



Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending August 19, 2011



CHPRC-01526

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



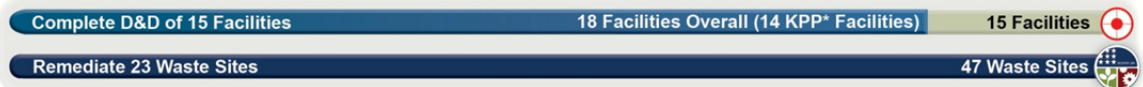
SOIL & GROUNDWATER REMEDIATION



NUCLEAR FACILITY D&D



100K AREA REMEDIATION



*Key Performance Parameters (KPP) are specific items (wells, buildings, etc.) included in the Target. "Overall" indicates the total number completed with Recovery Act funds. "Completed" marks that CH2M HILL has completed a KPP.

ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

ACTIVITY	PFP WASTE REMOVAL & DISPOSITION	
	<i>Week of August 19, 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	21 m ³	2,849 m ³
TRU shipped	-	665 m ³
Non-radioactive waste shipped	1 m ³	28 m ³
Process transfer line removed	1 foot	536 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	30 feet	14,999 feet
KPP-2 Fuel Vaults, Buildings Ready for Demo		
Fuel vaults and ancillary buildings ready for demo	2 structures	27 structures
Ancillary buildings/structures removed or demolished	-	20 structures

Process and Laboratory Areas

With all 97 gloveboxes/hoods previously removed, final area cleanout is ongoing throughout the four 234-5Z laboratory and vault areas, including the Standards Laboratory, Analytical Laboratories, Plutonium Process Support Laboratory (PPSL), and backside vault rooms. Eleven of the 47 rooms in these areas have now been declared and posted as complete for the Key Performance Parameter (KPP).

External isolations, process equipment removal and decontamination continued on the 47 RMA/RMC Line gloveboxes that remain in 10 of the 22 rooms in the former plutonium process areas. In the RMA Line, chemical decontamination with Aspigel® was initiated on the four HA-14 gloveboxes that remain in Room 235A-1. Also in Room 235B, work continued to remove overhead piping and ductwork near HA-23S to clear the area for the extensive rigging that will be needed to longitudinally separate, lift and relocate the upper section of this 20,000 pound glovebox after decontamination is complete. A team began gross decontamination on several of the HA-8 and HA-9 gloveboxes in Room 235A-3 where much of the internal process equipment has been removed. In the RMC Line, gross decontamination was initiated on the section of the HC-1 conveyor glovebox in Room 228A, where removal of the conveyor and guide rails has been completed.

Infrastructure, support systems, and equipment removal

The process vacuum system removal team successfully completed removal of 112 25-year-old HEPA filters from previously deactivated Filter Room 316 in the 234-5Z building. The team then initiated work in Filter Room 311, removing the first 12 filters, and began several days of work to safely lay-up their previous work areas due to a lack of funding and experienced staff to continue vacuum system removal during the first quarter of FY 2012. The transfer line removal team resumed work this week, installing a number of glovebags and sleeves, and making several initial separations to support physical line removal next week. The team is planning to remove approximately 45 feet of pipe, completing 50 percent of the lifecycle scope of 1,154 feet by Sept. 30.

Five shipments of waste from PFP were completed this week, including six containers sent to the Centralized Consolidation/Recycling Center, three roll-off containers of LLW shipped to the Environmental Restoration Disposal Facility (ERDF), and three drums of hazardous waste sent to an offsite treatment facility.



Workers begin to remove a HEPA filter from a deactivated filter room in the 234-5Z building of the Plutonium Finishing Plant. The PFP team is removing 112 25-year-old HEPA filters from each of two large filter rooms as part of their demolition preparations.

Photo 1



Photo 2

Workers remove one of 112 25-year-old HEPA filters from Filter Room 316 of the 234-5Z building at the Plutonium Finishing Plant.



Photo 3

A view through the former location of a filter recently removed from one of nine final filter rooms at the 234-5Z building of the Plutonium Finishing Plant.

