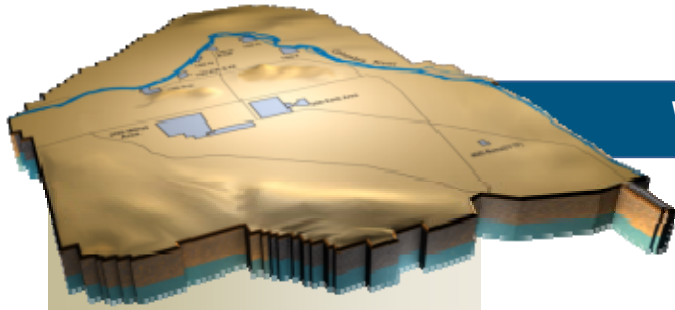


ARRA Weekly Report



Week Ending October 2, 2009

October 6, 2009
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ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

At the Plutonium Finishing Plant (PFP), Recovery Act funds are helping to cleanout equipment from the 234-5Z building, which contains three plutonium laboratories and multiple plutonium production lines. In the former laboratory areas, non-destructive assay (NDA) measurements confirmed eight ventilated sample cabinets removed from vault 174 are low-level waste (LLW) that can be disposed of on-site. The cabinets will be sent to Perma-Fix Northwest (PFNW) for size reduction/compaction to eliminate void spaces prior to disposal at the Environmental Restoration Disposal Facility (ERDF).

Glove box preparation, isolation, and decontamination activities also continued in several rooms of the 234-5Z building. In room 146, fixed air samplers, fire sprinkler heads and piping were removed from four glove boxes as were sections of a wall behind the glove boxes to facilitate removal of vacuum piping. A mockup of the vacuum piping system was constructed and installed on a training glove box in preparation for crew training.

In room 235B, chemical decontamination of glove box HA-20MB will be temporarily suspended until the dose rate in the general area is reduced through cleanout of other nearby glove boxes and equipment. The background radiation level is affecting measurements inside HA-20MB to the extent that accurate results could not be obtained to confirm the glove box as LLW. By decontaminating glove boxes to LLW, CHPRC can dispose of glove boxes on-site at ERDF and avoid the costs of shipping them to an off-site facility. The team will stabilize conditions in the glove box then proceed with internal equipment removal from glove boxes HA-19B1, HA-19B2, and conveyor HA-28.

In room 230C, chemical decontamination continued on "hot spots" inside former process glove box HC-230C-3 in preparation for radiological survey measurements that are expected to confirm the box will meet LLW criteria. Process equipment removal from process glove box HC-60 is nearing completion, with the only remaining action being isolation of the box from a process drain. Electrical isolation of glove box HA-46 was completed and isolation of the HA-46 process cell is 60% complete. Two large electrical enclosures cannot be removed until some mechanical lines are disconnected and removed by a new D&D team that will be assigned to complete work in this area.

Cold and dark isolation was verified for PFP ancillary building 2734-ZJ, a nitrogen storage tank/pad, in preparation for removing the vendor-owned tank in mid to late October, depending on plant priorities. Decommissioning of the nitrogen generator facility near the 2731-ZA building and preparations for cold and dark isolation were also initiated with the draining of the coolant from this structure.

Insulators removed asbestos insulation from an additional 205 feet of piping in the 234-5Z building, bringing the total removed under Recovery Act funding to more than 4,300 feet. Of the 205 feet removed, 120 feet came from radiological areas, and 85 feet came from other areas. Removal of glycols and other regulated materials was also initiated this past week. The materials are being handled in a manner that protects worker safety and maintains compliance with applicable environmental regulations.



Photo 1

Workers remove a screen from the front of a hood in room 146 in order to apply fixative to the interior. Recovery Act funds are supporting the accelerated removal of glove boxes and hoods in order to prepare PFP for demolition.



Photo 2

A pipefitter prepares to pump glycol drained from a process vacuum cooling system into a container for disposal. The glycol and other regulated materials drained from systems supporting the 234-5Z building are being handled in a manner that protects worker and environmental safety.



Photo 3

A pipefitter pumps the drained glycol into a container for disposal at the 234-5Z building. The containers will be shipped to an off-site disposal facility.

