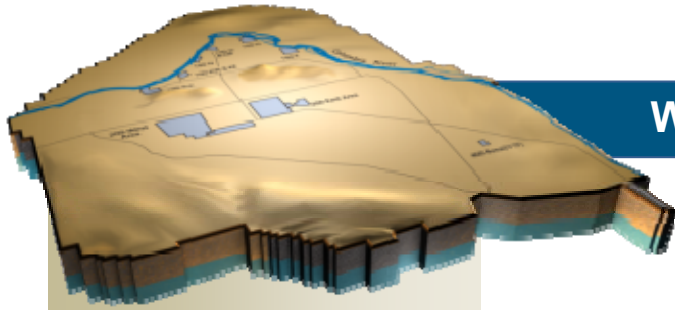


ARRA Weekly Report



Week Ending February 19, 2010

February 23, 2010
Contract DE-AC06-08RL14788
Modification M047
CHPRC1002-02

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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 cleanup and demolition efforts across the Central Plateau and along the river corridor to help pursue the U.S. Department of Energy (DOE) 2015 vision and shrink the Hanford Site cleanup footprint.

RL-0011 Nuclear Materials Stabilization & Disposition

CHPRC is accelerating critical decontamination and decommissioning (D&D) work that will help prepare the Plutonium Finishing Plant (PFP) for demolition to slab-on-grade three years ahead of the Tri-Party Agreement milestone of September 2016. The highest priority scope includes removing over 170 glove boxes/laboratory hoods and other highly contaminated equipment from the 234-5Z building, the largest facility at PFP used for plutonium production and processing.

RL-0013 Solid Waste Stabilization & Disposition

Recovery Act funds are allowing CHPRC to accelerate retrieval of 2,500 m³ of suspect transuranic (TRU) waste, eliminate 1,800 m³ of mixed low-level and low-level waste (MLLW and LLW), and accelerate the overall cleanup of legacy waste and fuels on the Hanford Site.

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

In the ongoing effort to protect the Columbia River, CHPRC is using Recovery Act funding to construct two groundwater treatment facilities and drill over 300 wells that will be used for monitoring, extracting, and remediating groundwater.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

Across the Central Plateau and along the outer zone of the Hanford Site, CHPRC is accelerating the demolition of facilities to reduce mortgage costs on buildings that are no longer of service and provide access to waste sites located underneath.

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

In the 100K Area along the Columbia River, CHPRC is demolishing 12 buildings and remediating 49 wastes sites to clear the area and prepare for the disposition of two reactors, K East and K West.

ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

D&D crews are removing legacy combustible waste from glove boxes and laboratory hoods throughout 234-5Z building; only three glove boxes remain to be cleaned out. Last week, six glove boxes in the Analytical and Plutonium Process Support Laboratories and one in the RMA Line were reactivated ahead of the baseline schedule and the combustible material was removed.

Laboratory areas

Four D&D crews are cleaning out the former PFP laboratories with support from Recovery Act funds. In the Standards Laboratory, external equipment was removed from glove box 221D-5. Decontamination of three glove boxes in room 136 of the Analytical Laboratory is nearing completion and final radiological surveys are scheduled for next week. Legacy waste in room 144 was removed in preparation for the disposition of chemical items stored in the laboratory hoods. In room 149, chemical decontamination was initiated on three hoods. In the Plutonium Process Support Laboratory, a crew began removing external equipment attached to three hoods in room 191.



Photo 1

Workers remove legacy waste from a laboratory hood in room 144 of the Analytical Laboratory at the Plutonium Finishing Plant. The waste is being removed in preparation for the future disposition of chemical items in the hood.

Plutonium processing areas

Five crews are deployed to clean out the former RMA/RMC Line processing areas and the Radioactive Digestion Test Unit (RADTU) area of the 234-5Z building. In the RMC Line, a crew continued removing external piping stubs from outside of glove box HC-60 to reduce remaining contamination to meet LLW criteria. Process equipment removal was initiated on nearby glove box HC-230C-2.

In the RMA Line, a D&D crew successfully completed removal of process equipment from multi-story glove boxes HA-19B1 and B2 and the glove boxes will now be prepared for chemical decontamination. Crews also continued removing external equipment from glove box HA-46 and began activation of the glove box to support internal process equipment removal. In the former RADTU area, installation of a large-area containment was completed to support cleanout of multiple glove boxes in this area. Preparations are under way to replace the inlet filters prior to beginning work on glove box 400.