2736-Z/ZB Vault Complex

PFP and CHPRC D&D Project staff continued to prepare the four-building PFP Vault Complex and two ancillary buildings for demolition. The 2721-Z, 2731-ZA and 2736-ZC buildings are now cold and dark, with 2731-ZA and 2736-ZC also declared ready for demolition. The 2721-Z emergency generator building is expected to be declared ready for demolition early next week, and cold and dark certifications are expected to be complete for 2736-Z/ZA/ZB soon after. Confirmation was received that CHPRC D&D staff will be available to demolish the structures and complete waste load-out by the end of December.

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"> • 1,978 m³ shipped <ul style="list-style-type: none"> ○ 1,602 m³ treated and disposed ○ 376 m³ at offsite treatment facilities awaiting processing. Treatment is scheduled for FY11

Three shipments (27.8 m³) of MLLW debris from the Waste Retrieval Project were sent to Perma-Fix Northwest (PFNW) this week for treatment by macro-encapsulation. The processed waste from the shipments will be returned to the Hanford Site for disposal in the mixed waste disposal units.

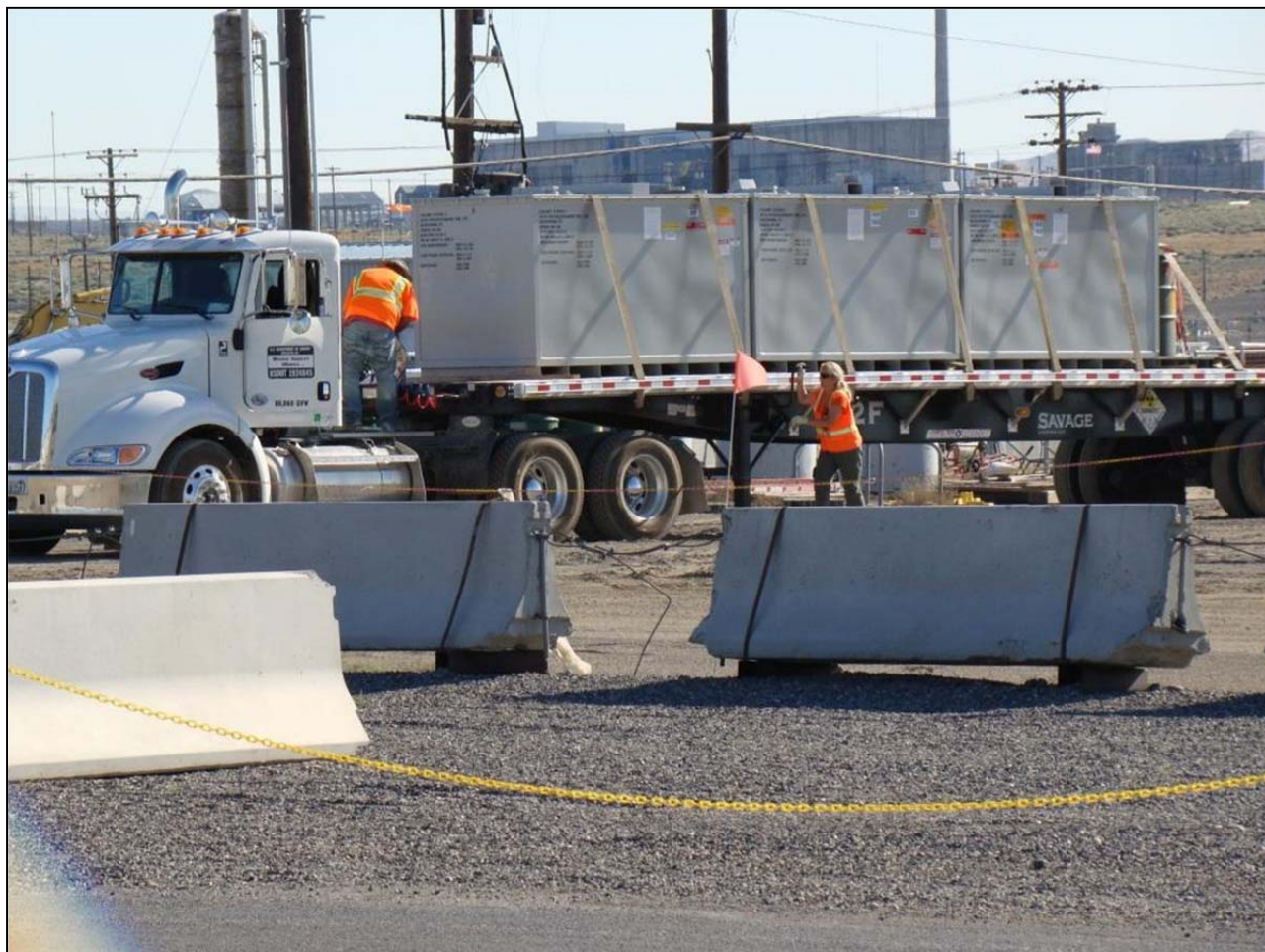


Photo 4

Workers connect a tractor to a load of mixed low-level waste packages that will be transferred from the low-level burial ground and staged for transport to Perma-Fix Northwest to undergo treatment by macro-encapsulation. The treated waste will be returned to the Hanford Site 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"> • 255 m³ are staged, pending shipment • 2,058 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 removed 55 drums from Trench 7 and began to assay the removed drums. Trench 11 clean-up activities began in preparation for the final ground penetrating radar sub-surface scan. Two metal containers (6.1 m³) were shipped to the Central Waste Complex (CWC) from Trench 11 and five metal boxes and one drum (4.1 m³) were shipped to PFNW. Workers cut the lifting eyes from two thorium drums in preparation for overpacking them into standard waste boxes (SWB) and

shipping them to CWC. Five TRU drums were vented at the 4C Process Area with the Mobile Drum Venting System (MDVS).

