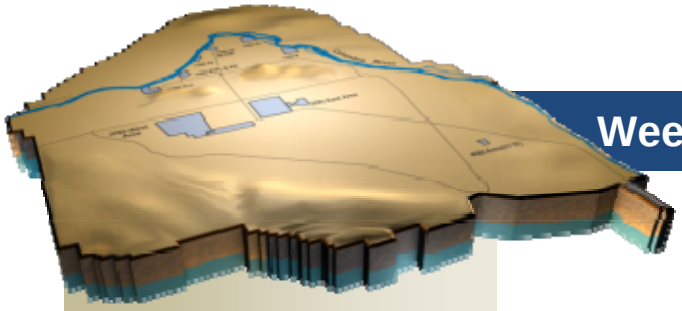
CH2MHILL
Plateau Remediation Company

ARRA Weekly Report



Weeks Ending November 19-26, 2010*

November 30, 2010
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*Note: This week's report covers the weeks ending Nov. 19 and Nov. 26, 2010.

Contents

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 to prepare the Plutonium Finishing Plant (PFP) for demolition three years ahead of the Tri-Party Agreement milestone of September 2016. The work scope includes removing over 174 glove boxes/laboratory hoods and other highly contaminated equipment from the 234-5Z, 242-Z, and 2736-ZB buildings as well as preparing the former special nuclear material storage structures and other ancillary buildings for demolition.

RL-0013 Solid Waste Stabilization & Disposition

Recovery Act funds are allowing CHPRC to accelerate retrieval of 2,500 m^3 of suspect transuranic (TRU) waste, eliminate 1,800 m^3 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, install over 265 wells that will be used for monitoring, extracting, and remediating groundwater, and decommission 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 accelerating the demolition of 34 facilities to reduce mortgage costs on buildings that are no longer of service and complete the remediation of 24 waste sites.

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

In the 100K Area along the Columbia River, CHPRC is demolishing 15 buildings and sampling and/or remediating 23 waste 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

Three glove boxes were removed from room 139 of the Analytical Laboratory, and one was removed from Room 230C of the RMC Line, bringing the total number of glove boxes removed with Recovery Act funds to 82, nearly halfway to CHPRC's goal to remove 174 glove boxes. The level 3 readiness assessment was completed for use of Aspigel® as a second chemical decontamination process. Aspigel® has the potential to be more effective in decontaminating some of the process glove boxes.

Structures, equipment, waste disposition	Total to Date (since April 2009)
Glove boxes/hoods removed	82 glove boxes/hoods
MLLW/LLW shipped	2,135 m^3
TRU shipped	234 m^3
Non-radioactive waste shipped	22 m^3
Process transfer line removed	268 feet
Process vacuum system piping removed	380 feet
Asbestos removed	11,854 feet
Ancillary structures demolished or removed	22 fuel vaults & ancillary buildings prepared for demolition

Photo 1

A crew in the Remote Mechanical C (or RMC) Line at the Plutonium Finishing Plant constructs a glove bag around glove box 230C-3, which will be split into two pieces for disposal.

Laboratory & Processing Areas
Recovery actions from the contamination event in room 139 of the Analytical Laboratory progressed sufficiently that glove boxes 139-1, 139-2, and 139-6 could be removed from the room and staged for size reduction. Residual contamination levels on all six glove boxes in room 139, along with glove boxes 179-5 and HC-230C-5, exceed the threshold for onsite disposal as LLW. The C-5 glove box can be disposed of directly in a Standard Waste Box (SWB); however, the other glove boxes will need to be size reduced.

Also in the Analytical Laboratory, the doorway of room 144 was widened, and glove box 144-9 can now be removed and transferred to waste operations for disposal as LLW. The Hazard Review Board (HRB) concurred with the plan to dispose of the remaining chemical waste items in room 144. D&D crews began cleanout and removal of five hoods in room 143. Analysis of non-destructive assay measurements of previously removed glove box 179-5 confirmed it will need to be size reduced for disposal as TRU waste.

Preparations for startup of the glove box size-reduction station continued, with operations expected to begin on or ahead of schedule in early December. Planning began for a second size-reduction station to accommodate the increased number of glove boxes that will need to be disposed of as TRU waste.

In the former Radioactive Acid Digestion Test Unit (RADTU) area, a final characterization report confirmed that glove box 100A can be disposed of as LLW. Concurrence was received from DOE-Richland Operations program representatives to disposition in place three massive RADTU glove boxes with very little residual contamination for removal during building demolition. In the RMA Line, crews completed supplied-air characterization entries into the 232A hydrogen fluoride scrubber cell and began preparations for RadPro® chemical decontamination of glove box HA-46, which makes up much of the front wall of the cell.

