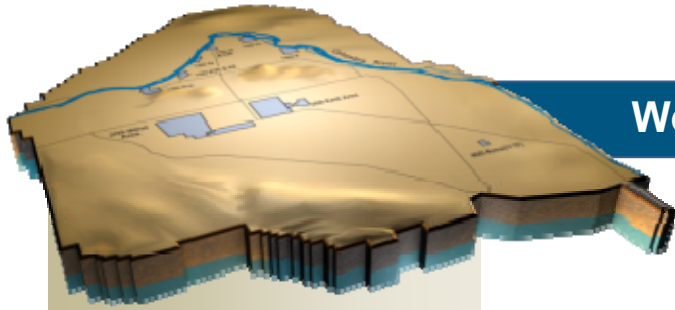


ARRA Weekly Report



Week Ending September 11, 2009

September 15, 2009
Contract DE-AC06-08RL14788
Modification M047
CHPRC0909-17

Contents

ACCOMPLISHMENTS.....	3
RL-0011 Nuclear Materials Stabilization and Disposition	3
RL-0011.R1: Plutonium Finishing Plant D&D.....	3
RL-0013 Solid Waste Stabilization & Disposition.....	6
RL-0013C:R1.1: Mixed Low-Level Waste (MLLW) Treatment	6
RL-0013C:R1.2: Transuranic (TRU) Waste:.....	9
RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose zone	12
RL-0030.R1: Central Plateau Soil and Groundwater.....	12
RL-0040 Nuclear Facility D&D – Remainder of Hanford.....	15
RL-0040.R1.1: U Plant/Other D&D.....	15
RL-0040.R1.2: Outer Zone Waste Sites/D&D	18
RL-0041 Nuclear Facility D&D – River Corridor Closure Project	23
RL-0041.R1.1: 100K Area Remediation	23
UPCOMING EVENTS	26
RL-0011 Nuclear Materials Stabilization and Disposition	26
RL-0011.R1: Plutonium Finishing Plant D&D.....	26
RL-0013 Solid Waste Stabilization & Disposition.....	26
RL-0013C:R1.1: MLLW Treatment.....	26
RL-0013C:R1.2: TRU Waste	26
RL-0030 Soil & Groundwater Remediation, Groundwater/Vadose zone	27
RL-0030.R1: Central Plateau Soil and Groundwater.....	27
RL-0040 Nuclear Facility D&D – Remainder of Hanford.....	27
RL-0040.R1.1: U Plant/Other D&D.....	27
RL-0040.R1.2: Outer Zone.....	27
RL-0041 Nuclear Facility D&D – River Corridor Closure Project	27
RL-0041.R1.1: 100K Area Remediation.....	27

ACCOMPLISHMENTS

RL-0011 Nuclear Materials Stabilization and Disposition

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

Remaining ventilation ducting was removed from rooms 134 and 154, where seven glove boxes and hoods were previously removed, and preparations were completed for removal of three additional glove boxes from room 137 of the Analytical Laboratory and eight ventilated sample cabinets from vault 174. During the initial activities to remove the first of the eight sample cabinets, an increase in airborne radioactive material was detected by a continuous air monitor. Personnel were wearing appropriate protective equipment and exited from the area without incident. Removal of the cabinets will be reinitiated following cleanup and recovery from the event. By week's end, glove ports in room 138 were reactivated on six glove boxes and non-destructive assay was completed on vacuum system piping in preparation for glove box removal. Electrical isolation was completed for 13 glove boxes in rooms 136, 139, 146, and 149. The work package for removal of the four glove boxes in room 146 was also issued.

The chemical decontamination of process glove box HA-20MB in the 234-5Z building continued this week. Although more difficult than originally planned, work in the lower conveyor section of this glove box is progressing with dose readings dropping with each application. Size reduction and removal of internal process equipment from glove box HC-60 also continued this week, reaching 95% complete.

Also in the 234-5Z building, insulators removed asbestos from an additional 280 feet of piping in 234-5Z building, bringing the total removed under Recovery Act funding to more than 3,700 feet. Of the 280 feet of asbestos insulation removed, 120 feet was removed from piping in radiologically controlled areas, and 160 feet was removed from other areas. Before piping and equipment insulated with friable asbestos can be removed or the building can be demolished, all asbestos of this form must be removed. Stringent safety controls are used to ensure workers do not inhale asbestos.