Infrastructure systems

Construction of a new remotely operated roll-up freight door with an inflatable seal is nearing completion. The new doorway will permit direct loading of glove boxes and other waste containers into larger, end-loading transport containers.

Work was initiated on relocation and reuse of jersey barriers and ecology blocks that once made up several extensive vehicle barriers for security around the PFP complex. Most of the blocks will be used by CHPRC's Waste and Fuels Project or by the Mission Support Alliance Safeguards and Security organization, avoiding costs for procurement of new barrier blocks.

Planning and preparations continued toward removal of the process vacuum system, including non-destructive assay of the more than 5,000 feet of heavily contaminated piping running throughout the 234-5Z and 291-Z facilities. Removal of the system is expected to begin in early March.

The last of the safety showers and eyewash stations to be deactivated and removed this fiscal year were removed from room 166 in the Standards Laboratory. Other stations throughout 234-5Z building will remain to support ongoing D&D. Removal of hazardous materials from various areas of the 234-5Z building is continuing, with an emphasis on removal of asbestos insulation; more than 7,400 feet have been removed from ductwork and piping with support from Recovery Act funds. Preparations for draining and removing polychlorinated biphenyls from electrical equipment are also continuing, as is planning for removal of Freon and desiccant from large banks of deactivated air dryers on the third floor.



Photo 2

A non-destructive assay technician and scientist identify sections of the process vacuum line, which is heavily contaminated piping that runs throughout the 234-5Z and 291-Z facilities. Removal of the line poses ergonomic challenges as it spans through tight quarters and among other support systems.



Workers install a roll-up freight door with an inflatable seal at the 234-5Z building. The new door, Door 135A, will allow glove boxes and other waste containers to be directly loaded into end-loading transport containers rather than transported out of the building, moved across the yard on a fork lift, and lifted into top-loading containers with a crane.

Photo 3

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

Of the 1,800 m³ of MLLW and LLW planned for treatment and disposal under the Recovery Act:

- 850 m³ of MLLW and LLW have been shipped to date including:
 - 385 m³ that have been treated and disposed.
 - 465 m³ at off-site treatment facilities awaiting processing. Treatment is scheduled for FY10.

One fiberglass-reinforced plywood box (11.3 m³) of MLLW debris, over-packed into a larger shipping container, was shipped from the Central Waste Complex (CWC) to Perma-Fix Northwest (PFNW) on Feb. 16. The waste will be volume-reduced, non-thermally treated through macro-encapsulation, and shipped back for disposal in the Mixed Waste Disposal Units.



Photo 4

Transportation personnel inspect a shipping vehicle containing mixed low-level waste debris leaving the Central Waste Complex for Perma-Fix Northwest. This shipment includes one fiberglass-reinforced plywood box (11 cubic meters) of legacy mixed low-level waste over-packed into a compliant shipping container.

Environmental Restoration Disposal Facility "Self Perform"

The access road and the electrical installation for the Container Maintenance Facility are complete. Facility National Electric Code inspections were performed and the facility was powered-up. Workers finished leveling, placing, and compacting the top course material for the access road, bringing it to final grade. Workers also prepared the facility floor and sealed it with a protective coating.



Photo 5

Construction of the access road for the Container Maintenance Facility is complete. A culvert pipe was installed to prevent accumulation of rain/snow melt on the uphill side and to protect the road from erosion.

RL-0013C:R1.2: TRU Waste

Of the 2,500 m³ of suspect TRU waste planned for retrieval under the Recovery Act:

- 17.1 m³ are staged, pending shipment.
- 428.6 m³ have been shipped to a treatment, storage, or disposal facility.

In the 3A burial grounds, workers completed the required surveys of the HEPA vacuum and held a repackaging planning meeting for Boxes 80 and 82, which are located in Trench 17. The 3A burial grounds team met with the D&D Project personnel to discuss the use of an excavator and attachments to aid in the repackaging of Box 82. The team also met with the Waste Services group to discuss waste packaging associated with Box 82.

Revision of the shipping, over-packing, and secondary waste procedures for the 4C Process Area continued. Installation of the new 4C restroom facility and set-up/start-up preparations for the new Mobile Radioactive Decontamination Unit (MDU) continued. The electrical outage to tie in power for the Container Maintenance Facility was completed. Nuclear Chemical Operator training and certifications continued. A Notice of Intent was issued for the fabrication contract for the medium box repair containers.

