



Section G

Spent Nuclear Fuel

PROJECT MANAGERS

S.J. Veitenheimer, RL
(509) 373-9725

R.B. Heck, FH
(509) 373-0500

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, the Safety, Conduct of Operations, Milestone Achievement, and Cost/Schedule data contained herein is as of December 31, 2001. All other information is as of January 15, 2002, unless otherwise noted.

Fiscal Year (FY) to date milestone performance (EA, HQ, and RL) shows two milestones due during FY 2002.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — During this reporting period, three Multi-Canister Overpacks (MCOs) containing 14.07 Metric Tons of Heavy Metal (MTHM) were shipped from K West (KW). To date, SNF is one working day (40 MCOs and 188.09 MTHMs, cumulatively) behind baseline schedule to move 720.1 MTHM by FY 2002.

Facility Activities — Activities during this reporting period:

- Completed KW maintenance Outage 4.
- Began 24/7 operations January 7, 2002.
- Cold Vacuum Drying Facility (CVDF) resolved the Integrated Leak Test failure experienced with MCO number 40.
- Completed the CVDF maintenance outage.

K Basins Construction Projects — Activities conducted during this reporting period included:

- Fabrication drawings and construction of the mockup test structure are underway for the Fuel Transfer System (FTS) lift tables, straddle carriers, and rails.
- K East (KE) and KW annex areas concrete pours over the unforeseen concrete chase are nearly complete.
- Initiated fabrication of FTS transport trailer.

Sludge Handling T Plant Modification Activities — Activities included:

- Obtained approval for necessary submittals to perform carbon steel welding.
- Completed fabrication of the load cell lifting handle and the load cell storage rack.
- Completed scaffolding work in the T Plant canyon to support access to the backup 10-ton crane.

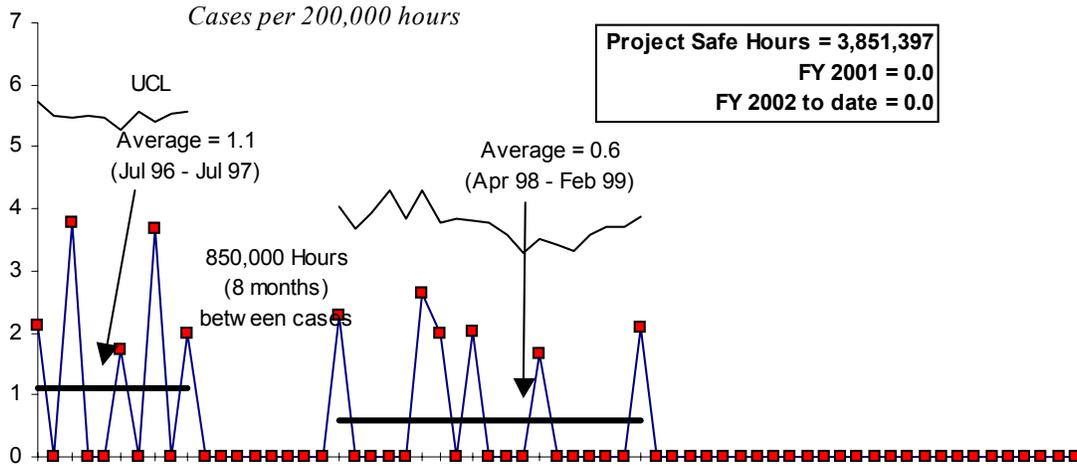
Site-Wide SNF Project Activities — Activities included:

- Completed review of 324 Building preliminary fuel removal procedures.
- Conducted 200 Area Interim Storage Area (ISA) authorization basis training.
- Issued 200 Area ISA Safety Equipment List.
- Received and put in place the RadVault for Neutron Radiography Facility (NRF) Training, Research and Isotope Production, General Atomics (TRIGA) fuel at 200 Area ISA.
- RL drafted the Safety Evaluation Report (SER) for the NRF TRIGA Safety Analysis Report for Packaging (SARP).

