



Weekly Progress



AMERICAN RECOVERY & REINVESTMENT ACT

Week Ending July 22, 2011



CHPRC-01416

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



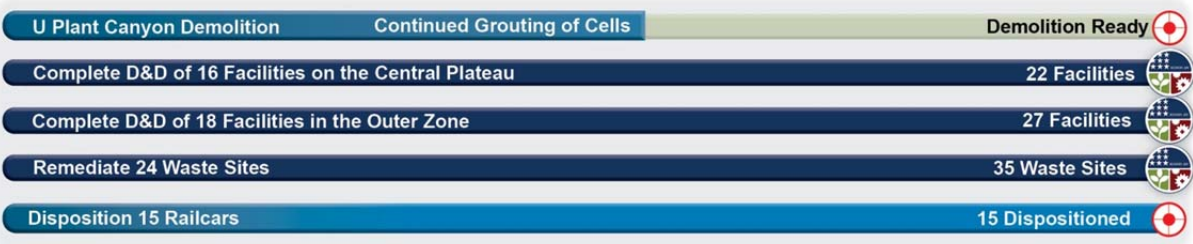
SOLID WASTE STABILIZATION & DISPOSITION



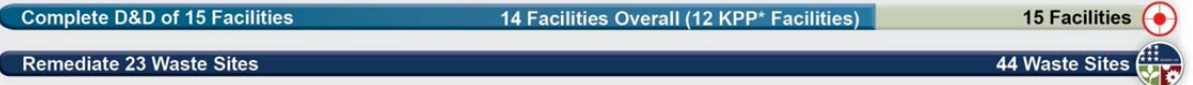
SOIL & GROUNDWATER REMEDIATION



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 July 22, 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	11 m ³	2,747 m ³
TRU shipped	-	641 m ³
Non-radioactive waste shipped	2 m ³	27 m ³
Process transfer line removed	11 ft	502 feet
Process vacuum system piping removed	-	1,210 feet
Asbestos removed	7 ft	14,654 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

With the last of the gloveboxes and hoods removed, general area cleanout is continuing in the Analytical Laboratories, the Plutonium Process Support Laboratory (PPSL), and the backside vault rooms. Three D&D teams are now assigned full-time to complete the final closure actions in these areas.

No gloveboxes were removed from the process areas this week, although work to isolate the last three boxes scheduled for July, HA-14S, -14P and -14DC, is nearing completion. External isolations and process equipment removal from numerous other process and conveyor gloveboxes continued throughout the rest of the RMA and RMC process lines. Significant radiation dose rates and high contamination levels are challenging the D&D teams in these areas.



Photo 1

Glovebox cleanout work in progress on Glovebox HC-21 in Room 230-A of the RMC Line.



Photo 1

Glovebox 188-1 is removed from the PPSL area. 188-1 was the final glovebox in the PPSL Area, which is now undergoing general area cleanout.

Infrastructure, support systems, and equipment removal

Two gloveboxes previously removed from PPSL, 179-4 and 179-6, were shipped to Perma-Fix Northwest for size reduction and packaging for disposal as TRU waste. Two others, 179-1 and 179-11, were loaded and readied for shipment to the Environmental Restoration Disposal Facility (ERDF) for disposal as LLW. Work to remove highly contaminated process solution transfer lines from throughout the 234-5Z building was resumed this week. Approximately 11 feet of piping was removed and size reduced, bringing the total removed to date to 502 feet, or 44% of the transfer lines to be removed. Work to remove process vacuum system piping from the building remains on hold in favor of higher priority KPP work scope in the process and lab areas.

2736-Z/ZB Vault Complex

Air gapping of previously deactivated utilities and verification of Cold and Dark status continued throughout the vault complex, as PFP and CHPRC D&D Project staff work together to ready the facilities for demolition. Crews also continued the installation of shields and covers to protect equipment and facilities located near the vault complex that need to remain operational during and after demolition. The CHPRC is reviewing planned demolition work through September 30 to avoid having facilities partially demolished at the time of transition to reduced FY 2012 funding levels.

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"> • 1,818 m³ shipped <ul style="list-style-type: none"> ○ 1,417 m³ treated and disposed ○ 401 m³ at offsite treatment facilities awaiting processing. Treatment is scheduled for FY11

Two shipments (7.7 m³) of MLLW debris from the Waste Retrieval Project (WRP) were made 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.



Photo 3

Workers load a large box shipment headed to Perma-Fix Northwest to undergo macro-encapsulation.

