

Spent Nuclear Stabilization and Disposition (RL-0012)

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K West Basins

Deactivation - Workers batching grout to meet the design



Fuel Retrieval System



Canister Cleaner Operations



Loading Cask on Trailer at K West

Canister Storage Building – Multi-Canister Overpack Welding



Sludge Retrieval and Disposition

- Test loading large diameter container into casks at K Basins



Cold Vacuum Drying Facility – Multi-Canister Overpack Processing

Overview

This section addresses work in Project Baseline Summary RL-0012, *Spent Nuclear Fuel Stabilization and Disposition*.

NOTE: Unless otherwise noted, all information contained herein is as of the end of July 2004.

Notable Accomplishments

Sludge Disposition Alternatives: The Remedial Design Report change for the floor and pit sludge retrieval and K East to K West Basin transfer system was completed and submitted for approval. T Plant successfully passed the Readiness Assessment to initiate interim storage of North Load Out Pit (NLOP) sludge in large diameter canisters (LDCs). K East sludge containerization equipment was assembled for testing at the 305 Building, and pre-test engineering setup activities commenced. These activities support the Tri-Party Agreement (TPA) milestone to remove sludge from the K East Basin by January 31, 2006.

Fuel Transfer System (FTS): Fuel removal from K East Basin is now 100 percent complete. A cumulative total of 370 FTS shipments (3,685 canisters) have been completed.

Fuel Movement Activities: Spent Nuclear Fuel (SNF) completed 15 multi-canister overpack (MCO) shipments containing 79 metric tons of heavy metal (MTHM) from the K West Basin to the Cold Vacuum Drying Facility during July. As of August 9, 2004, a cumulative total of 373 MCOs containing an estimated 2,033 MTHM have been shipped, leaving an estimated 12 shipments to be completed.

MCO Welding at the Canister Storage Building: SNF welded and "N" stamped 13 MCOs during July. As of August 9, 2004, a cumulative total of 226 MCOs were welded and "N" stamped, which leaves 159 MCOs to be welded.

Deactivation: Test pours to validate grout mix properties for the K East Discharge Chute have been completed at the vendor's facilities. Testing and analysis of the resulting grout matrix has shown that the grout mix meets specification requirements. The contractor's mobilization plan for grouting the K East Discharge Chute has been received and incorporated into the work package. Mobilization activities have been initiated at the K East Basin. The first grout pour, planned for August 2004, will satisfy the completion criteria for TPA Milestone M-34-23, *Initiate Full Scale K East Basin Water Removal* (due September 30, 2004).

Issues

Fuel Production: Deteriorating fuel and canister integrity is continuing to have negative impacts on MCO production. Special tools are being procured to lessen the impacts.

FY 2004 FH Funds vs. Spend Forecast (\$000)

	FY 2004 Anticipated Funding w/Carryover	FY 2004 Fiscal Year Spend Forecast	Variance
SNF Stabilization & Disposition	\$ 191,011	\$ 190,046	\$ 965

A Funds Change Proposal has been submitted to better align funding with current spend forecast estimates.

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
SNF Stabilization & Disposition	132,925	135,131	160,720	2,206	2%	-25,589	-19%	159,092

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

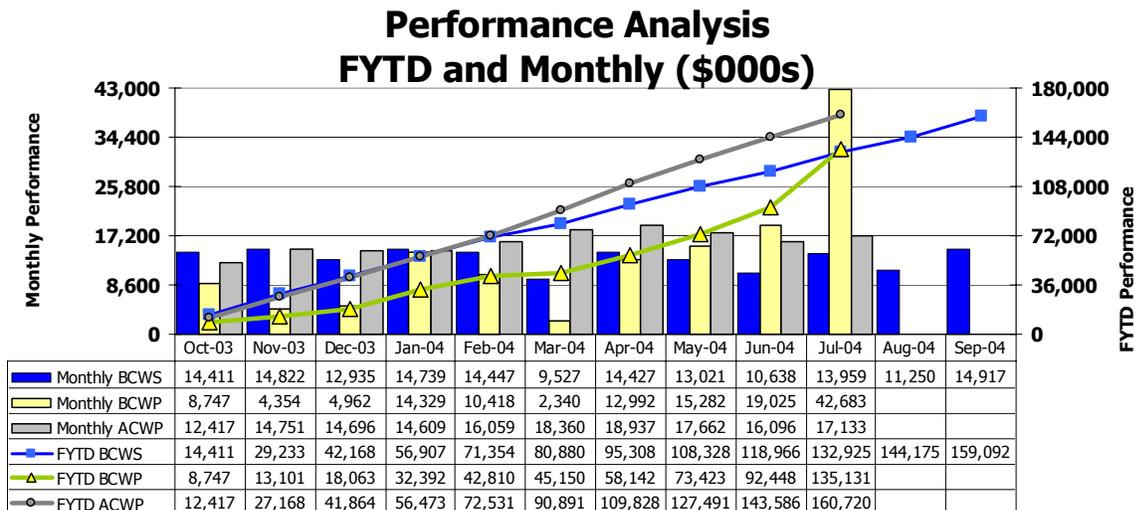
Schedule Performance (\$2,206K/+2%): The favorable schedule variance is due to:

- SNF progress (Budgeted Cost of Work Performed) now exceeding the Budgeted Cost of Work Scheduled (+\$3,827K). This reflects the significant progress toward the FY 2004 commitments, and the completion of the FY 2003 carryover scope.
- The unfavorable schedule variance is due mainly to two major scopes of work; NLOP (-\$600K) and K East Consolidation (-\$900K). NLOP is behind schedule due to filters clogging in the LDCs; engineering is working on an alternative approach to fill the LDCs. K East Consolidation is behind schedule due to late design changes caused by hydrogen generation issues.
- The remaining variance is primarily attributed to the value of general support activities that are apportioned to the overall project progress for earned value measurement practices (i.e., surveillance and maintenance, engineering, project management, apportioned against discrete activities, etc.) (-\$828K).

