

Nuclear Facility Deactivation and Decommissioning (D&D), Remainder of Hanford (RL-0040)

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***Shipment of first crate #4
(212-N)***



***Retrieval of last crate #20
(212-N)***



***Excavation of site #7
(200-North Sites)***



***Outside of 216-A-2
borehole enclosure***

Overview

This section addresses Project Baseline Summary (PBS) RL-0040, Nuclear Facility Deactivation and Decommissioning (D&D), Remainder of Hanford. There are three major components to this work scope:

- Central Plateau Deactivation & Decommissioning (R. E. Wilkinson),
- Waste Sites Remediation (B. H. Ford), and
- Reliability Projects (R. G. Slocum).

NOTE: Unless otherwise noted, all information contained herein is as of the end of June 2007.

Notable Accomplishments

PBS RL-0040, Nuclear Facility D&D, Remainder of Hanford

Central Plateau D&D:

200-UW-1 U Plant Zone Waste Site Remediation:

- Justification of the STOMP model (Volume I) was re-transmitted for external review the week of July 9, 2007. The 200-UW-1 OU Preliminary Remedial Goal/Remedial Action Goals (PRG/RAGs) for Remove, Treat, and Disposal (RTD) Technical Basis document (Volume II) was re-transmitted for internal review the week of July 9, 2007.

200 North Sites – RTD:

- Completed sample analysis for waste site 5.
- Completed sample analysis validation for site 5.
- Drafted remediation completion report for site 5.
- Completed excavation for site 7.
- Completed survey and multi-incremental sampling (MIS) for site 7.

221-U Facility Canyon:

- Issued the Canyon Grout and Void Fill Study.
- Issued the U Canyon Waste Acceptance Study and Waste Stream Identification Study.
- Issued the Cell 30 Documented Safety Analysis (DSA).
- Continued resolution and incorporation of regulator review comments on the remedial design/remedial action work plan (RD/RAWP).

212-N Facility:

- Completed repackaging and retrieval of remaining crates.
- Completed Nondestructive Analysis (NDA) of remaining crates.
- Shipped crates #4 and #9.
- Contaminated Equipment Special Packaging Authorization (CE SPAs) for remaining crates were approved by RL.

PUREX and Canyons:

- Continued development of the Multi-Canyon Project Management Plan draft.
- Continued PUREX Data Quality Objective (DQO) process.

Notable Accomplishments, continued

Waste Sites Remediation:

- Began drilling the borehole at the A-2 Crib.
- Delivered the 200-IS-1 Integrated Work Plan and Sampling Analysis Plan (SAP) to Ecology (TPA Milestone).

Reliability Projects:

- The Energy Policy Act System Reliability Standards (Section 1211) mitigation plans was approved by the Western Electric Coordinating Council (WECC) headquarters in Salt Lake City on June 14, 2007.
- Revised and submitted the Hanford Sitewide Institutional Controls Plan to RL on June 27, 2007.
- Continued progress on current year reliability projects.
 - Awarded the construction contract for L-396, *General Plant Facility Roof Rehabilitation*, on June 8, 2007.
 - Awarded the construction contract for L-626, *100B Export Water System Reliability Enhancements*, 181-B (River Pump House) fire water line installation and sprinkler system construction on June 11, 2007.
 - Issued Request for Proposal for L-615, *273E Building Renovations*, on June 11, 2007.
 - Completed the NEPA documentation and awarded the construction contract for L-429, *12-Inch Water Line Mortar Lining Along Fourth Street from Baltimore to Canton*, on June 18, 2007.
 - Transmitted the PNNL Cultural Resource Review letter for L-614, *Repeater Sites Safety Renovation*, to the tribes and State Historical Preservation Office on June 21, 2007.

FY 2007 Funds vs. Spend Forecast (\$M)

| | Projected FY 2007 Funding | FY 2007 Fiscal Year Spend Forecast | Variance |
|--------------------------------------------|---------------------------|------------------------------------|----------|
| Nuclear Facility D&D, Remainder of Hanford | \$ 69.5 | \$ 61.9 | \$ 7.7 |

Schedule/Cost Performance (\$M)

| Nuclear Facility D&D, Remainder of Hanford | Budgeted Cost of Work Scheduled | Budgeted Cost of Work Performed | Actual Cost of Work Performed | Schedule Variance \$ | Schedule Variance % | Cost Variance \$ | Cost Variance % | Budget At Completion (FY07/CTD) |
|--------------------------------------------|---------------------------------|---------------------------------|-------------------------------|----------------------|---------------------|------------------|-----------------|---------------------------------|
| Current Period (Month) | \$6.3 | \$5.5 | \$5.5 | -\$0.8 | -12.2% | \$0.0 | -0.1% | \$60.7 |
| Cumulative-to-Date (FY 2004-Present) | \$230.0 | \$229.1 | \$226.1 | -\$0.9 | -0.4% | \$3.0 | 1.3% | \$320.8 |

Numbers are rounded to the nearest \$0.1M.