RL-0013 Solid Waste Stabilization & Disposition

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

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

- 458.7 m³ of the 1,800m³ have been shipped to date including:
 - 217.8 m³ of LLW have been treated and disposed
 - 240.9 m³ are at off-site treatment facilities awaiting processing. Treatment is scheduled for FY 2010.

Six shipments of waste were sent out for treatment and/or disposal this week. Three shipments were sent to PFNW on Sept. 28 to undergo different treatment processes. Two of the shipments included one drum (0.2 m³) of radioactive lead solids such as bricks, blankets, and sheeting and 18 drums (3.7 m³) of MLLW debris waste (metal, paper, wood, plastic, etc.). Both waste streams will be processed using non-thermal treatment and will be grouted or encased in a special concrete, a process called macro encapsulation. The third shipment to PFNW contained 27 drums (5.3 m³) of various forms of radioactively contaminated mercury waste (including elemental mercury). The mercury waste will be segregated from the debris waste in each waste package – the mercury fraction will then be shipped to PFNW's Materials and Energy Corporation facility located in Tennessee for amalgamation and/or stabilization. The remaining

two shipments were sent to EnergySolutions-Clive (ES-Clive) for treatment. One shipment, sent on Sept. 28, consisted of 59 drums (12.4 m³) of MLLW liquids and solids containing Toxic Substances and Control Act (TSCA) polychlorinated biphenyls (PCBs) and the other shipment, sent on Sept. 29, consisted of 61 drums (13.1 m³) of LLW liquids and solids containing TSCA PCBs. Both of these shipments will be treated through vacuum thermal desorption (VTD), and the resulting condensate will be shipped to a hazardous waste facility and incinerated to thermally destroy the PCBs. The final shipment of the week was sent on Sept. 30 to ERDF. This shipment consisted of 86 drums (17.9 m³) of LLW solids that originated from the Waste Receiving and Processing facility and will undergo direct disposal at ERDF.



Photo 4

A shipment of mixed low-level waste debris is prepared for loading at the Waste Retrieval Project staging area.



Photo 5

A shipment of mixed low-level waste debris leaves the staging area on its way to Perma-Fix Northwest.

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

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

- 238.4 m³ have been removed and are staged, pending shipment.
- 195 m³ have been shipped to a treatment, storage, or disposal (TSD) facility.

Removal activities continued in 3A Trench 17 with workers completing a critical lift plan and revised work package for the removal of Box 28, while also preparing the critical lift plan and work package for the removal, shipment, and unloading of Box 7. Boxes 4, 6, 9, 10, 11, and 79 were readied for shipment and the fabrication of cover boxes for Box 27 and 82 were completed. The Retrieval Project continued excavating small fiberglass-reinforced plywood Boxes 4-11, and Box 9 was removed and over-packed into a DOT 7A Type A container.

Work continued in other areas as well: one waste box (5.5 m³) was removed from 218-W-3A, 39 drums (8.1 m³) were shipped (21 to the Central Waste Complex [CWC] and 18 to PFNW), two concrete-shielded over-packs for high-dose containers were received and excavation of 4B Trench 11 continued.

