



# Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending July 8, 2011



CHPRC-01414

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](http://www.hanford.gov/recovery).

For information about CHPRC, including weekly Recovery Act newsletters and videos, visit [www.plateauremediation.hanford.gov](http://www.plateauremediation.hanford.gov) or contact [chprcc@rl.gov](mailto: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](http://www.youtube.com/hanfordplateau).

### PLUTONIUM FINISHING PLANT D&D



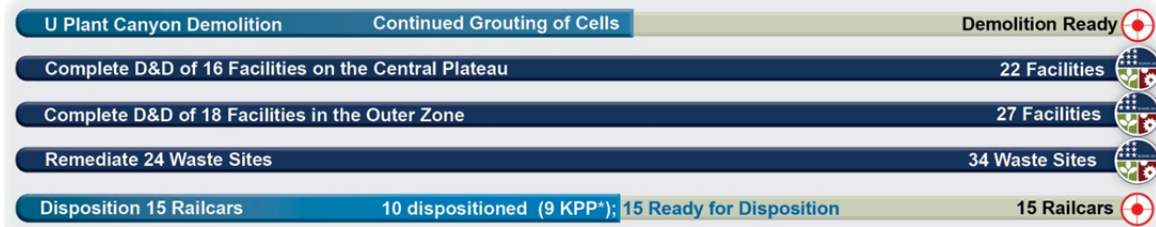
### SOLID WASTE STABILIZATION & DISPOSITION



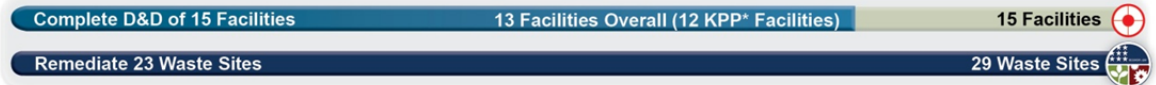
### SOIL & GROUNDWATER REMEDIATION



### 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 July 8, 2011</i>	<i>Completed to Date with Recovery Act Funding</i>
Gloveboxes/hoods removed or dispositioned in place	1	129 gloveboxes/hoods
Add'l gloveboxes ready for removal/size reduction	-	2 gloveboxes/hoods
MLLW/LLW shipped	7 m <sup>3</sup>	2,711 m <sup>3</sup>
TRU shipped	6 m <sup>3</sup>	634 m <sup>3</sup>
Non-radioactive waste shipped	-	26 m <sup>3</sup>
Process transfer line removed	-	491 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	9 ft	14,462 feet

#### *Process and Laboratory Areas*

Electrical deactivations were completed to support enlarging a doorway and removing previously isolated glovebox 188-1 from the Plutonium Process Support Laboratory (PPSL). Physical removal of the wall beside and above the current doorway is scheduled for next week, followed by transfer of the glovebox to waste operations for disposal. This will complete the removal of all gloveboxes and hoods from the three PFP laboratories and the backside vault rooms of 234-5Z building. Area cleanout has been initiated in PPSL and continued in the Analytical Laboratories.

In the RMA/RMC Line process areas, glovebox HA-15 was separated from the end of the production line in Room 235A-1 and loaded into a Standard Waste Box for disposal as transuranic waste. This completes the removal of the five gloveboxes planned to be removed by the end of June. External isolations and process equipment removal are continuing on numerous other gloveboxes in Rooms 227, 228ABC, 230AB, and 235A-1, A-2 and A-3.



Photo 1

Electrical isolations are in progress on many gloveboxes in the PFP Process Lines, including this one in Room 228B.

*2736-Z/ZB Vault Complex*

The vault complex and two adjacent ancillary buildings have been electrically deactivated. Staff from the CHPRC D&D Project continued walk downs to support their Cold and Dark verifications and preparations for demolition of the six structures.

*Infrastructure, support systems, and equipment removal*

Work to remove contaminated process piping and asbestos insulation in the 234-5Z building remains on hold in favor of higher priority KPP work scope in the process and lab areas, although the process vacuum system removal crew has continued to size reduce previously removed piping.