SAFETY

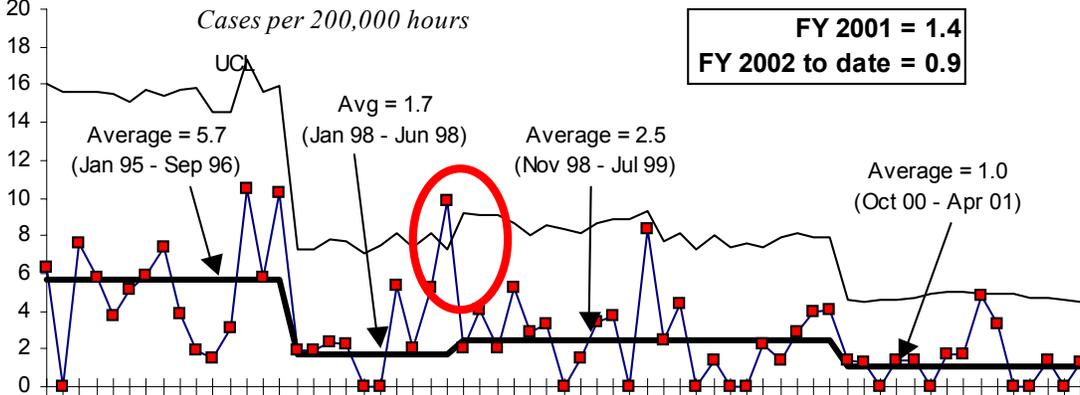
No Lost Away Workday injuries were reported within the SNF Project, thus allowing an achievement of more than 3.8 million safe work hours by the end of December. This performance can be attributed to the effective implementation of the Integrated Safety Management (ISM) System core functions of management commitment and worker involvement.