Alpha Caisson Retrieval Project

The Nuclear Safety group issued a Major Modification Determination for review and continued the development of the Conceptual Safety Design Report. The ARES Corporation continued developing the final design of the waste retrieval system.

TRU Project Drum Repackaging

Of the 850 m³ planned to be characterized and repackaged under the Recovery Act:

- 772 drums (160.6 m³) were repackaged.
- 1,429 drums (297.2 m³) have been quick-scanned to date.
- Repack instructions (corrective actions) for 1,681 drums (349.6 m³) have been developed.

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

RL-0030.R1: Central Plateau Soil & Groundwater

DX Groundwater Treatment Facility

In the 100-HR-3 D Area, construction of the buildings for the DX Groundwater Treatment Facility is in progress. Installation of electrical cable to the well locations is 58 percent complete. Construction of the process building and two transfer buildings continued with the mobilization of electrical, mechanical, and process equipment. Installation of the electrical and mechanical equipment for the main process building and the two transfer buildings is provided in the table below.

Equipment installation status for the DX Groundwater Treatment buildings

Building	Electrical Equipment (% complete)	Mechanical Equipment (% complete)
Process	12%	15%
Transfer (M1)	17%	17%
Transfer (M2)	7%	10%



Photo 6

The Engineering, Projects and Construction team is using Recovery Act funding to install process piping and filters in the main processing building of the DX Groundwater Treatment Facility in the 100-HR-3 area.



Photo 7

An area adjacent to the new Recovery Act-funded DX Groundwater Treatment Facility is being prepared for the laying of pipe that will connect the treatment facility to groundwater wells throughout the 100-HR-3 area.



Photo 8

The exterior of the DX Groundwater Treatment Facility, where the process building connects with high-density polyethylene piping (HDPE). Over 40 miles of HDPE piping is being installed to connect the DX facility to wells throughout the 100-HR-3 area.

Well Drilling

With Recovery Act funding, CHPRC is installing wells throughout the Hanford Site to monitor, extract, and remediate contaminated groundwater. The following table showcases recent drilling progress by operable unit (groups of similar waste units within a geographic area).

Operable Unit	Scope (Wells to be drilled with Recovery Act funding)	In progress	Drilled to Total Depth ¹	Developed ²
100-NR-2	Expand the apatite barrier to better contain a strontium-90 plume along the Columbia River (171 wells)	89	89	42
100-HR-3	Support the DX Groundwater Treatment Facility that will treat hexavalent chromium contamination in the groundwater (14 wells)	14	14	14
100-BC-5	Support characterization of the aquifer (4 wells)	4	3	2
200-BP-5	Support characterization of the aquifer (3 wells)	3	1	1
200-ZP-1	Support the 200 West Groundwater Treatment Facility that will treat various contaminants, primarily carbon tetrachloride (17 wells)	9	6	5

¹ Wells are drilled to varying depths to address contaminants at different depths in the soil.

² When a well is developed, the well screen and riser pipe are placed in the hole, filter pack material is placed around the screen, and the well has been surged and pumped to establish good communication between the well and the surrounding soil.



Photo 9

Recovery Act funds are being used to install a well that will support the 200 West Groundwater Treatment Facility and help treat various contaminants in the 200-ZP-1 and 200-UP-1 operable units on the Hanford Site.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

RL-0040.R1.1: U Plant/Other D&D

The wheel and bearing have been replaced on the U Canyon crane. An issue was identified with the alignment of the wheel, which likely contributed to the previous failure. A recovery plan is being formulated. An entry into the railroad tunnel was completed to move more equipment into the canyon. In parallel, size reduction activities and chemical disposition continued within the canyon. Evaluations of grout conveyance bids and plans for disposition of the D-10 tank in Cell 30 are also ongoing.



Photo 10

Workers apply lubricant to the U Canyon crane wheel and bearings. With the replacement unit installed, workers are now developing plans to repair the crane's alignment.

U Plant Ancillary Facilities

Asbestos abatement continued at the 224-U and 224-UA buildings, which are two of three remaining U Plant ancillary facilities that CHPRC is preparing for demolition. In the 224-U building, crews completed the asbestos containment for the cell area and initiated asbestos removal. Demolition planning continued.

