

SNF Stabilization and Disposition (RL-0012)

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Maintenance being performed at the Cold Vacuum Drying Facility in preparation for facility restart



Sludge strainers in K West Basin to be disposed



Debris canister to be sorted and disposed as a part of Legacy Fuel

Overview

This section addresses work in Project Baseline Summaries (PBS) RL-0012, *Spent Nuclear Fuel (SNF) Stabilization and Disposition*.

NOTE: Unless otherwise noted, all information contained herein is as of the end of August 2007.

Notable Accomplishments

SNF Stabilization and Disposition (PBS RL-0012):

- **K East D&D Project** –
 - Completed removal of large diameter container (LDC) shield plate and stand in preparation for removal of sand filters.
 - Completed and transmitted Remedial Design Report and Remedial Action Work Plan for 105K East basin deactivation to RL.
 - Submitted Authorization Basis (AB) revisions for grout hazard analysis and downgrade documents
 - Transitioned subproject to Vice President, D&D Projects.
- **Hose In Hose (HIH) Transfer** –
 - Submitted AB change to delete HIH Technical Safety Requirements.
 - Conducted walk-down of outside HIH equipment with D&D staff to identify turnover actions.
 - Ordered parts for removal of dilution hoses in K East.
- **K West** –
 - Removed debris from North Loadout Pit (NLOP).
 - Completed final pass vacuuming (seven percent) of West bay.
 - Installed grafoil pump and collection equipment. Completed bulk sludge containerization.
- **Legacy Fuel** –
 - Completed videotaping canisters for validating inventory of scrap, debris, and strainer canisters.
 - Resumed FY 2006 carryover work scope of sorting debris and strainer canisters.
 - Restored East Secondary Process Table after disassembly for vacuuming.

Sludge Treatment Project (STP):

- Submitted Baseline Change Request to replan remaining FY 2007 work scope – increased Project Management Reserve \$6.1M.
- Submitted Transition Plan.
- Completed Technology Readiness Assessment (TRA) against British Nuclear Group America (BNGA) designed technology.
- Completed Critical Decision (CD)-0 Gap Analysis.
- Completed settler tube mock-up and simulant procurement.
- PNNL test instruction – Preparation of Metaschoepite from Uraninite and Characterization of the Reactants and Product – drafted and issued to FH.

Issues

SNF Stabilization and Disposition (PBS RL-0012)

- **K Basins Closure Project**
 - Personnel Transfers: potential impacts to remaining work through loss of qualified personnel.
 - K Basin operators who are qualified in fuel transfer/processing equipment continue to LAMP to other projects.
 - K Basin Field Work Supervisor (FWS) and Shift Manager transfers to meet other site priorities have a potential to impact field execution of near term scheduled work.
 - Evaluating transfer requests; submitting requests to backfill and train.
 - Additional debris sorting required in K West: the amount of “hot” debris at K East and K West that requires sorting and segregation is adding to work scope and resource requirements.
 - Conducting re-inventory and prioritizing the need to examine the materials.
 - Measuring potential impact to achieving Final Pass criteria and number of scrap baskets required for Multi-Canister Overpacks (MCOs).
 - K East - Incorporation of Value Engineering results to baseline activities taking longer than planned: progress reporting requires “interpretation” and downgrade documentation preparations are lagging.
 - Baseline planning efforts receiving full attention; credible effort to incorporate all options and potential mitigations; internal management review and discussion of changed approach and estimate are ongoing.
 - Completion of “debris management” activities are later than planned; current schedule is being maintained with opportunities to improve being implemented.
 - K East - Revision of Sludge Transfer System Safety Analysis Report for Packaging (SARP) (supporting removal of sand from K East sand filter) will not be approved in time for baseline shipment date to T Plant.
 - Close coordination for comment resolution.
 - Storage of sand media cask at K West until SARP is complete mitigates the issue.
- **STP received a draft letter from RL providing additional direction for the disposition of Knockout Pot (KOP) sludge, to be handled as spent nuclear fuel.**
 - STP received letter from RL (07-KBC-0053) providing additional direction for the disposition of KOP material and sludge would be more appropriately dispositioned as spent nuclear fuel.
 - STP also in receipt of draft letter determining:
 - Rescinding letter 07-KBC-0053.
 - Some sludge would be dispositioned by direct grouting.
 - KOP and Settler Tank sludge requires characterization to determine treatment required.
 - Re-submittal of STP Transition Plan.
 - Risk assessment and mitigation with direct grouting path, including developing a strategy and method to measure and quantify H₂ gas generation.

