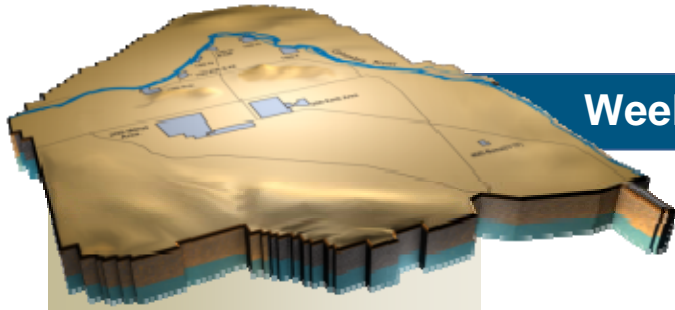


ARRA Weekly Report



Week Ending November 13, 2009

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ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

CH2M HILL Plateau Remediation Company (CHPRC) is putting funds from the American Recovery and Reinvestment Act (Recovery Act) to work throughout the former production and laboratory areas of the 234-5Z building of the Plutonium Finishing Plant complex (PFP), where workers are preparing to remove various systems and contaminated equipment, including 174 glove boxes and hoods. To date, work has been completed on 26 glove boxes since stimulus funds were released in April.

In room 146 of the Analytical Laboratory, a variety of external equipment installed on the last of five glove boxes was disconnected, size reduced, and disposed of, including compressed air lines, nitrogen lines, the dry air supply line, a hygrometer, and associated components. Removal of process equipment within the glove box will begin next week.

In the Standards Laboratory, two of three hoods in room 221E were disconnected from the building ventilation system in preparation for removal.

In the former production areas of the 234-5Z building, mechanical isolation is 90% complete on glove box HC-230C-2, and preparations for removing process equipment continued on glove boxes HA-19B1, HA-19B2, HA-46, and HC-227S. Preparations performed last week included activating glove ports on glove box HA-19B1, a task that involves removing metal covers, or "pie plates," that cover the ports and attaching new gloves that will provide workers access to work on the interior of the glove box.

Also in the 234-5Z building, workers are preparing to begin decontamination on glove box HC-60, a glove box that was previously cleared of process equipment and isolated from the process drain.

Preparations for removing the highly contaminated process vacuum system from the 234-5Z building continued but have slowed while criticality safety staff resolve issues identified on another CHPRC project; the work is now expected to begin in January. Additionally, the work package for removing safety showers that are no longer needed was approved and the work is expected to begin next week in the Standards Laboratory.

Insulators removed asbestos from an additional 290 feet of piping, bringing the total removed with the help of Recovery Act funding to well over one mile.



Photo 1

Workers put on personal protective equipment in preparation for activating glove ports on glove boxes in the former production areas of the Plutonium Finishing Plant. Workers will remove cover plates on the ports and attach new gloves to gain access to the interior of the glove box. Attaching new gloves ensures workers' safety as they work within the contaminated equipment.



Photo 2

Workers activate a glove port to attach new gloves to glove box HA-19B1. The gloves will protect workers as they work within the box, performing process equipment removal during the upcoming weeks.



Photo 3

A nuclear chemical operator loads a package of decontamination supplies into glove box HC-60. The package is loaded into an air-locked "load-in" port that provides a seal between the clean and the contaminated air as the package enters the glove box. After decontamination is finished, the package will become part of the waste that will later be removed from the glove box.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: Mixed Low-Level Waste (MLLW) Treatment

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

- 630 m³ of the 1,800 m³ have been shipped to date including:
 - 254.2 m³ of low-level waste (LLW) have been treated and disposed.
 - 375.8 m³ are at off-site treatment facilities awaiting processing. Treatment is scheduled for FY 2010.

Three shipments of waste were sent out for treatment this week. Six boxes (18.1 m³) of legacy Toxic Substances and Control Act LLW containing miscellaneous debris waste items were shipped on Nov. 9 from the Central Waste Complex (CWC). Sixty-five drums (20.9 m³) of MLLW debris were shipped on Nov. 12 from the Waste Receiving and Processing facility (WRAP). Four boxes (25.5 m³) of retrievably stored MLLW debris from the Waste Retrieval Project were shipped on Nov. 12 from the CWC. All of these shipments were shipped to Perma-Fix Northwest (PFNW) and will be non-thermally treated and grouted or encased in a special concrete, a process called macro encapsulation.