CTD Schedule Performance (-\$0.9M/-0.4%):

The positive schedule variance (SV) for the Central Plateau D&D Project (CP D&D) organization (+\$2.2M) is due to:

- Demolition of post contract period structures (+\$3.6M)
- Offset by delays in phase II U-361 Tank sampling due to subcontractor mobilizing later than planned; delays in W-42 pipe removal backfill; delays in vadose zone characterization and the Treatability Test Plan due to critical resources working on remedial action goals which is considered a higher priority (-\$0.8M); and delayed receipt of exhaust fans for REDOX/U Plant (damaged fans have been returned to the manufacturer for repair and are expected back in July [-\$0.3M]). Also contributing to offsetting the positive variance were the delays in procurement/installation of decon and shower trailers (-\$0.3M).

Schedule/Cost Performance (\$M), continued

CTD Schedule Performance, continued:

The unfavorable SV in Waste Sites (-\$1.9M) is due to the following:

- Delays in engineering studies/miscellaneous (-\$0.3M). No impacts; studies will be replanned to FY 2008.
- Delays in the scheduled MW-1 (\$-1.0M) feasibility study activities due to competing priorities. No impacts; recoverable.
- Delays in SW-2 collaborative DQO which is taking longer than planned due to a large number of regulatory participants, issues and concerns; resources focusing on DQO causing additional delays in other SW-2 scope (work plan, modeling, and data management and passive vapor sampling) (-\$0.2M). No impact to regulatory commitments.
- Other miscellaneous delays (-\$0.8M).
- Offset by completion of work scope in FY 2005 and 2006 accelerated from FY 2008 (+\$0.2M).
- Offset by early start of down posting surveys at 200-UR-1 (+\$0.2M).

The unfavorable SV for Reliability Projects (-\$1.2M) is primarily due to the following factors:

- Project L-626, *100B Export Water System Reliability Enhancements*, was delayed due to pump procurement and environmental impact assessment complexities (-\$0.4M). A change in the project construction schedule logic will allow installation activities (removal of old pumps and the pre-installation activities for the new pumps) concurrent with assembly of pumps offsite.
- Project L-614, Repeater Sites Safety, National Environmental Policy Act (NEPA) and cultural review delays (-\$0.4M).
- Update of the Infrastructure Reliability Master Plan delayed due to resource unavailability (-\$0.1M). Project has been initiated and scheduled to be completed in July.
- Project L-515, *Chip Seal Route 4S from Wye Barricade to Route 11A*, time phasing of construction activities (-\$0.3M). No impact. Work scope is scheduled to be completed in July 2007.

CTD Cost Performance (+\$3.0M/+1.3%):

The favorable cost variance (CV) for CP D&D (+\$4.1M) is primarily due to the following factors:

- Prior year cost overruns in Remediation Projects (-\$3.6M) resulting from:
 - Additional direct push sampling during field investigation to determine contamination levels.
 - Greater than planned effort to resolve FS/PP comments and Remedial Design SAP.
 - Delays in barrier construction without reductions in staffing levels.
 - Lateral spread of contamination at 200-W-42, resulting in more waste containers being shipped to ERDF than planned.
 - Higher than planned sampling costs for 200 North Remove, Treat and Disposal (RTD) Waste Sites
- Completion of U Ancillary Facilities in less time than planned, resulting in less level of effort costs and efficiencies completing demolition of post contract period structures. Offset by cost overruns demolishing 233-S resulting from a first-of-a-kind demolition being more challenging than planned (+\$0.8M).
- Prior-year efficiencies in CP Surveillance and Maintenance in staffing resulting from not replacing budgeted staff and loaning labor to higher priority projects within D&D. Also due to lower than planned corrective maintenance in prior years for 209E and B Plant (+\$2.7M).
- Prior and current year variance distributions (passbacks) in CP Project Management and Support (+\$4.2M).

