



Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending August 12, 2011



CHPRC-01525

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	7
RL-0013C:R1.1: Mixed Low-Level Waste (MLLW)/Low-Level Waste (LLW) Treatment	7
RL-0013C:R1.2: Transuranic (TRU) Waste	7
RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose Zone.....	13
RL-0030.R1: Central Plateau Soil & Groundwater	13
RL-0040 Nuclear Facility D&D – Remainder of Hanford	15
RL-0040.R1.1: U Plant/Other D&D	15
RL-0040.R1.2: Outer Zone D&D/Waste Sites	17
RL-0041 Nuclear Facility D&D – River Corridor Closure Project.....	18
RL-0041.R1.1: 100K Area Remediation	18
UPCOMING EVENTS	21

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



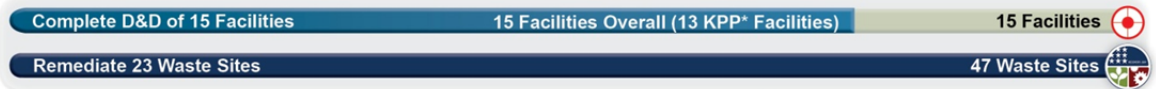
SOIL & GROUNDWATER REMEDIATION



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 12, 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	7 m ³	2,828 m ³
TRU shipped	8 m ³	665 m ³
Non-radioactive waste shipped	-	27 m ³
Process transfer line removed	-	535 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	167 feet	14,969 feet
KPP-2 Fuel Vaults, Buildings Ready for Demo		
Fuel vaults and ancillary buildings ready for demo	-	25 structures
Ancillary buildings/structures removed or demolished	-	20 structures

Process and Laboratory Areas

General area cleanout was initiated in the Standards Laboratory this week, and is continuing throughout the Analytical Laboratories, the Plutonium Process Support Laboratory (PPSL), and the backside vault rooms, where a total of 97 gloveboxes and hoods were previously removed. Over the past two weeks, refrigerants have been evacuated from all cooling systems and equipment in the Analytical Lab and PPSL. Equipment and piping removal was completed in Room 153 and it was posted as KPP-complete.

External isolations and process equipment removal are continuing throughout the RMA and RMC Line process areas. External isolations and process equipment removal were completed on HA-14S, P, DC and CC in Room 235A-1, and the boxes were prepared for chemical decontamination with Aspigel®. Another team completed mechanical strip-out of gloveboxes HA-8 and HA-9 in adjacent room 235A-3. Also in the RMA Line, the second round of chemical decontamination continued in large glovebox HA-23S in Room 235B. Removal of overhead piping and ductwork near HA-23S was initiated to support installation of the extensive rigging equipment that will be needed to lift the upper section of the glovebox once the box is separated into two sections. In the RMC Line, equipment removal and isolations are continuing on the HC-1 and HC-2 conveyor gloveboxes, which extend approximately 75 feet each through five rooms, including 228A, B and C and Rooms 230A and B. A large shielding water wall was drained and then removed from between Rooms 228A and 228B to provide additional working space for D&D and removal of gloveboxes in these rooms. External mechanical isolations continued on HC-16CC and the four HC-17 gloveboxes in Room 228C, and process equipment removal continued from HC-15A, B and C.



Photo 1

Chainveyor removal waste is sealed out of Glovebox HC-2 in Room 230-A of the Plutonium Finishing Plant's RMC Line.

Infrastructure, support systems, and equipment removal

Approximately 90 percent of the 112 HEPA filters in deactivated E-3 filter room 316 have now been removed. With this work forecasted to complete early next week, preparations were initiated for subsequent work in filter room 311. No process piping was removed this week due to the assignment of critical craft resources to higher priority Key Performance Parameter work scope in the RMA/RMC Line areas. Approximately 167 feet of asbestos insulation was removed from piping and ductwork throughout the 234-5Z building this week. This plus an additional 75 feet removed but not counted in the prior week brings the total removed to date with Recovery Act funds to 14,969 feet.