Field qualification is continuing for the many new staff to be assigned to additional PFP D&D crews. New team members are being rotated through the existing six teams to gain hands-on field experience. At this time it does not appear that the full complement of Radiological Control Technicians will be available to support the teams when they are ready for phased deployment to the field.



In room 137 of the 234-5Z Building at PFP, workers are isolating three glove boxes from the building ventilation system, one of several steps for preparing a glove box for removal.



Room 154 of PFP's Analytical Laboratory after the removal of glove boxes and hoods and prior to the removal of the remaining ventilation ducting.



Room 134 of PFP's Analytical Laboratory after removal of four laboratory hoods and ventilation ducting. Recovery Act funds are helping CHPRC empty this room and several others throughout PFP, as workers perform accelerated removal of glove boxes and hoods to ultimately prepare the facilities for demolition.

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:

- 377 m³ have been shipped to date including:
 - 197.1 m³ of low-level waste (LLW) treated and disposed
 - 179.9 m³ are at Perma-Fix Northwest (PFNW) awaiting processing. Treatment is scheduled for FY 2010.

A shipment of 20 cubic meters (m³) of Toxic Substances Control Act (TSCA) regulated low-level waste (LLW) was shipped ahead of schedule in September using American Reinvestment and Recovery Act (Recovery Act) funds. To date, 38.8 m³ of this waste (three transformers) have been shipped to the Environmental Restoration Disposal Facility (ERDF) and 24.2 m³ have been sent to Perma-Fix Northwest (PFNW), which is now approved to receive this type of waste. This is the second project that has been moved from work scope FY10 into FY09.

TSCA-LLW is radioactively contaminated waste containing polychlorinated biphenyls (PCBs) and can include fluids from transformers and hydraulic or electrical equipment, PCB articles, PCB bulk product and miscellaneous debris type waste contaminated with PCBs, classified as remediation waste. The TSCA-LLW remediation waste is encapsulated in grout to meet disposal requirements and the liquid

TSCA-LLW is thermally treated by either combustion technology (e.g., incinerators) or by other thermal treatment processes/units (e.g., vacuum thermal desorption [VTD] followed by combustion). This waste is being shipped to be either thermally treated to destroy the PCBs, or where not mandated by regulation, the PCB-contaminated waste (i.e., debris) can be stabilized to meet disposal requirements at a given disposal site. A contract was completed on Aug. 31 to allow CHPRC to send this type of waste to Energy Solution's site in Clive, Utah where it will be processed through their VTD unit and the PCB-bearing condensate will be shipped to a waste processor licensed to combust or incinerate the condensate.

The recent shipment of TSCA-LLW consisted of three boxes and 58 drums that have been in storage at the Central Waste Complex (CWC) since the late 1980s and contained miscellaneous debris components that contain or were suspected of containing PCBs. Without financial support from the Recovery Act, removing this and other stored TSCA-LLW waste would not have become a priority until 2013, with an estimated completion date around 2015, in addition to limited funding and several jobs lost. Once the waste has been removed, there will be less waste surveillance and fewer weekly inspections required. This will result in lower dose rates because employees will spend less time performing fieldwork around toxic substances and will reduce the potential for environmental release.



A CWC operator and Cavanagh Services Group (CSG) shipper inspect the marking and labeling of each waste package for the TSCA-LLW shipment.



A CWC operator transports one of the TSCA-LLW packages from the storage building to the staging area prior to loading and shipping.



A CSG shipper inspects the tractor and trailer inspection records prior to releasing the shipment.

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

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

- 214 m³ have been removed from the trenches
- 302 m³ are staged – pending shipment*
- 52 m³ have been shipped to a treatment, storage or disposal (TSD) facility.

*This includes containers removed, but not shipped prior to Recovery Act funds and does not include “inactive” containers.

Removal activities continued in 3A Trench 17 with workers assembling a shoring base for Box 28, fabricating cover boxes for Boxes 27 and 82, excavating small fiberglass-reinforced plywood (FRP) Boxes 4 – 11 (for which overpack containers were also identified) and excavating and removing Box 79.

Work continued in other areas as well: paint and a sealant were applied to metal boxes in the 4C process area in preparation for shipping, demobilization of the ANTECH drum assay trailer continued, 4B TV7 Vault 2 was backfilled with dirt to grade level to eliminate a fall hazard, and workers participated in emergency preparedness drills.