The improving unfavorable CV for Waste Sites (-\$0.5M) is due to the following:

- Unbudgeted resources for BC Cribs and Trenches (-\$0.4M) directed toward preparation of the focused feasibility study and the proposed plan, along with preparation of the confirmatory/design DQO and SAP documents.
- Document preparation support for CW-5 and TW-1 (-\$0.6M) required as a result of lessons learned (feasibility study and proposed plan development).
- 200-PW-2/4 (-\$1.0M) - Remedial Investigation (RI) sample costs higher due to highly contaminated samples; equipment replacement costs for unplanned contaminated equipment during the 216-A-10 field

Schedule/Cost Performance (\$M), continued

work; unplanned work and rework tied to the remedial investigation report (data compilation, preparation of the S-7 RI report, and a large number of comments on and difficulty with comment resolution).

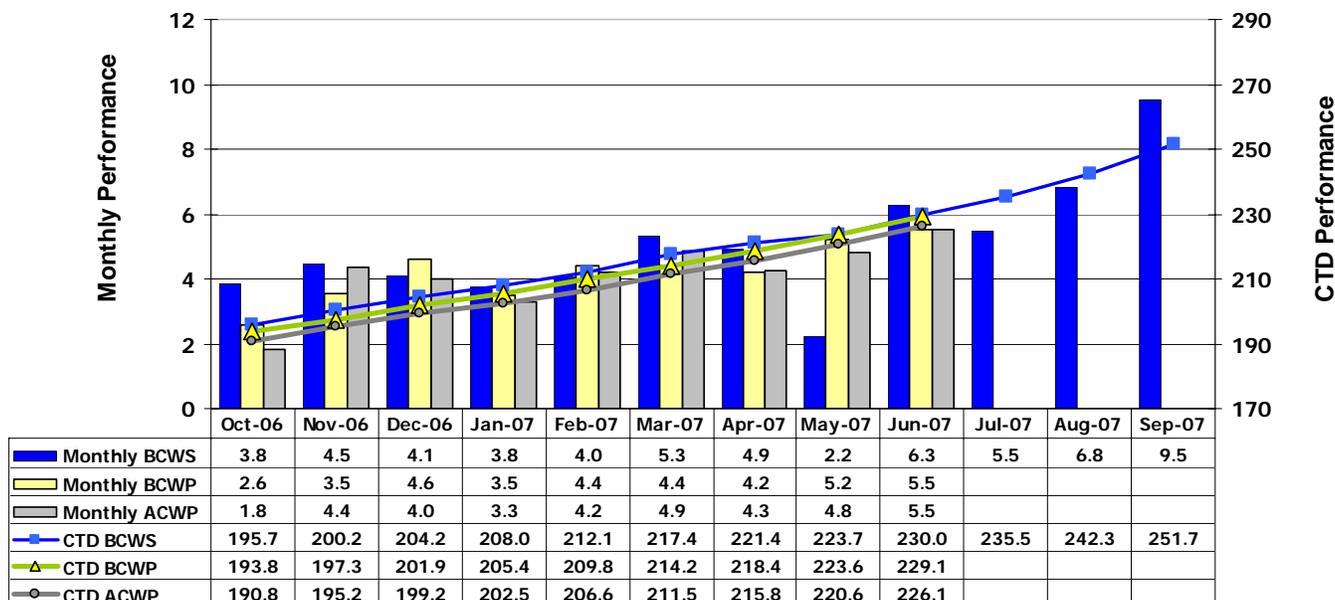
- 200-PW-1/3/6 (-\$2.1M) - FY-04 Z-9 vertical borehole construction requiring more labor, analytical support and greater waste costs due to higher than expected radiological contamination found below ground and the discovery of carbon tetrachloride in the drill cuttings.
- Added subcontract costs to supplement the DQO for 200-UR-1 (-\$0.2M).
- 200-LW-1 (-\$1.6M) - Prior year variances associated with analytical costs which were planned for off-site analysis with a standard 45-day turnaround time, but analytical support has been provided by on-site labs with an expedited, quick-turn analysis to allow the lab data to be incorporated into the 200-TW-1 Feasibility Study and completion of the S-20, T-28, and Z-7 boreholes has cost more than planned.
- Offset by favorable variances for:
 - Lower than planned costs for A-4 borehole drilling activities at 200-MW-1 (+\$0.3M).
 - SW-1/2 (+\$0.4M) for completion of the RI Report early.
 - 600 Area Waste Sites (+\$0.6M) for completing the subcontracted preliminary design for less than planned.
 - Central Plateau Integration and Planning due to variance distributions (+\$3.9M).
 - Minor miscellaneous positive cost variances (+\$0.3M).