Photo 4

Boxes containing legacy low-level waste from the Central Waste Complex are loaded for shipment to Perma-Fix Northwest, where they will be non-thermally treated and grouted or encased in a special concrete. Recovery Act funds are being used to reduce the amount of waste on the Hanford Site by accelerating the preparation and shipment of stored waste for treatment.



Photo 5

A shipment of 65 drums containing mixed low-level debris waste from the Waste Receiving and Processing facility is loaded for shipment to Perma-Fix Northwest. Using Recovery Act funds, CHPRC will treat and dispose of an estimated 1,800 m³ of mixed low-level and low-level waste.

Environmental Restoration Disposal Facility (ERDF) "Self Perform"

The ERDF "Self Perform" project continues retrieving roll-off cans from the 100K and the 200N areas. All the roll-off cans with the identified weld issues have been repaired and re-certified by the vendor. Construction mobilized and began site preparation for the container maintenance facility that will serve as the central storage and maintenance facility for the ERDF "Self Perform" roll-on/roll-off containers. Staff hiring and training for the project are still in process.



Photo 6

The site of the future container maintenance facility. The facility will serve as the central storage and maintenance facility for the roll-on/roll-off containers being used as part of the Environmental Restoration and Disposal Facility "Self Perform" project.

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

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

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

Removal activities continued in 3A Trench 17 with workers preparing for the disassembly of Boxes 80 and 82. Workers installed a temporary cover box for Box 80 and continued excavating the trench ramp on the east end to provide for access for the disassembly of Box 82. The team completed several enhanced work planning sessions as well as a Hazard Review Board (HRB) dry-run. Finalized documents were submitted to the HRB for review on Nov. 16. The team also worked with the CHPRC Plastic Shop to develop protective covers for long-reach saws to be used in the disassembly.

Workers also excavated to uncover the bottom of Box 3, which is degraded on all sides. An engineering evaluation is in progress to determine a path forward for removal.



Photo 7

In a trench in the 200 West Area, workers prepare a box of waste for a temporary cover box that will protect the suspect transuranic waste package during disassembly of the container and repackaging of the waste.



Photo 8

A temporary cover box was installed for Box 80 in 3A Trench 17. The cover box protects the waste box from weather during repackaging of the waste contents.

Alpha Caisson Retrieval Project

The Alpha Caisson Retrieval Project Management Group is developing a work breakdown structure (WBS) and an acquisition strategy to be presented in the conceptual design report. The initial integrated conceptual design outline was co-authored by CHPRC, AREVA, and ARES. The management assessment plan was prepared for evaluating the project's compliance to the execution plan and project management procedures, and the technical readiness level report is in the final stages of preparation. The waste retrieval system team reviewed the alternative analysis for the retrieval design, provided comments to ARES focusing primarily on cost reduction and operation reliability, and established a conceptual path forward. The waste retrieval system team and the waste processing system team also continued developing conceptual drawings.

TRU Project Drum Repackaging

Of the 1,210 drums (400 m³) planned to be characterized and repackaged in FY2010:

- 464 drums have been quick-scanned to date.
- Corrective actions for 547 drums have been developed.

Waste Stream Disposition Alternative Analysis Workshop

An Alternative Analysis Workshop, funded by the Recovery Act, took place Nov. 9-12 to discuss the future treatment and disposition plans for remote-handled (RH) large packages and other waste streams that cannot currently be treated or disposed of on the Hanford Site. The Waste Stream Disposition Alternative Analysis Workshop was attended by experts from the Department of Energy and the commercial nuclear industry. The ideas and concepts developed during the workshop will be incorporated into the Hanford Site work scope for the next five or more years.