On-the-Job Training at T Plant

Nuclear control operators (NCOs) and radiological control technicians (RCTs) new to the profession have been hired using Recovery Act funds. These NCOs and RCTs recently completed classroom training and are now completing on-the-job training (OJT) and will be working toward getting their field qualifications over the next several weeks.

Most of the individuals hired for these types of positions under Recovery Act funding are not yet qualified to perform field-work without oversight and instruction from qualified personnel. To become qualified to work without supervision these employees must complete written examinations, OJT, mock-up training and practice, job performance evaluations and oral boards. Once training requirements are completed these workers will begin their field-work. They will be repackaging barrels that will be sent to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, which is certified to handle TRU waste.

By funding the hiring of more personnel, the Recovery Act support will allow the T-Plant Project and its repackaging activities to move forward at a much quicker rate than initially projected.



An NCO performs mock-up processing of waste in a glove bag. New NCOs were given an opportunity to work within the system in a clean environment without any chemical or radiation hazards present to better prepare themselves for the upcoming repackaging they will be performing.



An NCO performs mock-up repackaging in a glove bag. While the training environment was free of radiological hazards, trainees wore protective gear to resemble working conditions and requirements at T Plant.



NCOs "mating" a mock-up drum to a glove bag to empty the contents and ready the glove bag for processing.

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

RL-0030.R1: Central Plateau Soil & Groundwater

Soil and Groundwater field work continues with the planning, drilling, and installing wells that will be used for monitoring, extracting, and remediating groundwater near the Columbia River. Drilling activities continued on three wells for the 200-ZP-1 groundwater treatment system with two drilled to total depth. CHPRC began construction of the 200-ZP-1 groundwater treatment system, or the 200 West Groundwater Treatment Facility, on July 23. The project will use approximately \$80 million of Recovery Act funding and is expected to be operational by 2012. The new treatment system will pump contaminated water from the ground and remove multiple chemical and radioactive contaminants.

Contractors are currently designing the facility and installing many new wells that will pump more than 85 million gallons of contaminated groundwater per month from the 200-ZP-1 Groundwater Operable Unit. The contaminants at the 200-ZP-1 site date back to the Cold War when liquids contaminated with chemicals and radioactive elements were discharged from plutonium production facilities, resulting in a five-square-mile area of groundwater contaminated above drinking water levels. As part of the design effort, the 200 West Groundwater Treatment Facility project team has completed vendor selection for 7 major long lead items, and the results have been forwarded to procurement for award. The award to the vendors is a significant accomplishment due to the time frame necessary to receive and install the process

equipment and the costs associated with the equipment (ranging from \$7M to \$14M).

Additionally, at 100-HR-3 (H Area) five wells have been initiated and drilled to total depth, three of the five wells have been constructed, and two of the five wells are under construction. The contract for the drilling vendor for 100-HR-3 (D Area), 100-BC-5, and 200-BP-5 (K well) was awarded. Overall, work continues towards completing documentation for drilling wells at 100-HR-3 (D area), 100-NR-2, 100-BC-5, 200-BP-5, and 200-ZP-1 sites. The drilling subcontractors at 200-ZP-1 and 100-HR-3 have worked 53 and 21 days, respectively, without a recordable safety event.



Subcontractor Watts Construction prepares drill pads for the 100-BC-5 wells. Drilling vendors for these wells, as well as for 100-HR-3 (D Area), and 200-BP-5 (K well), have been awarded and preparation of drilling documentation for the drilling is in progress.



A worker from the subcontractor Layne Christensen performs well construction and water sampling preparation at the 100-HR-3 (H Area) site. The well will be one of several to support the 100-HR-3 DX Pump and Treat Facility.



Workers from the subcontractor Blue Star perform drilling preparations at the 200-ZP-1 site, where wells will be drilled to support the 200 West Groundwater Treatment Facility.

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

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

Asbestos abatement work continued on both the 224-U and 224-UA buildings. The primary emphasis in both facilities is on removing obstructions, erecting scaffolding and installing containments. Fixative is also being applied to the interior sections of ductwork where removable contamination is expected to be of concern.

At the U Plant Canyon, work is continuing on reactivation of the rail/vehicle tunnel door and repair of the main elevator. Work package development is also continuing for the application of contamination fixative in the canyon and clearing the canyon deck of equipment. Review of the sample results from the D-10 tank in cell 30 of the 221-U building are continuing to be reviewed to support a recommendation to DOE-RL for disposition of the liquid and solid material in the tank.