Lost Away Workday Case Rate



Green

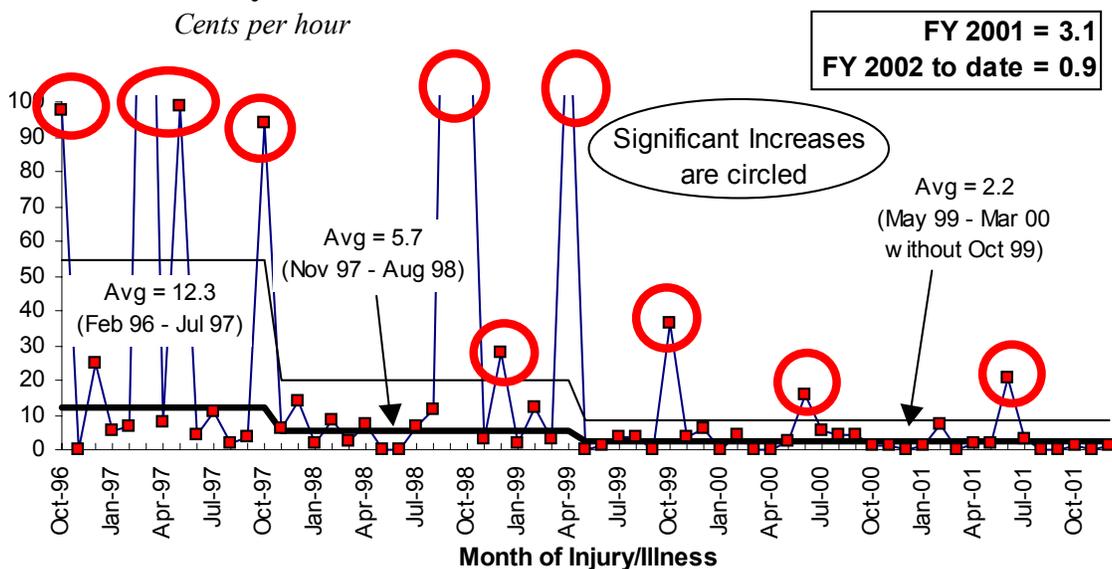
OSHA Recordable Case Rate



Green

FY 2001 = 1.4
FY 2002 to date = 0.9

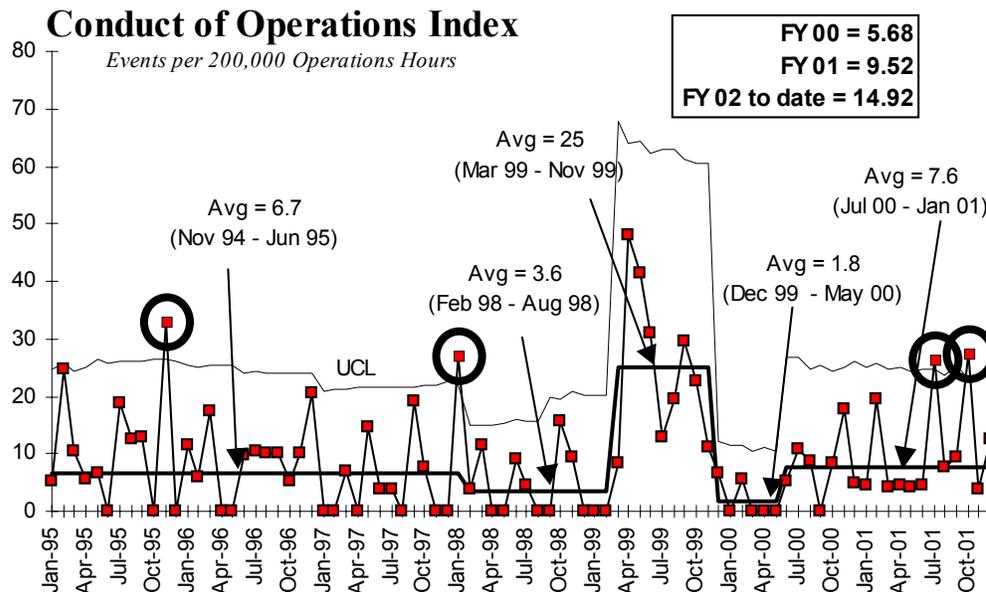
DOE Safety Cost Index



Green

FY 2001 = 3.1
FY 2002 to date = 0.9

CONDUCT OF OPERATIONS



In an effort to raise the Project's focus on worker safety and conduct of operations, a weekly review of lessons learned and occurrence reports is conducted at the opening of the SNF Project senior staff meeting. The project continues to emphasize worker safety and conduct of operations with all project personnel. SNF is updating the Conduct of Operations Applicability Matrix.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Cold Vacuum Drying Facility (CVDF) Fuel Processing / Production Improvements — The CVDF has implemented several improvements that have reduced processing times at CVDF from approximately 100 working hours per MCO to a current average of 76.1 working hours per MCO, 13.9 working hours less than the required target of 90 working hours. Options continue to be evaluated to ensure this average stays below the 90-working-hour target. An additional process improvement is in place that eliminates the proof of dryness cycle and relies on the rebound test to define MCO dryness. This improvement is currently awaiting approval by RL in the form of an Authorization Basis change. *[Update: Approval received as planned in January after reporting period.]*

SNF Equipment Reliability — The SNF Project Availability Assessment Document (SNF-9273) was approved and issued. This assessment plan was presented to DOE-HQ EM-40 representatives for their review. The consensus of the DOE-HQ team was that it would provide a major step forward in solving the SNF equipment reliability if it was properly implemented. The weekly follow-up meetings for equipment reliability are continuing. Approximately 30 percent of spares identified are in procurement process, and 15 percent of those have been received.

Opportunities for Improvement

KW Fuel Processing / Production Improvements — KW has implemented many processing improvements including the installation of two manual process tables. KW improvements have resulted

in about a 50 percent process time reduction. The current average processing time is 51.5 working hours, 6.5 working hours over the required target processing time of 45 working hours.

K Basin Sludge Container and Storage Optimization — A study was made to determine if using a graded approach would optimize K Basin knock-out pot and settler sludge container and storage. The Graded MCO Processing approach is not practical to implement at SNF Project.

UPCOMING ACTIVITIES

Sludge Water Equipment — Begin design of the Sludge Water in-basin equipment by January 2002.

KE and KW Facility Modifications — Begin KE and KW facility modifications for the FTS System by January 2002.

200 Area ISA Authorization Basis — Implement 200 Area ISA Authorization Basis by January 2002.

200 Area ISA Readiness Assessment — Initiate 200 Area ISA Readiness Assessment in February 2002.

T-Plant Construction — Receive delivery of the work platform to support construction activities in the T Plant process cells by February 16, 2002.

MILESTONE ACHIEVEMENT

Number	Milestone Title	Type (TPA/DNFSB/ PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-16	Initiate Removal of K West Basin Spent Nuclear Fuel	ALL	11/30/00	12/7/00		Complete
M-34-29	Complete KE Basin and KW Basin Facility Modifications for AFTS Casks Transportation System	TPA	3/31/02		3/31/02	Potential impact of 1-2 months due to late delivery of transfer system design and equipment, and unforeseen underground conditions at both basins.
M-34-12-T1	Complete Construction of Sludge and Water System	TPA	09/30/02		09/30/02	On Schedule
M-34-17	Initiate KE to KW Fuel Transfer	TPA	11/30/02		11/30/02	On Schedule
M-34-18A	Complete Removal of 190 MCOs of SNF from the KW Basin.	TPA/DNFSB	12/31/02		12/31/02	On Schedule
M-34-08	Initiate Full Scale KE Basin Sludge Removal	TPA/DNFSB	12/31/02		12/31/02	On Schedule
M-34-28	Complete Removal of 311 MCOs from the KW Basin	TPA	12/31/03		12/31/03	On Schedule
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 & 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

NOTE: Above data includes all TPA/DNFSB/Performance Incentive milestones as included in the FH baseline, and provides Contract-to Date status.