To date, Hanford has approximately 8,732 m³ of RH large packages that contain suspect TRU waste. At this time, Recovery Act funding is only being used to retrieve RH large packages from the trenches and to ensure they are stored safely and in good condition. Approximately 7,000 m³ have been retrieved and sent for storage, but there is still 1,732 m³ in the trenches that have yet to be classified as RH or CH. The primary focus of the workshop was to determine how to sort the waste based on radiological content, size reduce the waste, and identify treatment options. The workshop team split into three groups with each group focusing on one issue. The results of each group's collaboration will be summarized in a workshop report in January and reviewed to determine a preferred course of action. The goal of the effort will be to identify plans for treating and disposing of RH large packages and other waste streams to help accelerate the cleanup of waste on the Hanford Site.



Photo 9

Experts from the Department of Energy and the commercial nuclear industry gather at the Waste Stream Disposition Alternative Analysis Workshop on Nov. 9-12 to discuss the treatment and disposal of various waste streams.

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

RL-0030.R1: Central Plateau Soil & Groundwater

Recovery Act dollars are at work across the Hanford Site preparing for and drilling numerous wells that will be used for monitoring, extracting, and remediating groundwater. Recent progress includes:

- *100-NR-2* – Drilling on the 171 wells for the expansion of the apatite barrier continued with 19 wells in process. The 19 wells have been drilled to total depth and eight have been constructed and developed.
- *100-HR-3* – In the H Area, 25 wells are planned to be drilled for the Remedial Process Optimization effort. The remaining 13 well locations were approved by the State Historic Preservation Officer and the construction of the roads and pads can be initiated next week. In the D Area, 14 wells are planned to be drilled in support of the new DX Groundwater Treatment Facility. Four wells are in process and three have been drilled, constructed, and developed. The remaining 10 well locations were approved by the State Historic Preservation Officer.
- *200-BP-5* – Drilling on one of three wells was initiated and the current depth is 88 feet.
- *200-ZP-1 Expansion* – Drilling continued on six wells: Two wells have been developed, three wells are under construction, and one well is being drilled (the current depth is 452 feet).
- *100-BC-5* – Drilling continued on two of four planned wells. The drilling depths are approximately 137 feet and 157 feet, respectively.



Photo 10

A worker constructs a well pad for one of 14 wells in the 100-HR-3 D Area. CHPRC is constructing wells in the 100-HR-3 D and H areas to support the DX Groundwater Treatment Facility that is currently under construction with the support of Recovery Act funds to help protect the groundwater at the Hanford Site.



Photo 11

Workers prepare to sample a section of the soil from a drill site in the 100-NR-2 area along the Columbia River. The sampling will help workers determine what contaminants are present at different depths in the soil.

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

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

The recent focus in the U Plant Canyon was on applying fixative within the canyon to help maintain lower levels of airborne radioactivity, particularly as cover blocks are relocated, cells are opened up, and equipment is relocated from the canyon deck into the cells. Preparations are nearly complete for relocating equipment in and between Cells 2 and 7.

Removal of asbestos and other hazardous materials is continuing to prepare U Plant ancillary facilities 224-U and 224-UA for demolition. At 224-UA, asbestos abatement was completed in the Hammer mill/towers area and is ongoing in the calciner area. At 224-U, preparations were initiated for removing residual acid from tanks in C Cell, and preparations for asbestos removal continued on the south side piping and the tower area.

The hazards analysis to support removal of equipment and holdup from the 209-E building, Hanford's former Critical Mass Laboratory, was completed and resulted in a change in the sequencing of some planned activities. Field walk downs are continuing in support of cold and dark isolation planning and the design and placement of contamination control equipment.

Also in the 200 East Area, walk downs are being performed to support waste management plans and the development of work packages to prepare the core industrial facilities for demolition. This includes:

- three mobile offices (MO-104, -405, -840)
- four shop and warehouse facilities (2701-M, 272-E, 275-E, 2734-E)
- the large 200 East Area powerhouse (284-E)
- the small adjacent storage building (2716-E).

Radiological surveys and occupational hygiene and safety inspections are also in progress for a number of these facilities. Field work to prepare the facilities for demolition is expected to begin in January 2010.

Procurement of equipment continues to facilitate D&D on the Central Plateau. Specifications were finalized for procuring three new multi-processors and preparations to put these out for bid are underway. Work was also initiated to develop a Statement of Work and a Special Equipment Request for an additional 60-ton excavator.



Photo 12

A worker bags and seals waste from asbestos abatement at the U Plant ancillary facilities. The abatement is in preparation for the demolition of buildings 224-U and 224-UA, two of three remaining ancillary facilities at U Plant that CHPRC will demolished with Recovery Act funds.

