



Section H

Spent Nuclear Fuel

PROJECT MANAGERS

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INTRODUCTION

The Spent Nuclear Fuel (SNF) Project consists of Project Baseline Summary (PBS) RL-RS03, Work Breakdown Structure (WBS) 3.2.3.

NOTE: Unless otherwise noted, all information contained herein is as of the end of July 2002.

Fiscal year (FY) to date milestone performance (EA, HQ, and RL) shows one milestone overdue.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — Activities included:

- During this reporting period, eight Multi-Canister Overpacks (MCOs) containing 49.24 Metric Tons of Heavy Metal (MTHM) were shipped from K West (KW) (86 MCOs and 423.48 MTHMs, cumulatively). To date, the Spent Nuclear Fuel (SNF) Project is 59 working days (31 MCOs, 124.52 MTHM) behind the baseline schedule commitment to move 720.1 MTHM by the end of fiscal year (FY) 2002.

Fuel Transfer System (FTS) Construction — Activities included:

- Completed construction of K East (KE) and KW FTS Annexes.
- Completed in-basin modifications and equipment installation at KE and KW.
- Continued Construction Acceptance Tests (CAT) at both KE and KW (nearly complete).

Sludge Water System (SWS)

- Began SWS Fabrication Inspection Test (FIT)/Factory Acceptance Test (FAT) work and integration of all SWS FIT/FAT tests.
- Sludge Retrieval System (SRS) progress included: Completed 100 percent design packages for KE in-basin modifications and sludge transfer system (STS). Awarded SRS contract to Avantech, South Carolina on July 25, 2002. Shipped SRS in-basin sludge pump to Avantech for in-basin FAT. Continued fabrication and installation of SRS in-basin modifications. Received design from HECO (crane fabrication subcontractor) for SRS in-basin crane modifications. Continued development of Programmable Logic Center (PLC) software that will operate the SRS. Continued design of structural supports for new SRS shielding.
- Continued to work with with subcontractor to expedite fabrication and delivery of the STS casks, large diameter containers (LDC) and transport trailers.

Sludge Handling Modification Activities — Activities included:

- Completed all electrical work in the gallery from the leak detection cabinets to the process cell probes. Canyon deck level video cable and tie in ports for portable cameras have all been completed.
- Received notification from the Department of Energy (DOE) that the Headquarters review of the T Plant seismic analysis concluded that FH's position (facility meets PC 2 new facility criteria) is consistent with the analysis.

NOTABLE ACCOMPLISHMENTS (CONTINUED)

Site-Wide Activities — Activities included:

- Completed Standard Startup Review for receipt, placement, and interim storage of light water reactor (LWR) fuel from the 324 Building at 200 Area Interim Storage Area (ISA). Pre-starts identified as a result of the Standard Startup Review were also completed. The project has received authorization to receive LWR fuel at the 200 area ISA.
- Tested and certified TN-WHC Cask number 5 to support Shippingport fuel removal from T Plant. Waste Management has received startup authorization from RL for Shippingport fuel removal from T Plant.
- Continued planning for SNF removal in support of FFTF and PFP accelerated closure schedules.

Canister Cleaner Operations — Activities included:

- Removed 511 canisters cumulatively and prepared for shipment and disposal. A cumulative total of 499 canisters have been shipped to the Environmental Restoration Disposal Facility (ERDF). Canister cleaner operations is 100 canisters ahead of required schedule.

MCO and MCO Basket Fabrication Shop — Activities included:

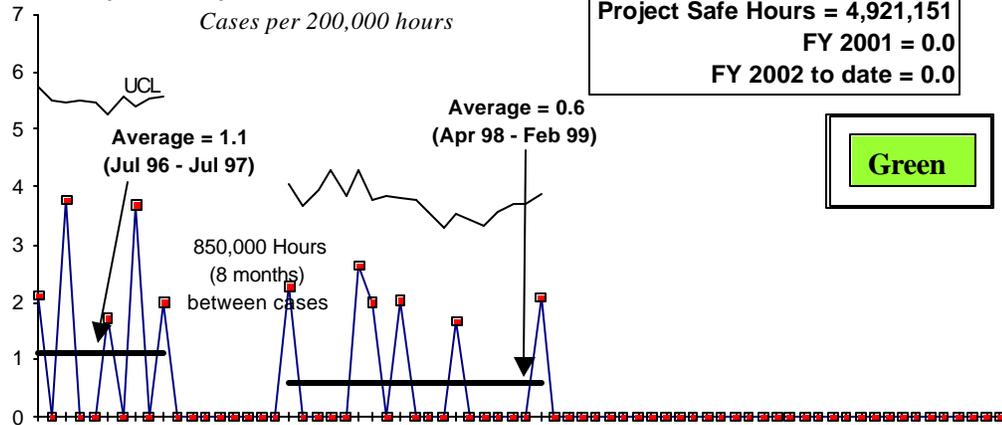
- Continued MCO and MCO basket production with sufficient lead-time to ensure no interruption to the fuel packaging process. Two hundred and thirty-six MCOs have been received onsite and are ready for issuance and 1,628 MCO baskets have been fabricated and are also ready to be issued.

Safety

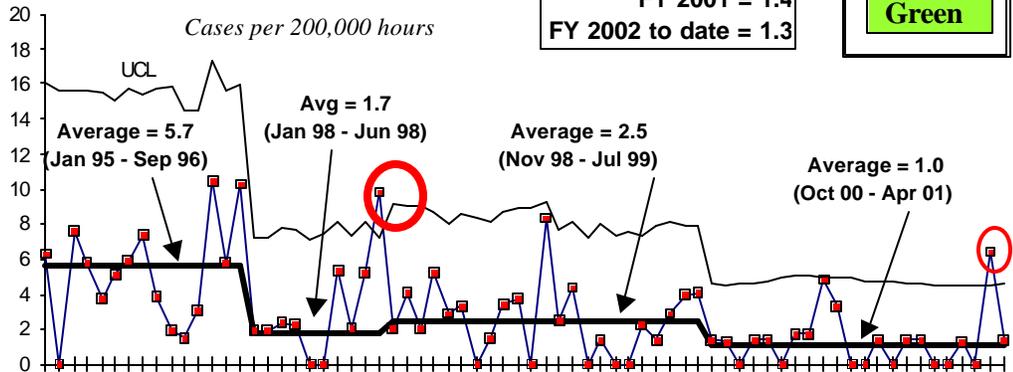
No Lost Away Workday injuries were reported within the SNF Project, thus allowing an achievement of over 4.9 million safe work hours by the end of July 2002. This achievement can be attributed to the project's continued commitment to the Integrated Safety Management (ISM) System emphasizing management commitment and worker involvement.

