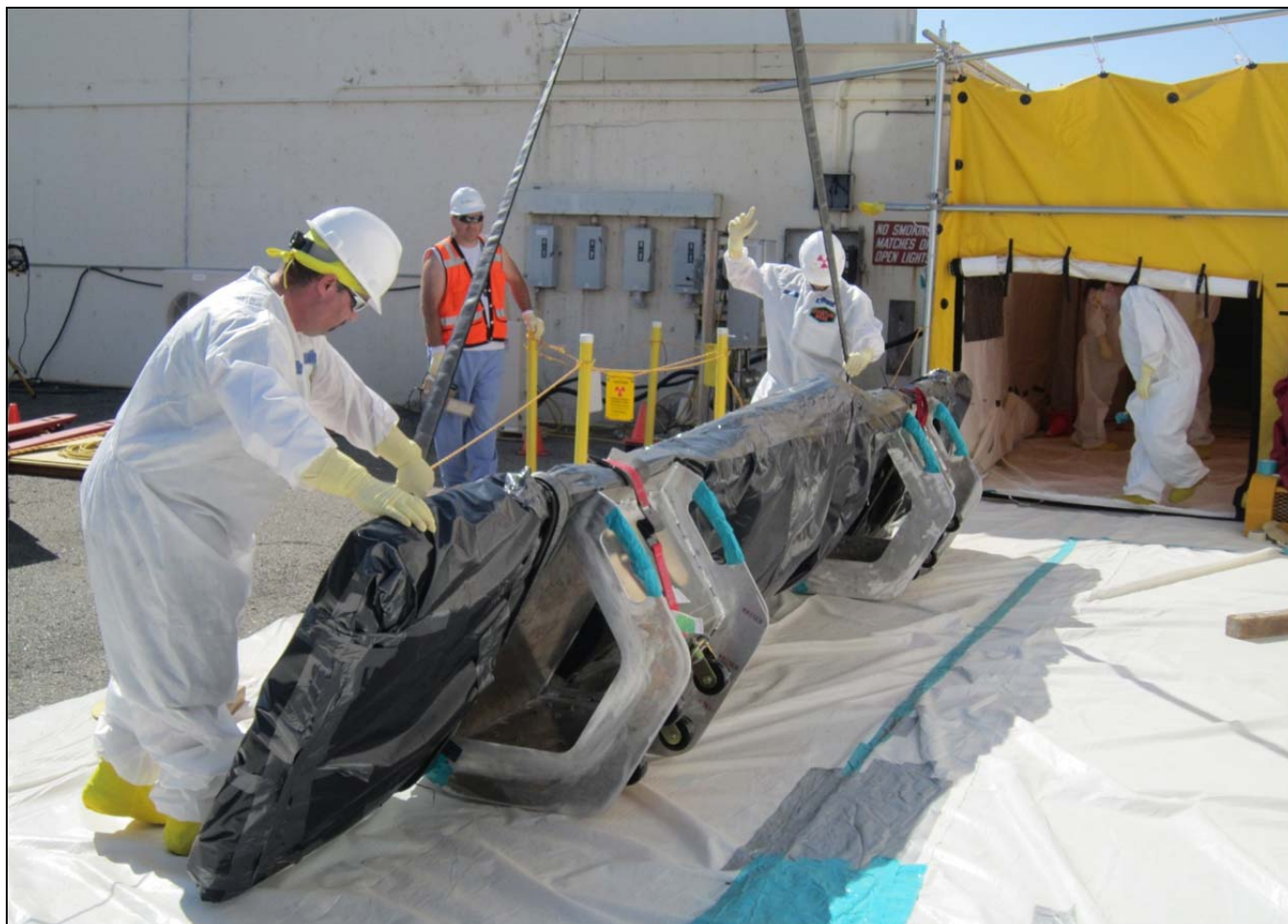


Photo 9

CHPRC's 209-E Criticality Mass Laboratory team loads out the last of the 200 series tanks from the facility. Size-reduction is currently under way for Tank 106, the last of 11 slab tanks that must be removed from the facility before its reduction to Less Than Hazard Category 3.

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

Decommissioning of two wells on the North Slope of the of the Hanford Reach National Monument is complete. With cleanup of debris sites completed on North Slope in July 2011 and demolition and cleanup on ALE completed in November 2010, CHPRC has now completed the 290-square-mile footprint reduction at the Hanford Reach National Monument.

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 complete.
 - 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*
 - DOE-Richland Operations and regulator comments on the On-Scene Coordinator Report have been incorporated. The document is on schedule to be completed 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
- 183.1KE Headhouse
- 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

- 190KE Main Pump House
- 190KW Main Pump House

Facility D&D

CHPRC D&D completed work on the 183.1-KE Headhouse, the 25th demolition completed at the 100K Area with Recovery Act funds. Demolition and cleanup continue at the 190-KE Main Pump House, the final demolition in the area for fiscal year 2011. Asbestos abatement continues at the 190-KW Main Pump House, which is scheduled for demolition with carryover Recovery Act funds in the first quarter of fiscal year 2012.



Photo 10

Below-grade demolition and cleanup are complete at the 183.1-KE Headhouse, where millions of gallons of treated water once entered the 183.7-KE Pipe Tunnel (upper left) for passage through the K East Reactor system.

