

# Spent Nuclear Fuel Project

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## ***K East Basins - Fuel Transfer System Operations***



## ***K West Basins***

### ***Fuel Retrieval System***



## ***Canister Storage Building – Multi-Canister Overpack Welding***



***Canister Cleaner  
Operations***

***Loading Cask on  
Trailer at K West***

## ***Sludge Transportation System – Test loading large diameter container into cask at K Basins***



## ***Cold Vacuum Drying Facility – Multi-Canister Overpack Processing***



## OVERVIEW

The Spent Nuclear Fuel (SNF) Project consists of Project Baseline Summary (PBS) RL-RS03, *Spent Nuclear Fuel*.

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

## NOTABLE ACCOMPLISHMENTS

**Fuel Movement Activities:** The project shipped 12 Multi-Canister Overpacks (MCOs) containing approximately 61.86 Metric Tons of Heavy Metal (MTHM) from the K West Basin to the Cold Vacuum Drying Facility (CVDF) during April. As of May 18, 2003, a cumulative total of 233 MCOs containing approximately 1,232.57 MTHM have been shipped. The project is six MCO shipments and 47.98 MTHM ahead of schedule.

**Fuel Transfer System (FTS):** The project completed six FTS shipments (60 canisters) during April. As of May 19, 2003, a cumulative total of 106 FTS shipments (1,060 canisters) have been completed.

**MCO Welding at Canister Storage Building (CSB):** The project welded and "N" stamped 11 MCOs during April. As of April 21, 2003, the project has welded a cumulative total of 37 MCOs and is 16 MCOs ahead of schedule. Multi-Canister Overpack 224 was successfully welded on May 16, 2003, resolving the MCO seal leak issue.

**Sludge Water System (SWS) - K East:** A technical review was completed to assess the adequacy of the installed SWS and associated design documentation. A procedure review was also completed, with field verification in progress. A final dry run is scheduled to begin May 20, 2003. The contractor Operational Readiness Review (ORR) is currently scheduled to restart on June 2, 2003.

T Plant Authorization to start up K East Sludge Receipt is imminent, pending Department of Health approval of T Plant Stack usage.

**SWS – K West:** Continued preconceptual planning for K West. A dedicated team continues to focus on operability utilizing existing systems, structures and components. The Request for Proposal for design/fabrication/testing of K West sludge systems is scheduled to be issued June 20, 2003.

**Site-wide Activities:** A Memorandum of Understanding between Fast Flux Test Facility (FFTF), SNF Project, and Plutonium Finishing Plant (PFP) was drafted for management of fuel currently at PFP and FFTF.

**Deactivation:** Preliminary basin deactivation alternatives have been identified and are currently being evaluated. Alternatives being considered are encapsulation/removal, improvements to current baseline, and/or robotic alternative approach (unsolicited proposal). All three alternatives are currently being evaluated and the recommended approach will be submitted to DOE by June 30, 2003.

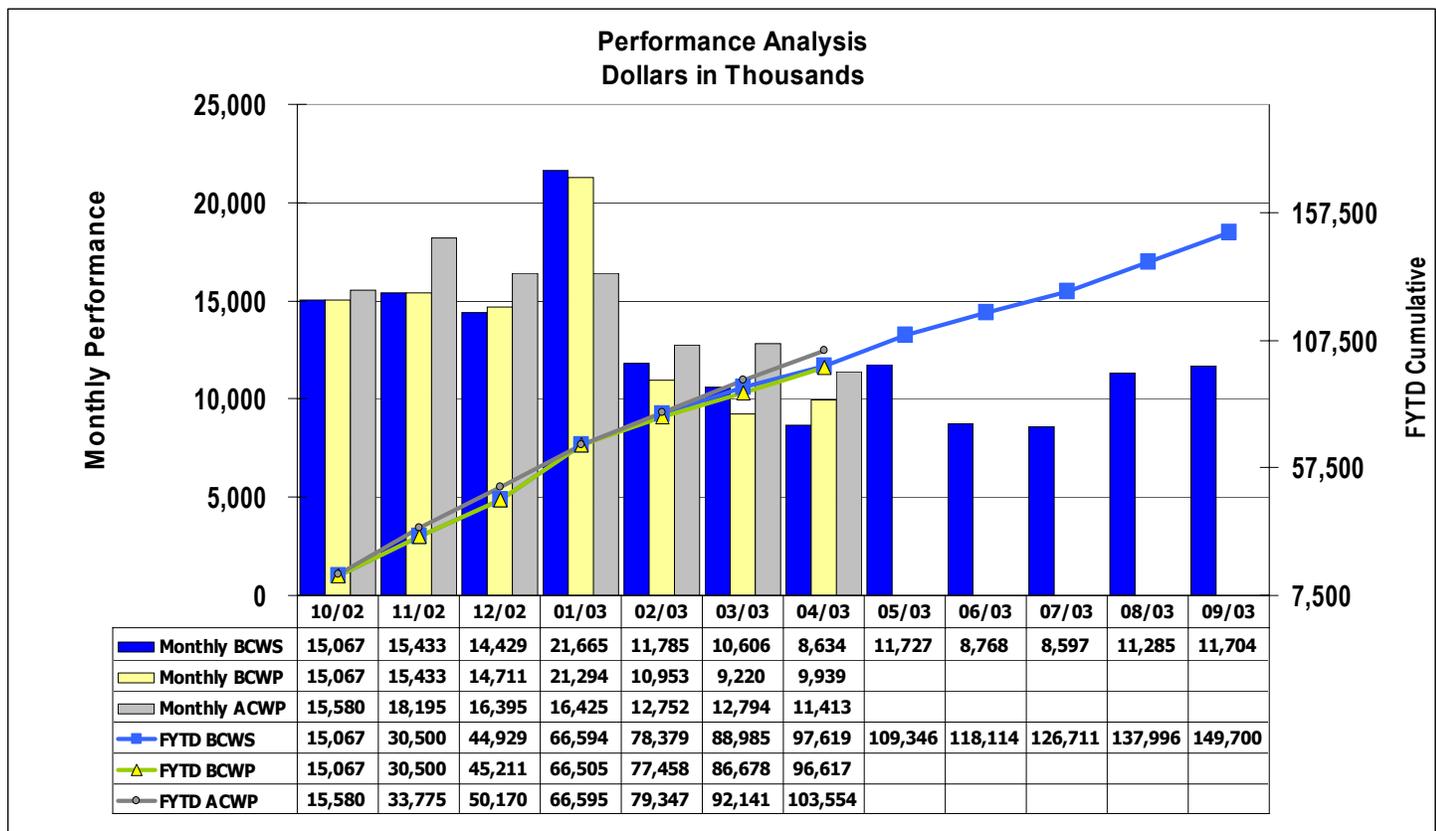
## FY 2003 SCHEDULE/COST PERFORMANCE (\$000)