Twenty-seven of 30 planned office, crew, restroom and shower trailers to support accelerated D&D on the Central Plateau have been delivered; installation of the remaining facilities is expected by late September or early October. The six trailers needed to support accelerated D&D on Rattlesnake Mountain should be in place and ready for use by the end of October.

Procurement of heavy equipment to accelerate D&D of facilities on the Central Plateau is also continuing. This past week bids were awarded for purchase of a small front-end loader and a backhoe, and bids were received from interested suppliers for a 90-ton high-reach excavator and a hydraulic hammer for the 60-ton excavator previously awarded.



Insulators building an asbestos containment in the 224-UA facility. Containments allow for insulation in large areas of the building to be abated more efficiently. The plastic enclosures will have negative air machines installed that keep the containment under a negative air pressure throughout the abatement phase.



Workers install containments to support asbestos abatement on the exterior of the 224-UA building.



A 60-ton high reach excavator is undergoing modifications at the vendor facility. Potential modifications include such items as installation of demolition glass in the cab; modifications to the hydraulic systems for easier maintenance and servicing in contamination areas; modifications that allow more versatility for use of demolition attachments; and additional protection from flying and ground debris.

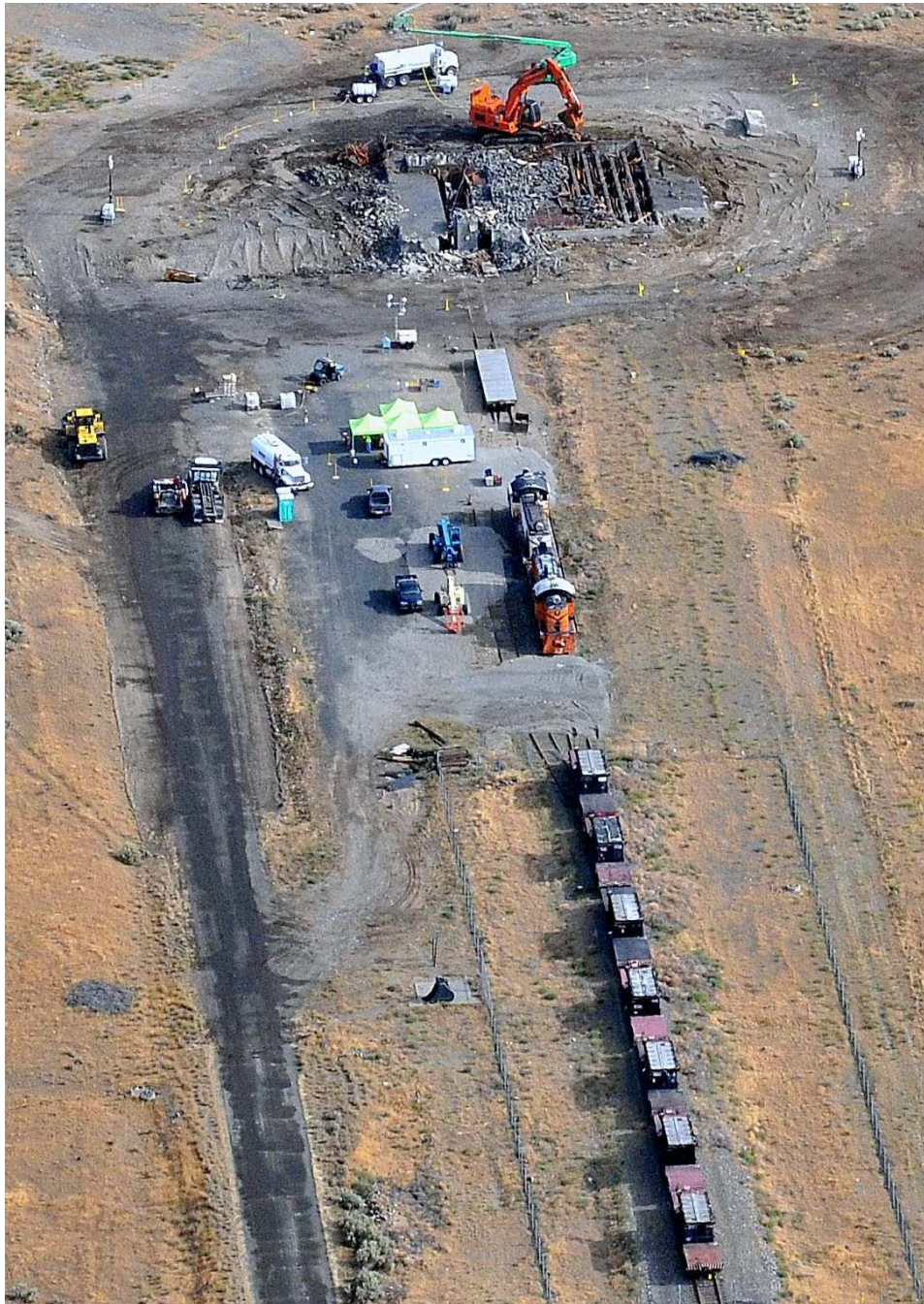
RL-0040.R1.2: Outer Zone Waste Sites/D&D