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"> • 298 m³ are staged, pending shipment • 1,769 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"> • 4 m³ are staged, pending shipment. • 84 m³ shipped to a treatment, storage, or disposal facility

At Trench 17 of the 3A burial ground, workers shipped the final box from the trench, Box 13 (54.4 m³), in the Super 7A container to PFNW. Workers also transferred the final container from Trench 8 of the 3A burial ground, Box 33 (49.1 m³) to the Central Waste Complex (CWC).

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 two glove boxes (9.2 m³) were removed. One metal box (2.3 m³) was shipped to CWC and one overpacked drum (0.2 m³) was shipped to PFNW. Lab debris was overpacked into a 55-gallon drums and an IP-1 overpack container was received for Box 101. At Trench 7 of the 4B burial ground two drum turntables were received for the AREVA drum assay at the 4B Process Area and excavating overburden and preparations for removal activities continued. At the 4C Process Area, the Mobile Drum Venting System (MDVS) procedure was validated.

At the 12B burial ground, 75 drums and one box (16 m³) were removed, 36 LLW drums (7.5 m³) were shipped to PFNW. Workers loaded LLW drums into 8 x 4 x 4 foot waste containers and 14 standard waste boxes with TRU waste drums for shipment. Eight drums were vented, 25 drums were assayed in the Passive/Active Neutron (PAN) Assay System, 36 drums were assayed in the Gamma Assay System and 31 drums were x-rayed in the Real-Time Radiography (RTR) 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	<ul style="list-style-type: none"> • 1,014 m³ have been repackaged
Disposition 2,000 m ³ of contacted-handled TRU waste	<ul style="list-style-type: none"> • 1,814 m³ have been disposed

A total of 20 drums were repackaged at T-Plant this week.

TRUPACT-II shipments from the Hanford Site are paused and anticipated to resume August 9, 2011.

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

RL-0030.R1: Central Plateau Soil & Groundwater

ACTIVITY	<i>Week of July 21, 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	1 well completed	280
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, hydrotesting continued; NEC inspection approved. Piping penetrations in the metal grating and smp covers continues.
- Bio-Process Building: In process work continues for all disciplines: conducted CAT testing in Fluidized Bed Reactor, initiated installation of devices in Membrane Bed Reactor area and effluent tank area. Electrical panels and switchgear, fire alarm, overhead lighting and pulling wire continued. Installation of exterior transformers complete and NEC inspection complete. Continued installation of C and A-line racks, installation of process piping, hydro testing, HVAC ductwork testing. On going grouting of equipment, continued epoxy coatings for uric acid and CST containment.
- Bio Pad: Focus on the completion of the FBR and MBR areas continued. Continued steel installation on the utility racks, hand rails, toe boards, grating, anchor bolts and grouting base plates. Continued installation of vapor off gas duct work and blower equipment.



Photo 4

Construction workers assemble vapor off gas duct work and blower equipment on the Bio Pad at the 200 West Groundwater Treatment Facility.

- *Transfer buildings*
 - Extraction Building #1: Acceptance Test Procedure continued. Construction punchlist items continued.

- Extraction Building #2: Continued Construction Acceptance Testing. Construction punchlist items continued.
- Injection Building #1: Construction punchlist items continued. Continued Construction Acceptance Testing.
- 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 | • 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 209E 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
- 2718E 209E Fissile Material Storage*

*Not part of the Key Performance Parameter

U Canyon

CHPRC crews and subcontractors AGECE and Central Pre-Mix have now filled 33 percent of U Canyon void spaces with grout, delivering another 1,070 cubic yards as grouting activities moved to the South Electrical Gallery. CHPRC has now poured 6,745 cubic yards of grout out of a planned total of 20,318, or 33.2 percent.



Photo 5

At U Canyon, three trucks deliver grout simultaneously into the 221-U building's South Electrical gallery while project management hosts the CHPRC "President's Summer Safety Challenge." CHPRC has now filled more than a third of the 221-U building's void spaces, pouring a total of 6,745 cubic yards of a planned 20,318 – approximately 33.2 percent.



Photo 6

CHPRC U Canyon Disposition Project responsible manager Dave Chojnacki, center, brings D&D Project Employee Zero Accident co-chair Nate Brook, left, and CHPRC Chief Operating Officer John Ciucci up to speed on U Canyon grouting progress during a safety event at the building. CHPRC is filling Canyon cells with grout and preparing the building for eventual demolition.

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 by September 30, 2011.



Photo 7

CHPRC workers continue to size-reduce and dispose of highly contaminated slab tanks in the 209-E Critical Mass Laboratory, using a tank-cutting "shroud" method developed with safety personnel. The "shroud" contains all cutting operations within a negative-air containment and cut parts of the tank can be safely bagged and disposed.

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 resumed cleanup in Hanford Reach National Monument Areas 10 and 17 after cultural and environmental reviews of remaining debris sites were completed. Areas 12, 13, 15, 16, and 18 have been completed, with a total of 24 debris sites now remaining.



