

Spent Nuclear Fuel (SNF) Stabilization and Disposition Storage Operations (HQ-0012X); and SNF Stabilization and Disposition (RL-0012)

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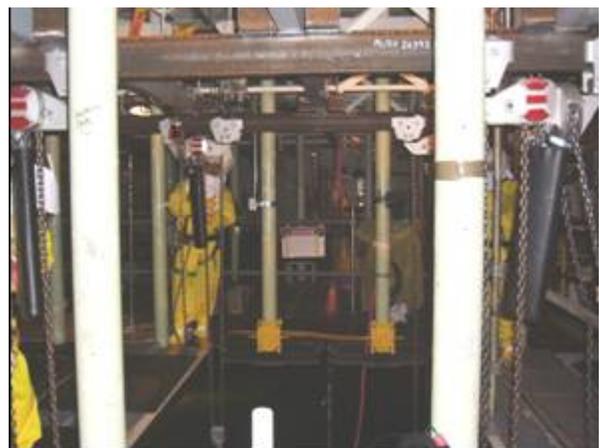
Secretary of Energy vacuuming sludge during visit to K Basins



Canister waste box shipments to ERDF resume



CSB staff celebrates completion of MCO welding



Final sludge container installed in K West Basin

Overview

This section addresses work in Project Baseline Summary (PBS) HQ-0012X, *Spent Nuclear Fuel Stabilization and Disposition Storage Operations*; and RL-0012, *Spent Nuclear Fuel Stabilization and Disposition*.

NOTE: Unless otherwise noted, all information contained herein is as of the end of June 2005.

Notable Accomplishments

SNF Stabilization and Disposition (PBS RL-0012)

Sludge Retrieval and Treatment: Seventy-nine percent (33m³ of 42m³) containerization was reached in K East Basin, and installation of all containers required for sludge transfer operation (6 of 6) was completed. Sixty percent of container lids (4622 of 7592) have been removed from K West Basin. Ninety percent of hose-in-hose sludge transfer equipment completed fabrication and delivery to 100K Area.

Decontamination and Demolition: All hydrolase equipment was received at 100K in preparation for K East Basin wall clearing.

100K Area Waste Disposition: Approval was received, and shipment completed, of six canister waste boxes to the Environmental Restoration Disposal Facility (ERDF). This closes the issues related to waste characterization that led to curtailment of shipments in October 2004.

Issues

Sludge Containerization: Continued evaluation of work process changes resulted in the incorporation of a "clear and clean" approach in the K East basin to deal with the debris and visibility complications that have delayed this task. In addition to installing a third vacuuming system and improved system availability, operators are clearing all debris prior to vacuuming each section. Installation of a debris load-out station is nearing completion, designed to improve the quantity and efficiency of large debris handling. With the revised approach and schedule changes, a mid-December 2005 completion is being forecast. Impacts to sludge transfer, K West sludge consolidation, and K East demolition have resulted from the K East delays, as reported in the milestone summary for this report. Completion of TPA M-34-33B, due March 1, 2005, is projected for mid-December 2005.

Sludge Transfer: Equipment fabrication and acceptance was completed on July 22, 2005, and materials have been delivered to 100K Area. However, recommendations emanating from the DOE Sludge Review Board (conducted in June 2005) necessitate the installation of new booster pump seals as well as incorporation of enhanced system logic controllers to address system operation vulnerabilities. These modifications, as well as the incorporation of more robust testing, have resulted in additional schedule delay and increased cost. DNFSB milestone 2001-1-CN-120E (due July 31, 2005) and TPA milestone M34-34 (due January 30, 2006) are projected to complete in March 2006.

2005/2006 Budget/Funding: Work delays and increased costs resulting from sludge and debris collection continue to increase both the FY 2005 spend forecast and the amount of unfunded carryover work scope for FY 2006. Significant impacts to Sludge Treatment progress are being projected and discussed with RL, and options to provide additional funds are being evaluated to achieve a FY 2008 completion date for treatment.