2736-Z/ZB Vault Complex

FPF and CHPRC D&D Project staff continued to ready the 4-building PFP Vault Complex and two ancillary buildings for demolition. All field work to isolate the 2721-Z emergency generator building was completed last week, although the formal Cold and Dark certification had not been received by week's end. Work to isolate the remaining three buildings is continuing and forecasted to complete this month.

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"> • 1,950 m³ shipped <ul style="list-style-type: none"> ○ 1,588 m³ treated and disposed ○ 362 m³ at offsite treatment facilities awaiting processing. Treatment is scheduled for FY11

Two shipments (25 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 both shipments 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"> • 273 m³ are staged, pending shipment • 1,961 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 completed the assay for the remaining removed containers from Trench 11 and shipped five metal containers (23.4 m³) from the same trench to the Central Waste Complex (CWC). Workers removed 118 drums (24.5 m³) from Module 7, Trench 7. The portable assay of 19 drums was completed in the 4B Process Area and overburden removal in Modules 3, 5, 7-9 continued in Trench 7.

At the 12B burial ground, 28 drums and two metal boxes (7.2 m³) were removed from Trench 17. Twenty-four TRU waste drums in standard waste boxes (SWB) were shipped to CWC and 120 LLW drums in 8 x 4 x 4 foot waste boxes were shipped to PFNW. Fifteen drums were assayed in the Passive/Active Neutron Assay System, 141 drums were assayed in the Gamma Assay System and five drums were x-rayed and sampled in the Real-Time Radiography (RTR) System. Workers continued to load 8 x 4 x 4 foot overpack boxes for shipment to PFNW and SWBs to CWC. The portable assay of 21 containers was completed.



Photo 2

Workers remove a drum from Trench 7 of the 4B burial ground during a graveyard shift.



Photo 3

Workers remove drums from the 4B burial ground during a graveyard shift.



Photo 4

Trench 7 Module in the 4B burial ground is uncovered in preparation for the resumption of drum removal activities.



Photo 5

Trench 7 Module in the 4B burial ground is uncovered in preparation for the resumption of drum removal activities.

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 Disposition 2,000 m ³ of contacted-handled TRU waste	<ul style="list-style-type: none"> • 1,100 m³ have been repackaged • 2,133 m³ have been disposed

The Waste Receiving and Processing (WRAP) Facility resumed shipments to the Waste Isolation Pilot Plant (WIPP) last week after shipments had been delayed while awaiting the certification of the high-energy real-time radiography (HERTR) unit. The Central Characterization Program (CCP) received certification from the Environmental Protection Agency (EPA) and the State of New Mexico allowing six shipments to be sent to WIPP this week. The shipment contained the first SWBs characterized with the HERTR unit under the CCP certification. The unit was provided by CCP to the Hanford Site using Recovery Act funding and performs non-destructive examinations using x-ray technology to characterize the suspect TRU waste. The HERTR is ten times more powerful than the x-ray systems previously used at WRAP. The HERTR generates enough energy to penetrate dense materials such as lead and stainless steel. This type of examination is required to ensure the contents of the SWBs do not contain prohibited items such as liquid or pressurized cans. A total of 205 shipments have been completed since shipments resumed, thanks to Recovery Act funding, in March 2010.



Photo 6

Boxes are loaded into the TRUPACT-II shipping cask in preparation for shipment.



Photo 7

A TRUPACT-II shipment prepared for departure from the Hanford Site. This shipment contains the first standard waste boxes characterized with the high-energy real-time radiography unit.

One TRU shipment (64.6 m³) was sent to PFNW from CWC this week. It will be repackaged into WIPP-certifiable containers, such as SWBs or 55-gallon drums. The repackaged TRU waste will be returned to the Hanford Site for WIPP-certification activities.

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

RL-0030.R1: Central Plateau Soil & Groundwater

ACTIVITY	Week of August 4, 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	89% 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 initiated.