2736-Z/ZB Vault Complex
Final Surface Contaminated Object (SCO) survey data confirmed that removed glove box 642-E can be disposed of as LLW; the box will be transferred to waste operations next week. Meanwhile, SCO surveys on glove boxes 642-C and -D indicated additional chemical decontamination is required in a few areas. Final preparations are under way to remove glove box 642-D.

242-Z Americium Recovery Facility
Installation of temporary power and lighting in the 242-Z Control Room is complete, and work continued to electrically isolate the facility. The D&D team also made entries to obtain characterization samples from glove boxes WT-3, 4, and 5.

Infrastructure, process support systems, and equipment removal
The first two of five drain line trenches below the floor in the 234-5Z building were successfully grouted. Following a 10-day cure time, heavier glove boxes can now be moved over the trenches as they are removed from the lab and process areas. Three other trenches will be grouted in the near term as D&D work in the areas permits, and another 10 trenches are planned to be grouted in the future.

Insulator crews removed asbestos from 150 feet of piping and ductwork this week, bringing the total linear footage completed with Recovery Act funds to 11,854 feet. Removal of process vacuum system and transfer line piping slowed this week, as scaffolding and glove bags were installed to support upcoming work and the crews planned their removal approach for future segments. A brief stop work was experienced on process vacuum system removal; however, the crew and support organizations successfully resolved the issues and returned to work the same day.

Slightly over 12 cubic meters of LLW was shipped from PFP, including two LLW boxes and one drum to Perma-Fix Northwest (PFNW), 24 drums to the Waste Receiving and Processing Facility (WRAP), and a roll-off container shipped to the Environmental Restoration Disposal Facility (ERDF).

Photo 2

Drums of transuranic waste are loaded for shipment to the Waste Receiving and Processing Facility. With Recovery Act funding, CHPRC has removed 234 cubic meters of transuranic waste from the Plutonium Finishing Plant.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

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

- 1,073 m³ of MLLW and LLW have been shipped to date including:
  - 892 m³ that have been treated and disposed.
  - 181 m³ at off-site treatment facilities awaiting processing. Treatment is scheduled for FY11.

No shipments went out this week.

RL-0013C:R1.2: TRU Waste

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

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

In the 3A burial ground, workers loaded and shipped Trench 17 Box 12 (59.5 m^3) to the Central Waste Complex (CWC). Workers also continued excavating on the north side of Trench 17, the west end for the Box 13 ramp, and around Box 16. The last culvert was retrieved from Trench 8 (5.3 m^3); this was the last remote-handled container in Trench 8. Three containers were excavated, removed, and over-packed from Trench 8 [two fiberglass-reinforced plywood boxes (FRP) (3.2 m^3) and one metal box (11.5 m^3).] Excavation continued on three remaining containers in Trench 8 and work continued on the work package and critical lift development for the remaining Trench 8 containers and upcoming Trench 17 containers.

In the 4B burial ground, workers performed the 4B Trench 11 event site drum mitigation (2X-10-9639) and removed the damaged event site drum; drum was over-packed.

In the 12B burial ground, operational testing is complete for the real-time radiography and the drum warming unit (DWU). The punch list items were completed for the 12B construction, including fixing the leaking roof on the DWU, placing the asphalt patch, and installing the shielding walls around the Gamma Assay System. The Waste and Fuels Management Project Readiness Review Board held its first meeting to review the Trench Face Retrieval and Characterization System (TFRCS) Readiness Self-Assessment data packages.

Photo 3

The last and longest culvert (Box 34) is wrapped in plastic prior to being removed from Trench 8 in the 3A burial ground.

Photo 4

Workers install bracing in one of the two fiberglass-reinforced plywood boxes in Trench 8 of the 3A burial ground. These two boxes are being over-packed into a new waste box prior to lid installation and removal from the trench.

CHPRC and subcontractor Watts Construction completed construction of paved pads in the 218-W-3A and 218-W-4B low-level burial grounds. Watts Construction is a local small business based out of Kennewick, Wash. that specializes in general and earthwork construction. The accomplishment marked a project milestone and fulfilled the project's commitment to complete paving activities before the Thanksgiving holiday. Next Generation Retrieval and assay equipment will be located on the pads and used to assay waste drums retrieved from the burial grounds. The assay will characterize the waste level of the drums (i.e., transuranic, mixed/low-level). The construction crews placed approximately 2,400 tons of asphalt and approximately 18,000 cubic yards of fill, all within a two-week period and just days before the season's first snow fall.