PERFORMANCE OBJECTIVES

Move Fuel Away from the River

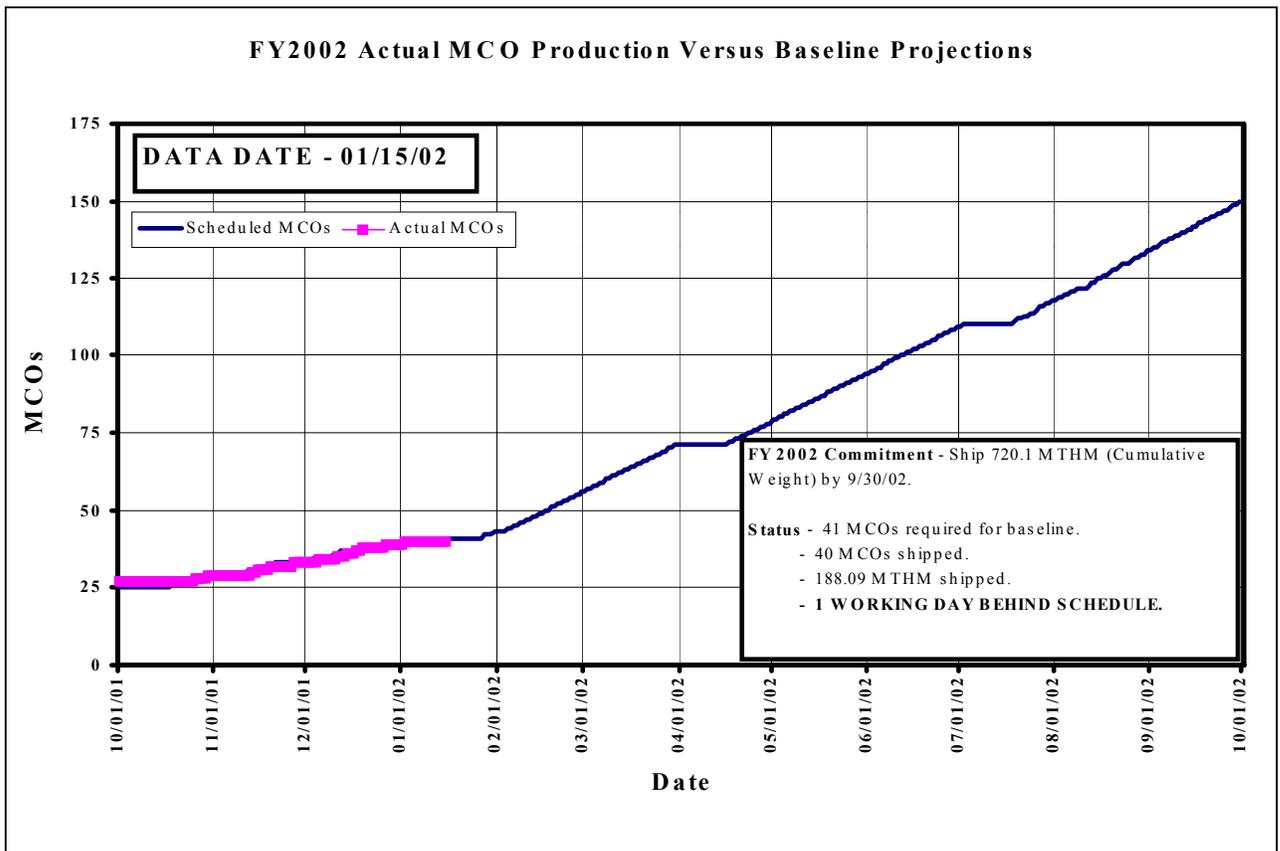
EXPECTATION: Remove spent fuel from K Basins

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

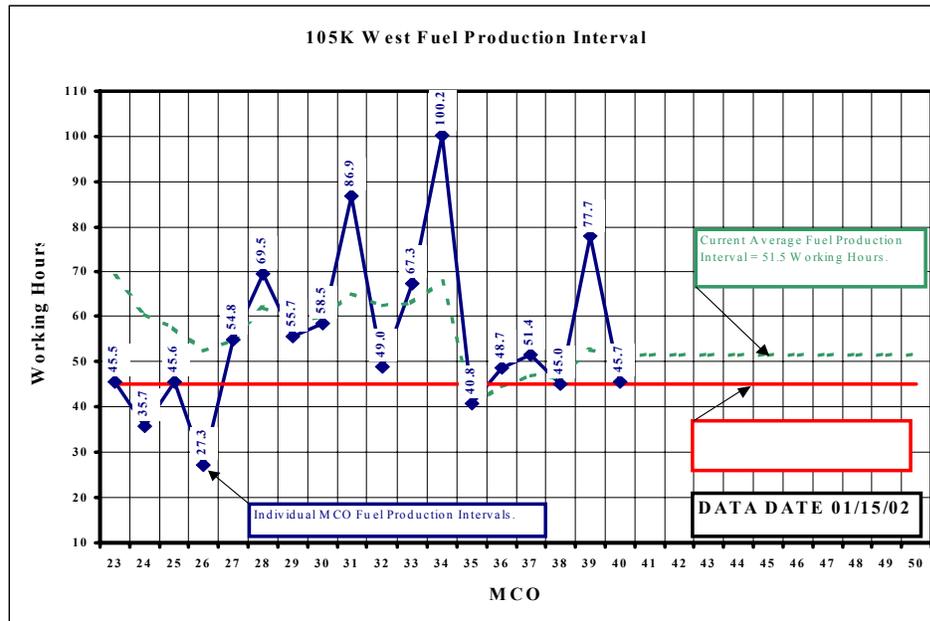
Status: A cumulative total of 40 MCOS containing 188.09 MTHM have been shipped. Currently one working day (one MCO, 4 MTHM) behind the baseline schedule.