- Bio-Process Building: In process work continues for all disciplines. Completed preparation for setting main switch gear. Second shift continues to focus on (critical path) installation of chemical piping in the chemical area.
- Bio Pad: Completion of the FBR repair enabled continued CAT testing by all disciplines; continued installation and CAT testing by all disciplines in the MBR area, effluent tank area, air stripper area and centrate and sludge tanks.



Photo 8

Construction acceptance testing by all disciplines continues at the Biological Equipment Pad at the 200 West Groundwater Treatment Facility.

- *Transfer buildings*
 - Extraction Building #1: Acceptance Test Procedure continued (one part on order to continue process).
 - Extraction Building #2: Construction punchlist items continued. CAT complete.
 - Injection Building #1: Construction punchlist items continued. CAT complete.
 - Injection Building #2: Mechanical Electrical Process build out continues.

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 crews shipped Tank D-10 out of the 221-U Canyon railroad tunnel and delivered it to Hanford's Central Waste Complex safely and without incident. Grouting operations continued, with 13,138 cubic yards now poured, or 64.7 percent out of a planned total of 20,318 cubic yards.



Photo 9

The D-10 tank, after being lifted from Cell 30 and deposited in a custom shipping container, is shipped out of U Canyon's railroad tunnel. After undergoing final surveys and inspection, the cask was delivered to Hanford's Central Waste Complex for interim storage. Meanwhile, grout operations have filled over 60 percent of U Canyon void spaces with grout, passing the 13,138 cubic-yard mark out of a planned total of 20,318 cubic yards.



Photo 10

The D-10 tank is received at the Central Waste Complex safely and without incident.

200 West Area Industrial Facilities

Asbestos abatement continued inside the 284-W Power House building in a mass containment on the structure's second and third floors, with abatement nearly complete on the second floor and 50 percent complete on the third. Abatement on the first, 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	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.

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 currently planned to last 2-3 weeks.
 - 216-S-26: Additional sampling from 15-20 feet was completed as required by the MG-1 RAWP, sampling results have been received, evaluating results.
 - 600-281: Verification sample evaluation is complete with a backfill concurrence form in process. Backfill concurrence form initiated.
 - 600-49: Initial excavation field activities are complete. Verification sample results have been received and are below cleanup criteria. Closure documents initiated.
 - 600-228: Verification sampling has been completed with results expected within the next two weeks. Closure Documents initiated.
- **BC Control Area**
 - Excavation of Zone A and removal of the stockpile to ERDF is complete. A cumulative total of approximately 483,000 tons of soil has been deposited at ERDF.

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* |
| • 110KW Gas Storage Facility | • 117 KE Exhaust Air Filter Bldg |
| • 1605KE Guard House | • |

TOTAL: 429,894 square feet

PLANNED FOR D&D/IN PROGRESS

- | | |
|--------------------------|--------------------------|
| • 183.4KW Clearwell | • 181KW River Pump House |
| • 183.4KE Clearwell | • 183.3KE Filter Basin |
| • 190KW Main Pump House | |
| • 190KE Main Pump House | |
| • 181KE River Pump House | |
| • 183.1KE Headhouse | |

Facility D&D

Demolition continued on 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 and 1717-AKE Maintenance structures is complete, with loadout ongoing.