Photo 5

Trucks arrive at the 218-W-3A low-level burial ground with some of the 18,000 cubic yards of fill material that were placed to construct a paved pad for assay equipment.

Photo 6

Paving of the pad at the 218-W-3A burial ground nears completion. CHPRC performed the work with subcontractor Watts Construction, a local small business that specializes in general and earthwork construction. The project placed approximately 2,400 tons of asphalt and approximately 18,000 cubic yards of fill within a two-week period.

TRU Project Drum Repackaging

Of the 850 m³ planned to be characterized and repackaged with funding from the Recovery Act:

- 1,944 drums (404.4 m³) have been repackaged.
- 96 TRUPACT-II shipments [1,343 55-gallon drums, 24 standard waste boxes (SWBs), two ten-drum over-packs, 456 85-gallon over-packs and 414 drums over-packed into 118 SWBs (507.67 m³ total)] have been shipped.

Suspect TRU Waste Shipments

Of 637 m³ of low-gram, large box TRU mixed waste planned for repackaging under the Recovery Act:

- 243.4 m³ have been shipped to date (40 m^3 were shipped using Base funding).
- 152 m^3 have been repackaged.

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

RL-0030.R1: Central Plateau Soil & Groundwater

Well Drilling & Decommissioning

The following table showcases CHPRC's recent progress in well drilling and decommissioning.

Operable Unit	Scope (Wells to be drilled with Recovery Act funding)	In progress	Drilled to Total Depth[1]	Completed or Developed[2]
100-BC-5	Support characterization and removal of chromium (6 wells)	3	2	2
100-KR-4	Support characterization of the vadose zone and aquifer (13 wells)	9	7	6
100-HR-3	H Area: Support the optimization of removal of chromium (40 wells)	40	40	37
100-HR-3	H Area: Remedial Investigation/Feasibility Study Hanford Formation (15 wells)	8	5	4
100-FR-3	Support for Remedial Investigation/Feasibility Study characterization (3 wells)	3	2	2
200-ZP-1	Support the 200 West Groundwater Treatment Facility that will primarily treat carbon tetrachloride contamination in the groundwater (17 wells)	17	15	15
300-FF-5	Support characterization of the aquifer (11 wells)	7	6	4
Site-wide	Decommission wells that are no longer of service[3]			176

[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.
[3] Wells that are inactive or no longer of service are filled with grout or other materials, the casing is removed, and a cap or marker is installed.

200W Groundwater Treatment Facility

The project poured approximately 1,300 cubic yards of concrete, bringing the project-to-date total to approximately 5,800 cubic yards placed. Subcontractor Skanska USA Build Inc. and its subcontractors installed trench grading for the Radiological Building and continued placement of under slab conduit and backfill activities for slab-on-grade pours for the Bio-Process Building.

Activities for the transfer buildings under construction by subcontractor George A. Grant Construction included (listed by building):

- Extraction #1: Installation of the translucent panels and lightening protection is complete. Welding continued on galvanized nuts on C-channel tabs connecting pipe supports to the ceiling.
- Extraction #2: Installation of translucent panels and tank pads continued.
- Injection #1: Structural steel is complete. C-channel installation is pending installation of weld nuts on the C-channel tabs.
- Injection #2: The second of two slab-on-grade placements is completed.

Photo 7

Erection of the structural steel continues for the Bio-Process Building, the largest process building for the 200 West Groundwater Treatment Facility.

DX Groundwater Treatment Facility

Insulation of the well heads for the process building is complete. Acceptance testing continued. Testing of heat trace at the wells is complete. High and low tank level interlocks were verified for pumps in the transfer buildings. Well level verifications were also completed for the transfer building wells.

Photo 8

The flooring of the process building at the DX Groundwater Treatment Facility is complete. Overall construction of the new pump-and-treat system is essentially complete and acceptance testing is in progress.

Photo 9

CHPRC completed installation of insulation on the well heads that will support the DX Groundwater Treatment Facility. The insulation will protect the well heads from freezing conditions.

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

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

U Canyon

CHPRC is planning for disposition of the D-10 tank in Cell 30, which must be disposed of before demolition of the canyon can begin. Preparation work on the D-10 tank is complete with the placement of absorbent in the tank to eliminate free liquids, closure of all tank access ports, and verification of weld and tank integrity. The cell has been closed. Core drilling activities, haul road preparation, and water tie-in for the batch plant will commence in the next two weeks. Bulkhead installation in the electrical and pipe galleries is also upcoming. Beryllium samples were taken in the railroad tunnel for analysis.

