

Nuclear Facility Deactivation and Decommissioning (D&D), Remainder of Hanford (RL-0040); and River Corridor Closure Project (RL-0041)

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**B-Plant
Before Laydown Yard Demolition**



**B-Plant after Laydown Yard Demolition
(completed September 30, 2004)**

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:

- Deactivation and Decommissioning (M. B. Lackey);
- Waste Site Remediation (M. B. Lackey); and
- Reliability Projects (M. M. Belles)

This section also includes PBS RL-0041, *Nuclear Facility D&D, River Corridor Closure Project*, until this work scope transitions to the River Corridor Contractor.

NOTE: Unless otherwise noted, all information contained herein is as of the end of September 2004.

Top FY 2004 Accomplishments

Deactivation and Decommissioning:



233-S Demolition: As of April 30, 2004, all 29 wall slabs were removed from the facility, thus completing demolition of the 233-S/SA Facilities to "slab on grade". This was the first "open air" D&D of a high-hazard nuclear facility in the United States. Since October 2003, workers made 4,500 entries into the contaminated area without a skin contamination event.

B Laydown Construction Area Demolition:

As of September 30, 2004, completed demolition, debris shipping and disposal, and demobilization at the B Plant Laydown Yard and initiated project close-out activities.



Waste Site Remediation:

As of September 30, 2004, completed Tri-Party Agreement (TPA) milestones for two Remedial Investigation (RI) Reports, one Feasibility Study (FS) and Proposed Plan, one RI/FS Work Plan, one Burial Ground Sampling and Analysis Plan, one preliminary remedial design, and three quarterly Burial Ground reports, investigated eight waste sites by drilling five boreholes and installing 65 direct-push holes to collect laboratory soil samples and geophysical logging data, and obtained regulatory approval of two RI/FS Work Plans.

Top FY 2004 Accomplishments, continued

Reliability Projects:

Project L-386, Hot Semi-Works Raw Water Isolation:

This project designed and constructed a water system modification that eliminated a deteriorated section of water line in the 200 East Area. This modification eliminated a significant environmental concern and also greatly improved the water quality and flow in the area. The project was completed with water line tie-in on October 13, 2003.

Project L-298, Road Refurbishment:

This project, which paved three sections of Hanford's primary roads, was completed on October 23, 2003.



Project L-388, Replace 1,700 Feet of Deteriorated Four-inch Potable Water Line to 242A Evaporator/Waste Treatment Plant:

This project designed and constructed a new potable water service in the 200 East Area. The old water service was undersized and believed to be leaking into an environmentally-sensitive area. Approximately 60 underground utilities were located along the new pipeline path. Transition to the new underground utilities was completed by January 29, 2004. The project was completed February 13, 2004. The new 12-inch line greatly improves the water quality and flow in this area.



Project L-434, Guardrail Installation on Route 4N:

This safety-related project installed safety guardrails on both sides of Route 4N on the road shoulder in the area of a steep embankment north of Route 11A. Construction was completed on April 16, 2004.

Project L-341, Reline 20-Inch Water Line S-Plant to Water Treatment Plant:

This project designed and refurbished a significant portion of the potable and raw water lines between the S-Plant Complex and the 200 West Water Treatment Plant, utilizing the proven technology of mortar lining. Approximately two miles of the most degraded raw-water line in the 200 Area were refurbished. Construction on this project was completed April 30, 2004.

Mortar-Lining Project Selected for DOE Best-In-Class Award:

A July 9, 2004, memo from Secretary of Energy Spencer Abraham announced the Hanford Site mortar-lining project was a recipient of the DOE 2004 Pollution Prevention Best-In-Class Award. Mortar-lining is an environmentally-friendly and cost-effective innovative technique used to refurbish degraded water lines in-place for about half the cost of traditional replacement. Mortar-lining protects the groundwater by stopping leaks and assuring water supplies to support remaining Hanford cleanup and D&D activities.



