

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

P. M. Knollmeyer, Vice President of K Basins Closure/
(509) 376-5600

Deactivation: A painter applying finishing touches to the surface of the "cured" grout in 105 KE



K East Basin Visibility



Canister Storage Building: Multi-Canister Overpack (MCO) Welding

Cold Vacuum Drying Facility: MCO Processing



Containerization of Sludge: Operators vacuuming sludge in 105KE

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 November 2004.

Notable Accomplishments

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

Site-Wide Fuel: SNF received the 33rd 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: FH received RL's approval of the sludge treatment recommendation on November 16, 2004, and placed the contract with the British Nuclear Fuel Limited, Inc. (BNFL) on November 16, 2004, completing the Defense Nuclear Facilities Safety Board Milestone 2001-1-121 ahead of the November 30, 2004, due date.

Sludge Disposition: Commenced vacuuming October 31, 2004, and collected approximately nine cubic meters of sludge from the K East North Load Out Pit (NLOP) and weasel pit as of December 13, 2004.

Multi-Canister Overpack (MCO) Welding at the Canister Storage Building: FH welded and "N" stamped 15 MCOs during October. As of December 13, 2004, a cumulative total of 287 MCOs were welded and "N" stamped, which leaves 114 MCOs to be welded.

Deactivation and Decommissioning: FH issued a Request for Interest for vendors to indicate their interest in bidding on the basin removal scope of work (includes design, cutting, lifting, hauling and off-loading the basins at the Environmental Restoration Disposal Facility [ERDF]). Vendor responses are due in December. FH has 30 qualified "baskets" for underwater debris management in 105 KE.

Issues

The methodology of determining transuranic content of empty aluminum canisters removed from the basins and sent to the ERDF was called into question in October 2004. A screening method was developed and approved that is expected to demonstrate virtually all of the 357 canisters shipped to ERDF are Low Level Waste and can remain in ERDF. However, additional sampling and characterization will be conducted through January 2005, followed by the resumption of shipments to ERDF.

Issuance of the baseline data Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Record of Decision amendment for the NLOP sludge treatment will not occur as previously reported since the NLOP sludge will not be treated as a CERCLA action. NLOP sludge treatment at T Plant can proceed with Washington State Department of Health (DOH) approval of a Notice of Construction (NOC), combined with Time Critical Removal Action (TCRA) approval by DOE and the Environmental Protection Agency. RL transmitted the NOC to the DOH on September 30, 2004. The TCRA, originally developed for treatment at the 325 Facility, is planned for re-submittal to RL by December 17, 2004.

Anticipated FY 2005 Funds (\$M)

		FY 2005 Anticipated Funding w/Carryover
HQ-0012X	SNF Stabilization and Disposition Storage Ops	\$ 2.7
RL-0012	SNF Stabilization & Disposition	\$ 129.9
Total		\$ 132.6

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
HQ0012X	SNF Stabilization and	\$0.4	\$0.2	\$0.1	-\$0.1	-34.3%	\$0.1	44.6%	\$2.6
RL-0012	SNF Stabilization & Disposition	\$18.2	\$16.6	\$20.6	-\$1.6	-8.8%	-\$4.0	-23.8%	\$119.7
Total		\$18.6	\$16.9	\$20.7	-\$1.7	-10.3%	-\$3.9	-22.8%	\$122.3

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

Schedule Performance (-\$1.7M/-10.3%): 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.
- NLOP sludge collection and treatment (-\$1.2M).
- Delays in K East basin sludge containerization (-\$0.8M).
- Delays in K West Transfer System and Fuel Retrieval (BNFL) (-\$0.8M).
- Delayed receipt of SA Robotics Tools for deactivation. Quality Assurance did not release the tools at the vendor location because the tools did not meet the nationally-recognized testing laboratory standards for engineered components (-\$0.4M).

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 (+\$1.5M).