Safety (Continued)

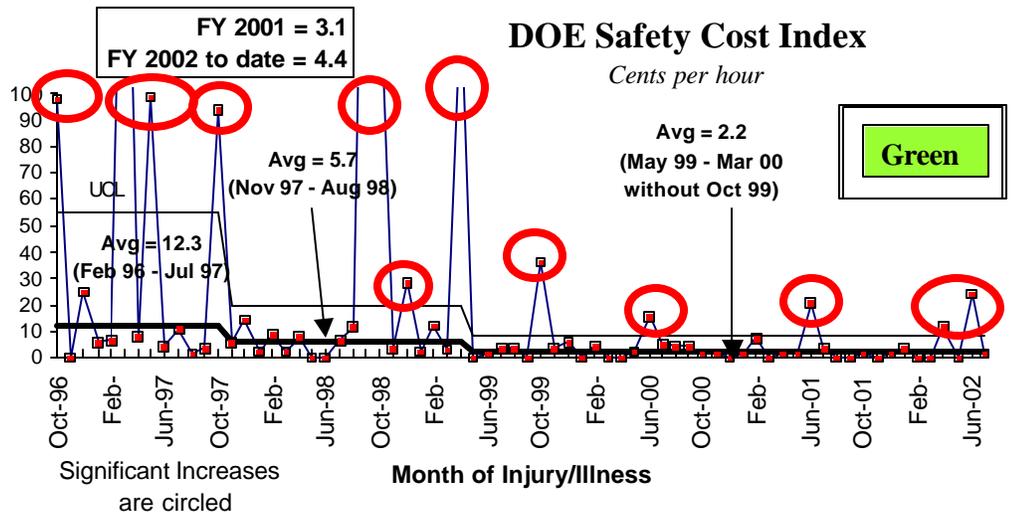
Days Away From Work Case Rate



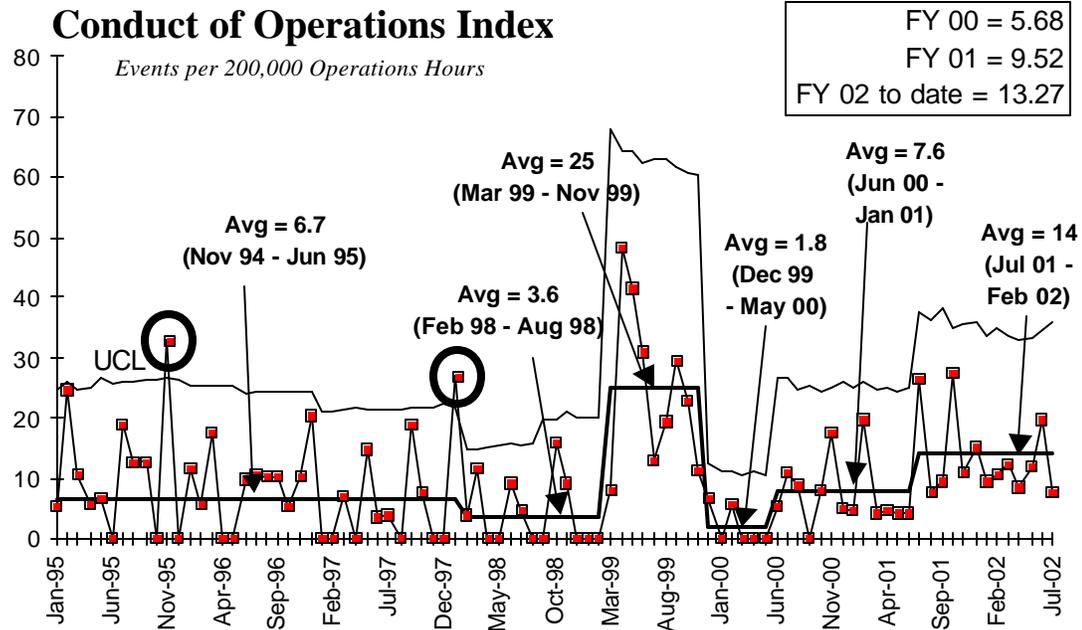
OSHA Recordable Case Rate



DOE Safety Cost Index



Conduct of Operations



The SNF Project continues to make progress towards actions identified in the CONOPs Improvement Plan. Procedure reviews have been completed and the Manager in the Field (MIF) program is well underway. Additional focus has been applied to the project's lock and tag program.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

NDE of Contamination in the KE Basin Walls and Floors — A significant activity necessary to deactivate the 100 Area KE Basin is to characterize the level of contamination in the basin's unsealed concrete walls and floor. This characterization data will be used to help determine the methods to be applied in completing the deactivation of the basin, once fuel and sludge have been removed.

The SNF Project will be using nondestructive (gamma scanning) technique and detector system, developed by the Pacific Northwest National Laboratory, to acquire data on the depth of radionuclide penetration in the basin's concrete walls and floors. This is the first time the NDE technique will be used to obtain characterization data with the facility in normal operation, with its full inventory of fuel, sludge and contaminated water. If successful, the data will be used, in conjunction with other information, to determine which deactivation methods can realistically be used to remove/reduce the radiological dose/contamination, as well as to determine which basin areas are in the greatest need of mitigation. This detection system has been deployed into the KE Basin and is being used to obtain background data. Data gathering is expected to be complete by September 30, 2002.

Opportunities for Improvement

Witness Model — The baseline model has been produced and used for production capability assessment. The model is a useful tool in evaluating the knowledge of the project, critical path and in prioritizing actions to reduce the critical path length. The model is being updated with additional detail to more accurately reflect the project's new critical path. It will continue to be periodically updated and used for confirmation of the critical path and actions to reduce the critical path. All modifications are expected to be complete by September 30, 2002.