**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 <sup>3</sup> of MLLW/LLW for treatment and disposal	<ul style="list-style-type: none"> <li>• 1,752 m<sup>3</sup> shipped                             <ul style="list-style-type: none"> <li>○ 1,294 m<sup>3</sup> treated and disposed</li> <li>○ 458 m<sup>3</sup> at offsite treatment facilities awaiting processing. Treatment is scheduled for FY11</li> </ul> </li> </ul>

## RL-0013C:R1.2: Transuranic (TRU) Waste

ACTIVITY	SOLID WASTE STABILIZATION & DISPOSITION <i>Total Completed with Recovery Act funding</i>
Retrieve 2,500 m <sup>3</sup> of suspect TRU waste	<ul style="list-style-type: none"> <li>• 434 m<sup>3</sup> are staged, pending shipment</li> <li>• 1,573 m<sup>3</sup> shipped to a treatment, storage, or disposal facility</li> </ul>
Retrieve 50 m <sup>3</sup> of suspect remote-handled TRU waste	<ul style="list-style-type: none"> <li>• 8 m<sup>3</sup> are staged, pending shipment.</li> <li>• 80 m<sup>3</sup> shipped to a treatment, storage, or disposal facility</li> </ul>

At Trench 17 of the 3A burial ground, the approved tie-down revision was received in order to ship Boxes 13 and 15 in a Super 7A container to Perma-Fix Northwest (PFNW). The work package was modified accordingly.

At Trench 11 of the 4B burial ground, workers continued hand and mechanical excavation to expose the remaining containers needing to be removed from the trench and one metal container (8.1 m<sup>3</sup>) was removed. The smoke test was completed on Box 101 IP-I overpack being fabricated offsite. At the 4C Process Area, a remote-handled concrete box was overpacked into a concrete-shielded overpack in preparation for shipment and the portable assay of 14 containers was completed, wrapping up two assay campaigns.

At the 12B burial ground, hand excavation continued with 33 drums removed from Trench 17 and five 8 x 4 x 4 foot waste containers were filled with LLW in preparation for next week's shipment. Three drums were vented, seven drums were x-rayed and 201 drums were assayed in the Gamma Assay System.

*TRU Repackaging & Shipments*

ACTIVITY	SOLID WASTE STABILIZATION & DISPOSITION <i>Total Completed with Recovery Act funding</i>
Repackage 850 m <sup>3</sup> of WIPP certifiable TRU waste	<ul style="list-style-type: none"> <li>• 989 m<sup>3</sup> have been repackaged</li> </ul>
Disposition 2,000 m <sup>3</sup> of contacted-handled TRU waste	<ul style="list-style-type: none"> <li>• 1,810 m<sup>3</sup> have been disposed</li> </ul>

A total of eight drums were repackaged at T Plant this week.

TRUPACT-II shipments from the Hanford Site are paused and anticipated to resume July 19, 2011.

## RL-0030 Soil &amp; Groundwater Remediation, Groundwater/Vadose Zone

## RL-0030.R1: Central Plateau Soil &amp; Groundwater

ACTIVITY	<i>Week of July 7, 2011</i>	<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	9 wells completed	279
Construct the 200 West Groundwater Treatment Facility	82% complete	

*200 West Groundwater Treatment Facility*

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

- *Process buildings*

- Radiological Building: Ongoing activities include instrumentation and controls rough-in. Continued mechanical overhead piping installation and installation of epoxy anchor bolts; Torquing main feeders and installation of transformer as well as piping penetrations in the metal grating continues.
- Bio-Process Building: In process work continues for all disciplines: Instrumentation and controls rough in continues; Electrical panels and switchgear, fire alarm, overhead lighting and pulling wire, and installation of exterior transformers continued prep for setting main switch gear and rough in in the administration area. Continued installation of C and A-line utility racks; installation of process piping; sprinkler system riser room installation; HVAC ductwork installation and testing. Second shift continues to focus on installation of chemical piping in the chemical area.
- Bio Pad: Continued steel installation on the utility racks, hand rails and toe boards, grating and grouting base plates. Continued installation of vapor off gas duct work and blower equipment. Also continued installation of racks and panels, conduit, sleeves and cabling for lightning protection.



Photo 2

Construction progresses on the 200 West Groundwater Treatment Facility's three main treatment components, the Bio Pad (foreground) Bio-Process Building (rear) and Radiological Building (right) .