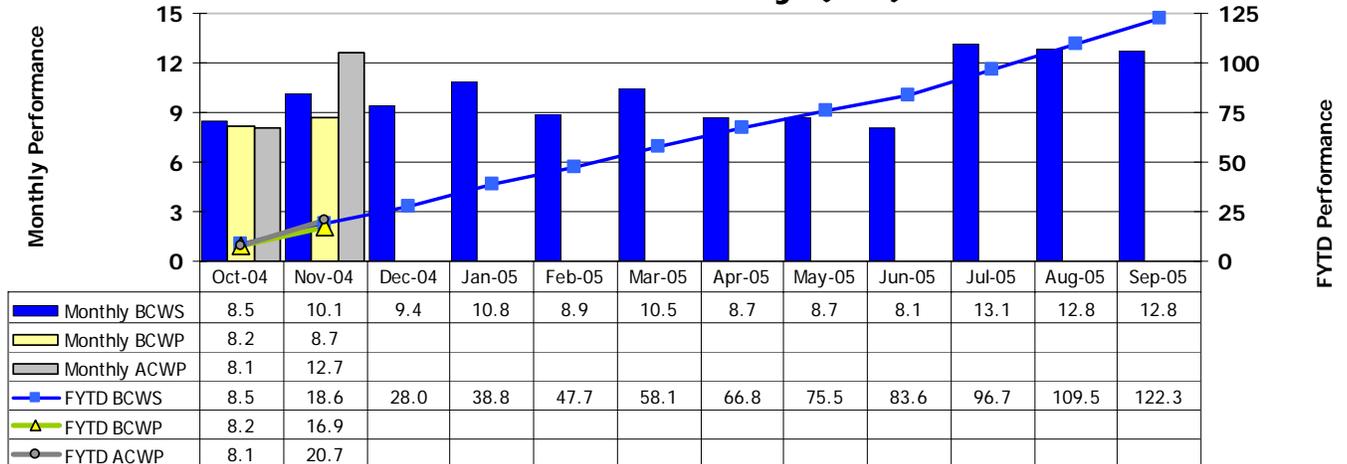
Cost Performance (-\$3.9M/-22.8%): The variance is due to:

- (HQ-0012X) No significant variance.
- Labor overruns developed in completion of fuel movement (no budget) (-\$1.3M).
- Unplanned Ion Exchange Module procurement required due to water clarity issues requiring increased replacement frequency (-\$0.3M).
- Labor overruns in Safe and Compliant activities due to underestimated requirements and the delay in ramp-down from fuel removal activities (-\$2.6M).
- 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 begin completed. Additional materials such as cameras, tools, and filters have been procured in an attempt to overcome visibility problems. (-\$1.6M).

The unfavorable cost variance was partially offset by Program Management Adjustment (+\$1.7M) and other miscellaneous (+\$.2M).

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	7/31/04	10/15/04		Complete
DNFSB 2001-1 (S10-05-012)	Remove SNF from K Basins	DNFSB	7/31/04	10/12/04		Complete
RL-12-1.aa (S10-99-960)	Complete SNF Removal from K West	PI	8/31/04	10/15/04		Complete
RL12-1.cd (S10-99-977)	Initiate Full Scale K East Water Removal	PI	9/30/04	9/19/04		Complete - RL approved PI payment on 12/09/04
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	8/20/04		Complete - Awaiting TPA completion letter
DNFSB 119E (S10-05-014)	Complete K East Sludge Consolidation	DNFSB	12/31/04		2/25/05	Behind Schedule
RL-12-1.ba (S10-99-083)	Treat 1 Cubic Meter of Sludge	PI	2/28/05		5/26/05	Behind Schedule
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA	3/1/05		2/25/05	On Schedule
S10-99-80	Complete MCO Welding	PI	6/30/05		7/31/05	Behind Schedule
DNFSB 120E (S10-05-015)	Complete K East Basin Sludge Removal	DNFSB	7/31/05			On Schedule
RL-12-1.b (S10-99-082)	Transfer K East Sludge to K West Containers	PI	7/31/05			On Schedule
RL-12-1.bb (S10-99-963)	Transfer Found Fuel and Fuel Scrap from K East to K West	PI	7/31/05			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	1/31/06			On Schedule
RL-12-1.ch (S10-99-976)	Complete Removal of Contaminated Fuel Canisters	PI	1/31/06			On Schedule
RL-12-1.ce (S10-99-978)	Complete K East Water Removal	PI	1/31/06			On Schedule
DNFSB 119W (S10-05-016)	Complete K West Sludge Containerization	DNFSB	2/28/06			On Schedule
RL-12-1.ca (S10-99-967)	Encapsulate 3 K East Bays	PI	2/28/06			On Schedule
RL-12-1.bd (S10-99-965)	Commencement of Floor and Canister Sludge Treatment	PI	3/30/06			On Schedule
RL-12-1.cb (S10-99-968)	Remove K East Superstructure	PI	3/30/06			On Schedule
M-034-35 (S10-05-011)	Containerize K West Sludge	TPA	6/30/06			On Schedule
RL-12-1.cc (S10-99-969)	Complete First K East Basin Section Disposal	PI	7/31/06			On Schedule
RL-12-1.ci (S10-99-971)	Decom/Immobilize K West Basin Wall (7600 sq. ft.)	PI	8/31/06			On Schedule
RL-12-1.bc (S10-99-081)	Remove Found Fuel and Scrap	PI	9/30/06			On Schedule
RL-12-1.cf (S10-99-972)	Complete K East Basin Removal	PI	9/30/06			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.