FY 2005 Funds vs. Spend Forecast (\$M)

		Projected FY 2005 Funding	FY 2005 Fiscal Year Spend Forecast	Variance
HQ-0012X	SNF Stabilization and Disposition Storage Ops	\$ 0.9	\$ 0.9	\$ 0.0
RL-0012	SNF Stabilization & Disposition	\$ 149.6	\$ 143.7	\$ 5.9
Total		\$ 150.5	\$ 144.6	\$ 5.9

FY 2005 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
HQ-0012X	SNF Stabilization and	\$0.8	\$0.8	\$0.8	\$0.0	0.0%	\$0.0	-1.1%	\$0.9
RL-0012	SNF Stabilization & Disposition	\$82.6	\$78.5	\$110.4	-\$4.1	-5.0%	-\$32.0	-40.7%	\$120.4
Total		\$83.3	\$79.3	\$111.3	-\$4.1	-5.2%	-\$32.0	-40.3%	\$121.3

Schedule Performance (-\$4.1M/-5.2%): The variance is due to:

- North Loadout Pit sludge collection and treatment (-\$3.0M).
- Delays in K East Basin sludge containerization (-\$0.6M).
- Delays in K East to K West Transfer System and Fuel Retrieval (BNGA) (-\$6.0M).
- Delayed receipt of hydrolasing tools and miscellaneous D&D (-\$2.2M).

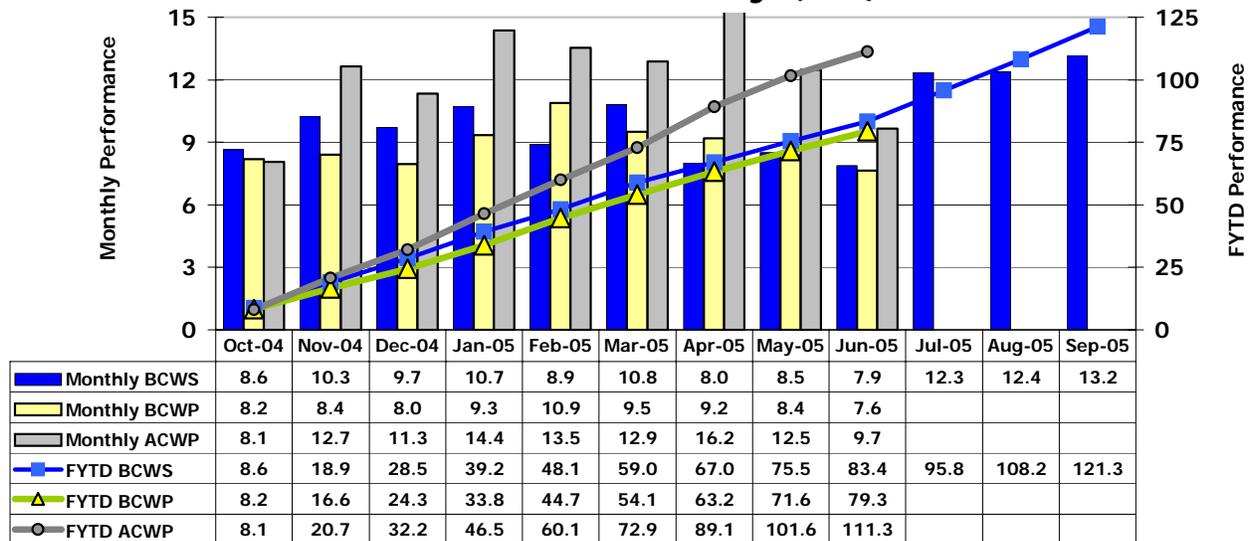
The unfavorable schedule variance is partially offset by a favorable schedule variance for completing MCO movement activities that were budgeted to be completed in FY 2004 (+\$1.6M), completing sludge carryover activities (\$+3.1M), MCO welding ahead of schedule (+\$0.3M), and Sludge Treatment acceleration from FY 2006 (+\$2.7M).

Cost Performance (-\$32.0M/-40.3%): The variance is due to:

- Overruns developed in completion of fuel movement (-\$1.5M).
- Unplanned Ion Exchange Module procurement required due to water clarity issues requiring increased replacement frequency (-\$0.6M).
- Labor/material overruns in Safe and Compliant activities due to underestimated requirements and the delay in ramp-down from fuel removal activities (-\$3.8M).
- Increased cost in Sludge Retrieval activities (K East Containerization, Sludge Transfer System, K West Retrieval, etc.) due to slower progress resulting in higher labor costs for the work being completed. Procurement of additional materials such as cameras, tools, and filters to resolve water visibility problems (-\$29.4M), and D&D labor rates and technical requirements (-\$2.6M).
- Offset by efficiencies at CSB (+\$1.1M) & Closure Services (+\$0.3M), temporary under runs in NLOP until the BCR to transfer work scope to Waste Management is completed (+\$3.9M), and labor under runs in sludge treatment (+\$0.6M).