UPCOMING ACTIVITIES

Site-Wide Activities — Ship Neutron Radiography Facility (NRF) Training, Research and Isotope Production, General Atomics (TRIGA) fuel to 200 Area ISA in August 2002.

Site-Wide Activities — Receive initial Shippingport Fuel at CSB in August 2002.

Fuel Transfer System (FTS) — Begin Operational Test Procedures in August 2002.

FTS — Complete CAT by August 7, 2002 (July 31, 2002 date slipped due to unanticipated interferences and startup problems).

FTS — Complete Acceptance Test Procedures (ATP) by August 20, 2002.

FTS — Complete FTS walkdown and sign-off Construction Completion Document, Section 1A by August 21, 2002 (M-34-29).

FTS — Acceptance for beneficial use by August 30, 2002.

FTS — Complete contractor Operational Readiness Review (ORR) in September 2002.

Sludge Water System (SWS) — Receive cask and container for sludge in September 2002.

SWS — Complete construction of SWS by October 2002 (M-34-12-T01 due 9/30/02).

FTS — Complete DOE ORR in October 2002.

FTS — Begin KE to KW fuel transfer scheduled for mid-October 2002 (M-34-17) by November 30, 2002.

SWS — Complete ORR in November/December 2002.

SWS — Operational by December 31, 2002 (M-34-08).

Fuel Movement — Complete removal of 957 MTHM from KW Basin by December 31, 2002 (M-34-18A).

MCO Welding — Begin welding of MCOs at CSB by February 3, 2003.

MILESTONE ACHIEVEMENT

Number	Milestone Title	Type (TPA/DN FSB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-06-T01	Initiate K West (KW) Basin Spent Nuclear Fuel (SNF) Canister Cleaning Operations	TPA	08/31/01	3/15/02		Complete
M-34-29	Complete KE Basin and KW Basin facility modifications for AFTS casks transportation system	TPA	3/31/02		08/21/02	Milestone completion forecast for 8/21/02. KW and KE equipment CAT complete 8/7/02. ATP will commence immediately after. Acceptance for beneficial use is forecast for 8/30/02.
M-34-12-T01	Complete construction of SWS	TPA	9/30/02		09/30/02	Schedule in question. Will complete schedule assessment by 8/29/02 (schedule very challenging).
S10-99-950	Select K Basin Pool Decontamination Method	TIP	9/30/02		09/30/02	On schedule. Non-destructive Evaluation (NDE) of KE walls and floors is in progress. Data is currently being gathered for evaluation.
M-34-17	Initiate KE to KW fuel transfer	TPA	11/30/02		11/30/02	On schedule (schedule very challenging)
M-34-18A	Complete removal of 957 MTHM of SNF from the KW Basin	TPA/DNFSB	12/31/02		12/31/02	Currently 59 days behind schedule.
M-34-08	Initiate full scale KE basin sludge removal	TPA/DNFSB	12/31/02		12/31/02	On schedule (schedule very challenging)
M-34-27-T01	Complete removal of 1252 MTHM of SNF from KW Basin	TPA	5/31/03		5/31/03	On schedule
S09-03-010	Decide treatment path for sodium removal from FFTF	TIP	09/30/03		09/30/03	On schedule

MILESTONE ACHIEVEMENT (CONTINUED)

Number	Milestone Title	Type (TPA/DNF SB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-18B	Complete removal of all K Basin SNF	ALL 3	7/31/04		7/31/04	On schedule
M-34-10	Complete sludge removal from K Basins.	ALL 3	8/31/04		8/31/04	On schedule
M-34-23	Start KE water removal	TPA	9/30/04		9/30/04	On schedule
M-34-09-T01	Complete K Basins rack and canister removal	PI	1/31/05		1/31/05	On schedule
M-34-24	Complete KE Basin Water removal	TPA	9/30/05		9/30/05	On schedule
S06-06-006	Complete K Basin water removal	PI	4/30/06		4/30/06	On schedule
M-34-22	Complete KW Basin water removal	TPA	8/31/06		8/31/06	On schedule
S06-06-004	Complete transition activities for CVD and other facilities	PI	9/30/06		9/30/06	On schedule
S06-06-005	Transfer of K Basins to the River Corridor Contractor	PI	9/30/06		9/30/06	On schedule
S20-10-010	Select technology to prepare SNF MCOs for shipment and demonstrate	TIP	12/30/10		12/30/10	On schedule