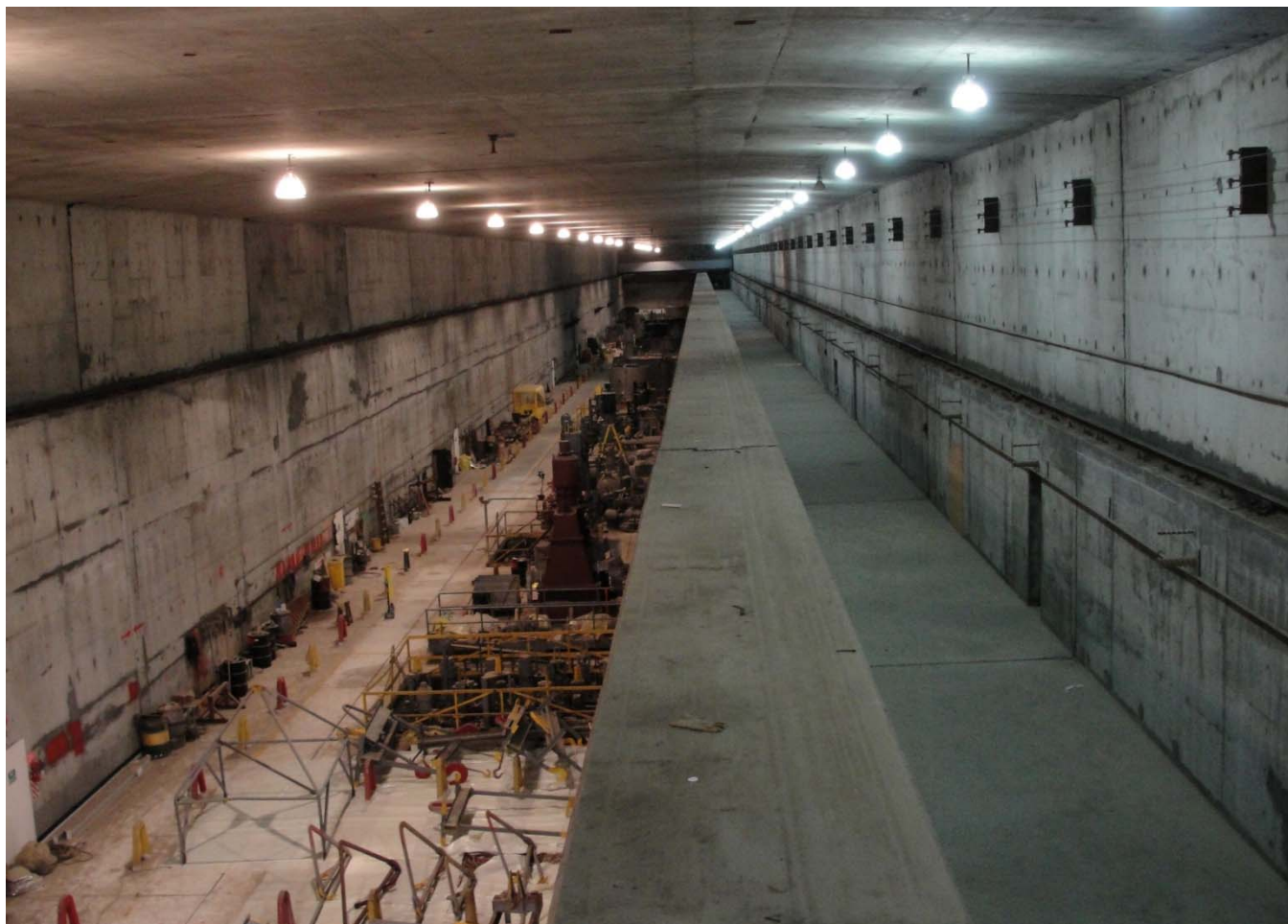


Photo 13

View inside the U Plant Canyon, showing heavily contaminated equipment that will be relocated from the deck into the cells below. With the help of Recovery Act funds, CHPRC plans to have the canyon ready for demolition by 2011.

