

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

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Radiological control technicians use instruments on poles to take radiation readings on fuel racks being taken apart



Old fuel rack being pressure washed under grating in K West Basin



Sludge plume rising from old fuel rack as it is rinsed in K West Basin



Lid removal activities in K West



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 January 2005.

Notable Accomplishments

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

Site-Wide Fuel: SNF received the 36th Interim Storage Cask of Fast Flux Test Facility fuel at the 200 Area Interim Storage Area.

SNF Stabilization and Disposition (PBS RL-0012)

Sludge Treatment: Final cleanout stage was reached in the Weasel Pit in K East Basin, which has allowed activities to install the sludge collection container to commence. System modifications were completed to allow two vacuum station operations in K East Basin. Rack removal was initiated in K West Basin and an additional 381 aluminum canisters were removed/packaged. Also, the process for lid removal was designed and implemented, and removal of lids from the K West Basin was initiated. The sludge treatment contractor, BNFL, completed 30% design for the balance of sludge treatment.

Multi-Canister Overpack (MCO) Welding at the Canister Storage Building: FH welded and "N" stamped 16 MCOs during January. As of February 18, 2005, a cumulative total of 324 MCOs were welded and "N" stamped, which leaves 77 MCOs to be welded.

Deactivation and Decommissioning: The cutting arm/garnet collection system was received. A water quality workshop to mitigate effects of in-basin work was completed. No fuel/no sludge conditions in K West discharge chute were confirmed.

Issues

FH provided notification to RL of delays in achieving TPA milestone M-34-33, Containerize K East Sludge, on February 1, 2005, due to a cumulative set of pre-existing conditions and differing site conditions. While progress has been slower than planned, FH has demonstrated the systems' ability to containerize sludge and is continuing to work aggressively toward a July 1, 2005, completion.

Shipment of canisters retrieved from the basins to the Environmental Restoration Disposal Facility (ERDF) were suspended in October due to questions regarding the classification of waste. While sampling and analysis continues on six remaining suspect boxes, the K Basins Closure (KBC) Project is implementing a Justification for Continued Operations that reflects expansion of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) storage areas, and allows basin canister and rack removal to continue. ERDF will conduct an assessment/review of results and revised characterization in early March with resumption of shipments expected at the conclusion of the review.

Issuance of the public review and comment documentation in support of the CERCLA Record of Decision (ROD) amendment was made on January 19, 2005, and the public review and comment phase is scheduled to complete on February 22, 2005. There was no request for extension and to date, only minimal comments have been received. FH needs the amended ROD no later than May 3, 2005, for T Plant treatment and May 25, 2005, for the balance of sludge. A major impact will result if the amendment is significantly altered.

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

	Projected FY 2005 Funding	FY 2005 Fiscal Year Spend Forecast	Variance
SNF Stabilization and Disposition Storage Ops	\$ 2.7	\$ 2.4	\$ 0.4
SNF Stabilization & Disposition	\$ 130.0	\$ 134.5	\$ -4.5
Total	\$ 132.7	\$ 136.8	\$ 0.1

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	\$0.7	\$0.6	-\$0.1	-16.3%	\$0.1	16.3%	\$2.6
RL-0012 SNF Stabilization & Disposition	\$38.5	\$33.0	\$46.0	-\$5.4	-14.1%	-\$12.9	-39.1%	\$120.4
Total	\$39.2	\$33.7	\$46.5	-\$5.6	-16.5%	-\$12.8	-38.0%	\$122.9

Numbers are rounded to the nearest \$0.1M and include the closure services allocation.

Schedule Performance (-\$5.6M/-16.5%): The variance is due to:

- (HQ-0012X) Preparation activities supporting the shipment of Fast Flux Test Facility fuel from the Plutonium Finishing Plant to the Canister Storage Building are on hold pending DOE's possible direction to send the fuel to Idaho National Engineering Laboratory (-\$0.1M).
- North Load Out Pit sludge collection and treatment (-\$1.6M).
- Delays in K East basin sludge containerization (-\$1.0M).
- Delays in K West Transfer System and Fuel Retrieval (BNFL) (-\$4.0M).
- Delayed receipt of hydrolasing tools and miscellaneous D&D (-\$1.5M).