Top FY 2004 Accomplishments, continued

Project L-327, Install Bonneville Power Administration (BPA)-Provided Energy Efficient Pumps at 182B:

This project designed and constructed a modern, energy efficient pumping system to replace the 50-year-old 100 Area Export Water Pumps and associated electrical system. Three energy-efficient 2,400 volt motors/pumps (one 250 horse power and two 500 horse power) were installed at the 182B Pumping Facility. An estimated savings of approximately 3,271,000 kilowatt hours per year has been calculated by the BPA with the implementation of this new pumping configuration. Construction on this project was completed on July 29, 2004.



Installed Energy Efficient Pumps

Telephone Switch Replacement:

Completed the Hanford Site main telephone switch replacement on September 17, 2004, which included updating associated supporting software. The replacement addressed hardware and software reliability issues.

Notable September Accomplishments

Deactivation and Decommissioning:

B Plant Laydown Yard: As of September 30, 2004, completed demolition, debris shipping and disposal, and demobilization at the B Plant Laydown Yard and initiated project close-out activities.

U Plant: Transmitted the Feasibility Study and Proposed Plan for the U Plant Canyon Disposition Initiative to RL on September 20, 2004. Public comment period on the U Plant Ancillary Facilities engineering evaluation/cost analysis ended September 25, 2004. Three minor comments were received. The draft Action Memorandum was forwarded to RL on October 1, 2004.

Miscellaneous Structures:

Demolished seven miscellaneous structures (2247B, 2249B, 2252E, 2255EA, 2905P, 2905R and 3232).

Central Plateau Closure Project:

Issued the *Plan for Central Plateau Closure* on September 29, 2004.

River Corridor Closure (RL-0041): Completed the 324 Building transformer change-out during the weekend of September 24-26, 2004. Completed Fuel Supply Shutdown Facility transfers to Bechtel Hanford, Inc., per RL's letter of direction on September 30, 2004. Determined that the optimal approach for disposal of all the 300 Area Uranium Fuel inventory was at the Mixed Waste Trench.

Notable September Accomplishments, continued

Waste Site Remediation:

U Plant Regional Closure: Completed 60 percent design package for the U Plant waste site caps on September 27, 2004; package is undergoing FH review. This work supports Performance Objective 1a-1.

BC Cribs and Trenches: Completed High-Resolution Resistivity scans over the cribs at the BC Cribs and Trenches area on September 24, 2004; found contamination at similar depths as the trenches that have been previously scanned. The goal of this Vadose Zone plume delineation study is to provide a three-dimensional integration of nitrate and technecium-99 beneath the waste sites. This work supports Performance Objective 1b-1.

200 Area RI/FS Work: Completed borehole drilling and sampling at the 216-S-20 Crib for the 200-LW-1/200-LW-2 Chemical Laboratory Waste Group Operable Units on September 13, 2004. This work supports TPA Milestone M-015-46A.

Reliability Projects:

A-8 Substation: Completed definitive design on Project L-325, *Replace the Main Site Electrical Power (A-8 Substation)*, on September 30, 2004. The A-8 Substation provides electrical power to all Hanford Central Plateau facilities.

Main Telephone Switch: Completed the Hanford Site main telephone switch replacement on September 17, 2004, which included updating associated supporting software.

Capital Equipment: Three capital equipment items arrived in September: two transportation fuel trucks that service vehicles throughout the Hanford Site, and a forklift replacement for the 2101M warehouse.

FY 2004 FH Funds versus Forecast (\$M)

	FY 2004 Anticipated Funding w/Carryover	FY 2004 Fiscal Year Spend Forecast	Variance
RL-0040 Nuclear Facility D&D, Remainder of Hanford	\$ 74.9	\$ 67.2	\$ 7.7
RL-0041 Nuclear Facility D&D, River Corridor Closure	\$ 12.4	\$ 11.0	\$ 1.4
Total	\$ 87.2	\$ 78.3	\$ 9.1

FY 2004 Schedule/Cost Performance (\$M)

	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
RL-0040 Nuclear Facility D&D, Remainder of Hanford	\$64.2	\$58.4	\$67.2	-\$5.7	-8.9%	-\$8.8	-15.0%	\$64.2
RL-0041 Nuclear Facility D&D, River Corridor Closure	\$11.0	\$11.2	\$11.0	\$0.2	2.0%	\$0.2	1.6%	\$11.0
Total	\$75.1	\$69.6	\$78.3	-\$5.5	-7.9%	-\$8.6	-12.4%	\$75.1

Numbers are rounded to the nearest \$M.