At the 12B burial ground, three drums were removed from Trench 17 and 20 drums were removed from Trench 27 for a total of 4.8 cubic meters. Workers loaded 8x4x4 foot boxes for shipment to PFNW, SWBs for shipment to CWC, and also shipped 114 LLW drums (23.7 m³) to PFNW. The assay of six drums in the Gamma Assay System and 13 drums in the Passive/Active Neutron Assay System was completed. Fifteen 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	• 1,100 m ³ have been repackaged
Disposition 2,000 m ³ of contacted-handled TRU waste	• 2,172 m ³ have been disposed

In conjunction with the Central Characterization Program, four TRUPACT-II shipments left the Hanford Site bound for the Waste Isolation Pilot Plant, for a total of 209 shipments completed since shipments resumed in March 2010.

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

RL-0030.R1: Central Plateau Soil & Groundwater

ACTIVITY	Week of August 19, 2011	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	94% 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. Construction punchlist items were initiated.
 - Bio-Process Building: Second shift continues to focus on (critical path) installation of chemical piping in the chemical area.
 - Bio Pad: Completion of the Fluidizing Bed Reactor repair enabled continued CAT testing by all disciplines. Installation and CAT testing by all disciplines continued in the Membrane Biological Reactor area, effluent tank area, air stripper area and centrate and sludge tanks.
- *Transfer buildings*
 - Extraction Building #1: Acceptance Test Procedure continued; one part is on order to continue process.
 - Extraction Building #2: Construction punchlist items continued. CAT is complete.
 - Injection Building #1: Construction punchlist items continued. CAT is complete.
 - Injection Building #2: CAT testing continues for all disciplines.



Photo 5

Construction acceptance testing continues on the Radiological Building 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

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

With Tank D-10 removed from U Canyon, CHPRC crews constructed a bulkhead in the 221-U railroad tunnel in preparation for grouting. Grouting of U Canyon void spaces has now surpassed 75 percent, with 16,694 cubic yards of a planned total of 22,021 cubic yards poured.

