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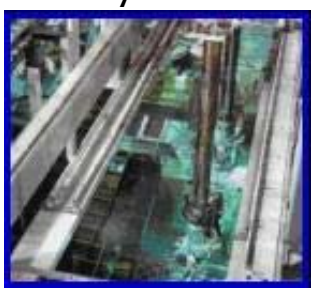
K East Basins - Fuel Transfer System Operations

Canister Storage Building – Multi-Canister Overpack Welding

Sludge Retrieval and Disposition – Test loading large diameter container into casks at K Basins

K West Basins

Fuel Retrieval System



Canister Cleaner Operations

Loading Cask on Trailer at K West

Cold Vacuum Drying Facility – Multi-Canister Overpack Processing

OVERVIEW

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

NOTE: Unless otherwise noted, all information contained herein is as of the end of October 2003.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities: The SNF project completed shipment of six multi-canister overpacks (MCOs) containing 40.16 metric tons of heavy metal (MTHM) from the K West Basin to the Cold Vacuum Drying Facility during October. As of November 16, 2003, a cumulative total of 277 MCOs containing 1,497.2 MTHM have been shipped.

The project has implemented a product line organization designed to provide singular focus and improved accountability for MCO production and Fuel Transfer Shipments.

K East Sludge Retrieval and Disposition: The project issued the Engineering Facility Modification Package (FMP) and began modifications to the K East Active Inert Ventilation System (AIVS), which is required to resolve a low-flow rate condition. Modifications to the system are anticipated to be complete in November 2003, with testing immediately following. The project continues to brief personnel on the argon system and protective actions in place for workers. Additionally, employees are completing a separate personnel oxygen monitor course [on the job training/operation support equipment] developed to facilitate proper equipment use.

Progress on the readiness self assessments continue. The project completed the first three of 16 planned review board meetings, with good results. The project received RL approval of the Documented Safety Analysis for T Plant.

Sludge Disposition Alternatives Review: An independent strategic evaluation of sludge disposition alternatives is being conducted by FH and Pacific Northwest National Laboratory (PNNL) under the chair of Dr. Barry Naft. The purpose of the evaluation is to identify options to the use of T-Plant and large diameter containers (LDCs) for the interim storage of K-Basins sludge. The review team, which includes senior management from RL, FH, CH2M Hill Hanford Group and PNNL, will be presenting its recommended alternative approach to RL on November 18, 2003. Further involvement with RL, the Defense Nuclear Facility Safety Board (DNFSB), and the regulators will be required to evaluate acceptability of the alternate approach.

Fuel Transfer System (FTS): The project completed four FTS shipments (40 canisters) during October. As of November 16, 2003, a cumulative total of 185 FTS shipments (1,850 canisters) have been completed. The project has focused maintenance resources on FTS improvements and deficiency corrections. Additional production metrics have been implemented to track cycle-time performance and quickly identify bottlenecks.

MCO Welding at the Canister Storage Building: The project welded and "N" stamped 13 MCOs during October. As of November 16, 2003, a cumulative total of 101 MCOs were welded, and the project is eleven MCOs ahead of the contract schedule.

Notable Accomplishments (continued)

Deactivation: The second phase of the underwater hydrolasing demonstration was performed on November 12, 2003, at the K East Sedimentation Basin. The purpose of this demonstration was to test the systems effectiveness under field conditions. The demonstration integrated technologies of underwater waste recovery, laser measurement to determine concrete cutting depths, an underwater hydrolasing head to scarify the underwater concrete surface, and a robotic arm that mimics the 105K East Basin monorail system. The demonstration successfully removed surface concrete. The third and final phase of the hydrolasing demonstration will involve decontaminating a portion of the 105K East Basin wall. The Un-reviewed Safety Question Evaluation, and work package supporting equipment installation in the 105K East Basin, are being developed to prepare for the final demonstration phase. DOE Technology Development Funding continues to support demonstration activities.

Issues

Sludge Retrieval and Disposition: The Tri-Party Agreement (TPA) milestone (M-34-08) to begin K East sludge movement by December 31, 2002, was missed. In the month of October, the project completed installation of the new AIVS designed to establish and maintain an oxygen-deficient environment in the LDC and LDC Cask. During subsequent testing of the new system, a low-flow rate condition was discovered. Since then, the project issued the FMP and began modifications to correct the low-flow rate condition. Construction modifications are expected to complete in November, with testing, training, and dry-runs immediately following. This delays the project's declaration of readiness into December, 2003.