FY 2007 Funds vs. Spend Forecast (\$M)

		Projected FY 2007 Funding	FY 2007 Fiscal Year Spend Forecast	Variance
RL-0012	SNF Stabilization & Disposition	\$ 137.5	\$ 123.4	\$ 14.0

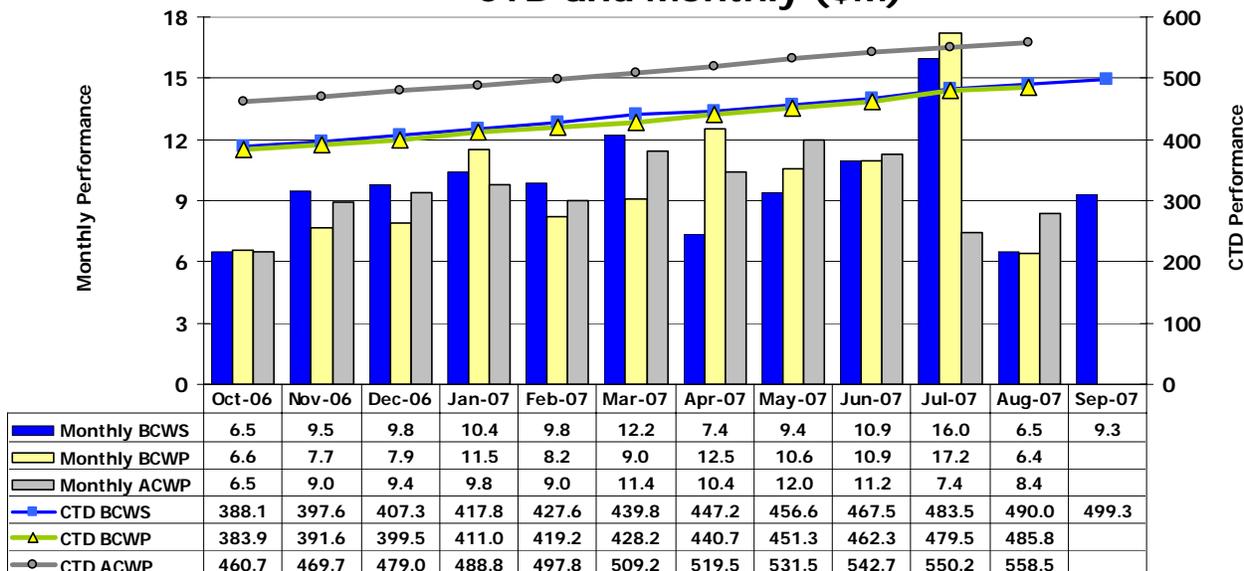
Schedule/Cost Performance (\$M)

SNF Stabilization & Disposition	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 (FY07/CTD)
Current Period (Month)	\$6.5	\$6.4	\$8.4	-\$0.1	-1.6%	-\$2.0	-31.0%	\$117.7
Cumulative-to-Date (FY 2004 - Present)	\$490.0	\$485.8	\$558.5	-\$4.1	-0.8%	-\$72.7	-15.0%	\$576.2

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

- CTD Schedule Performance (-\$4.1M/-0.8%):** Unfavorable SV is due to delays in Legacy Fuel work scope and K West Floor and Pit Sludge Retrieval (FPSR) system operations; delays are due to additional debris removal activities in the basins and difficulties experienced in HIH transfer. Delays in the STP in design review, procurement and construction activities are due to decision to implement the Critical Decision process into design requirements.
- CTD Cost Performance (-\$72.7M/-15.0%):** The unfavorable CV is primarily due to problems encountered in design, implementation, startup, and operation of spent fuel removal, sludge containerization, transfer, and treatment systems. System complexity and requirements were underestimated. Most of the cost variances were incurred prior to FY 2006.

Performance Analysis CTD and Monthly (\$M)



Milestone Achievement

Number	Milestone Title	Type (TPA/PI/DNFSB)	Due Date *	Actual Date	Forecast Date	Status / Comments
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA	03/01/05	10/20/06		Complete
DNFSB 119E (S10-05-014)	Complete K East Bulk Sludge Consolidation	DNFSB	10/31/06	10/20/06		Complete
M-034-34 (S10-05-010)	Complete Removal of K East Sludge	TPA	05/31/07	05/31/07		Complete
DNFSB 120E (S10-05-015)	Complete K East Basin Containerized Sludge Removal	DNFSB	05/31/07	05/31/07		Complete
DNFSB 122E	K East Final Pass Sludge Removed	DNFSB	05/31/07	05/31/07		Complete
M-034-35a (S10-05-011)	Containerize K West Bulk Sludge	TPA	07/31/07	07/03/07		Complete
DNFSB 119W (S10-05-016)	Complete K West Bulk Sludge Containerization	DNFSB	07/31/07	07/03/07		Complete
M-034-35b (S10-05-011)	Complete K West Final Pass	TPA	01/31/08		12/2631/07	Ahead of Schedule

* DNFSB dates reflect Implementation Plan update, TPA dates reflect change package M-34-05-04, forecast dates are current working level schedules.