200 East Core Industrial Area

Asbestos abatement continued in the 272-E Fabrication Shop. Entries into the 284-E Powerhouse continued in preparation of the Waste Identification Form and cold and dark activities. Biological hazard cleanup and beryllium sampling are continuing. The powerhouse has been down posted from a Contamination Area to a Radiological Buffer Area.

209-E Criticality Mass Laboratory

Beryllium sampling was completed and the results supported entries to conduct a planning walk down of the facility. Planning continues for the removal of miscellaneous waste and general housekeeping while the safety basis, environmental, and waste documents are being prepared and approved. Efforts are continuing for electrical and mechanical isolation of the facility in support of inventory removal. The process for isolating the current electrical system and installing temporary power to support upcoming demolition preparations was initiated.



Workers observe a glove box during a walk down of the 209-E Criticality Mass Laboratory. The walk downs supported planning for upcoming activities within the building. With Recovery Act funding, CHPRC will down-grade the facility and ultimately prepare it for demolition.

Photo 11

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

Facility D&D

Demolition debris on the lower Arid Lands Ecology (ALE) Reserve is being loaded into roll-on/roll-off containers for disposal at ERDF. Cold and dark isolation activities of structures on upper ALE and cleanup of debris sites throughout the reserve are ongoing. Seventy seven debris sites have been removed.

Waste Sites

Recent progress in remediating the outer zone waste sites includes (listed by operable unit or site):

- *200-MG-1* – Sampling instructions are being prepared for the 600-36, 600-38, 600-40, 600-275, 200-W-33, 200-37, and UPR-600-12 waste sites. Additional sampling was completed for waste site 600-218, which once served as a dumping area during Hanford operations and received miscellaneous demolition debris. Development and processing continued for the Response Action Completion Reports (RACR) for closing waste sites 200-E-101, 200-E-110, 600-21, and 600-51.
- *200-CW-3* – The sampling results for the 216-N-1 waste site are being reviewed. Remediation continued at the 216-N-4 waste site with three super-dump trucks delivering approximately 6,300 tons of contaminated soil to ERDF. Development of the RACR was initiated for closing waste sites 2607-N, -P, and -R, which are associated with the former 212-N, -P, and -R interim fuel storage buildings. Sampling results confirmed the sites require no further remedial action.
- *BC Control Area* – Remediation of Zone A continued with approximately 42,600 tons of contaminated soil having been shipped to ERDF. In Zone B, remediation of the remaining contaminated spots continued.

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

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

Facility D&D

Demolition of the 183.2KW Sedimentation Basin floor was initiated. Roll-on/roll-off containers are being loaded with metal debris in preparation for shipment to ERDF. Demolition preparations for the 183.1KW Headhouse are complete and demolition is expected to start next week. Air gapping of pipes inside the Sedimentation Basin tunnel was completed.

Removal and packaging of debris from the 105KW Fuel Storage Basin continued with a total of 261 debris units removed to date. The amount of debris that will ultimately be removed is still under review and will be determined based on end-point criteria and As Low As Reasonably Achievable considerations. Work crews are being identified for upgrading the 105KW air handling unit and materials for the upgrade are being procured.

Asbestos abatement preparations continued in the 115KE Gas Recirculation building. Asbestos removal activities will begin next week. Ongoing activities for the 105KE Reactor include Preliminary Design activities for the disposition of the reactor, independent review of the draft Equipment Testing List, and development of the work document for the core sampling. The work instructions are being validated as dry runs are performed using the recently fabricated glove box for mock-up training.

Isolation of 100K Area utilities continued in support of cold and dark conditions for buildings, structures, and waste sites that are planned for D&D and remediation. This includes replacing portions of the current electrical and water supply systems with temporary systems to limit restrictions on demolition and remediation activities. The cultural and ecological review of the locations for the water line and microfiltration unit continued.



Photo 12

Demolition continues in the 183.2KW Sedimentation Basin. With majority of the interior and the east and west walls removed, demolition crews began demolishing the basin floor. The debris is being staged for future use on other CHPRC projects.