Fuel Production – FTS Shipments: Removal of all K Basin fuel is based upon improved reliability of FTS equipment. The system continues to experience reliability problems. As of November 16, 2003, the project is 20 shipments behind the production plan. The following activities were implemented to improve system operations and correct deficiencies:

- Implemented production metrics to track cycle-time performance and quickly identify bottlenecks;
- Focused monitoring of equipment performance for corrective actions prior to major failures;
- Implemented rigorous decontamination process for empty and loaded casks;
- Completed replacement of the K West Shielded Transfer Cask (STC) lift-air compressor;
- Completed operational checks on the K West and K East FTS using an empty cask;
- Reorganized FTS as a project with all resources necessary to provide immediate operational support; and
- Re-established swing-shift pattern November 17, 2003, to support FTS shipments.

The following activities are underway to improve system operations and correct deficiencies:

- Initiated replacement of the K West STC lift platform jackscrew traveling nuts to resolve excessive motor faults, cocking of the STC lift, and abnormal motor torque readings; and
- An off-site team is evaluating FTS system alternatives.

FY 2004 FH Funds vs. Forecast ($000)

	FY 2004 Anticipated Funding	FY 2004 Fiscal Year Spend Forecast	Variance
RL-0012 SNF Stabilization & Disposition	$ 162,865	$ 178,928	$ (16,063)

FH is taking numerous proactive actions to overcome projected FY 2004 funding challenges, including identification of work scope efficiencies, discretionary spending controls, overhead cost reductions, etc.

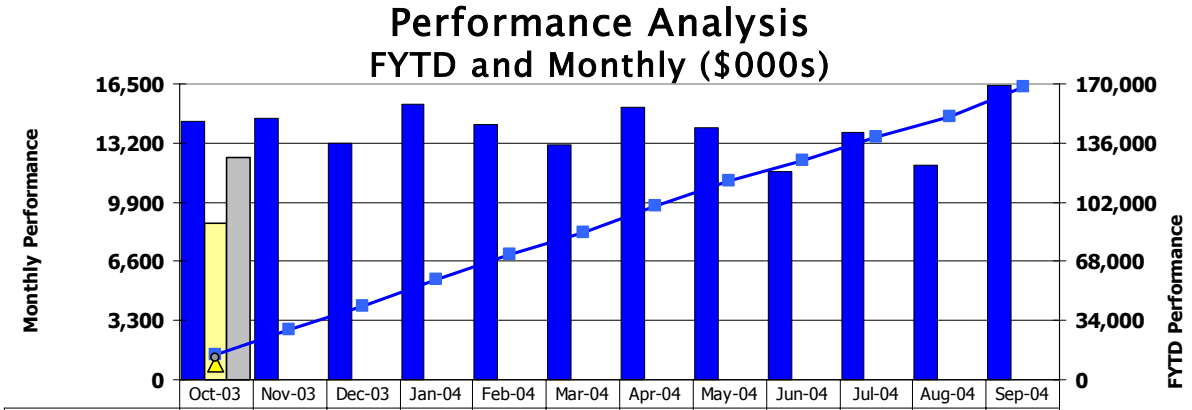
FY 2004 SCHEDULE/COST PERFORMANCE ($000)

		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
RL-0012	SNF Stabilization & Disposition	14,411	8,747	12,417	-5,664	-39%	-3,670	-42%	167,917

NOTE: Numbers are rounded to the nearest $K.

Schedule Variance Analysis (-$5,664K/-39%): The unfavorable schedule variance is due to:
- Fuel movement from FTS and MCO shipments continues behind schedule (-$2,029).
- Welding continues ahead of schedule (+$174).
- Deactivation subcontractor not executed as planned (-$2,163).
- MCO fabrication vendor problem with a subcontractor causing late delivery (-$266).
- The balance of the schedule variance is attributed to support schedule activities (i.e., maintenance, engineering, project management, etc.), which are tied to fuel shipment schedules.