Complete construction on Fuel Transfer System (FTS) by March 30, 2002

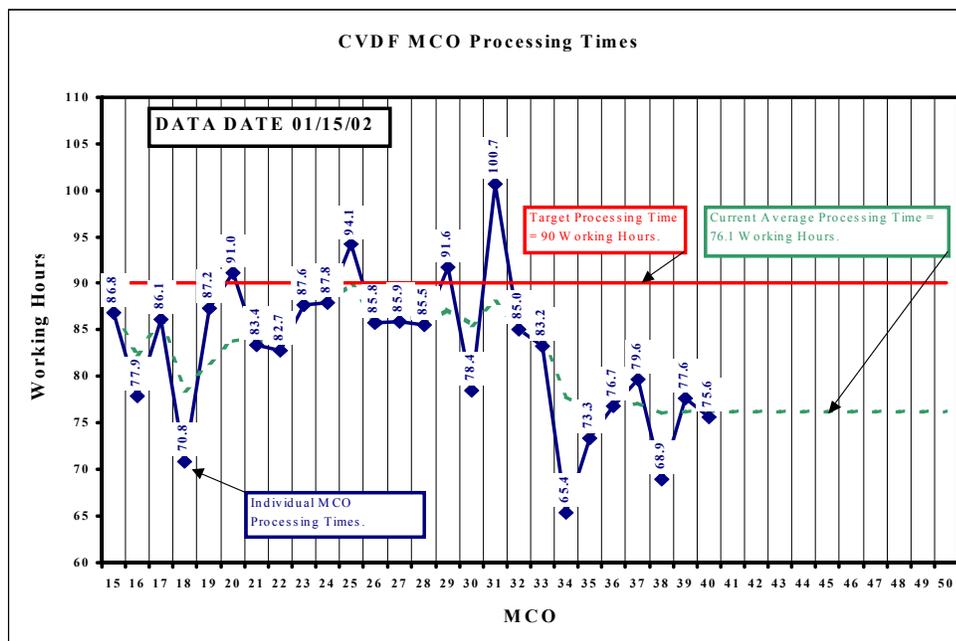
Status: On schedule.



PERFORMANCE OBJECTIVES (CONTINUED)