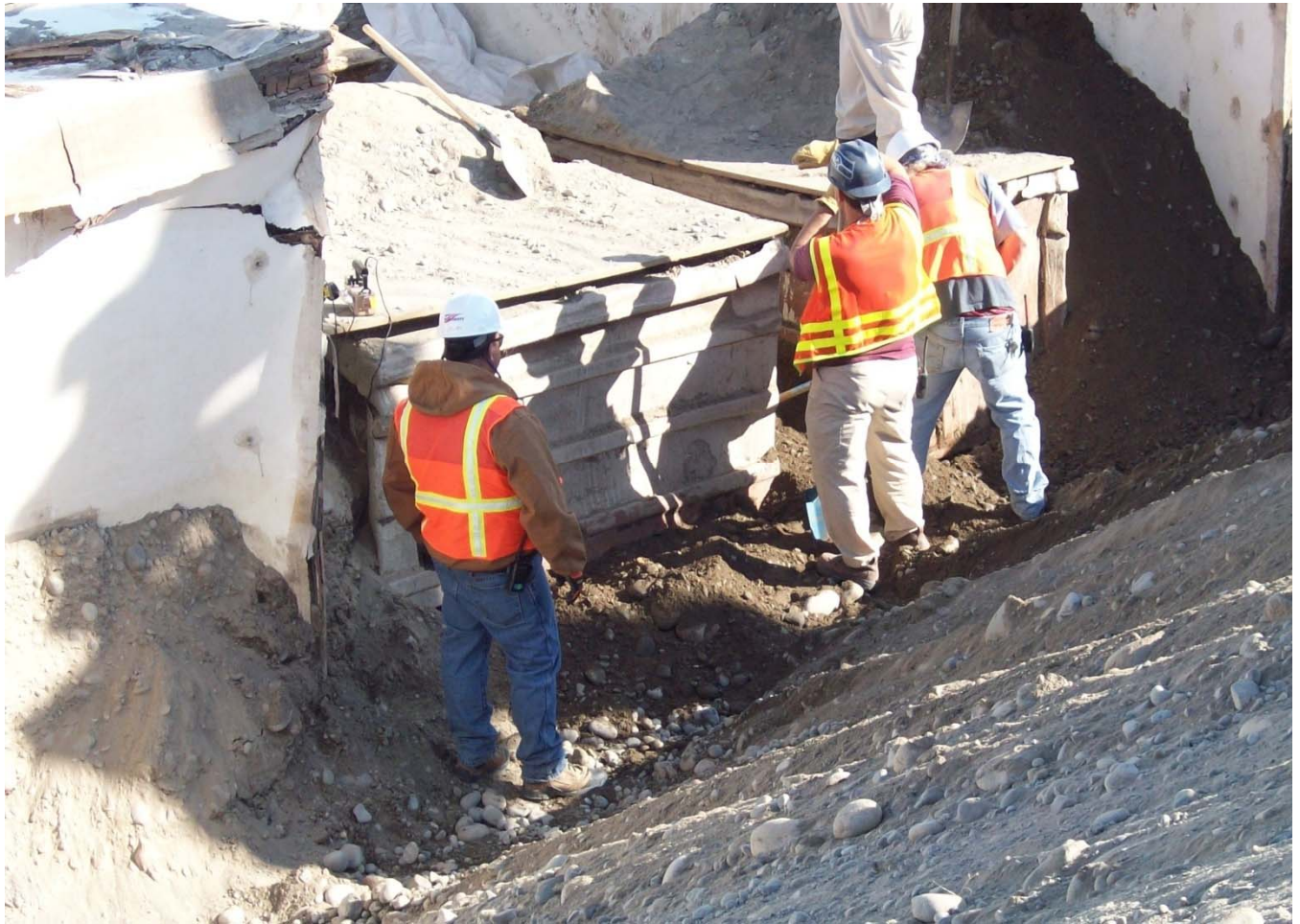


Photo 6

Teamsters carefully hand-excavating around Boxes 5 and 8 in 218-W-3A Trench 17 to permit inspection by the Engineering Group prior to removal from the trench.



Photo 7

A forklift transfers a corroded metal box, wrapped in plastic on a platform, from the process area to the Central Waste Complex. The metal box is retrievably stored waste from 4B Trench 7, Module 6.

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

RL-0030.R1: Central Plateau Soil & Groundwater

In the 100-HR-3 (D Area), the construction of the new DX groundwater treatment facility continued with civil site preparations. Also for the DX facility, the construction of road crossings is 65% complete, installation of high-density polyethylene (HDPE) piping is 37% complete, and the fabrication of electrical power racks is 98% complete. The HDPE and road crossings will connect the extraction wells to the DX facility. Similar to the other stimulus-funded groundwater treatment system, 200-ZP-1, the DX facility will pump contaminated water from the ground and remove multiple chemical and radioactive contaminants. The specific focus of the facility is to treat hexavalent chromium contaminated groundwater in the 100-HR-3 area.