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

Facility D&D

In the 200 North Area, all demolition debris and soil have been removed from the former site of the 212-R building, and field work is now ongoing only at 212-P on the last of the transfer cells and soil removal. During the past week the crews loaded out a record 49 ERDF containers in one day at the site, amounting to more than 500 tons of demolition debris and soil. Demolition and waste load out from 212-P is also expected to be finished within the week, completing all planned demolition work at the 212-NPR building complex, a major accomplishment for CHPRC's Recovery Act work scope in the 200 North Area. Following radiological surveys to validate whether completion criteria were met, clean soils previously removed from the sites will be used to backfill the demolition sites and they will be closed.

Installation of six temporary crew and restroom trailers was completed on Rattlesnake Mountain to support D&D of excess facilities on the Arid Lands Ecology (ALE) reserve. Asbestos sampling and abatement is ongoing, and work to establish cold and dark isolation of the structures on the lower ALE site is underway.



Photo 14

The last of the debris and soil to be removed from the former site of the 212-R building, the second of three buildings to be removed from the 200 North Area using Recovery Act funds.



Photo 15

Demolition continues in the area below the former 212-P building, the last of three buildings in the 212-NPR building complex in the 200 North Area. Demolition and waste load out from 212-P is expected to be finished within the week, completing all planned demolition work at the 212-NPR building complex, a major task in the CHPRC Recovery Act work scope for the Outer Zone.

Waste Sites

Recovery Act funding is being used in the Outer Zone of the Hanford Site to cleanup legacy waste and contamination that poses risks to the groundwater. Recent progress includes:

- *MG-1:* Review of the Response Action Completion Report is in process for waste sites 200-E-110, 200-E-101, 600-21, and 600-51.
- *CW-3:* The 216-N-1 waste site was approved for the use of super dump trucks, the automated job hazard analysis is in the approval process, and a scaffold platform was installed for surveying trucks.
- *BC Control Area:* Workers continued remediating soil and delivered approximately 7,000 tons to ERDF.



Photo 16

Soil excavation continues at the BC Control Area. Since cleanup of the site began in October, CHPRC has delivered approximately 7,000 tons of soil from the BC Control Area to the Environmental Restoration Disposal Facility.



Photo 17

Two super dump trucks in service at the BC Control Area. The trucks can hold more waste than a traditional roll-on/roll-off container and allow for direct dumping into the Environmental Restoration Disposal Facility, which increases worker safety by limiting handling.

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

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

Another structure was removed from the skyline of the 100K Area last week when workers began and completed demolition of the chemical storage silo by toppling the silo to ground level and then size reducing and dismantling it with mechanical shears. The structure is part of one of the 12 buildings in the 100K Area that is being demolished to clear the way for and accelerate the disposition of the K East and K West reactors. During reactor operations, the tank was used to store dry bauxite, which was combined with sulfuric acid to form a coagulant during the water treatment process. The silo is part of the 183KW Sedimentation Basin complex, which comprises several large structures that will all be demolished with Recovery Act funds. Workers completed the mechanical and electrical isolation of four of seven areas in the complex and physical remediation has begun. Asbestos removal started in 183.7KW pipe tunnel and additional scaffolding is being installed in the 183.1KW Headhouse.



Photo 18

Workers begin demolition of the 183KW chemical storage silo by bringing the 40-foot-tall silo to ground level. The silo is part of the 183KW Sedimentation Basin complex that is being demolished using Recovery Act funds.



Photo 19

Lowering of the 183KW chemical storage silo in the 100K Area. During reactor operations, the silo was used for storing water treatment chemicals before they were added to water in the 183.1KW Headhouse.



Photo 20

Lowering of the 183KW chemical storage silo in the 100K Area. Workers limited the hazard of falling debris by size reducing the silo at grade level. As the silo came down, water spray was also applied to minimize dust hazards.



Photo 21



Photo 22

The 183KW chemical storage silo before and after demolition. The debris was transported to the Environmental Restoration Disposal Facility. With the debris cleared and the site graded, the area is now available for remediation.