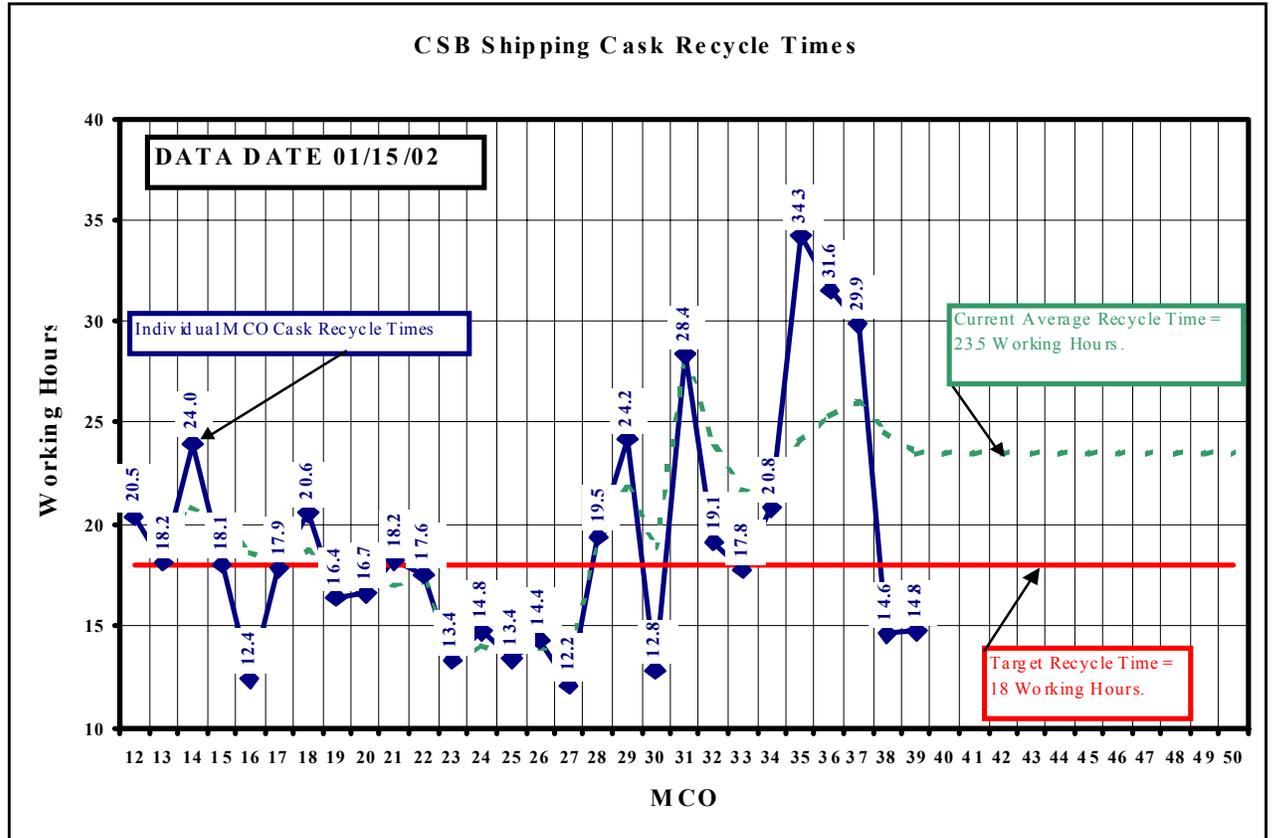


The average fuel production interval for MCOs 35 through 40 was 51.5 working hours, 6.5 working hours over the target production interval of 45 working hours. This higher than expected production interval is primarily driven by the production of fuel for MCO 39, in which the primary clean machine bearings seized, requiring 41.5 working hours to replace. Without this failure, the fuel production average for this period would have been 44.6 working hours.



The current average CVDF MCO Processing Time is 76.1 working hours, 13.9 working hours under the desired target time of 90 working hours.

PERFORMANCE OBJECTIVES (CONTINUED)



CSB stored and reloaded the cask for MCOs 31 through 39 in an average recycle time of 23.5 working hours, 5.5 working hours over the target recycle time of 18 working hours. This higher than expected recycle time is being driven by two transport tractor failures, two Cask Stat-O-Seal failures, two MHM failures, and a cask lid bolt that required repair (dressing). Without these failures, the average recycle time for this period would have been 17.3 working hours.

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

		FYTD									
By PBS		BCWS	BCWP	ACWP	SV	%	CV	%	BAC	EAC	
PBS RS03	SNF Project, 100 K	\$ 24,051	25894	\$ 24,408	\$ 1,843	8%	\$ 1,486	6%	\$ 114,582	\$ 134,061	
WBS 3.2.3.1	Basins										
PBS RS03	Canister Storage Building	\$ 2,632	\$ 2,762	\$ 2,088	\$ 130	5%	\$ 674	24%	\$ 11,000	\$ 7,995	
WBS 3.2.3.2	(to2004)										
PBS RS03	200 Intrim Storage Area	\$ 428	\$ 396	\$ 317	\$ (32)	-7%	\$ 79	20%	\$ 2,935	\$ 3,148	
WBS 3.2.3.3	(to2004)										
PBS RS03	SNF Project Management	\$ 9,638	\$ 9,627	\$ 8,674	\$ (11)	0%	\$ 953	10%	\$ 42,018	\$ 41,362	
WBS 3.2.3.4	and Support										
Total		\$ 36,749	\$ 38,679	\$ 35,487	\$ 1,930	5%	\$ 3,192	8%	\$ 170,536	\$ 186,566	

FY TO DATE SCHEDULE / COST PERFORMANCE

The SNF FYTD favorable schedule variance is primarily driven by making up progress on items that were behind schedule at the close of FY 2001. The favorable cost variance is primarily driven by under runs associated with new hires and under runs in the project direction account. Overall the trend is not expected to continue as SNF continues the 24/7 operations schedule.

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

Schedule Variance Analysis: (+ \$1.9M)

3.2.3.1 100 K Basins (+\$1.8M)

Description /Cause: The favorable 8 percent schedule variance is primarily due to making up progress on items that were behind schedule at the close of FY 2001.

Impact: None to report.

Corrective Action: None required.

Cost Variance Analysis: (+ \$3.2M)

3.2.3.1 100 K Basins (+\$1.5M)

Description/Cause: The favorable 6 percent cost variance is primarily due to under runs associated with new hires for 24/7 operations.

Impact: None to report.

Corrective Action: None required.

3.2.3.2 Canister Storage Building (+\$0.6M)

Description/Cause: The favorable 24 percent cost variance is primarily due to under runs associated with new hires for 24/7 operations.

Impact: None to report.

Corrective Action: None required.

3.2.3.3 200 Interim Storage Area (+\$0.08M)

Description/Cause: The favorable 20 percent cost variance is primarily due to under runs associated with new hires for 24/7 operations.

Impact: None to report.

Corrective Action: None required.