Planning, drilling, and installation of wells is continuing at various locations. Drilling activities continued on six wells for the 200-ZP-1 groundwater treatment system with two wells drilled to total depth and under construction; the others are in the process of being drilled to total depth. Additionally, at 100-HR-3 (H Area) 12 wells have been initiated and 10 of the 12 wells have been constructed and developed. Completion of the development stage signifies the well is ready for operations, pending quality assurance acceptance. Preparations and mobilization for the four 100-BC-5 wells was completed and drilling was

initiated on two of the four wells. The contract for the drilling vendor for the 200-BP-5 (L and M wells) was awarded last week. Work is continuing toward completing documentation for drilling wells at 100-HR-3 (D area), 100-NR-2, 200-BP-5, and 200-ZP-1 sites. Overall, the Drilling Program has approximately 230 wells under contract and they will support the monitoring, extracting, and remediation of groundwater near the Columbia River.



Photo 8

Workers from the subcontractor Water Development complete a well at the 200-ZP-1 site. Two of six wells in progress last week have been drilled to total depth and are under construction.



Photo 9

Workers from the subcontractor Stillwater/Carpenter drill one of two wells at 100-BC-5 that was initiated last week.



Photo 10

A radiological control technician surveys drill cuttings from a 100-BC-5 well site. While drilling wells, workers have to survey and confirm materials removed from the ground are free of contamination.

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

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

Recovery Act dollars are busy at work inside and out at several facilities in the U Plant area. Asbestos abatement work continued at U Plant Ancillary Facilities, 224-U and 224-UA, which are slated for demolition using Recovery Act funds. At 224-U, glove bag installation on the east side piping is nearly complete. Erection of scaffolding will begin in the next few days to support the initiation of asbestos abatement. Asbestos abatement was initiated in the Hammer mill/towers area of the 224-UA building, and containment installation continued in the calciner area.

A meeting was held with the Department of Energy Richland Operations Office (DOE-RL) to discuss the characterization sample report for the D-10 tank in cell 30 of U Canyon. The tank was previously identified to contain radioactive material and must be dispositioned prior to facility demolition. The completed sampling and analysis work—an FY 2009 performance incentive—provides a satisfactory basis for disposition planning. The tentative site recommendation to grout the material in place is being scheduled for discussion with the regulators.

In other work at U Canyon, which Recovery Act funds will have “demo-ready” by the end of FY 2011,

reactivation of the rail/vehicle tunnel door and repair of the crane optics are continuing. The lifting yokes for relocating excess equipment on the canyon deck were test-fitted and staged for use.

Operations, engineering and radiological control personnel are continuing to lay out the sequence and technical approach to cleaning out the 209-E building, Hanford's former Critical Mass Laboratory, which will also be deactivated with the support of Recovery Act funds. Environmental staff are reviewing current air-permitting documentation to determine what, if any, interim housekeeping and cleanup actions can be authorized.

Delivery and installation of 31 of the planned 32 office, crew, restroom, and shower trailers to support accelerated D&D on the Central Plateau is now complete. Many of these (16) are already occupied, and another 14 are nearing completion with furniture installation, computer installs, electrical hookups and chlorination for restroom and shower trailers scheduled to be completed next week. Occupancy walk-downs are in progress or scheduled this week for the 200 East Area industrial complex. Procurement of heavy equipment to accelerate D&D of facilities on the Central Plateau continued, with a new 60-ton demolition excavator and associated hydraulic hammer delivered this past week, as well as a large front-end loader, four new shuttle trucks, and two water trucks. A contract for a 90-ton high-reach demolition excavator was awarded and a kickoff meeting was held for procurement of a heavy-haul low boy trailer.