- *Transfer buildings*
  - Extraction Building #1: Acceptance Test Procedure continued.
  - Extraction Building #2: Continued Construction Acceptance Testing.
  - Injection Building #1: Construction punchlist items continued. Continued Construction Acceptance Testing.
  - Injection Building #2: Lock-out/Tag-out for electrical utility connection; start installation of electrical service, installation of piping systems, anchor bolts and grouting of pipe supports.

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

\*Not part of the Key Performance Parameter

### *U Canyon*

Crews with CHPRC subcontractors AGECE and Central Pre-Mix continued filling U Canyon cells with grout, delivering another 1,010 cubic yards of grout into U canyon cells, distributing the pours among Cells 25, 26, 28, 32-36, 38-40. CHPRC has now poured 5,109 cubic yards of grout out of a planned total of 20,318, or approximately 25 percent.



Photo 3

CHPRC continues to fill U Canyon cells with grout, with another 1,010 cubic yards of grout poured for a total of 5,109 cubic yards of a planned 20,318 – approximately 25 percent.

#### *U Plant Ancillary Facilities*

Closure documentation is being prepared.

#### *200 East Core Industrial Area*

Processing and loadout of debris from the 284-E Power House demolition site is complete.

#### *200 West Area Industrial Facilities*

Asbestos abatement continued inside the 284-W Power House building in a mass containment on the structure's second, third and fourth floors.

#### *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 later this summer.



Photo 4

CHPRC workers seal off a bag of waste after size-reducing one of the slab tanks in the 209-E Critical Mass Laboratory. The slab tank "cutting shroud," developed by workers, is configured so that all cutting takes place within a negative-air containment and cut parts of the tank can be safely bagged and disposed of.

## 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*	<b>TOTAL: 62,748 square feet</b>

\*Not part of the Key Performance Parameter

### *North Slope Debris Removal*

Personnel with CHPRC subcontractor Sealaska Environmental Services completed cleanup of Hanford Reach National Monument Areas 12, 13, 15, 16, and 18. The subcontract expired at the end of June. CHPRC crews will complete cleanup once cultural and environmental reviews of remaining debris sites are completed.

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

CHPRC crews and subcontractors Clauss Construction and Barnhart Crane have removed the last of the standard well railcars from the 212N site, delivering it to the Environmental Restoration Disposal Facility (ERDF) for disposal. Three railcars now remain on site, with a tall cask well car to be delivered to B Reactor and two tank cars to be delivered to ERDF.



Photo 5

CHPRC workers and subcontractors with Clause Construction and Barnhart Crane deliver another cask well railcar to the Environmental Resoration Disposal Facility (ERDF). One tall cask well car remains to be delivered to B Reactor to join three other railcars for preservation and display; two remaining tanker cars will be delivered to ERDF for disposal.

*Waste Sites*

The following table showcases CHPRC's recent progress in outer zone waste remediation.

WASTE SITE IN PROGRESS	TONS OF CONTAMINATED SOIL REMOVED	
	<i>Week Ending July 7, 2011</i>	<i>Total to Date with Recovery Act funds</i>
BC Control Area	5,500	~474,000

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

- *200-MG-1*
  - 600-228: Sample results back from the lab indicate additional excavation is required. Excavation is planned within the next week.
  - 600-281: Excavation is complete and the second round of verification sampling is planned within the next week.
  - 216-S-19: A portion of the pond has been re-excavated to remove residual contamination and will be completed this week, with verification sampling to follow early next week.
  - 216-S-26: Re-sampling at the request of the Regulators due to tritium analysis discrepancy, has been completed with results expected within one week. Down posting and backfill operations are planned to commence within the next two weeks.
  - 200-W-147-PL: Backfill of the southern section of the pipeline is complete, waiting down posting of the northern 100ft to complete backfill.
  - 600-49: Initial excavation field activities are complete. Verification has been completed with results expected within the next week.
- *BC Control Area*
  - Radiological down-post surveys and localized spot removal are ongoing.