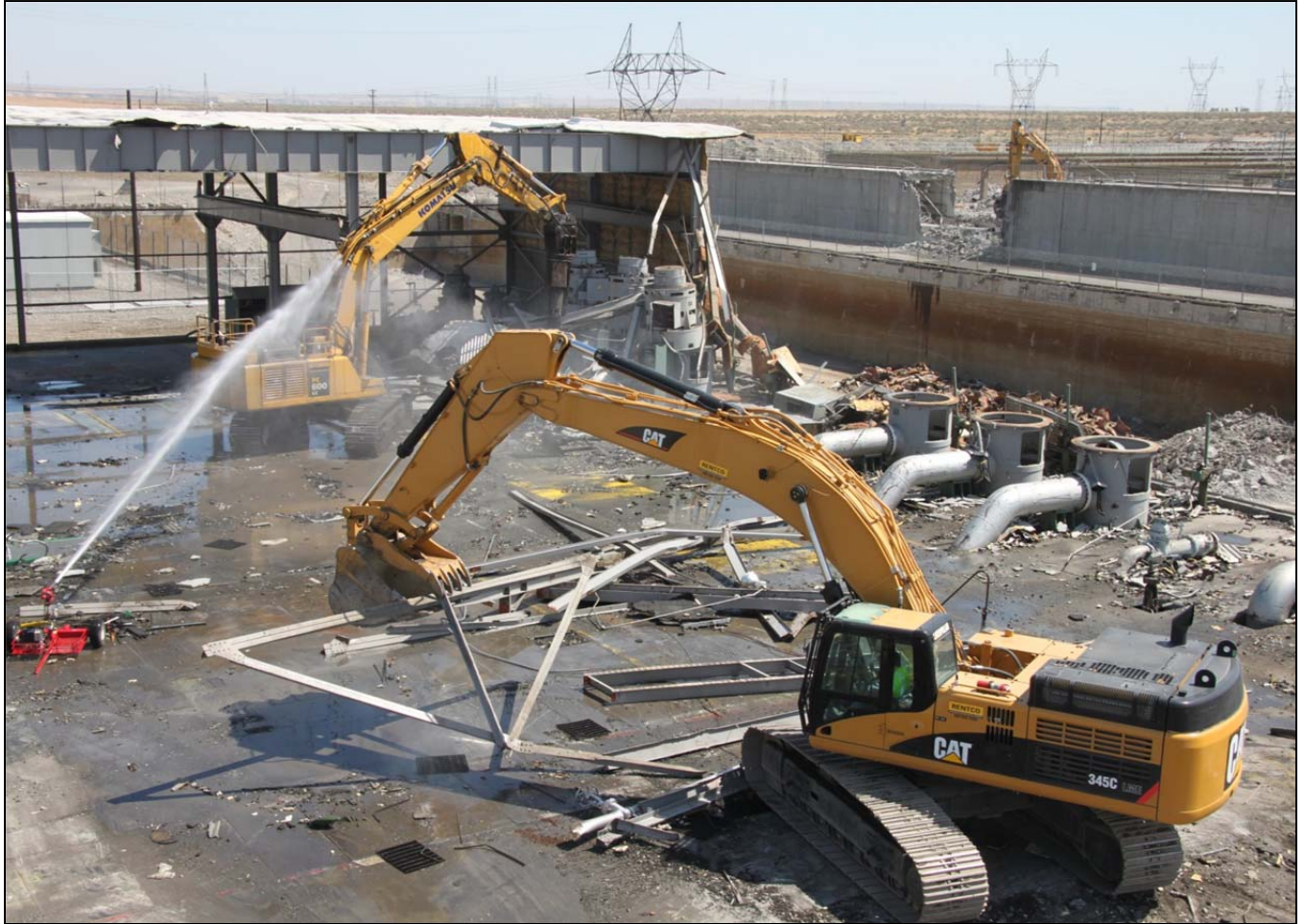


Photo 11

Demolition continued on the 190-KE Main Pump House and the 183.3-KE Filter Basins (far right).



Photo 12

Demolition on the 190-KE Main Pump House, viewed from across the 183.4-KE Clearwell, where demolition and loadout also continues.



Photo 13

The 1717-K Maintenance Shop, one of the last 100-K buildings to be demolished with Recovery Act funds. Loadout of the area is underway.

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 4-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 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 (27.6 m³) planned from the WRP 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.
 - Continue overburden removal in Trench 7 of the 4B burial ground.
 - 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 12 TRU drums at the 4C Process Area in the Mobile Drum Venting System and load the drums into SWBs in preparation for shipment.
 - Ship containers from Trench 11 of the 4B burial ground to PFNW, CWC and the Environmental Restoration Disposal Facility.
 - 12B burial ground
 - Continue characterization of containers from Trench 17 and 27.
 - Set-up and remove the remaining 22 drums from Trench 27 and the remaining five drums from Trench 17.
- TRU Repackaging and Shipments
 - Four 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.