Performance Objectives

Move Fuel Away from the River

EXPECTATION: Remove spent fuel from K Basins

Move 720.1 Metric Tons Heavy Metal from KW Basin by end of FY 2002

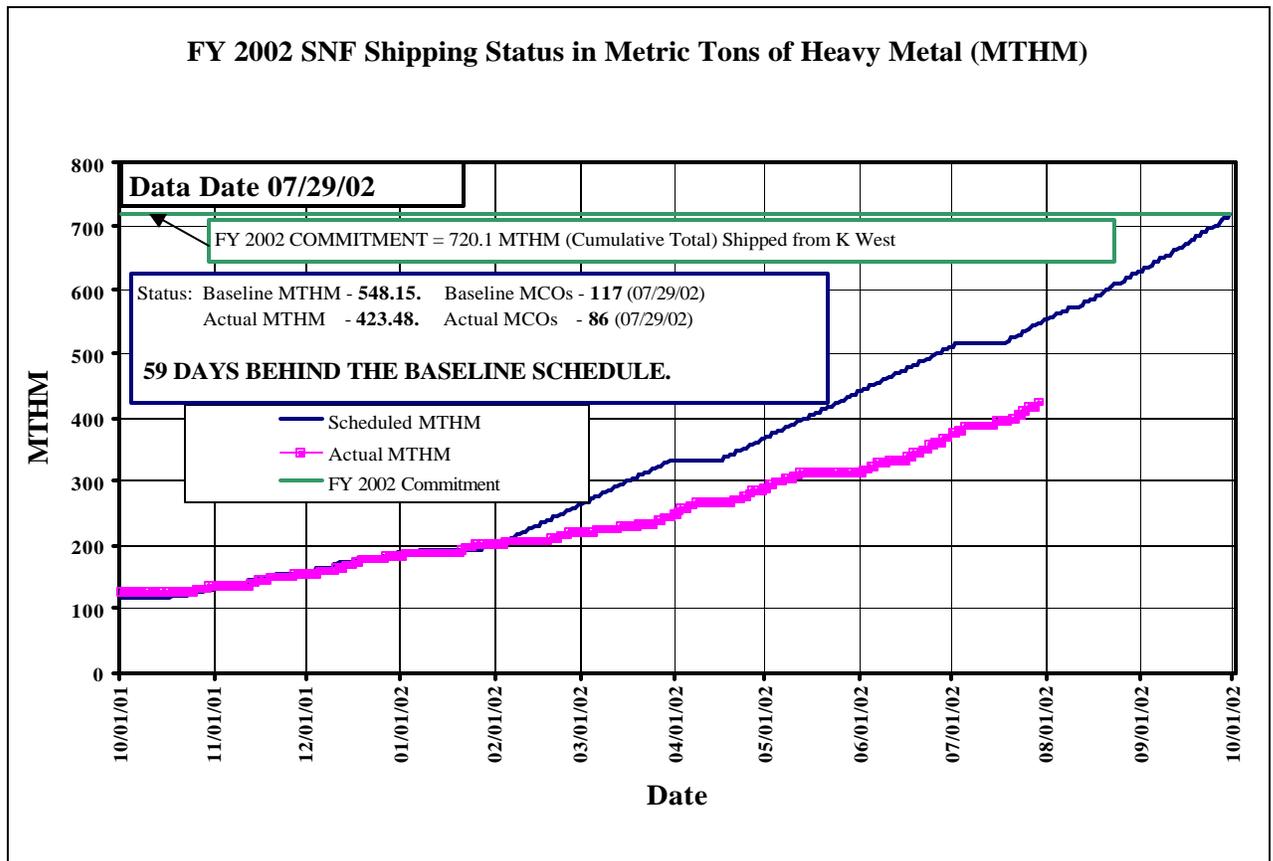
Status: A cumulative total of 86 MCOs containing 423.48 MTHM have been shipped. Currently 59 days (31 MCOs, 124.52 MTHM) behind the baseline schedule.

Complete construction on Fuel Transfer System (FTS) by March 31, 2002

Status: Milestone completion forecast for August 21, 2002. KW and KE equipment CAT complete August 7, 2002. ATP will complete August 20, 2002. Acceptance for beneficial use is forecast for completion by August 30, 2002.

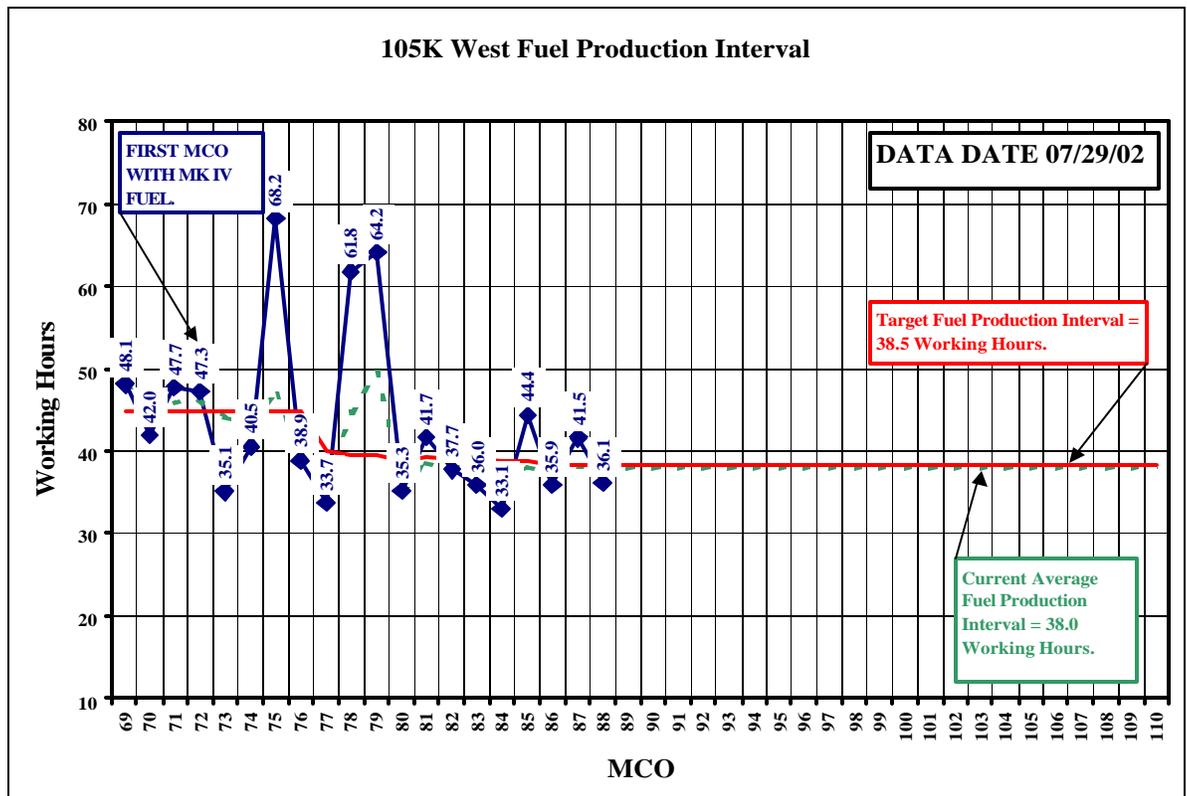
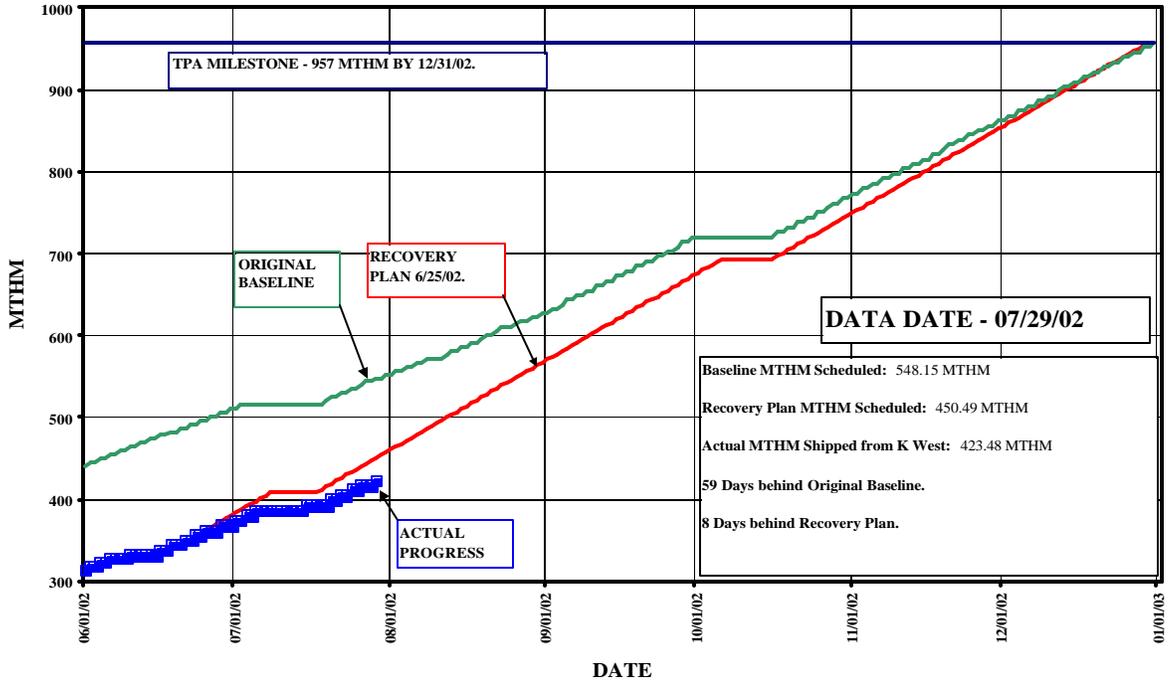
Commence KE to KW Fuel Transfer by November 30, 2002