**Schedule Variance Analysis (-\$1,002K):** The unfavorable 1 percent schedule variance is due to K East SWS construction/operations and MCO fabrication deferrals. Outages have been shortened to allow more time for production. The project continues to apply the necessary resources to assure completion of SWS work at the earliest possible date.

**Cost Variance Analysis (-\$6,937K):** The unfavorable 7 percent cost variance is due to K East to K West Fuel transfers, K East SWS/T Plant Sludge (Engineering, Procurement and Construction), MCO Fabrication, CVDF Operations/Engineering, CSB MCO Welding, and Technical Support and Program Management.

	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-RS03 Spent Nuclear Fuel	97,619	96,617	103,554	-1,002	-1%	-6,937	-7%	149,700

## PERFORMANCE STATUS FYTD AND MONTHLY (\$000)



## MILESTONE ACHIEVEMENT

<b>Number</b>	<b>Milestone Title</b>	<b>Type (TPA/ DNFSB/PI)</b>	<b>Due Date</b>	<b>Actual Date</b>	<b>Forecast Date</b>	<b>Status/ Comments</b>
M-34-29 (S15-02-001)	Complete K East Basin and K West Basin facility modifications for Alternate Fuel Transfer System casks transportation system	Tri-Party Agreement (TPA)	3/31/02	9/12/02		Complete
M-34-12-T01 (S15-02-001)	Complete construction of Sludge Water System (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/Performance 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		7/1/03	Contractor ORR to restart on 6/2/03.
M-34-27-T01 (S03-03-069)	Complete removal of 1252 MTHM of SNF from K West Basin	TPA	5/31/03		5/24/03	On schedule
M-34-28* (S03-03-070)	Complete removal of 1619 MTHM from the K West Basin	TPA	12/31/03		12/31/03	On schedule
M-34-25-T01 (S03-04-001)	Complete transfer of K East Basin SNF to K West Basin	TPA/PI	5/31/04		5/24/04	On schedule
M-34-18B (S00-00-902)	Complete removal of all K Basin SNF	TPA/DNFSB/PI	7/31/04		7/31/04	On schedule
M-34-10* (S04-01-215)	Complete sludge removal from K Basins	TPA/DNFSB/PI	8/31/04		8/31/04	On schedule. Change request proposed to complete K East by 8/31/04, and K West by 8/30/05.
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	On schedule
M-34-24 (S10-99-954)	Complete K East Basin Water removal	TPA	9/30/05		9/30/05	On schedule

## MILESTONE ACHIEVEMENT (CONTINUED)

Number	Milestone Title	Type (TPA/DNFSB/PI)	Due Date	Actual Date	Forecast Date	Status/Comments
M-34-22 (S10-99-952)	Complete K West Basin water removal	TPA	8/31/06		8/31/06	On schedule
M-34-21-T01 (S10-99-951)	Initiate full-scale K West Basin water removal	TPA	10/31/05		10/31/05	On schedule
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	On schedule

NOTE: Above data includes all TPA milestones as included in the FH baseline and provides contract-to-date status.

\* Working to an agreed path forward with DOE-RL and Environmental Protection Agency to provide recommendations by June 30, 2003.

## FY 2003 FH FUNDS VS FORECAST (\$000)

	Expected Funds	Spend Forecast	Variance
<b>RL-RS03 Spent Nuclear Fuel</b>			
<b>Project Completion - Operating</b>	\$ 148,351	\$ 158,166	\$ (9,815)

NOTE: Emerging costs associated with activities such as K East SWS startup, FTS jack screw repairs, welding start-up, and allocated involuntary reduction of force, have increased the spend forecast by \$9,815K for FY 2003.

## ISSUES

**SNF Project SWS – K East:** TPA Milestone (M-34-08) to begin K East sludge movement by December 31, 2002, is behind schedule. Contractor ORR started April 23, 2003; operational pause on April 27, 2003, due to procedural deficiencies, technical basis deficiencies, and readiness preparation. The contractor ORR is currently scheduled to restart on June 2, 2003. Sludge removal is forecast to begin July 1, 2003.

**Fuel Production – FTS Shipments:** Removal of all K Basin fuel by July 31, 2004, from the basins is based upon the completion of FTS shipments by January 31, 2004. As of May 19, 2003, the project is 31 shipments behind schedule. The project continues to focus on resolving equipment failure issues, which are the primary source of FTS shipment delays. Repairs to the traveling nuts and right angle drives have been completed. The FTS system is experiencing problems with system limit switches opening during operation, causing operation to stop. The limit switches are being replaced with switches that are less sensitive to a minor backward shift in the straddle carrier position.