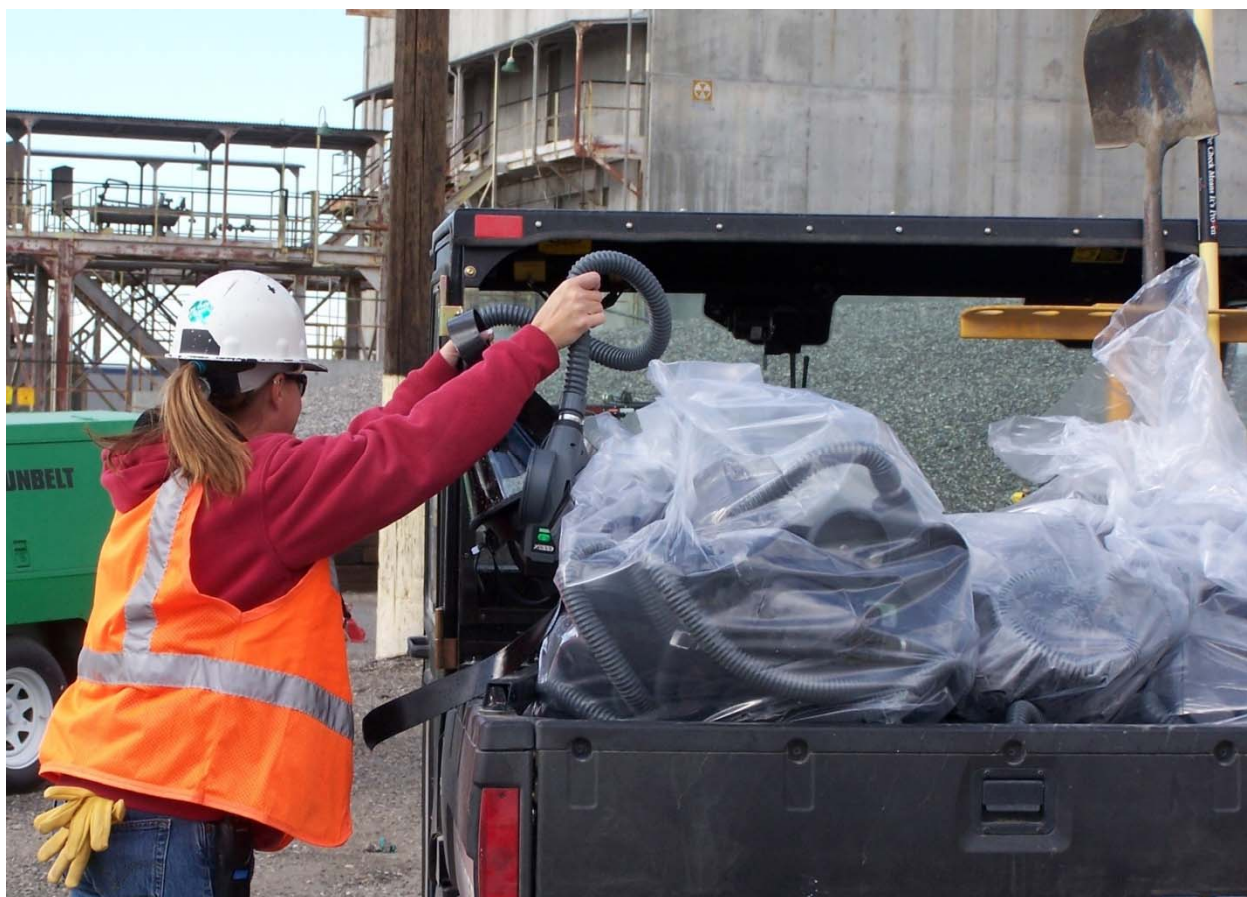


Photo 11

A D&D worker collects respirators from asbestos work at U Plant ancillary facilities. Asbestos abatement, which is continuing on the 224-U and 224-UA buildings, requires workers to wear personal protective equipment and work in contained areas.



Photo 12

A front-end loader that is one of several pieces of heavy equipment—including water trucks, shuttle trucks and an excavator-- recently procured with stimulus funds to be used on upcoming demolition projects.



Photo 13

Scaffolding was erected in the 224-UA building around one of the calciners (shown bottom right) in preparation for asbestos abatement.

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

Facility D&D

Demolition began on the above-ground portion of the 212-P building—the last of the three interim storage buildings in the 200 North Area. The 212-P building, like 212-N and 212-P, was used until 1951 to temporarily store irradiated fuel rods awaiting processing. Demolishing the 212-P building will include removing the above-ground structures, an underground basin that stored the fuel rods (previously

removed), and three feet of soil underneath. The basin demolition and soil excavation are complete on 212-N and in progress for 212-R. Disposal of debris and soils at 212-N was temporarily suspended due to availability of waste containers from ERDF, but work has since restarted. By accelerating demolition of buildings like 212-N, -P, and -R, Recovery Act funds are being used to support the DOE effort to shrink the Hanford cleanup footprint and to reduce mortgage costs on facilities that are no longer of service.