Photo 8

CHPRC crews pick up buried fencing in Area 10 of the Hanford Reach National Monument. Debris cleanup of North Slope areas is expected to be complete in the next several weeks.

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

CHPRC crews and subcontractors Clauss Construction and Barnhart Crane removed the final railcar from the 212-N site, delivering tall cask well car H0-10B-19945 to the B Reactor Preservation Project for preservation and display. Cleanup of equipment at the site remains.



Photo 9

CHPRC workers and subcontractors with Clauss Construction and Barnhart Crane prepare the last of the railcars on the 212-N Spur, tall well cask car HO-10B-19945, for delivery to the B Reactor Preservation Project, joining three other railcars for preservation and public display. All railcars have now been removed from the area, with equipment cleanup remaining.



Photo 10

Tall well cask car HO-10B-19945 arrives at the B Reactor Preservation Project, joining two locomotives and a standard cask well car (far right) for preservation and public display.

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 14, 2011</i>	<i>Total to Date with Recovery Act funds</i>
BC Control Area	1,300	~483,000

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

- *200-MG-1*
 - 600-228: Excavation of residual contamination was completed this week with verification sampling planned for next week.
 - 600-281: Excavation is complete and the second round of verification sampling is coming in with preliminary results indicating successful removal efforts.
 - 216-S-19: Verification results are under evaluation with preliminary results showing that residual contamination remains above cleanup levels.
 - 216-S-26: Re-sampling at the request of the Regulators due to tritium analysis discrepancy has been completed with results under evaluation. A path forward has been discussed with DOE-RL and will be initiated next week. Down posting and backfill operations are planned to commence within the next 3 weeks.

- 200-W-147-PL: Backfill of the entire pipeline to the manhole is complete.
- 600-49: Initial excavation field activities are complete. Verification sample results have been received and are below cleanup criteria.
- *BC Control Area*

1,300 tons of soil was shipped to ERDF on July 14, 2011 concluding the shipment of stockpiled material from BCCA Zone A removal action. A cumulative total of ~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
- 183.1KW Headhouse
- 183.2KW Sedimentation Basin
- 183.3KW Filter Basin
- 183.7 KW Pipe Tunnel
- 110KE Gas Storage Facility
- 110KW Gas Storage Facility
- 116KE Reactor Exhaust Stack
- 118KE Horizontal Control Rod Storage
- MO048 Construction Lunch Trailer
- MO969 Ops/HPT Change Trailer
- 115KE Gas Recirculation
- 185-K Potable Water Treatment Plant*
- 117 KE Exhaust Air Filter Bldg

TOTAL: 429,894 square feet

PLANNED FOR D&D/IN PROGRESS

- 183.4KW Clearwell
- 183.4KE Clearwell
- 190KW Main Pump House
- 190KE Main Pump House
- 181KE River Pump House
- 1605KE Guard House
- 183.1KE Headhouse
- 181KW River Pump House
- 183.3KE Filter Basin

Facility D&D

Demolition continues on the 181-KW River Pumphouse Structure and the east and west sides of the 183.3-KE Filter Basins. Confirmatory sampling of substructure was begun in the 183.4-KE Clearwell.



Photo 11

Demolition continues on the 181-KW River Pumphouse Structure, where 240,000 gallons of water per minute was pumped from the Columbia River into the K West Reactor system.



Photo 12

Demolition continues on the east and west (pictured) sides of the 183.3-KE Filter Basin, where 19 millions gallons of water was filtered for use in the K East Reactor system.

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 sampling continues.

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 Laboratory areas 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 (34 m³) planned from the WRP to PFNW.
- One MLLW shipments (49.4 m³) planned from the CWC to PFNW.

RL-0013C:R1.2: TRU Waste

- TRU Retrieval
 - 3A burial ground
 - Continue clean-up and lay-up activities at Trenches 8 and 17.
 - 4B/4C burial ground
 - 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 removal of two top-hat type metal containers containing glove boxes (68.3 m³) from Trench 11 of the 4B burial ground.
 - Continue excavation and begin removal of drums in Trench 7 of the 4B burial ground.
 - Perform an additional ground-penetrating radar survey in Trench 11 of the 4B burial ground to verify completion of container removal from the trench.
 - Ship waste containers from Trench 11 of the 4B burial ground to CWC and/or PFNW (106.9 m³).
 - 12B burial ground
 - Continue excavation, removal and assay of waste drums in Trench 17.
 - Begin 4B Process Area Assay Campaign.
- TRU Repackaging and Shipments
 - No planned shipments.
- Suspect TRU Waste Shipments
 - One planned shipment.

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

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- 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 181-KW 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.