Cost Performance (-\$25,289K/-19%): The unfavorable cost variance is due to:

- FTS and MCO shipment delays, i.e., staffing requirements remain unchanged regardless of fuel production levels until fuel production is complete (-\$21,647K);
- The remaining variance is primarily attributed to the value of general support activities that are apportioned to the overall project progress for earned value measurement practices (i.e., surveillance and maintenance, engineering, project management, apportioned against discrete activities, etc.) (-\$2,287K).

The expected cost variance upon completion of fuel movement is expected to be about \$30 million, which is directly attributable to the additional six months to support completion of the fuel movement.



Milestone Achievement

Number	Milestone Title	Type (TPA/PI/DNFSB)	Legal Commitment Date	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		3/31/2002	9/12/2002		Complete
M-34-12-T01 (S15-02-001)	Complete construction of SWS (Construction Completion Document Section IIA)	TPA		9/30/2002	3/4/2003		Complete
M-34-17 (S00-02-901)	Initiate K East to K West fuel transfer	TPA/PI		11/30/2002	11/25/2002		Complete
M-34-18A (S03-03-068)	Complete removal of 957 MTHM of SNF from the K West Basin	TPA/DNFSB/PI		12/31/2002	1/7/2003		Complete
M-34-27-T01 (S03-03-069)	Complete removal of 1,252 MTHM of SNF from K West Basin	TPA		5/31/2003	5/28/2003		Complete
M-34-18B (S00-00-902) (S10-05-012)	Complete removal of all K Basin SNF	TPA/DNFSB/PI	7/31/2004	7/31/2004		8/31/2004	Working to complete 8/31/2004
M-34-28 (S03-03-070)	Complete removal of 1,619 MTHM from the K West Basin	TPA	12/31/2003	12/31/2003	1/13/2004		Complete
M-34-25-T01 (S03-04-001) (S10-99-979)	Complete transfer of K East Basin SNF to K West Basin	TPA/PI	5/31/2004	5/31/2004	7/1/2004		Complete
M-016-57 (S10-05-004)	Initiate Soil Remediation at K East Basin	TPA		4/30/2007			On Schedule
M-016-058 (S10-05-005)	Initiate Soil Remediation at K West Basin	TPA		4/30/2009			On Schedule
M-034-30 (S10-05-006)	Initiate Sludge Treatment	TPA		2/28/2007			On Schedule
M-034-31 (S10-05-007)	Complete Sludge Treatment	TPA		10/31/2007			On Schedule
M-034-32 (S10-05-008)	Complete Removal of the K East Basin Structure	TPA		3/31/2007			On Schedule
M-034-33A (S10-05-009)	Initiate Sludge Containerization	TPA		10/31/2004			On Schedule
M-034-34 (S10-05-010)	Complete Removal of K East Sludge	TPA		1/31/2006			On Schedule
M-034-35 (S10-05-011)	Containerize K West Sludge	TPA		6/30/2006			On Schedule

Milestone Achievement, continued

Number	Milestone Title	Type (TPA/PI/ DNFSB)	Legal Commitment Date	Due Date	Actual Date	Forecast Date	Status / Comments
S10-05-013	Select Sludge Treatment Method	DNFSB		11/30/2004			On Schedule
S10-05-014	Complete K East Sludge Consolidation	DNFSB		12/31/2004		1/31/2004	Behind Schedule
S10-05-015	Complete K East Basin Sludge Removal	DNFSB		7/31/2005			On Schedule
S10-05-016	Complete K West Sludge Containerization	DNFSB		2/28/2006			On Schedule
S10-05-017	Complete Sludge Removal and Packaging	DNFSB		4/30/2007			On Schedule
M-034-33B (S10-05-018)	Complete K East Sludge Containerization	TPA		3/1/2005			On Schedule
M34-21-T1 (S10-99-951)	Initiate Full Scale K West Basin Water Removal	TPA	10/30/2005	12/31/2005			On Schedule
M-034-23 (S10-99-953)	Initiate Full Scale K East Water Removal	TPA	9/30/2004	9/30/2004			On Schedule
M-034-00A (S10-99-955)	Complete K Basins Removal	TPA	7/31/2007	3/31/2009			On Schedule

NOTE: Milestones and due dates are derived from the proposed TPA Change Request M-34-04-01, which were based on the tentative agreement on Negotiations for Accelerations of K Basin Sludge Treatment and Disposal, Basin Remediation, and Delay in Sludge Retrieval signed by DOE-RL and the Environmental Protection Agency on April 29, 2004.