Also in the outer zone of the Hanford Site, preparations for demolishing excess facilities on the Arid Lands Ecology Reserve (ALE) on Rattlesnake Mountain are accelerating. Biological waste cleanup of the upper and lower ALE facilities was completed to reduce worker hazards and the level of protective equipment required for upcoming work. Freon was removed from all air conditioning units, and mechanical isolation was completed on 6652-K, -T, and -PH. To accommodate the workforce that will be performing work on ALE, setup of the three temporary crew trailers was completed, an initial occupancy walk-down was conducted, and the toilet and shower facilities were also delivered.



Photo 14

The 212-P building before demolition. The building is one of three located in the 200 North Area undergoing demolition with the support of Recovery Act funds. The building is approximately 9,707 square feet and includes a concrete roof, reinforced concrete basement, a steel frame, and concrete walls.



Photo 15

Demolition on the above-ground portion of 212-P started Sept. 30. When the above-ground demolition is complete, workers will demolish the building's 20-foot-deep basin and excavate three feet of soil underneath.



Photo 16

Demolition of 212-P will continue throughout the upcoming weeks. Debris will be staged and disposed of in ERDF.

Waste Sites

A Bell 412 helicopter completed the aerial radiological survey of ground contamination in the BC Control Area and West Lake on Sept. 29. The data is now being evaluated to identify areas of contamination that will require remediation. The use of aerial technology limited impacts to the environment and workers while also reducing the amount of time needed to survey the 15-square-mile area, allowing remediation of the site to begin sooner.

An internal review of the Response Action Completion Report (RACR) continued for sites 200-E-110 and UPR-600-21. The RACR contains closure documentation necessary for closing out a waste site. To support the remediation of the site, mobilization of trailers to the area continued, and dump trucks arrived on site and are undergoing modifications for use in the field.

Regarding the CW-3 waste sites in the 200 North Area, the 216-N-1 Confirmatory Sample Result report was issued and preparations for the “remove, treat, and dispose” of the site continues. Overall, the required reports for the CW-3 sites have been submitted and concurred with by DOE-RL.



Photo 17

The aerial survey of the BC Control Area and West Lake was completed on Sept. 29. The results are being evaluated to identify areas requiring remediation. The aerial technology provided savings in costs and time as well as a reduction in risks and environmental impacts.

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

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

Waste Sites

Remediation continued at the UPR-100-K-1 waste site, which consists of soils beneath the former 105KE fuel storage basin near the K East reactor in the 100K Area. Crews have begun installing a clean barrier in the basin for the purpose of substantially reducing the radiation dose rate in the area plus providing positive contamination control. The Nuclear Safety Final Hazard Categorization document was approved by the DOE and other Nuclear Safety documents were modified, and radiological work permits were issued. The remedial activities were approved on Sept. 26 and on Sept. 27 the first two containers of contaminated soil were remediated and prepared for shipment to ERDF. The completion of this activity signifies the successful completion of the Tri-Party Agreement milestone number M-016-57.

Additionally, the confirmatory sample plans for six No Action waste sites were issued for internal review. Comments were generated and the sample plans returned for comment incorporation.



Photo 18

The first bucket of UPR-100-K-1 soil being placed into a roll-off container. This event initiated remediation of the soil beneath the fuel storage basin, meeting a Tri-Party Agreement milestone.



Photo 19

An excavator prepares materials for load out at the UPR-100-K-1 waste site, located beneath the 105KE fuel storage basin. The track hoe will mix the material while air samplers are running in order to determine if the material has a possibility of causing an airborne hazard during load out, transportation, or disposal.