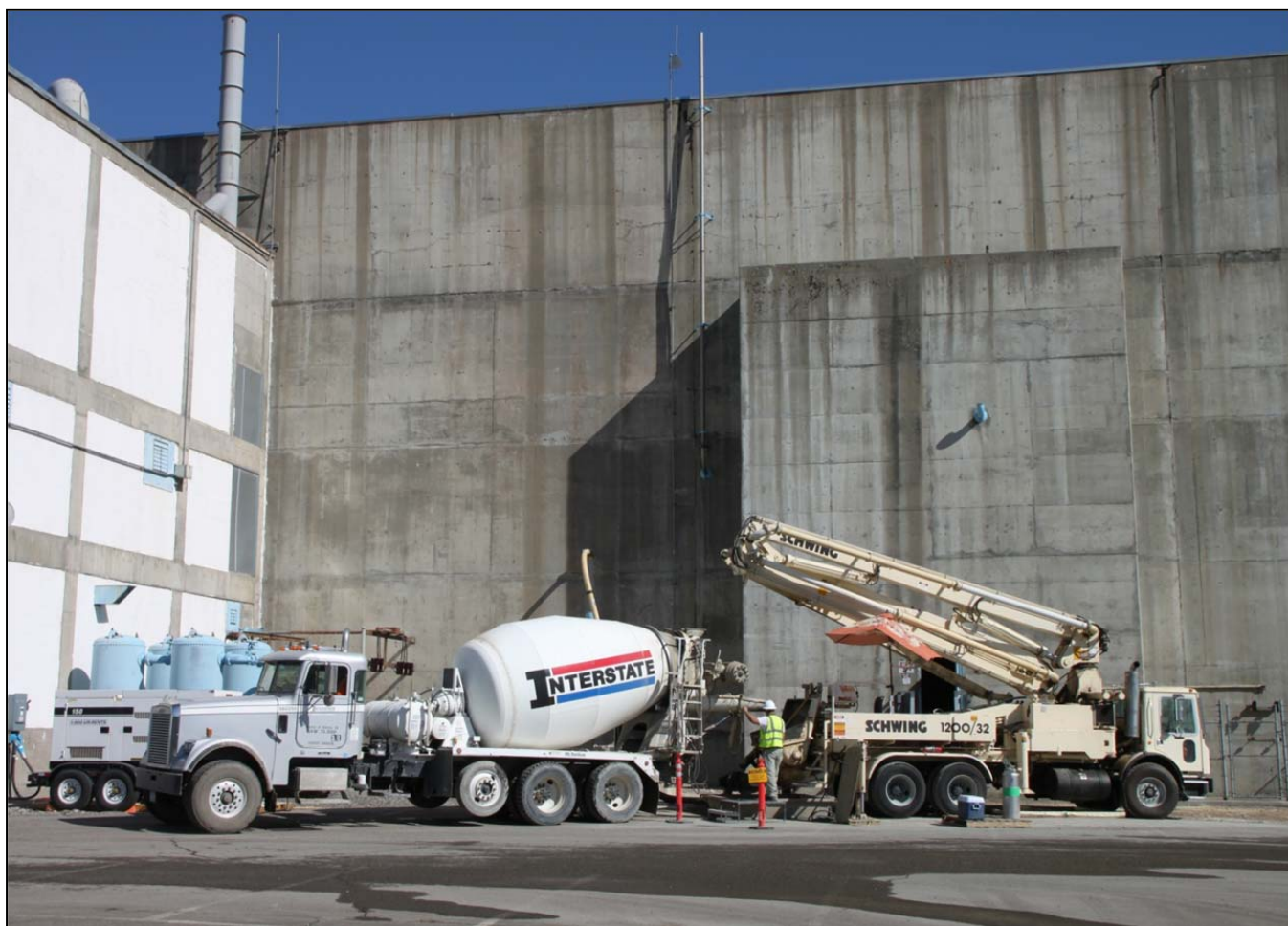


Photo 6

Grout operations have filled more than 75 percent of U Canyon void spaces with grout, passing the 16,694 cubic-yard mark out of a planned total of 22,021 cubic yards.

200 West Area Industrial Facilities

Asbestos abatement continued on the 284-W Power House building's second floor in a mass containment inside the structure. Abatement of the first, third, fourth and fifth floors is complete.

209-E Criticality Mass Laboratory

CHPRC crews continue to size-reduce and remove slab tanks from the 209-E facility. Upon removal of all 11 tanks, the 209-E facility can 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
614 Monitor Station
646 Radioecology Field Laboratory
6652G ALE Field Storage Building
6652H ALE Laboratory 1
6652I ALE Headquarters

6652M Fallout Laboratory
6652R Acid Storage Shed
6652C Space Science Laboratory
6652CSHED Storage Building
6652D Pump House
6652T Fire Protection Lower Pump House
6652U Rattlesnake Mountain Upper Pump House
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 Pumhouse*
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 has resumed at the pond and is planned to last 2-3 weeks.
 - 216-S-26: Additional sampling from 15-20 feet was completed as required by the MG-1 Remedial Action Work Plan. Sampling results were received and are being evaluated.
 - 600-281: The backfill concurrence form was approved with backfill scheduled within the next two weeks.
 - 600-49: Closure documents are complete and the reclassification form has been signed.
 - 600-228: Verification sampling has been completed with results expected within the next two weeks. Closure documents were initiated.
- **BC Control Area**
 - Excavation of Zone A and removal of the stockpile to the ERDF is complete. A cumulative total of approximately 483,000 tons of soil has been deposited at ERDF with Recovery Act funds. A Draft A On-Scene Coordinator Report has been delivered for review and comment.