Note: Infrastructure Reliability has carryover workscope into FY 2005 (\$10.3M).

Schedule Performance (-\$5.5M/-7.9%): The favorable schedule variance for Central Plateau D&D (+\$1.2M) is due to completion of FY 2003 carryover activities and performing B Plant Laydown Yard and U Plant ancillary facilities demolition activities ahead of schedule. This is somewhat offset by an unfavorable schedule progress for surveillance and maintenance activities (-\$0.1M).

Delays in the Waste Site Cleanup field investigations have resulted in the -\$1.5M unfavorable schedule variance. Resource availability has delayed the BC Cribs plume delineation, fate and transport modeling, and the borehole construction at both 200-LW-1 and 216-S-7. The Z-9 Slant and 200-MW-1 field investigations have been deferred in support of funding targets. The A-4 borehole has been delayed due to the discovery of high levels of contamination and planning to determine a path forward.

The -\$5.3M unfavorable schedule variance in Reliability Projects is primarily due to delays in initiating new starts due to continuing resolution and a requirement for DOE-HQ approval of capital equipment procurements (-\$7.9M), offset by \$2.6M favorable progress in completing FY 2003 carryover projects.

The favorable schedule variance for PBS RL-0041 (\$.2M) is within established thresholds.

FY 2004 Schedule/Cost Performance, continued

Cost Performance (-\$8.6M/-12.4%): The -\$8.1M unfavorable cost variance for Central Plateau D&D is primarily due to 233-S demolition activities being more extensive, thus requiring retention of resources (personnel and equipment) for a longer period of time (approximately six months); this is somewhat offset by favorable variances (+\$3.3M) due to completion of FY 2003 carryover activities and efficiencies associated with the performance of the B Plant Laydown D&D, U Plant Ancillary D&D Projects, and surveillance and maintenance. In addition, a favorable variance distribution was received in September.

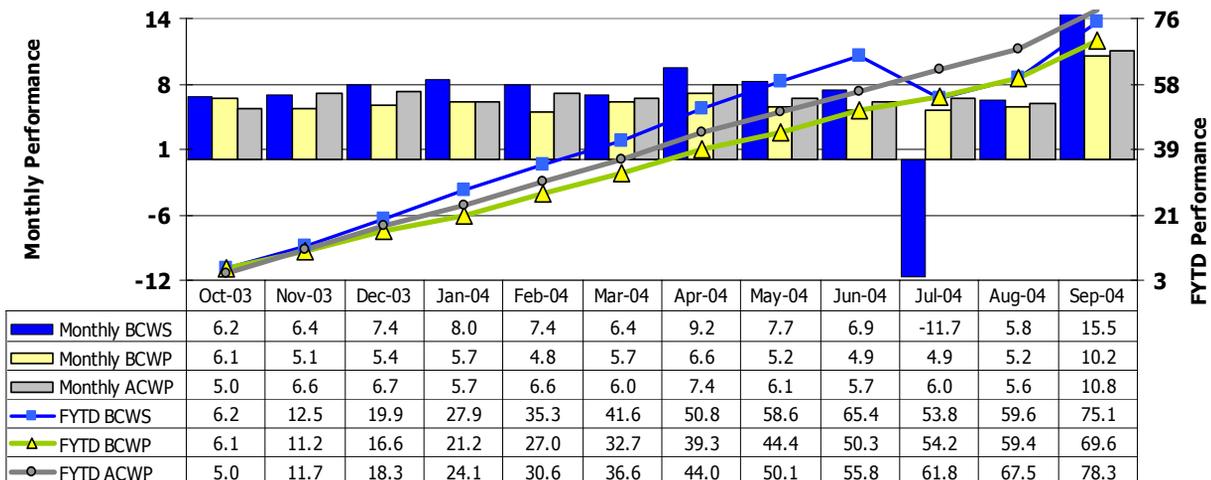
The -\$3.6M unfavorable cost variance for Waste Site Cleanup resulted from:

- Discovery of significant radiological contamination during the Z-9 dense, nonaqueous phase liquid test; 200-PW-2 and 200-MW-1 field investigations has required more labor, analytical support, equipment replacement costs, and investigation derived waste costs than expected;
- Cost variance distributions from 222-S for under-utilized laboratory services has added over \$0.5M in unplanned costs to 200-PW-1;
- To allow relevant analytical data to be incorporated into the 200-TW-1 Feasibility Study, both the 200-LW-1 and BC Cribs investigations have required more expensive quick-turnaround and on-site analytical support than planned; and
- Document preparation costs have been greater than planned for RI/FS reports and Work Plans due to regulator comments, document reviews, data compilation, and requests for incorporation of additional data/lessons-learned into the reports.

The -\$0.4M unfavorable cost variance in Reliability Projects is primarily due to the Closure Services Allocation.

The favorable cost variance for PBS RL-0040 (+\$.2M) is within established thresholds.

Performance Analysis FYTD and Monthly (\$M)



Milestones

PBS	MSN	Title	Type	Due Date	Actual Date	Forecast Date	Status / Comments
RL-0040	TRP-03-224 M-013-00N	Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan	HQ	06/30/04	06/30/04		Completed on schedule
RL-0040	TRP-03-233 M-015-43B	Submit 200-PW-2 OU RI Report Including Past Practice Waste Sites	HQ	06/30/04	06/24/04		Completed ahead of schedule
RL-0040	WMG-04-007 M-091-40L-003	M-91-40L.1.C Submit Quarterly Burial Ground Vent and substrate Sample	HQ	09/01/04	08/12/04		Completed ahead of schedule
RL-0040	TRP-03-236 M-016-66	Initiate Intern. Des.& Auth for RA at 618-10&11	HQ	09/30/04	09/30/04		Completed on schedule
RL-0041	TRP-03-501 M-092-11-T01	Complete Disposition Options for Hanford Site Nonradioactive NA	RL	09/30/04	09/30/04		Completed on schedule
RL-0040	TRP-03-242 M-015-40C	Submit 200-CW-5 U Pond/Z Ditches Cooling Water Group FS & Submit	HQ	10/31/04			On schedule
RL-0040	WMG-05-001 M-091-40L-004	M-91-40L.1.D Submit Quarterly Burial Ground Vent and substrate Sample	HQ	12/01/04			On schedule
RL-0040	TRP-03-139 M-013-00O	Submit 1 200 NPL RI/FS (RFI/CMS) Work Plan	HQ	12/31/04			On schedule
RL-0040	WMG-04-009 M-091-40K	M-91-40K Update 218-E-12B SAP	HQ	01/15/05	08/24/04		Completed ahead of schedule
RL-0040	WMG-05-010 M-091-40J	M-91-40J UPDATE 218-W-3A SAP	HQ	03/01/05			On schedule
RL-0040	WMG-05-005 M-091-40L-005	M-91-40L.2.A Submit Quarterly Burial Ground Vent and substrate Sample	HQ	03/01/05			On schedule
RL-0040	WMG-05-009 M-091-40I	M-91-40I Update 218-W-4B SAP	HQ	03/01/05			On schedule
RL-0040	WMG-05-006 M-091-40L-006	M-91-40L.2.B Submit Quarterly Burial Ground Vent and substrate Sample	HQ	06/01/05			On schedule
RL-0040	WMG-05-007 M-091-40L-007	M-91-40L.2.C Submit Quarterly Burial Ground Vent and substrate Sample	HQ	09/01/05			On schedule
RL-0040	TRP-03-260 M-015-46A	200 Area Chemical Lab Waste OUs Remedial Investigation Report.	HQ	10/31/05			On schedule