Facility D&D

In the 200 North Area, demolition of the basins and removal of three feet of soil from beneath the 212-N and 212-R buildings continued. Once work is nearly complete on 212-N, the crew will begin demolition of the 212-P building superstructure. Not everything in this area must go, however: CHPRC project management began interfaces with the B Reactor Museum management staff with respect to the feasibility and logistics of transporting one of the historic locomotives currently staged in the 200 North Area to 100 B Area for display near B Reactor. Discussions are also underway regarding one of the well cars used to transport fuel from the reactors to interim storage basins and then to the 200 Area reprocessing facilities. Works to field-verify the rail lines between the two locations was initiated and a contract is being developed with Tri-City Railroad to complete a full inspection of the lines.

With approval received last week from DOE-RL to begin intrusive work on all the Arid Land Ecology (ALE) facilities, the crews began staging materials and equipment at the lower ALE site to support the remediation of biological hazards in the buildings. Cold and dark isolations were also performed on the

6652-C shed, and window/wall-mounted air conditioning units were removed from 6652-C building and staged within the building for Freon removal.



An aerial view of the 200 North Area during demolition of 212-R, and some of the 15 railcars staged nearby. As demolition proceeds on the 212-N/P/R buildings, CHPRC is considering disposition alternatives for the railcars.

Waste Sites

For the Borrow Area located in the BC Control Area, review of the Response Action Completion Report (RACR) estimate continued. 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, dump trucks

arrived on site and are undergoing a Department of Transportation inspection, and the procurement of two more dump trucks is in progress. RACR estimate activities also continued for the 200-MG-1 waste sites. During the week ending Sept. 11, review continued on the RACR estimate for the 200-E-110 waste site and the RACR estimate for the UPR-600-21 waste site is being prepared.

Regarding the CW-3 waste sites in the 200 North Area, development of the Tri-Party Agreement Change Request was completed to modify the Sampling and Analysis Plan and the Remedial Action Work Plan to authorize future, post-remediation sampling on three sites expected to require “remove, treat and dispose” (RTD) action prior to closure. Subsequently, the documents are currently undergoing an internal review, as is the Statement of Work for remediating the sites requiring RTD.

Work is also beginning on the Multi-Incremental Sampling Project that will compare three sampling designs on two selected waste sites, in support of a study designed by the Washington State Department of Ecology (Ecology). Recent preparation for the survey involved constructing a haul road using the existing road area. Workers began construction by re-grading and re-graveling starting from the north and proceeding southeast to the 216-S-19 pond area. This road will be cut to a width of 20 feet. From that road, an additional road will be added around the circumference of the 216-S-19 pond at a width of 50 feet from the outside boundaries of the pond. This will allow truck traffic to proceed around the pond in a counter-clockwise fashion and comply with the Fire Marshals’ permit requirements. Gravel will be placed over the 20 foot sections of the road. The additional 30 feet around the pond area will not be graveled. This area is designated as a fire break only and will have minimal travel.

The objective of Ecology’s study will be to compare the data generated using three different sampling approaches on the same site, both prior to and after remediating contamination by soil removal. The sites were selected jointly during screening meetings including Ecology, U.S Department of Energy (DOE) and contractor personnel. One site was chosen to represent sites with contamination displaying a comparatively homogenous distribution, while the other was chosen to display one or more “hot spots” of localized high contamination relative to the rest of the site. Each site will be characterized using two discrete sampling approaches, judgmental and systematic. A third sampling approach, multi-incremental sampling, will also be used to characterize each site.



The Borrow Area before and after trailers and equipment mobilization. The site will now be used to support remediation efforts in the BC Control Area.



The haul road before and during construction. Workers performed re-grading and re-graveling of the existing roadway area to avoid further disruption to the environment and to limit driving and fire hazards. The road will support the Multi-Incremental Sampling Project to be performed at the 216-S-19 Pond.