Status: On schedule.

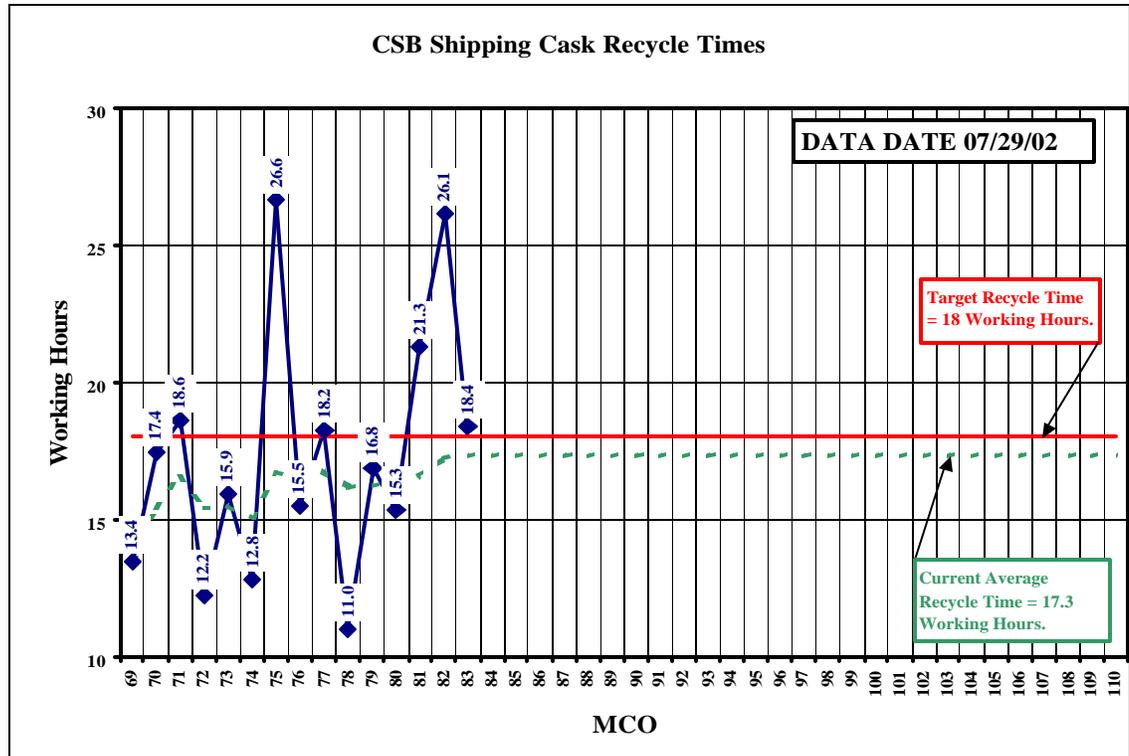
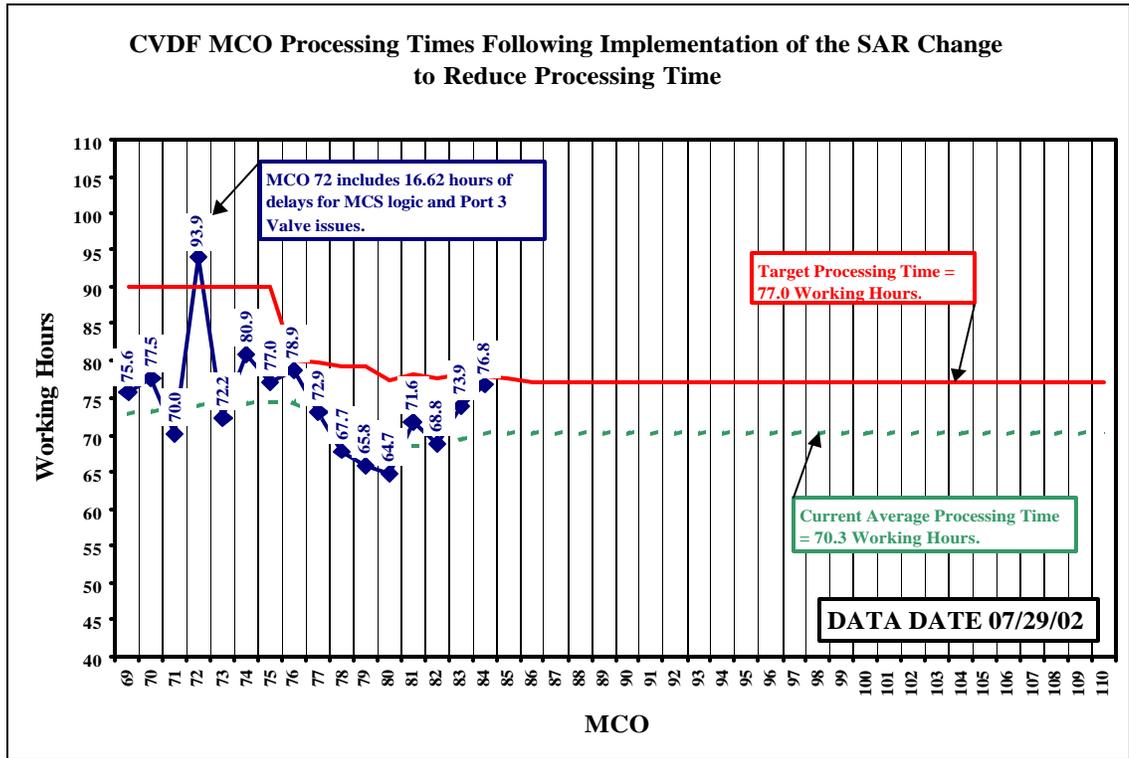