U Plant Ancillary Facilities

Final equipment decontamination and gravel placement continued in the 224-U and 224-UA demolition areas. CHPRC is preparing closure documentation.

Photo 10

Gravel is being placed at the site of the 224-U and 224-UA Buildings.

200 East Core Industrial Area
Ongoing activities for the 284-E Powerhouse complex include waste load-out of the crusher house and conveyor system, asbestos abatement within the powerhouse, and detailed planning for the explosive demolition of the powerhouse stacks.

200 West Area Industrial Facilities
Planning, characterization, and radiological surveys are ongoing. Asbestos abatement is in progress at the 284-WB Package Boiler Plant and 284-W Powerhouse.

209-E Criticality Mass Laboratory
Readiness preparations and validation review are in progress for implementing the documented safety analysis document. Personnel training to support readiness is complete. The electrical isolation of the HO-200 glove box in support of the HRB was verified. Glove bags are being installed to support visual inspection of the tanks to verify that they are dry. Non-destructive assay is being performed on piping within the facility.

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

Arid Lands Ecology Reserve (ALE) D&D
Demolition and debris cleanup on the ALE Reserve is essentially complete. CHPRC is demobilizing equipment from the work site and preparing closure documentation.

North Slope Debris Removal
Personnel with Sealaska Environmental Services, a subcontractor to CHPRC, continued debris site cleanup on the North Slope in Hanford Reach National Monument Areas 15, 16, and 18.

Photo 11

Workers from CHPRC subcontractor Sealaska Environmental Services place debris from the North Slope into a disposal container.

D&D of Railcars Located on the 212-R Rail Spur
Review and approval of the documentation for the disposition of the railcars on the 212-R Rail Spur continued. The work package for visual inspection of the railcars was finalized and personnel and equipment mobilization began. Transportation planning for shipments to ERDF continued. The cost estimate for relocating a locomotive and two railcars to the B Reactor for public display is complete.

Waste Sites
The following table showcases CHPRC's recent progress in outer zone waste remediation:

Waste Site in Progress	Tons of Contaminated Soil Removed	
	Week Ending Nov. 26, 2010	*Total to Date*
600-286/287-PL	854	13,056
200-W-147-PL	743	1,383
BC Control Area	4,700	266,700

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

- *200-MG-1*
  - 600-40: Verification sampling was performed; results are pending.
  - 600-220: Direct pushing test (DPT) sampling is complete; results are pending.
  - 600-222: Excavation is complete, verification is complete, and results are pending.
  - 600-226: Excavation is complete and the request for sample verification was initiated.
  - 600-228: DPT is complete and sample results are pending.
  - 600-OCL: Sampling will occur this week.
  - 299-W-147-PL: Excavation is ongoing.
- *200-CW-3*
  - 216-N-4: The remaining site verification package (RSVP) is being prepared. Backfill is being hauled for 216-N-4 and N-6 with approximately 15,200 tons stockpiled.
  - 216-N-6: The RSVP is being prepared. Radiological Operations completed site down-posting.
  - 600-286-PL: Remediation is complete, pending verification sampling.
  - 600-287-PL: Remediation is in process with ongoing shipments to ERDF.
- *BC Control Area*
  - For Zone A, approximately 94 acres have been excavated and surveyed.
  - For Zone B, radiological down-posting surveys are in process.

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

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

Facility D&D
Demolition continued on the 105KE discharge chute and the remaining basin floor at the base of the discharge chute.

Photo 12

Demolition of the 105KE discharge chute and the remaining basin floor at the base of the discharge chute is nearing completion.

CHPRC is completing punch list items for the facility heating, ventilation, and cooling (HVAC) system upgrades at the 105KW Fuel Storage Basin. Bollards are being installed near external components.

Photo 13

CHPRC is installing bollards near the recently installed air handling units for the 105KW Fuel Storage Basin heating, ventilation, and cooling (HVAC) system upgrades.

Infrastructure Utilities Upgrade Project

Installation of the fire water and potable water lines in the 100K Area is complete up to the tie-in points. Hanford Fire Marshall approval of the system is being obtained prior to proceeding with fire water and potable water lines tie-ins.

Testing of the microfiltration unit proceeded at the water treatment building. A portable safety shower was filled and tested. Building electrical design changes are being processed and crews are completing items that need to be finished in order to obtain the Building Occupancy Permit.