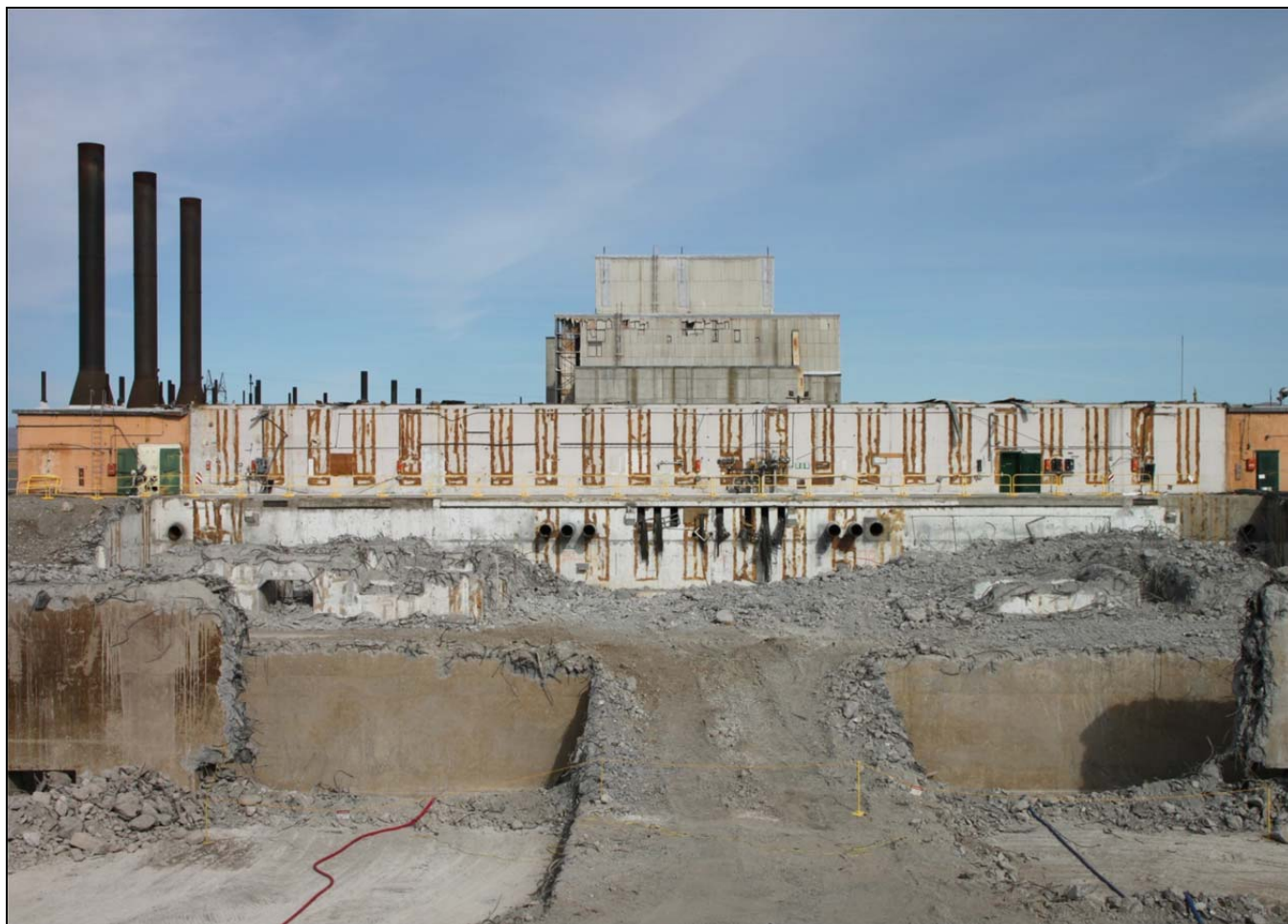


Photo 11

Below-grade demolition and cleanup are nearly complete 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 the 234-5Z building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Three to four MLLW shipments are planned for next week depending on resource availability and what remains to ship from the TRU retrieval project.
- Project termination due to completion of Recovery Act funding authorization.

RL-0013C:R1.2: TRU Waste

- TRU Retrieval
 - 3A burial ground
 - Continue 3A lay-up activities.
 - 4B/4C burial ground
 - Perform ground-penetrating radar subsurface scan in 4B Trench 11 to validate completion of container removal.
 - Continue venting remaining TRU waste containers.
 - Load 4B Trench 7 drums into SWBs and a concrete-shielded overpack (CSO) containers in preparation for shipment to CWC.
 - Ship 4B Trench 11 and 7 containers to PFNW and CWC.
 - Continue 4B layup activities.
 - 12B burial ground
 - Complete shipment of all removed waste from 12B burial ground.
 - Continue 12B 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

- Complete pouring grout into U Canyon void spaces.
- Continue size-reducing Tank 106 inside the 209-E Criticality Mass Laboratory.
- Continue processing and loadout of debris at the 284-W Power House.

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

- Continue remediation and closure of 200-MG-1 waste sites.

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

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

- Complete loadout of debris at the 190-KE Main Pump House.