PERFORMANCE OBJECTIVES (CONTINUED)

Metric Tons Heavy Metal (MTHM) Shipment Recovery Plan



PERFORMANCE OBJECTIVES (CONTINUED)



PERFORMANCE OBJECTIVES (CONTINUED)

EXPECTATION: Move Sludge and Water from K Basins

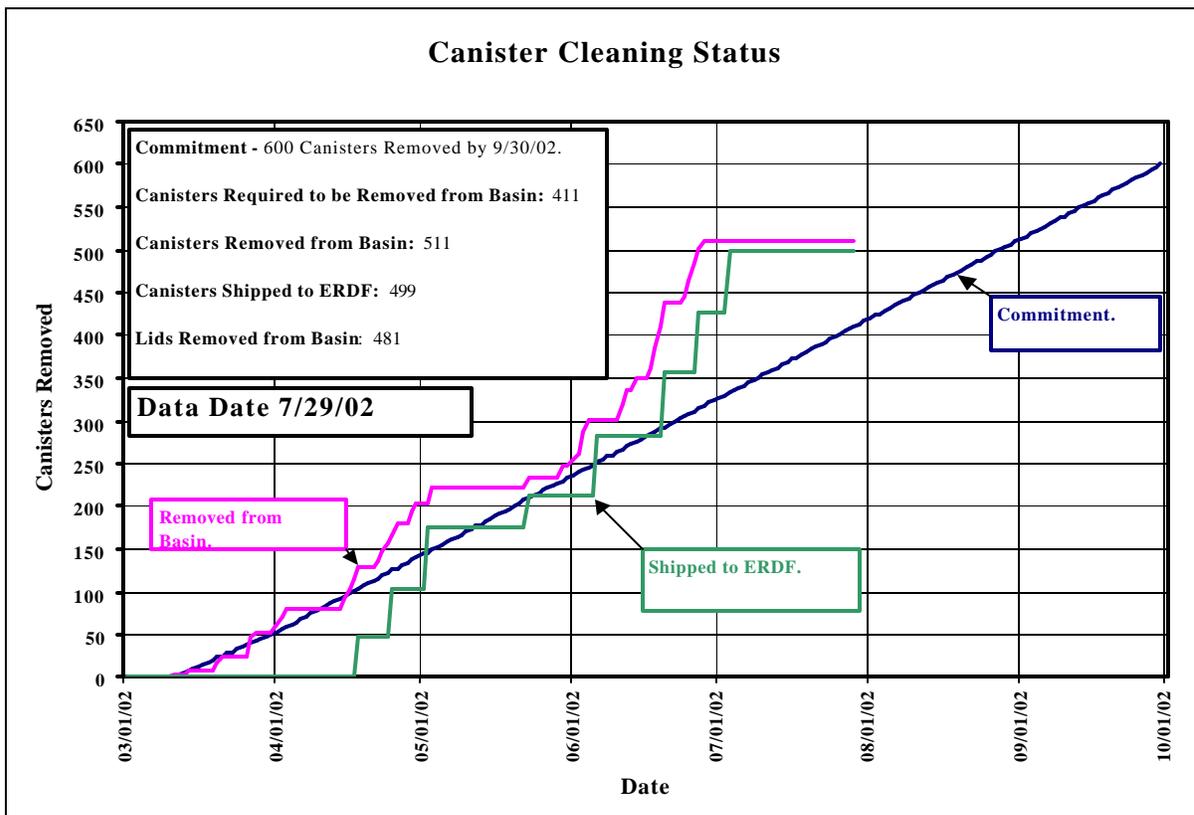
Initiate Sludge Movement by December 31, 2002.

Status: SRS contract was awarded July 25, 2002 to Avantech, South Carolina. Delivery of crane parts to support crane modifications is scheduled by September 16, 2002. Appointed Deputy Project Director for the sludge project to improve technology integration and schedule performance.

EXPECTATION: Remove canisters from K Basins

Remove 600 canisters from KW by fiscal year end.

Status: A total of 511 canisters have been cleaned fiscal year to date and 499 canisters were shipped to ERDF. The SNF project is 100 canisters ahead of schedule.



Consolidate Non-Production Reactor Fuel

EXPECTATION: Consolidate site-wide non-production reactor fuel in 200 Area

Move .02 MTHM in fiscal year 2002.

Status: The TRIGA Safety Analysis Report for Packaging (SARP) was submitted to RL for approval, and comments have been received and are currently being addressed. Receipt of the first shipment of LWR fuel from the 324 Building is forecast by August 2002. There is a potential to move an additional 1.6 MTHM in support of 324 Building LWR SNF transfer stretch goal (with River Corridor).