Cost Variance Analysis (-$3,670K/-42%): The unfavorable cost variance is due to the following:
- Cost continues to be incurred while fuel shipments lag (-$1,880).
- K East sludge water system continues design finalization towards Operational Readiness Review (-$1,371).
- K West Sludge Retrieval and Storage System is not staffed as planned due to K East slip (+$360).
- The balance of the cost variance is attributed to support schedule activities (i.e., maintenance, engineering, project management, etc.), which are tied to fuel shipment schedules.



	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04
Monthly BCWS	14,411	14,598	13,176	15,382	14,266	13,078	15,154	14,039	11,649	13,784	11,973	16,404
Monthly BCWP	8,747											
Monthly ACWP	12,417											
FYTD BCWS	14,411	29,009	42,185	57,568	71,834	84,912	100,066	114,106	125,755	139,539	151,513	167,917
FYTD BCWP	8,747											
FYTD ACWP	12,417											

Milestone Achievement

Number	Milestone Title	Type (TPA/ DNFSB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-29 (S15-02-001)	Complete K East Basin and K West Basin facility modifications for Alternate Fuel Transfer System casks transportation system	(TPA)	3/31/02	9/12/02		Complete
M-34-12-T01 (S15-02-001)	Complete construction of SWS (Construction Completion Document Section IIA)	TPA	09/30/02	3/4/03		Complete
M-34-17 (S00-02-901)	Initiate K East to K West fuel transfer	TPA/Perfor-mance Incentive (PI)	11/30/02	11/25/02		Complete
M-34-18A (S03-03-068)	Complete removal of 957 MTHM of SNF from the K West Basin	TPA/DNFSB/ PI	12/31/02	1/7/03		Complete
M-34-08 (S04-02-205)	Initiate full scale K East Basin sludge removal	TPA/DNFSB/ PI	12/31/02		12/2003	Missed.
M-34-27-T01 (S03-03-069)	Complete removal of 1,252 MTHM of SNF from K West Basin	TPA	5/31/03	5/28/03		Completed 5/28/03, 3 days ahead of schedule
M-34-28 (S03-03-070)	Complete removal of 1,619 MTHM from the K West Basin	TPA	12/31/03		12/31/03	Working schedule to ship 3.5 MCOs per week to meet milestone.
M-34-25-T01 (S03-04-001)	Complete transfer of K East Basin SNF to K West Basin	TPA/PI	5/31/04		3/2004	Forecast for completion by March 2004.
M-34-18B (S00-00-902)	Complete removal of all K-Basin SNF	TPA/DNFSB/ PI	7/31/04		6/2004	Forecast for completion by mid-June 2004.

MILESTONE ACHIEVEMENT (CONTINUED)

Number	Milestone Title	Type (TPA/ DNFSB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
S04-00-205, *CD4*	Complete ORR sludge transfer from K Basins		12/31/02		12/2003	Missed.
M-34-10 (S04-01-215)	Complete sludge removal from K Basins	TPA/DNFSB/ PI	8/31/04		8/31/04	K East Basin sludge removal planned for completion by 8/31/04. FH submitted a recommended change request for K West SWS to be completed by 6/30/05.
M-34-23 (S10-99-953)	Start K East water removal	TPA	9/30/04		9/30/04	On schedule
S07-04-005	Consolidate spent fuel in the 200 Area	PI	9/30/04		9/30/04	On schedule
M-34-09-T01 (S04-05-516)	Complete K-Basins rack and canister removal	TPA	1/31/05		1/31/05	Potential changes to milestones due to alternate deactivation strategy submitted on 6/30/2003
M-34-24 (S10-99-954)	Complete K East Basin Water removal	TPA	9/30/05		9/30/05	* (see note below)
M-34-22 (S10-99-952)	Complete K West Basin water removal	TPA	8/31/06		8/31/06	* (see note below)
M-34-21-T01 (S10-99-951)	Initiate full-scale K West Basin water removal	TPA	10/31/05		10/31/05	* (see note below)
S06-06-005	Transfer of K-Basins to the River Corridor Contractor	PI	10/30/05		10/30/05	On schedule
M-34-00A (S10-99-955)	Complete removal of K-Basin fuel/sludge/debris/water from K Basins	TPA (Major)	7/31/07		7/31/07	* (see note below)

***NOTE:** Milestone may be completed early, if proposed deactivation plan changes are approved.