## 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         |
| • 183.7 KW Pipe Tunnel             | • 115KE Gas Recirculation              |
| • 110KE Gas Storage Facility       | • 185-K Potable Water Treatment Plant* |
| • 117KE Exhaust Air Filter Bldg    |  |
| <b>TOTAL: 428, 260 square feet</b> |  |

#### PLANNED FOR D&D/IN PROGRESS

- |                          |                           |
|--------------------------|---------------------------|
| • 183.4KW Clearwell      | • 110KW Gas Recirculation |
| • 183.4KE Clearwell      | • 181KW River Pump House  |
| • 190KW Main Pump House  | • 183.3KE Filter Basin    |
| • 190KE Main Pump House  |                           |
| • 181KE River Pump House |                           |
| • 1605KE Guard House     |                           |
| • 183.1KE Headhouse      |                           |

*Facility D&D*

Demolition neared completion on the 181-KW River Pumphouse Structure, and began on the 181-KE River Pumphouse. Work also continued on the east and west sides of the 183.3-KE Filter Basins, and below-grade portions of the 183.1-KE Headhouse.



Photo 6

Demolition continues on the 183.3-KE Filter Basin structure, part of the 183-KE Sedimentation Basins that once held 19 million gallons of water for passage through the K East Reactor.

#### *Infrastructure Utilities Upgrade Project*

All 100K Area Infrastructure Projects are complete and operational.

#### *Waste Sites*

100-K-79 waste site (Sodium Dichromate and Sulfuric Acid Product Pipelines at 100-K): Confirmatory Sample instruction was approved June 29, 2011; collection of the samples should begin July 13, 2011.

## UPCOMING EVENTS

### RL-0011 Nuclear Materials Stabilization & Disposition

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

- Enlarge a doorway and transfer glovebox 188-1 to waste operations.
- Complete Cold and Dark certifications and demolition preparations, and initiate demolition of the PFP vault complex and two adjacent ancillary buildings.
- D&D the remaining gloveboxes in the RMA/RMC Line process areas.
- Complete final area cleanout in the Standards, Analytical and Plutonium Process Support Laboratory areas and the 234-5Z vault rooms.
- Remove more than 200 contaminated HEPA filters from 234-5Z final filter rooms 311 and 316.
- 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

- Three MLLW shipments (23.3 m<sup>3</sup>) planned from the Waste Retrieval Project (WRP) to PFNW.
- One MLLW shipment (32.6 m<sup>3</sup>) planned from WRP to PFNW.
- One MLLW shipment (1.8 m<sup>3</sup>) planned from the Central Waste Complex (CWC) to PFNW.
- One LLW shipment (6.7 m<sup>3</sup>) planned from CWC to PFNW.

#### RL-0013C:R1.2: TRU Waste

- TRU Retrieval
  - 3A burial ground
    - Ship Boxes 13 and 15 from Trench 17 to PFNW.
    - Ship Box 33 from Trench 8 to CWC.
    - Continue clean-up and lay-up activities at Trenches 8 and 17.
  - 4B/4C burial ground
    - Resume overburden removal in Trench 7 of the 4B burial ground.
    - Complete 4C Process Area user validation/functional test of the Mobile Drum Venting System (MDVS) procedure.
    - Vent 12 drums at the 4C Process Area MDVS and load the drums into standard waste boxes in preparation for shipment.
    - Continue portable assay of waste containers removed from Trench 11 of the 4B burial ground in the 4C Process Area.
    - Complete work package to remove Box 101 from Trench 11 of the 4B burial ground.
    - Overpack two 55-gallon drums of thorium into 85-gallon drums for shipment from Trench 11 of the 4B burial ground.
  - 12B burial ground
    - Continue excavation, removal and assay of waste drums.
- 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.

- Continue well decommissioning.

#### RL-0030.R1: Central Plateau Soil & Groundwater

- Continue construction of the 200 West Groundwater Treatment Facility.
- Continue well drilling and decommissioning.

### **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 processing and loadout of debris at the 284-E Power House site.
- Continue asbestos abatement inside the 284-W Power House.

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

- Continue to deliver well cask railcars to ERDF for disposal and to B Reactor for display.
- 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 181-KE River Pumphouse.
- Continue demolition and loadout of the 183.3-KE Filter Basins.
- Continue excavating soil from and planning for remediation of 100K Area waste sites.