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

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

In the 100K Area, the 110KE Gas Storage Facility was completely demolished this week and the demolition debris was staged for transport to the ERDF. This Recovery Act work was completed as planned without any injuries to performing personnel. The Gas Storage Facility supported reactor operations in several ways including transferring or removing gasses, air or water to the core or other systems. The four large storage tanks were size reduced to minimize the waste volume sent to the ERDF.

Staffing activities are also progressing: The 100K project has over 90% of the staff (131 of 138) planned to be hired with Recovery Act funds on site with 18 of 19 mobile offices scheduled for occupancy by October 1. Recovery Act-funded scope includes accelerated demolition of 11 structures, accelerated remediation of 49 waste sites, and the removal of the KE Reactor Core.

Remediation of the 100-K-56 waste site continued after the implementation of changes identified during pre-job meetings. The waste site is the 72-inch primary effluent pipeline that discharged reactor cooling water from the 105-KE reactor building. A portion of the pipeline and the associated retention basins were removed by a previous DOE prime contractor between 2001 and 2003. The current portion being remediated extends from the terminus of the previous work to the reactor building and is approximately 100 meters in length. Approximately 10 meters of pipe could be exposed by bulk removal of the overburden due to interaction with other activities within the 100-KR-4 area. This week the bulk overburden was completed on the short section of piping. The overburden materials were stockpiled and are under long-term fugitive dust management. Remediation efforts on this pipeline will resume after prioritized work is completed.



Going . . . The 110KE Gas Storage Facility in the 100K Area before demolition. Demolition began in early September with the support of Recovery Act funds and as part of the overall effort to remove ancillary facilities associated with the KE and KW reactors.



Going . . . Through the first week of September, workers continued removal and size reduction of the 110KE Gas Storage Facility. The tanks were size reduced to minimize the volume of waste that would be sent to ERDF, thus preserving space for other clean-up wastes.



Gone. During the week ending Sept. 11, 110KE Gas Storage Facility has been removed and the site was graded. The size-reduced waste (to the left of the backhoe) is staged for shipment to ERDF.

UPCOMING EVENTS

RL-0011 Nuclear Materials Stabilization & Disposition

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

- Sleeve and separate the glove boxes in room 137 into two sections, then remove the three glove boxes from the room for disposal as LLW.
- Remove eight ventilated sample storage cabinets from vault 174.
- Complete decontamination of glove box HA-20MB and process equipment removal from HC-60.

RL-0013 Solid Waste Stabilization & Disposition

RL-0013C:R1.1: MLLW Treatment

- Planned shipment of 15.8 m³ of TSCA-MLLW. The shipment consists of 76 containers and will be sent to ES-Clive on Sept. 15.

RL-0013C:R1.2: TRU Waste

- 3A Trench 17 Removal:

- Complete assembly of shoring box for Box 28
- Ship Box 29
- Continue fabrication of the roof for Box 2; install walls and roof if schedule permits
- Continue fabrication of cover boxes for Boxes 82 and 27
- Continue excavation of Boxes 4 – 11 and begin removal
- Complete work package and critical lift plan for shipping Box 28 and unloading at the CWC.
- Continue demobilization of the ANTECH Assay trailer (service contract) used for drum assay.
- Initiate a Portable Box Assay campaign.
- Continue excavation of 4B Trench 11 and begin removal of boxes from the trench.
- Continue OJT and operator certification.

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

RL-0030.R1: Central Plateau Soil & Groundwater

- Continue drilling at 200-ZP-1, and 100-HR-3-H.
- Continue development of decision documentation.
- Mobilization of drilling subcontractors at 100-NR-2, 100-HR-3-D, 100-BC-5, 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 U Plant ancillary facilities 224-U, 224-UA and 203-UX.
- Complete reactivation of the U Canyon support systems, and continue planning for canyon cleanout.

RL-0040.R1.2: Outer Zone

- 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, BC Control Area, and the 200 North CW-3 waste sites.

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

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

- Continue remediation of the 100-K-56 waste site.
- Complete preparations for UPR-100-K-1 waste site.
- Removal of 117KE Exhaust Air Filter Building Roof Panels.
- Continue mechanical and electrical isolation of the 183KW complex.
- Continue characterization of the 183KW Complex.
- Complete incorporation of comments on the 105KE Reactor Core Removal 30% Design.
- Continue debris removal from the KW basin.