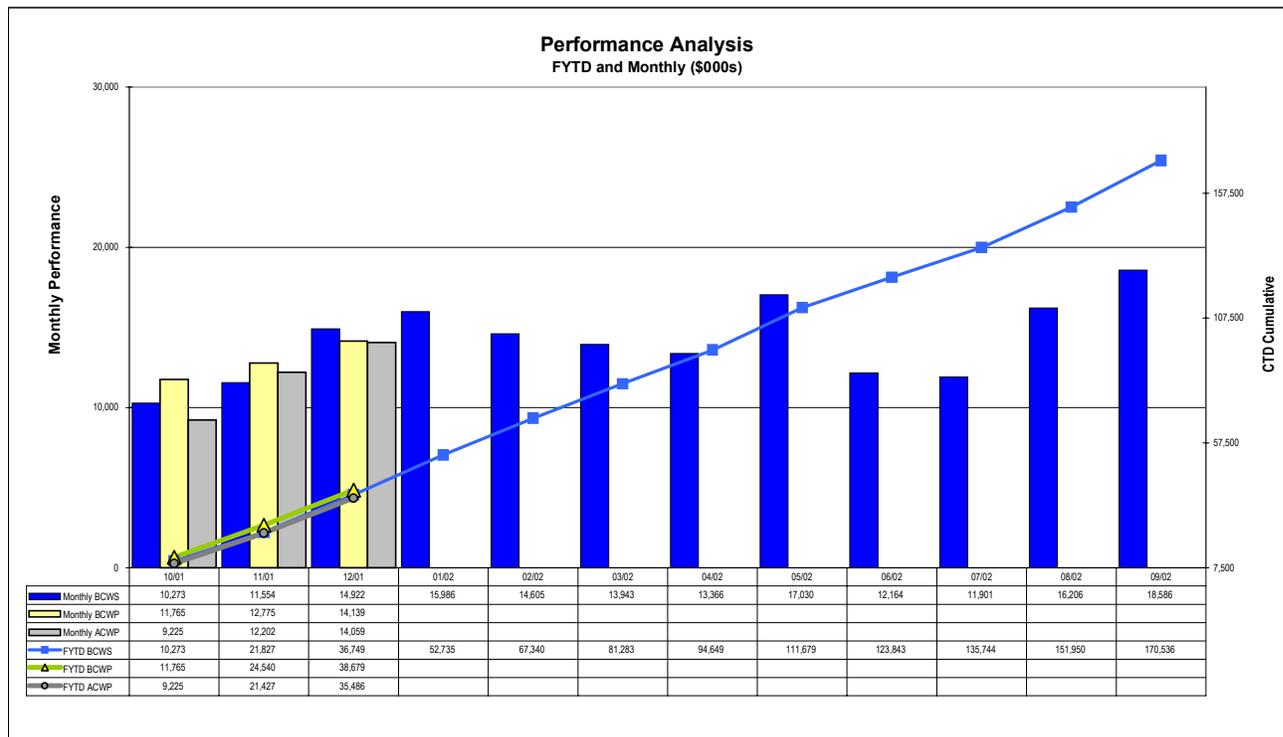
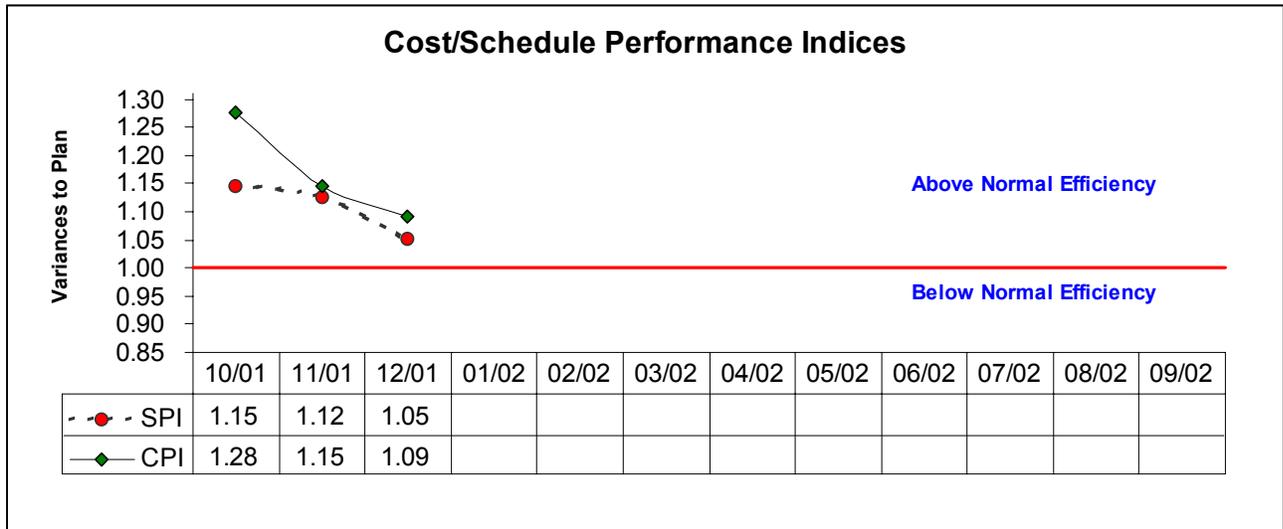
3.2.3.4 SNF Project Management and Support (+\$0.9M)

Description/Cause: The favorable 10 percent cost variance is primarily due to under runs in the project direction account.