Facility D&D

Decommissioning and waste load-out of demolition waste was completed for the 118KE Horizontal Control Rod Storage Cave and the footprint has been restored to grade. The rod cave was built in 1955 to store radioactive tips of control rods. The structure includes sections of 24-inch pipe cut in half lengthwise and placed open-side down on a 60-foot by 8-foot concrete slab, creating the cavity for rod storage. Concrete and steel doors were added to each end, and the pipe was covered with a shielding of clean fill material, which was removed earlier this year with Recovery Act funds. With the above-ground structures gone, workers will now be able to access and remediate soils underneath the former rod cave.

With the support of Recovery Act funds, workers also continued the mechanical and electrical isolation of the 183KW Sedimentation Basin Complex. Upon achieving the cold and dark condition, the physical remediation will begin. Scaffolding installation in the 183.1-KW Headhouse continued to support asbestos removal activities.



Photo 20

The rod storage cave before demolition. The storage cave was surrounded by two concrete and steel doors and covered with rock shielding. Recovery Act dollars allowed CHPRC to demolish ancillary structures like the rod cave to make way for the demolition of the K East and K West reactors.



Photo 21

The rod storage cave during demolition. The actual storage area, shown here, was constructed from a pipe cut length-wise and placed over a concrete slab. During reactor operations, control rod tips from the reactor were placed into the storage area to decay before long-term disposal. The structure was covered with clean fill, or rock shielding, that acted as a protective barrier.



Photo 22

Decommissioning of the rod cave was completed last week, a task that included taking the structure to grade by removing the rock shielding, the pipes, the concrete slab, and the doors.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

- Commence glove box removal work for four glove boxes in room 146
- Approve and issue the work package for cleanout, isolation, and removal of the first three glove boxes/hoods in the former PFP Standards Laboratory, room 221-E
- Approve and issue the work package for cleanout, isolation, and removal of the first five hoods to be removed from PFP's former Plutonium Process Support Laboratory, room 187
- 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 decontamination of HC-230C-3 and complete process equipment removal from HC-60

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Planned shipment of 25.5 m³ of TSCA-MLLW to ES-Clive for VTD treatment on Oct. 7

RL-0013C:R1.2: TRU Waste

- 3A Trench 17 Removal:
 - Lift and complete assembly of shoring box and roof for Box 28.
 - Assay Boxes 5 and 8.
 - Ship Boxes 28, 79, and 4-11 to the CWC.
 - Remove Boxes 5, 7, and 8 (over pack).
 - Continue fabrication of the roof for Box 2; install walls and roof, if schedule permits
- Continue Portable Box Assay campaign
- Receive additional two concrete shielded over packs for high-dose containers

RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose zone**RL-0030.R1: Central Plateau Soil & Groundwater**

- Continue drilling at 200-ZP-1, 100-HR-3-H, and 100-BC-5
- Continue development of decision documentation
- Initiate drilling for 171 wells at 100-NR-2
- Mobilization of drilling subcontractors at 100-HR-3-D, and 200-BP-5

RL-0040 Nuclear Facility D&D – Remainder of Hanford**RL-0040.R1.1: U Plant/Other D&D**

- Continue asbestos removal and other preparations for demolition of 224-U, 224-UA and 203-UX
- Complete reactivation of U Canyon support systems
- Continue preparations for canyon cleanout

RL-0040.R1.2: Outer Zone

- Continue demolition of the 212-P superstructure
- Complete disposal of waste resulting from demolition of the 212-N building basin
- Complete demolition of the 212-R building basin and soil removal
- Continue preparations for demolition of the excess facilities at the ALE reserve
- Continue demolition of the 212-N and 212-R building basins
- Initiation of demolition on the above-grade portion of 212-P
- Continue preparations for remediation for the 200-MG-1 and the 200 North CW-3 waste sites.
- Initiate waste site soil remediation at BC Control Area

RL-0041 Nuclear Facility D&D – River Corridor Closure Project**RL-0041.R1.1: 100K Area Remediation**

- Removal of 117KE Exhaust Air Filter Building Roof Panels
- Continue mechanical, electrical isolation, and characterization of the 183KW complex
- Continue Preliminary Design activities for the 105KE Reactor Core Removal.
- Continue debris removal from the KW basin
- Complete waste load-out of 110KE and 183KW demolition debris
- Continue remediation of the UPR-100-K-1 (Fuel Storage Basin) waste site.