Waste Sites

Recovery Act funds are being used to remediate 49 waste sites in the 100K Area to cleanup legacy waste and remove the potential for contamination to migrate into the groundwater. Recent progress includes:

- *UPR-100-K-1* – Remediation continued beneath the former K East Fuel Storage Basin.
- *100-K-3* – Ground-penetrating radar scans identified an underground concrete structure resulting in the need for an engineering evaluation.
- *100-K-47* – Excavation away from the identified pipeline was initiated to sever the 100-K-47 lines from the outfall effluent line.
- *100-K-56* – Remediation of this pipeline waste site continued.

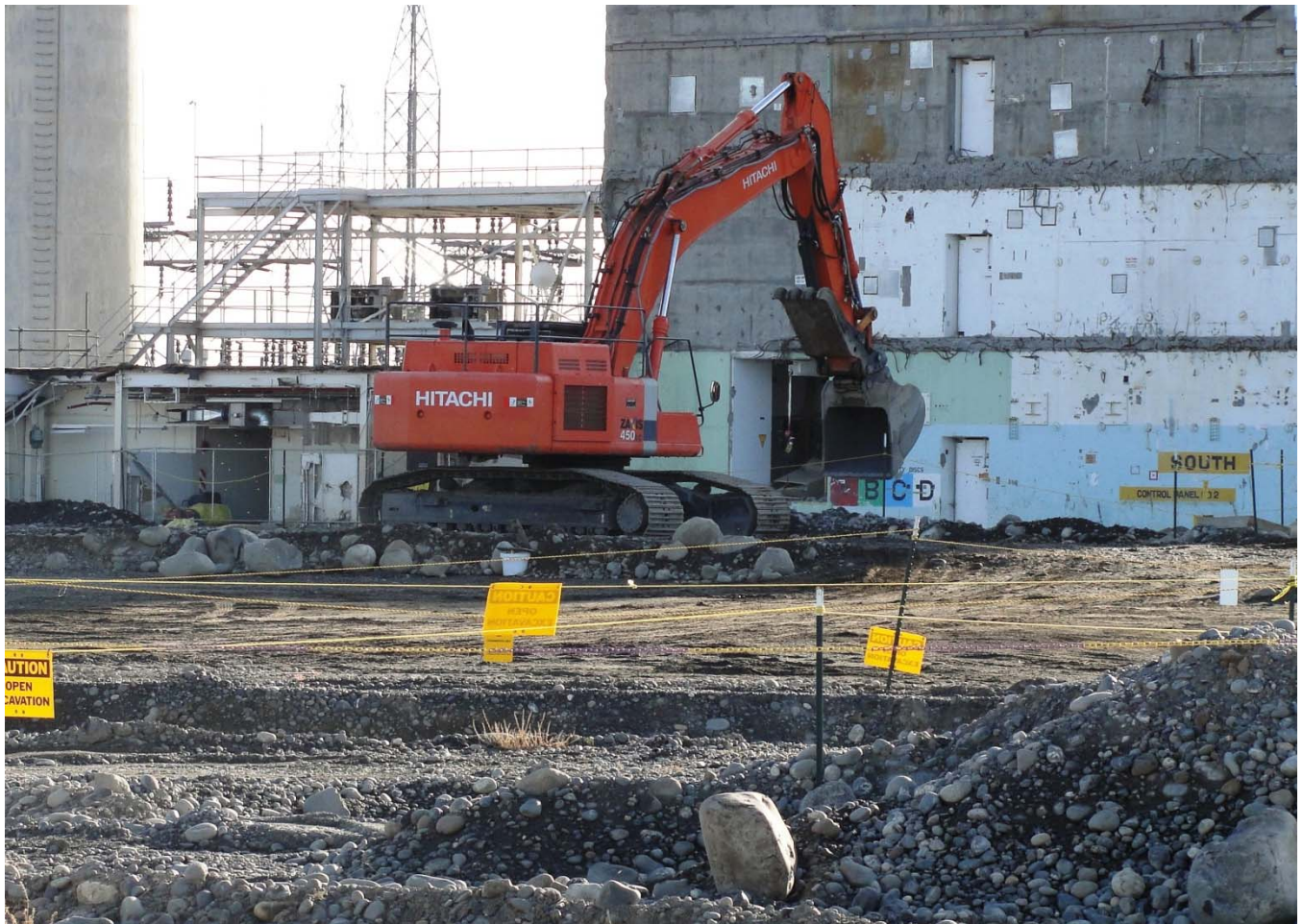


Photo 23

An excavator prepares to remove soil from beneath the former K East Fuel Storage Basin. The excavator is positioned on a stabilization pad that was recently constructed with clean fill to allow excavators to operate on clean ground as they remove soil from the highly contaminated waste site.