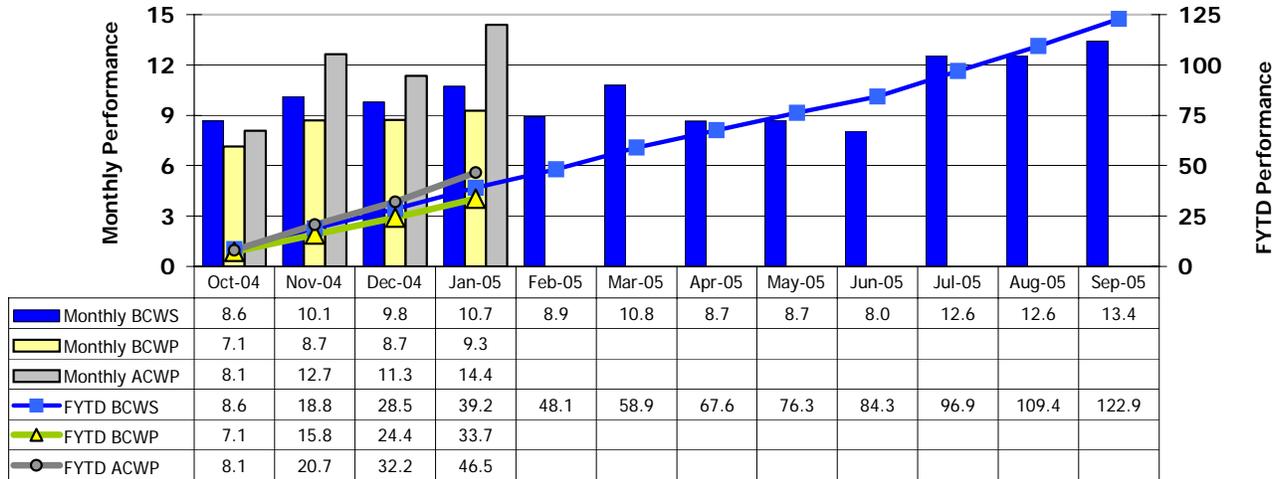
The unfavorable schedule variance is partially offset by a favorable schedule variance for completing MCO movement activities that were budgeted to be completed in FY 2004 (+\$1.6M) and completing sludge carryover activities (\$+1.0M).

Cost Performance (-\$12.8M/-38.0%): The variance is due to:

- (HQ-0012X) No significant variance.
- Labor overruns developed in completion of fuel movement (no budget) (-\$1.2M).
- Unplanned Ion Exchange Module procurement required due to water clarity issues requiring increased replacement frequency (-\$0.6M).
- Labor overruns in Safe and Compliant activities due to underestimated requirements and the delay in ramp-down from fuel removal activities (-\$2.9M).
- Increased cost in Sludge Retrieval activities (K East Containerization and Sludge Transfer System) 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 (-\$7.8M), and D&D labor rates and technical requirements (-\$0.5M).

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-34-18B (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		07/01/05	Behind Schedule
RL-12-1.ba (S10-99-083)	Treat 1 Cubic Meter of Sludge	PI	02/28/05		06/07/05	Behind Schedule
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA	03/01/05		07/01/05	Behind Schedule - In Jeopardy
S10-99-80	Complete MCO Welding	PI	06/30/05		07/31/05	Behind Schedule
DNFSB 120E (S10-05-015)	Complete K East Basin Sludge Removal	DNFSB	07/31/05			On Schedule
RL-12-1.b (S10-99-082)	Transfer K East Sludge to K West Containers	PI	07/31/05			On Schedule
RL-12-1.bb (S10-99-963)	Transfer Found Fuel and Fuel Scrap from K East to K West	PI	07/31/05			On Schedule
M34-21-T1 (S10-99-951)	Initiate Full Scale K West Basin Water Removal	TPA	12/31/05			On Schedule
RL-12-1.cg (S10-99-973)	Immobilize K West Discharge Chute	PI	12/31/05			On Schedule
M-034-34 (S10-05-010)	Complete Removal of K East Sludge	TPA	01/31/06			On Schedule
RL-12-1.ch (S10-99-976)	Complete Removal of Contaminated Fuel Canisters	PI	01/31/06			On Schedule
RL-12-1.ce (S10-99-978)	Complete K East Water Removal	PI	01/31/06			On Schedule
DNFSB 119W (S10-05-016)	Complete K West Sludge Containerization	DNFSB	02/28/06			On Schedule
RL-12-1.ca (S10-99-967)	Encapsulate 3 K East Bays	PI	02/28/06			On Schedule
RL-12-1.bd (S10-99-965)	Commencement of Floor and Canister Sludge Treatment	PI	03/30/06			On Schedule
RL-12-1.cb (S10-99-968)	Remove K East Superstructure	PI	03/30/06			On Schedule
M-034-35 (S10-05-011)	Containerize K West Sludge	TPA	06/30/06			On Schedule
RL-12-1.cc (S10-99-969)	Complete First K East Basin Section Disposal	PI	07/31/06			On 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			On Schedule

NOTE: HQ-0012X has no milestones. Milestones and due dates are derived from the approved Tri-Party Agreement Change Request M-34-04-01.