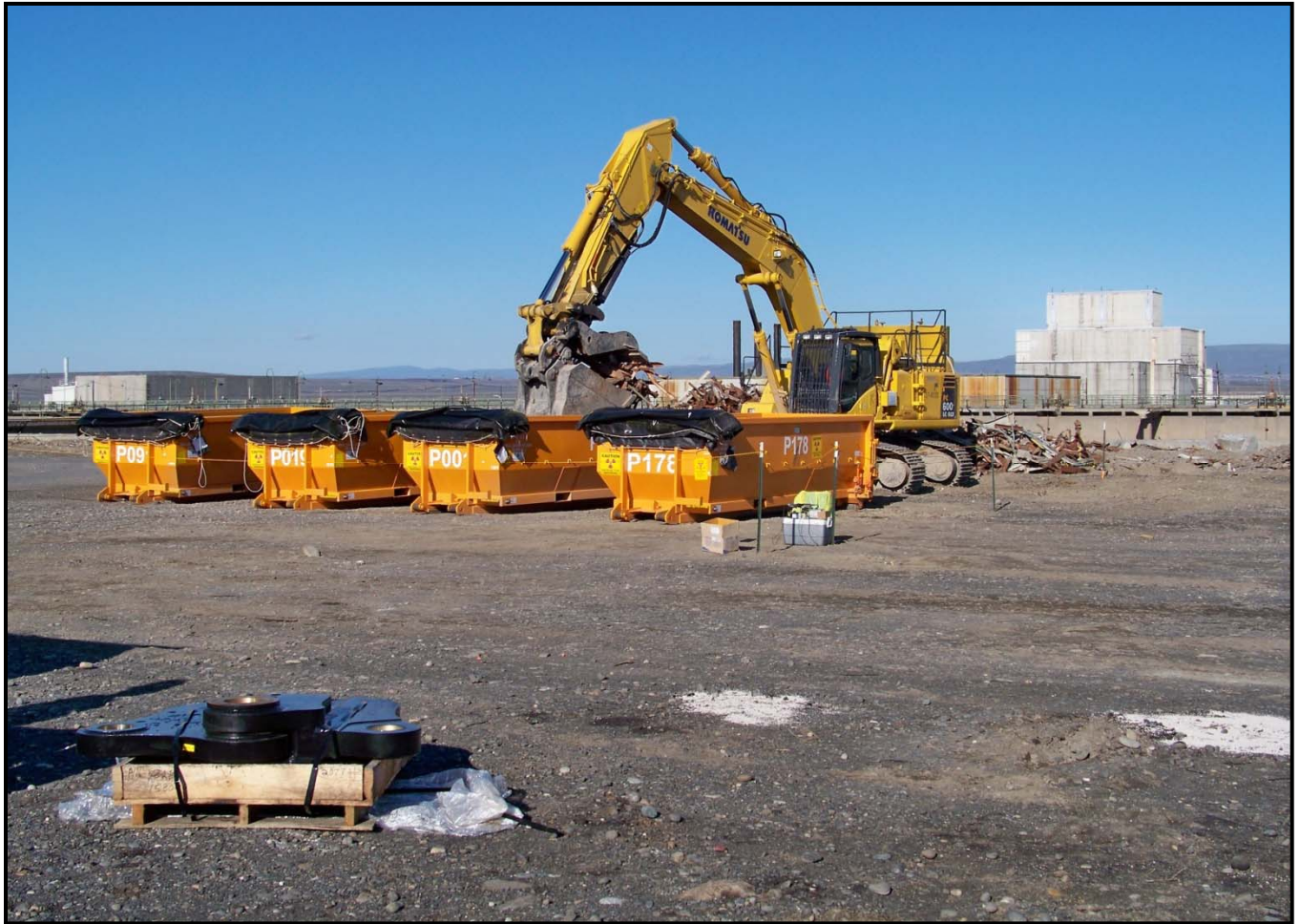


Photo 13

Loading metal waste into containers for disposal at the Environmental Restoration and Disposal Facility. The material was removed from the 183.2KW Sedimentation Basin during demolition.

Waste Sites

Recent progress in remediation at 100K Area waste sites includes (listed by operable unit or site):

- *UPR-100-K-1* – Demolition of the concrete pads west of the load-out ramp continued. Load-out of the debris was initiated last week with approximately 224 tons of material loaded into containers for disposal.
- *100-K-3, 100-K-47, and 100-K-56 Pipelines* – In previous weeks, the pipelines were air gapped to sever the path for water from the pipelines to reach the 100KE outfall. After water began flowing from the 100-K-3 pipeline, remediation of the waste site was halted until the source of the water is identified. Remediation of the 100-K-56 pipeline continued with approximately 840 tons of material removed.
- *100-K-63 and 100-K-64* – Review of the draft document containing the rationale to change the status of 100-K-63 (western flood plain) and 100-K-64 (eastern flood plain) continued. The document was returned from DOE Richland Operations Office with comments.