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)

	Expected Funds	FYSF	FH Reallocation	Funds Variance (Expected vs. Reallocation)
3.2.3 Spent Nuclear Fuel				
RS03				
Project Completion - Operating	\$ 181,993	\$ 183,567	\$ 177,894	\$ 4,099
Total	\$ 181,993	\$ 183,567	\$ 177,894	\$ 4,099

[Status through December 2001]

NOTE: FH Reallocation reflects an FYSF adjusted for scope deletions, deferrals, and identified savings to address funding shortfalls, additional unplanned scope, and cost increases.

ISSUES

Technical Issues

Issue: Pre-existing conditions and equipment fabrication at KE and KW have held up design and construction at the annexes.

Impact: Potential impact to Milestone M34-29, due March 31, 2002, and project cost.

Corrective Action: Field evaluations and design accommodations complete. Evaluations are being finalized to assess potential impacts to Milestone M34-29. Schedule may be impacted one to two months.

Issue: Nuclear Safety review of SWS

Impact: KE canisters sludge capacity could be reduced by one-half.

Corrective Actions: Plan developed to meet project needs for fabrication of cask, container and transporter, as well as a plan for in-basin design support to be reviewed and agreed-to with client for path forward. Additional project management support is being added from the FH Project Operations Center and Nuclear Safety functions.

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

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

Corrective Action: On Schedule - (1) Prepare Phase I report draft – complete; (2) Complete phase II and initiate work package preparation, spare parts, and staging. Approximately 30 percent of spares identified are in procurement process, and 15 percent of those have been received.

Regulatory, External, and DOE Issues and DOE Requests

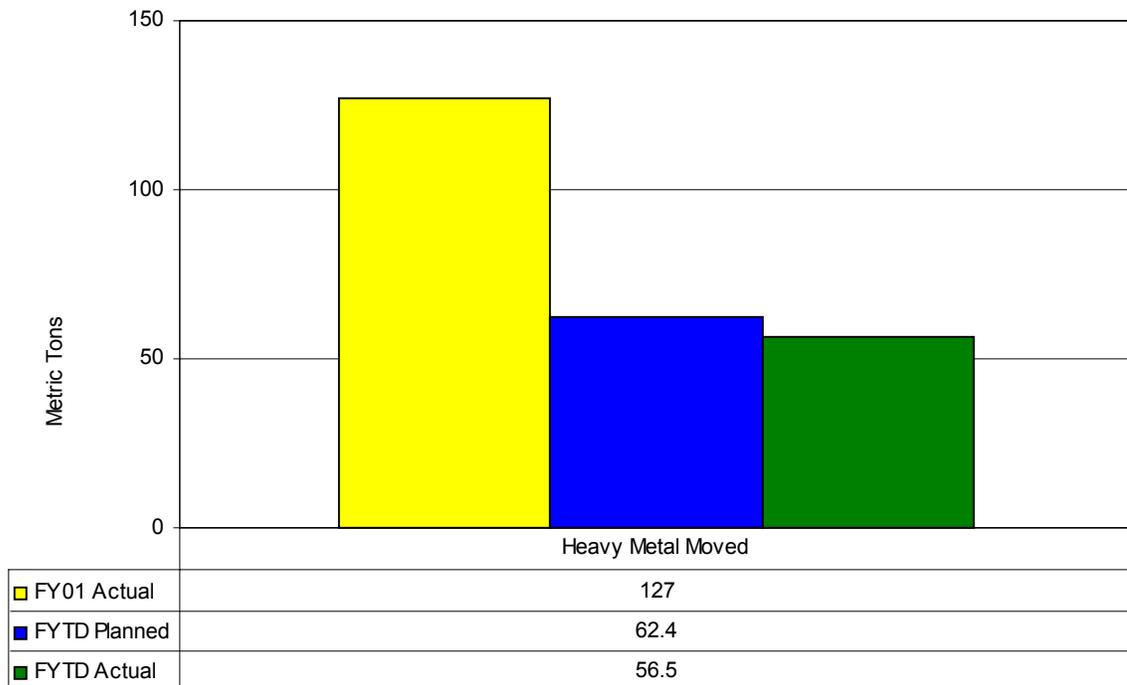
None to report.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

None to report.

HEAVY METAL MOVED

SNF Moved to Dry Storage



Heavy Metal Moved: Within +/- 10% of plan.