SCHEDULE / COST PERFORMANCE – ALL FUND TYPES FY TO DATE STATUS (\$000)

		FYTD								
By PBS		BCWS	BCWP	ACWP	SV	%	CV	%	BAC	
PBS RS03 WBS 3.2.3.1	SNF Project, 100 K Basins	\$ 99,600	94,887	\$ 108,847	\$ (4,713)	-5%	\$ (13,960)	-15%	\$ 119,970	
PBS RS03 WBS 3.2.3.2	Canister Storage Building (to2004)	\$ 7,632	\$ 8,106	\$ 8,194	\$ 474	6%	\$ (88)	-1%	\$ 10,673	
PBS RS03 WBS 3.2.3.3	200 Intrim Storage Area (to2004)	\$ 2,364	\$ 1,211	\$ 1,281	\$ (1,153)	-49%	\$ (70)	-6%	\$ 2,935	
PBS RS03 WBS 3.2.3.4	SNF Project Management and Support	\$ 30,888	\$ 30,899	\$ 29,394	\$ 11	0%	\$ 1,505	5%	\$ 38,692	
Total		\$ 140,484	\$ 135,103	\$ 147,716	\$ (5,381)	-4%	\$ (12,613)	-9%	\$ 172,270	

FY TO DATE SCHEDULE / COST PERFORMANCE

The SNF FYTD unfavorable schedule variance is primarily driven by the following areas, which are behind: FTS construction, SWS construction/procurement, canister cleaning, fuel removal and deactivation. The unfavorable cost variance is primarily driven by additional scope in FTS construction/engineering, SWS engineering and procurement, Facility maintenance/operations and actual labor rates being higher than planned.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, FYTD Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

Schedule Variance Analysis: (-\$5.4M)

3.2.3.1 SNF Project, 100K Area (-\$4.7M)

Description /Cause: The unfavorable five percent schedule variance is primarily due to emergent work in FTS and SWS.

Impact: None to report.

Corrective Action: None required.

3.2.3.3 200 Area Interim Storage (-\$1.1M)

Description /Cause: The unfavorable 49 percent schedule variance is primarily due to delays in the transfer of PWR Core, KE wall/floor decontamination system and Deactivation.

Impact: None to report.

Corrective Action: None required.

FY TO DATE SCHEDULE / COST PERFORMANCE (CONTINUED)

Cost Variance Analysis: (-\$12.6M)

3.2.3.1 SNF Project, 100K Area (-\$14.0M)

Description /Cause: The unfavorable 15 percent cost variance is primarily due to emergent work in FTS and SWS, and actual labor rates being higher than planned.

Impact: None to report.

Corrective Action: None required.

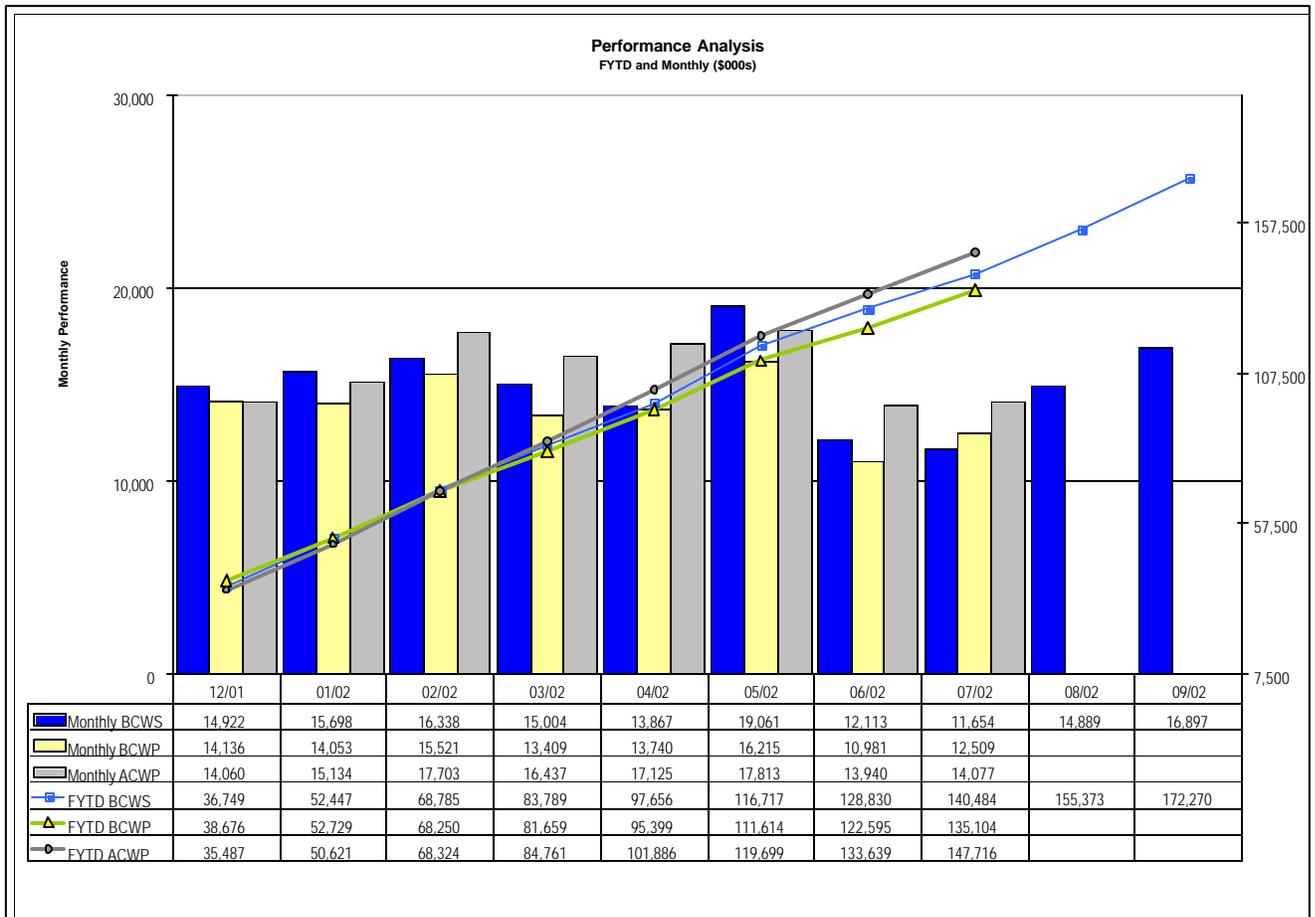
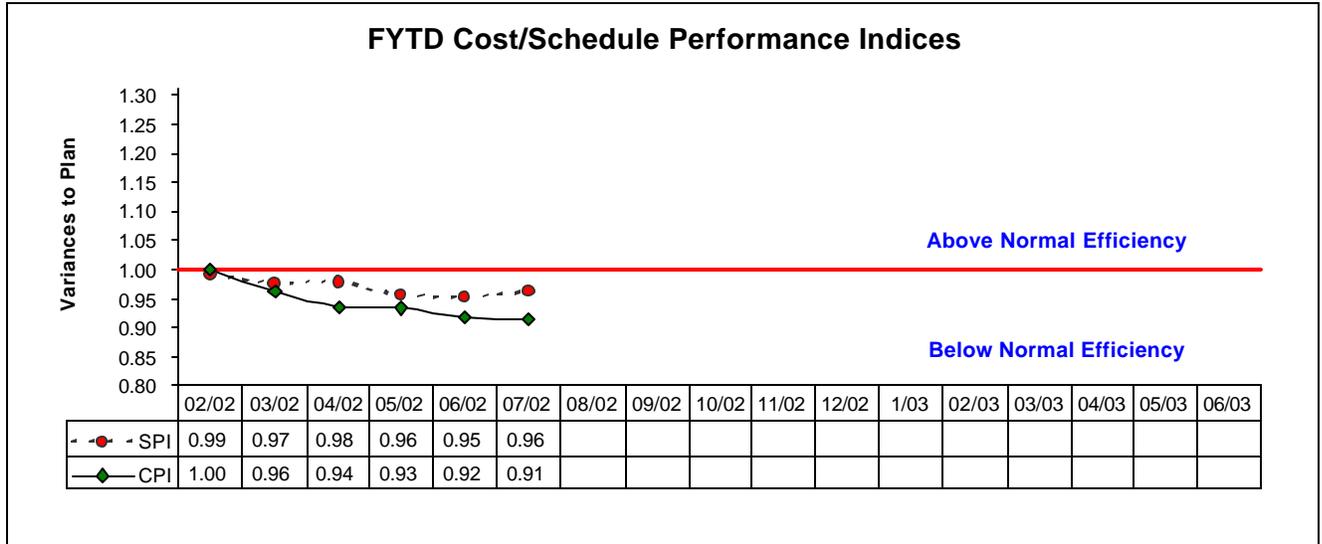
3.2.3.4 SNF Project Management and Support (+\$1.5M)