Photo 24

An excavator loads soil from the UPR-100-K-1 waste site into a roll-on/roll-off container for disposal at the Environmental Restoration Disposal Facility.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

- Remove three hoods in room 221E.
- Mechanically isolate and remove the process equipment from the last glove box in room 146.
- Initiate chemical decontamination of glove box HC-60.
- Initiate process equipment removal on glove boxes HA-19B1, B2, HA-46 and HC-227S.
- Reassess the radiological status and determine a disposition path for six glove boxes previously removed from rooms 131 and 137 of the Analytical Laboratory.
- Complete removal/return of the 2734-ZJ nitrogen storage tank to the vendor and remove remaining appurtenances to slab-on-grade.
- Initiate removal of excess safety showers from 234-5Z building.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Planned shipment of 1.0 m³ (3 drums) of LLW debris on Nov. 17 from the CWC to PFNW.
- Planned shipment of 17.9 m³ (86 drums) of LLW debris on Nov. 17 from the CWC to PFNW.
- Planned shipment of 6.8 m³ (21 drums) of MLLW debris on Nov. 19 from WRAP to PFNW.

RL-0013C:R1.2: TRU Waste

- 3A Trench 17 Removal:
 - Complete excavation around the bottom of Box 12. Perform an engineering evaluation.
 - Complete an engineering evaluation for Box 3 and, if determined removable, develop repair and retrieval plans.
 - Complete HRB for the disassembly of Boxes 80 and 82.
 - Continue site preparation (excavate ramp, tumbleweed removal, backfill) for Box 82 disassembly.
- Perform Simulation Test Site mock-up to confirm effectiveness of the long-reach saw with protective covers in the presence of misting.
- Complete Factory Acceptance Test for the Mobile Radioactive Decontamination Unit in Denver.
- Alpha Caisson Retrieval:
 - Finalize the Conceptual Design Report outline.
 - Finalize the WBS for the Conceptual Design Report.
 - Issue the Technical Readiness Report.
 - Complete the Management Assessment by the week of Nov. 30.
 - The Project Review Board meeting is scheduled for Dec. 14.
- TRU Program:
 - Alternative Analysis Report.

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

RL-0030.R1: Central Plateau Soil & Groundwater

- Continue construction of the DX Pump-and-Treat Facility.
- Continue drilling at 200-ZP-1, 100-HR-3-H, 100-HR-3-D, 100-BC-5, and 100-NR-2.
- Continue development of decision documentation.

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

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

- Receive delivery of remaining D&D heavy equipment.
- Continue asbestos removal and other preparations for demolition of U Plant ancillary facilities.
- Continue applying contamination fixative within the U Plant Canyon and relocating equipment from the canyon deck into the cells.
- Complete preparations for demolishing the 200 East Area core industrial complex.
- Complete detailed planning for cleanout of the 209-E building.

RL-0040.R1.2: Outer Zone

- Complete demolition and waste load out at the 212-P building.
- Complete surveys and inspection of all three 212 building sites to support closure and backfill the excavations.

- Continue preparations for demolishing excess facilities at the ALE reserve.
- Continue remediation of BC Control Area.

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

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

- Continue remediation of the UPR-100-K-1 waste site and the pipeline waste sites (100-K-47, 100-K-56, and 100-K-3).
- Continue characterizing the 183KW complex and the 117KE Exhaust Air Filter Building.
- Continue asbestos removal from 183.1 KW Headhouse.
- Open a side entrance into 183.3 to access the sedimentation basin from grade level.
- Continue Preliminary Design activities for the 105KE Reactor Core Removal.
- Continue debris removal from the KW basin.
- Complete comment resolution for River Water Isolation, Electrical Power Isolation, and the KW Basin Airborne Contamination Remediation projects.
- Perform the reactor Graphite Tumble Test to obtain dusting properties of the reactor graphite.