

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

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*Solid Waste Box containing 12 canisters destined for Waste Receiving and Processing facility*



*Floor and pit sludge removal system 80gpm Vacuum Wand and Flocculent Feed Rack*

*K East – K West Transfer System pump in test stand*



*K East sludge vacuuming operations. Bargaining Unit personnel have implemented innovative methods to overcome poor visibility.*

## 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 February 2005.

## Notable Accomplishments

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

**Site-Wide Fuel:** The K Basins Closure (KBC) Project 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:** Assessment was completed and permission was received to ship Ion Exchange Modules (IXMs) to the Environmental Restoration Disposal Facility (ERDF). A two-day value engineering session was held with RL and KBC bargaining unit and exempt staff. Several alternatives to improve debris removal and sludge vacuuming efficiencies were identified. The K East-West transfer project received all K West containers, completed K East road crossing, and to date, has removed 47 racks from the basin.

**Multi-Canister Overpack (MCO) Welding at the Canister Storage Building (CSB):** FH welded and "N" stamped 18 MCOs during February. As of March 28, 2005, a cumulative total of 346 MCOs were welded and "N" stamped, which leaves 55 MCOs to be welded.

**Deactivation and Decommissioning:** The hydrolasing head design was completed, along with the 60 percent design for hydrolase spoils collection system, and the preliminary hazard analysis for K East hydrolase.

## Issues

Progress to containerize K East sludge has been steady, reaching 19.5 cubic meters (m<sup>3</sup>) collected as of March 28, 2005. Tri-Party Agreement Milestone M-34-33, "Containerize K East Sludge," due March 1, 2005, was missed. FH confirmed containment of sludge in collection containers, and continues to implement system improvements, projecting a late July 2005 completion date.

Approval to ship IXMs from the K Basins to ERDF was received in March 2005. This was the first of several waste streams to resume shipments to ERDF since suspension in October. Only one of the original 357 canister waste boxes in question has not passed screening as low-level waste, with final test results expected in April. It is anticipated that all waste shipment restrictions will be lifted by June 2005.

The public review and comment period supporting the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision (ROD) amendment was closed on February 22, 2005, with no significant comments 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
HQ-0012X	SNF Stabilization and Disposition Storage Ops	\$ 0.9	\$ 0.9	\$ 0.0
RL-0012	SNF Stabilization & Disposition	\$ 130.0	\$ 135.1	\$ -5.1
<b>Total</b>		<b>\$ 130.9</b>	<b>\$ 135.9</b>	<b>\$ -5.1</b>

## 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	\$1.0	\$0.7	\$0.6	-\$0.3	-30.5%	\$0.1	8.3%	\$2.6
RL-0012	SNF Stabilization & Disposition	\$47.2	\$44.0	\$59.4	-\$3.2	-6.8%	-\$15.5	-35.1%	\$120.4
<b>Total</b>		<b>\$48.1</b>	<b>\$44.7</b>	<b>\$60.1</b>	<b>-\$3.5</b>	<b>-7.8%</b>	<b>-\$15.4</b>	<b>-34.5%</b>	<b>\$122.9</b>

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

**Schedule Performance (-\$3.5M/-7.8%):** The variance is due to:

- (HQ-0012X) Work on hold pending resolution of FY 2005 funding level (-\$0.3M).
- North Loadout Pit sludge collection and treatment (-\$1.5M).
- Delays in K East basin sludge containerization (-\$0.8M).
- Delays in K West Transfer System and Fuel Retrieval (BNFL) (-\$3.8M).
- Delayed receipt of hydrolasing tools and miscellaneous D&D (-\$1.4M).

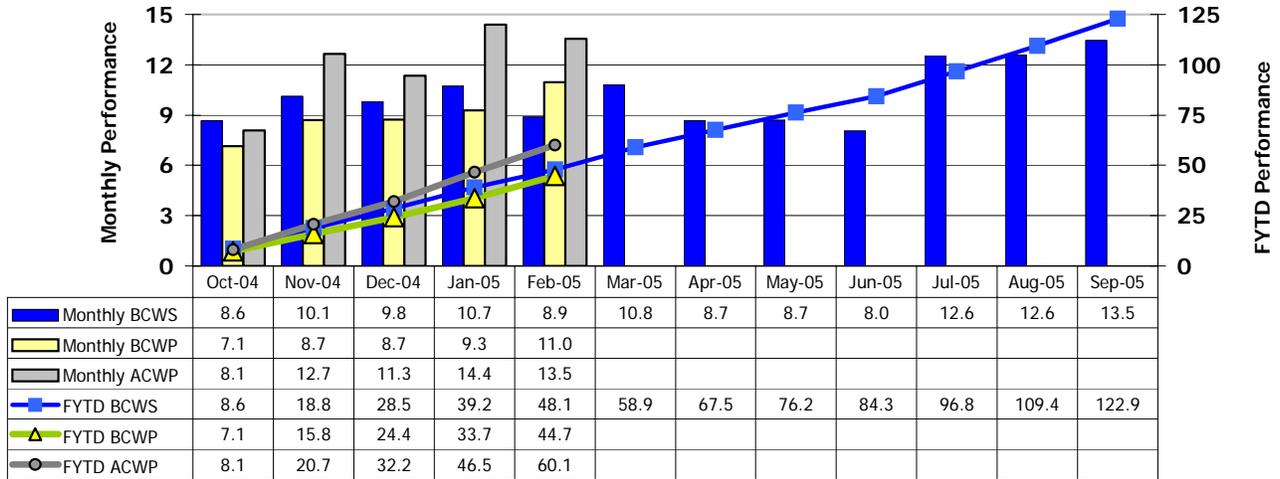
The unfavorable schedule variance is partially offset by a favorable schedule variance for completing MCO movement activities that were budgeted to be completed in FY 2004 (+\$1.7M), completing sludge carryover activities (\$+1.3M) and Sludge Treatment acceleration from FY 2006 (+\$1.4M).

**Cost Performance (-\$15.4M/-34.5%):** The variance is due to:

- (HQ-0012X) No significant variance.
- Overruns developed in completion of fuel movement (no budget) (-\$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 (-\$2.8M).
- 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 (-\$11.0M), and D&D labor rates and technical requirements (-\$0.7M).
- Offset by efficiencies at CSB (+\$0.4M) and other miscellaneous underruns (+\$0.8M).

## 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		07/31/05	Behind Schedule
RL-12-1.ba (S10-99-083)	Treat 1 Cubic Meter of Sludge	PI	02/28/05		08/31/05	Behind Schedule
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA	03/01/05		07/31/05	Behind Schedule
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		09/30/05	Behind Schedule
RL-12-1.b (S10-99-082)	Transfer K East Sludge to K West Containers	PI	07/31/05		09/30/05	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			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.