The unfavorable CV for Reliability Projects (-\$0.8M) is primarily due to the following:

- Increased in cost of steel prices for facility and water projects (-\$3.5M).
- Offset by underruns in Project L-325, *A-8 Substation*, (+\$1.5M), CENRTC procurements (+\$0.5M), and road refurbishments (+\$0.7M).

The favorable CV for Closure Services (+\$0.2M) is within established thresholds.

Performance Analysis CTD and Monthly (\$M)



Milestone Achievement

| PBS | MSN | Milestone Title | Type | Due Date | Actual Date | Forecast Date | Status / Comments |
|---------|--------------------------|------------------------------------------------------------------------------------------------------------------------|------|----------|-------------|---------------|-----------------------------|
| RL-0040 | M-015-45A | Submit 200-PW-1 OU Remedial Investigation Report | HQ | 10/31/06 | 9/28/06 | | Completed ahead of schedule |
| RL-0040 | M-091-40L-012 | Quarterly Burial Ground vent/substrate sampling results (1st Qtr 2007) | HQ | 12/1/06 | 11/1/06 | | Completed ahead of schedule |
| RL-0040 | M-091-40L-013 | Quarterly Burial Ground vent/substrate sampling results (2nd Qtr 2007) | HQ | 3/15/07 | 2/13/07 | | Completed ahead of schedule |
| RL-0040 | M-13-50 CPDD-07-012 | Draft A RI work plan for supplemental waste site characterization | RL | 3/31/07 | 3/23/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-011 | Project Execution Plan reflective of an integrated groundwater source approach | RL | 3/31/07 | 3/28/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-009 | Draft "A" Excavation Treatability Test plan (including SAP) for the 200 Area BC Cribs and Trenches | RL | 5/31/07 | 5/24/07 | | Completed ahead of schedule |
| RL-0040 | M-091-40L-014 | Quarterly Burial Ground vent/substrate sampling results (3rd Qtr 2007) | HQ | 6/15/07 | 5/24/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-001 | Safety basis document defining appropriate controls to allow disposition of U Plant Cell 30 tank contents | RL | 6/30/07 | 6/1/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-002 | Ten High Risk Industrial Facilities Demolished to Slab on Grade | RL | 6/30/07 | 2/12/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-003 | U Plant Canyon Facility Waste Acceptance Study | RL | 6/30/07 | 6/25/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-004 | 212-N nuclear facility hazard reduction and downgrade completed | RL | 11/30/07 | | 9/20/07 | Forecast ahead of schedule |
| RL-0040 | D&D-07-001 | U Plant Accelerated Closure Engineering Studies | | 6/30/07 | 6/25/07 | | Completed ahead of schedule |
| RL-0040 | M-13-27 CPDD-07-014 | Submit a revised RI/FS Work Plan for the 200-IS-1 and 200-SW-2 OUs | HQ | 6/30/07 | 6/13/07 | | Completed ahead of schedule |
| RL-0040 | CPDD-07-005 | Three 200-CW-3, 200 North Cooling Water Group, waste sites remediated under the remove, treat, and dispose alternative | RL | 7/31/07 | | 7/25/07 | Forecast ahead of schedule |
| RL-0040 | M-091-40L-015 | M-91-40L.4C Quarterly Burial Ground vent/substrate sampling results (4th Qtr 2007) | HQ | 8/31/07 | | | On schedule |
| RL-0040 | M-015-45B CPDD-07-006 | Submit Draft A Feasibility Study and Proposed Plan for the 200-PW-1/3/6 Operable Unit Group. | HQ | 9/30/07 | | | On schedule |
| RL-0040 | CPDD-07-007 | Central Plateau Cleanup and Configuration Control Specification document | RL | 9/30/07 | | | On schedule |
| RL-0040 | M-13-28 CPDD-07-013 | Submit a revised RI/FS Work Plan for the 200-SW and 200-SW-2 OUs | RL | 9/30/07 | | | On schedule |