Description/Cause: The favorable five percent cost variance is due to FY 2001 underruns in the infrastructure support account and project direction.

Impact: None to report.

Corrective Action: None required.

Schedule / Cost Performance (Fiscal Year to Date and Monthly)



FUNDS MANAGEMENT – FY 2002 TO DATE FUNDS VS SPENDING FORECAST (\$000)

	FH Funds Reallocation	FYSF	Variance
3.2.3 Spent Nuclear Fuel			
RS03			
Project Completion - Operating	\$ 176,389	\$ 182,839	\$ (6,450)
			0
Total	\$ 176,389	\$ 182,839	\$ (6,450)

Status through 7/30/2002

ISSUES

Technical Issues

Issue: MCO number 63 did not pass its integrity test.

Corrective Actions: Develop path forward for final disposition of MCO number 63. A report has been prepared and issued by the Pacific Northwest National Laboratory (PNNL) and recommendations to reduce the potential for future leaks are under evaluation. The overall recommended plan for disposition of the MCO will be issued for final approval in August 2002.

Impact: Negative impact toward meeting fuel movement commitments.

Issue: Equipment reliability continues to be a major focus for sustaining fuel movement.

Corrective Actions: Fluor consulting personnel continue to evaluate unit operations for efficiency improvements. A number of recommendations have already been incorporated into the KW manipulator repair program, and have resulted in maintenance staff-hour savings.

Impact: Continued equipment failures may negatively impact meeting fuel movement commitments.

Issue: Production schedule improvement

Corrective Actions: Efforts are underway to establish a formal production management and control system to better integrate activities within and between key facilities. The project continues to evaluate additional "breakthroughs" for production improvements.

Impact: The SNF Project's production rate must increase in order to meet December 30, 2002 fuel movement milestone date.

Issue: FTS construction completion

Corrective Actions: Complete KW and KE equipment CAT by August 7, 2002. Complete Acceptance Test Procedures and turnover to Operations for acceptance for beneficial use by August 30, 2002.

Impact: FTS milestone scheduled for completion March 31, 2002, is forecast for completion August 21, 2002, and supports commencement of contractor ORR on September 16, 2002 and FTS operations in early November 2002.

ISSUES (CONTINUED)

Issue: SWS Schedule Delays

Corrective Actions: Continue to work with subcontractors to improve schedule. Delivery of crane parts to support crane modifications is scheduled by September 2002. Fluor Hanford technical personnel are also being assigned to subcontractor facilities (PacTec and Avantech) to assist in expediting paperwork and tracking schedule.

Impact: SWS construction will not be complete September 30, 2002, due to delayed subcontractor delivery dates. The forecast completion is October 2002, and will support the December 31, 2002 milestone to begin sludge removal from the KE Basin (M-34-08).

Regulatory, External, and DOE Issues and DOE Requests

None to report.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

Baseline Change Log							
BCR No./ WBS	Level 4	Date Originated	Description	Impact		Date Approved	Status
				Days	Dollars (\$000s)		
RS03-02-001R2		6/27/02	USQ Training and Qualification Requirement	0	70		At RMB for consideration and approval
RS03-02-010		6/28/02	KE Rad Con FY2003 Baseline Plan	0	2,308		At RMB for consideration and approval