FY 2005 Schedule/Cost Performance, continued

**Performance Analysis
FYTD and Monthly (\$M)**



Milestone Achievement

Number	Milestone Title	Type (TPA/PI/DNFSB)	Due Date	Actual Date	Forecast Date	Status / Comments
M-034-18B (S00-00-902) (S10-05-012)	Complete removal of all K Basin SNF	TPA/DNFSB/ PI	07/31/04	10/15/04		Complete
DNFSB 2001-1 (S10-05-012)	Remove SNF from K Basins	DNFSB	07/31/04	10/12/04		Complete
RL-12-1.aa (S10-99-960)	Complete SNF Removal from K West	PI	08/31/04	10/15/04		Complete
RL12-1.cd (S10-99-977)	Initiate Full Scale K East Water Removal	PI	09/30/04	09/19/04		Complete
M-034-33A (S10-05-009)	Initiate Sludge Containerization	TPA	10/31/04	10/31/04		Complete
DNFSB 121 (S10-05-013)	Select Sludge Treatment Method	DNFSB	11/30/04	11/15/04		Complete
RL-12-1.c (S10-99-966)	Complete K East Discharge Chute Immobilization	PI	12/30/04	08/20/04		Complete
DNFSB 119E (S10-05-014)	Complete K East Sludge Consolidation	DNFSB	12/31/04		12/08/05	Behind Schedule
RL-12-1.ba (S10-99-083)	Treat 1 Cubic Meter of Sludge	PI	02/28/05		09/30/05	Behind Schedule
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA	03/01/05		12/08/05	Behind Schedule
S10-99-80	Complete MCO Welding	PI	06/30/05	06/16/05		Complete
DNFSB 120E (S10-05-015)	Complete K East Basin Sludge Removal	DNFSB	07/31/05		03/28/06	Behind Schedule
RL-12-1.b (S10-99-082)	Transfer K East Sludge to K West Containers	PI	07/31/05		03/28/06	Behind Schedule
RL-12-1.bb (S10-99-963)	Transfer Found Fuel and Fuel Scrap from K East to K West	PI	07/31/05		11/14/05	Behind Schedule
M34-21-T1 (S10-99-951)	Initiate Full Scale K West Basin Water Removal	TPA	12/31/05		10/30/05	Ahead of Schedule
RL-12-1.cg (S10-99-973)	Immobilize K West Discharge Chute	PI	12/31/05		11/30/05	Ahead of Schedule
M-034-34 (S10-05-010)	Complete Removal of K East Sludge	TPA	01/31/06		03/28/06	At Risk
RL-12-1.ch (S10-99-976)	Complete Removal of Contaminated Fuel Canisters	PI	01/31/06	06/21/05		Complete
RL-12-1.ce (S10-99-978)	Complete K East Water Removal	PI	01/31/06		08/30/06	Behind Schedule
DNFSB 119W (S10-05-016)	Complete K West Sludge Containerization	DNFSB	02/28/06		04/13/06	Behind Schedule
RL-12-1.ca (S10-99-967)	Encapsulate 3 K East Bays	PI	02/28/06		08/30/06	Behind Schedule
RL-12-1.bd (S10-99-965)	Commencement of Floor and Canister Sludge Treatment	PI	03/30/06		09/30/07	Behind Schedule
RL-12-1.cb (S10-99-968)	Remove K East Superstructure	PI	06/30/06		09/06/06	Behind Schedule
M-034-35 (S10-05-011)	Containerize K West Sludge	TPA	06/30/06		04/13/06	Behind Schedule
RL-12-1.cc (S10-99-969)	Complete First K East Basin Section Disposal	PI	07/31/06		10/19/06	Behind Schedule
RL-12-1.ci (S10-99-971)	Decon/Immobilize K West Basin Wall (7600 sq. ft.)	PI	08/31/06			On Schedule
RL-12-1.bc (S10-99-081)	Remove Found Fuel and Scrap	PI	09/30/06			On Schedule
RL-12-1.cf (S10-99-972)	Complete K East Basin Removal	PI	09/30/06		03/31/07	Behind Schedule

NOTE: HQ-0012X has no milestones.