Photo 14

Demolition in progress near the site of the former K East Fuel Storage Basin. Workers are demolishing concrete, asphalt, and railroad structures that once supported the K East Reactor. Removing the structures will provide access to contaminated soils underneath.



Photo 15

An excavator removes overburden in the excavation of the 100K pipeline waste sites. CHPRC is working in parallel on three pipeline wastes sites, which were previously contaminated as they carried water and various effluent to and from the K Reactors.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

- Isolate glove box 221-D-5 and remove it from the Standards Laboratory.
- Complete chemical decontamination of glove box HC-60, three glove boxes in room 136, and three glove boxes in room 149. Initiate preparations for removal.
- Initiate chemical decontamination of glove boxes HA-19B1 and HA-19B2.
- Complete process equipment removal from glove box HC-230C-2 and initiate process equipment removal from glove boxes HC-227T and GB400.
- Assess the radiological status of and determine a disposition path for decontaminated glove box HC-230C-3 and three glove boxes previously removed from room 137 of the Analytical Laboratory.
- Complete electrical/mechanical isolation and removal of the storage tank on the 2731-ZA nitrogen generator facility.
- Initiate disposition of hazardous materials and air dryers in room 321 of the 234-5Z building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Planned shipment of 8.3 m³ (37 drums) of LLW debris on Feb. 23 from CWC to PFNW.
- Planned shipment of 15.3 m³ (51 drums) of MLLW debris, previously classified as TRU waste, on Feb. 24 from the Waste Receiving and Processing Facility to PFNW.
- Planned shipment of 2.7 m³ (8 drums) of MLLW debris, previously classified as TRU waste, on Feb. 24 from CWC to PFNW.
- ERDF “Self Perform”:
 - Container Maintenance Facility:
 - Install asphalt entrances off Dayton Street to keep rocks off of and to protect the main road.
 - Install permanent facility air compressor.
 - Complete “as-built” drawings that will detail any changes made during the Container Maintenance Facility construction.
 - Issue facility Fire Hazard Analysis.

RL-0013C:R1.2: TRU Waste

- Conduct Enhanced Work Planning/Automated Job Hazard Analysis session and finalize work package for the repackaging of Boxes 80 and 82 in preparation for the Hazard Review Board.
- Continue MDU set-up/start-up.
- Complete occupancy inspection for the new 4C area restroom facility and place into service.
- Complete review/revision of 4C Process Area procedures.
- Alpha Caisson Retrieval
 - Issue Conceptual Safety Design Report on March 31.

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

RL-0030.R1: Central Plateau Soil & Groundwater

- Continue construction of the DX Groundwater Treatment Facility.
- Continue drilling at 200-ZP-1, 100-HR-3-H, 100-HR-3-D, 100-BC-5, and 100-NR-2.

RL-0040 Nuclear Facility D&D – Remainder of Hanford

RL-0040.R1.1: U Plant/Other D&D

- Receive delivery of the remaining D&D heavy equipment being procured.
- Continue asbestos abatement and demolition preparations for U Plant ancillary facilities.
- Continue relocating equipment from the canyon deck into the process cells.

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

- Backfill and re-contour the former 212-NPR building sites.
- Continue demolition and waste load out of the lower ALE facilities.
- Continue removal of debris sites throughout the ALE Reserve.
- Continue cold and dark isolations of upper ALE facilities.
- Continue remediation at the BC Control Area, 200-MG-1, and 200-CW-3 waste sites.
- Continue development and processing of the RACR for closing waste sites 200-E-101, 200-E-110, 600-21, and 600-51.

- Prepare sampling instructions for 600-36, 600-38, 600-40, 600-275, 200-W-33, 200-37, and UPR-600-12 waste sites.
- Develop the RACR for closing the 2607-N/P/R waste sites.

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

- Begin demolition of the 183.1KW Headhouse.
- Continue debris removal from the KW basin.
- Continue activities for upgrading the 105KW air handling unit.
- Continue Preliminary Design activities for the disposition of the 105KE Reactor.
- Perform formal 105KE Reactor characterization efforts.
- Continue activities for isolating 100K Area utilities to support of cold and dark preparations.
- Continue remediation of the soils beneath the former K East Fuel Storage Basin as well as the pipeline and flood plain waste sites.