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 | • 116KE Reactor Exhaust Stack |
| • 183.1KW Headhouse | • 118KE Horizontal Control Rod Storage |
| • 183.2KW Sedimentation Basin | • MO048 Construction Lunch Trailer |
| • 183.3KW Filter Basin | • MO969 Ops/HPT Change Trailer |
| • 183.7KW Pipe Tunnel | • 115KE Gas Recirculation |
| • 110KE Gas Storage Facility | • 185K Potable Water Treatment Plant |
| • 110KW Gas Storage Facility | • 117KE Exhaust Air Filter Bldg |
| • 1605KE Guard House | • 183.4KW Clearwell* |
| • 1605KW Guard House | • 181KE River Pump House |

TOTAL: ~554,297 square feet

PLANNED FOR D&D/IN PROGRESS

- | | |
|--------------------------|-----------------------------------|
| • 183.1KE Headhouse | • 1720K Administrative Bldg. |
| • 183.3KE Filter Basin | • 1717K Maintenance Shop |
| • 183.4KE Clearwell | • 1717AKE Electrical Storage Shed |
| • 181KW River Pump House | • 190KE Main Pump House |
| • 190KW Main Pump House | |

*Awaiting confirmatory sampling

Facility D&D

Demolition continued on the 183.1-KE Headhouse chemical storage tanks, the 190-KE Main Pump House, the east and west sides of the 183.3-KE Filter Basins, and the 181-KW and 181-KE River

Pumphouses. Demolition of the 1717-K Maintenance Shop and the 1717-AKE Electrical Storage Shed is complete, with loadout ongoing. Asbestos abatement of the 1720-K Administrative Office Building is ongoing in preparation for that structure's demolition. Completion of the demolitions will result in 27 buildings and structures demolished with Recovery Act funds, with the 190-KW Main Pump House to be demolished with carryover Recovery Act funds in the first quarter of FY12.



Photo 7

Demolition is nearly complete on the west side of the 183.3-KE Filter Basin.



Photo 8

Demolition continues on the 190-KE Main Pump House, as a processor works from below grade to demolish the structure's concrete floor.

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 cold and dark certifications and declare the four-building PFP vault complex and two ancillary buildings ready-for-demolition.
- 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 HEPA filters from 234-5Z filter rooms.
- Continue removing process vacuum piping, process transfer lines and asbestos insulation from throughout 234-5Z building as resources are available.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- One MLLW shipment (11.1 m³) planned from CWC to PFNW.
- One MLLW shipment (0.6 m³) planned from PFNW to Perma-Fix East.
- One MLLW shipment (1.9 m³) planned from CWC to PFE.
- Two LLW shipments (0.4 m³) planned from CWC to PFNW.

RL-0013C:R1.2: TRU Waste

- TRU Retrieval
 - 4B/4C burial ground
 - Perform ground-penetrating radar scan in Trench 11 of the 4B burial ground to validate the completion of container removal.
 - Remove drums from Modules 3, 5, 7-9 in Trench 7 of the 4B burial ground.
 - Continue to assay removed drums from Trench 7 of the 4B burial ground.
 - Vent seven TRU drums at the 4C Process Area in the MDVS and load the drums into SWBs in preparation for shipment.
 - Ship containers from Trench 11 of the 4B burial ground to PFNW, CWC and ERDF.
 - 12B burial ground
 - Continue characterization of containers from Trench 17 and 27.
- TRU Repackaging and Shipments
 - Five 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 asbestos abatement inside 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.
- Continue demolition and loadout of the 183.3-KE Filter Basins.
- Complete demolition of 181-KE River Pumphouse Structure.