Waste Sites

CHPRC continued excavating soil from the 100-K-42 waste site, located near the former K East Reactor fuel storage basin; 2,320 tons of soil have been removed from the waste site in November, with a cumulative total of almost 13,200 tons. CHPRC is also removing soil from waste sites near the former 115-KE and 117-KE buildings, with a total of 1,174 and 1,644 tons of soil removed to date, respectively, and CHPRC initiated demolition of the sub-grade portion of the structures.

Photo 14

CHPRC begins removal of the sub-grade structures of the 115-KE Building in the 100K Area.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

- Remove the final three glove boxes from room 139 and stage them for size reduction.
- Complete grouting of the first phase of drain line trenches in the 234-5Z building.
- Complete disposition of remaining chemicals from room 144, and initiate D&D of glove boxes 144-1 through -4.Transfer glove box 144-9 to waste operations for disposal.
- Isolate and remove 642-D and three remaining glove boxes from room 642 of 2736-ZB.
- Transfer glove boxes HC-230C-3 and C-5 to waste operations for disposal.
- Initiate D&D of glove box 100A.
- Initiate use of Aspigel® as an alternate decontamination process.
- Initiate size reduction operations in room 172.
- Initiate chemical decontamination of glove box HA-46.
- Externally isolate and complete process equipment removal from the glove boxes in room 179.
- Begin isolation and cleanout of glove box WT-2 in the 242-Z building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Planned shipment of 34 drums (7.1 m3) of LLW debris from CWC to PFNW
- Planned shipment of two boxes (12.7 m3) of MLLW debris from CWC to PFNW.
- Planned shipment of one box (1.8 m3) of MLLW debris from CWC to PFNW.
- Planned shipment of one drum (0.2 m3) of MLLW non-debris from CWC to PFNW.
- Planned shipment of 29 drums (6 m3) of LLW debris from CWC to PFNW.

RL-0013C:R1.2: TRU Waste

- TRU Retrieval
  - 3A burial ground:
    - Complete excavation of Trench 17 metal Box 16.
    - Complete excavation of the north side of Trench 17 Boxes 13-22 and construct ramp into the west end of the trench to facilitate removal of Box 13 and subsequent boxes.
    - Complete removal/shipping work planning for Trench 17 Boxes 16 and 13.
    - Complete removal of three remaining Trench 8 boxes.
    - Complete excavation in Trench 8.
  - 4B/4C burial ground:
    - Complete initial disinfection and filling of the Mobile Decontamination Unit with potable water.
    - Conduct HRB meeting for 4B Trench 11 Retrieval Operations.
  - 12B burial ground:
    - Issue the status and re-start plan for the Trench Face Process System.
    - Complete calibration, confirmation, and verification of the PAN assay system.
    - Complete the operational testing for the real-time radiography/drum warming unit.
    - Validate/approve remaining 12B equipment and processing procedures.
    - Declare readiness for the Trench Face Retrieval and Characterization System.
- TRU Repack
  - No planned TRUPACT-II shipments.
- Suspect TRU Waste Shipments
  - No planned shipments this week.

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

RL-0030.R1: Central Plateau Soil & Groundwater

- Continue construction of the 200 West and DX Groundwater Treatment Facilities.
- Continue decommissioning wells across the site.
- Continue drilling at 100-BC-5, 100-HR-3, 100-KR-4, 100-FR-3, 200-ZP-1, and 300-FF-5.

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

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

- Complete equipment decontamination and gravel placement at the site of the former 224-U and 224-UA buildings.
- Continue preparations for removing the D-10 Tank from U Canyon.
- Continue preparations for grouting the U Canyon cells.
- Continue asbestos abatement and demolition preparations for the 284-E Powerhouse.
- Continue demolition of the crusher house and conveyor building at the 284-E Powerhouse.

- Continue preparations for demolishing the 209-E Criticality Mass Laboratory.
- Continue demolition planning, characterization, and asbestos abatement activities for the 200 West Area industrial facilities.

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

- Complete demobilization activities on the ALE Reserve.
- Continue removing debris and processing cultural and ecological reviews for removing debris from the North Slope.
- Continue planning, document preparation, and compilation of characterization information for the disposition of contaminated railcars in the 200 North Area. Begin visual inspection.
- Continue remediation of the BC Control Area and backfill preparations for 216-N-4 and -6.

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

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

- Continue with demolition on the west side of the 105KE Reactor building.
- Complete demolition on the 105KE discharge chute and the remaining basin floor at the base of the discharge chute.
- Complete activities for upgrading the 105KW HVAC system.
- Continue preliminary design and review activities for disposition of the 105KE Reactor.
- Continue Infrastructure Utilities Upgrade Project activities.
- Continue remediating contaminated soil from waste sites.