



Section D

Spent Nuclear Fuel

PROJECT MANAGERS

P.G. Loscoe, RL
(509) 373-7465

J.H. Wicks Jr., FH
(509) 373-9372

SUMMARY

The Spent Nuclear Fuel (SNF) mission consists of the Spent Nuclear Fuel Project (SNFP) WBS 1.3.1.1 (Project Baseline Summary [PBS] WM01) and the subsequent Canister Storage Building (CSB) Operations Project WBS 1.3.2.1 (PBS WM02), which does not start until FY 2004.

NOTE: Unless otherwise noted, the Safety, Conduct of Operations, Milestone Achievement, and Cost/Schedule data contained herein is as of February 28, 2001. All other information is as of March 26, 2001.

Fiscal year-to-date milestone performance (EA, HQ, and RL) showed that three out of four milestones (75 percent) were completed late and one milestone is overdue.

The Milestone Achievement details, found following the cost and schedule variance analysis, provide further information on all milestone types.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — Six Multi-Canister Overpacks (MCOs) - 127 canisters - have been removed from K West (KW). The seventh MCO is planned to be shipped before the April 1, 2001 maintenance outage. In addition, KW has commenced removal of discarded canister tops from the basin to disposal.

K Basins Construction Projects — The design for the canister cleaning system was completed and the contract for the fabrication was awarded. Construction work continued in the K East (KE) Basin; activities included demolition and verification work in support of the Fuel Retrieval System and Cask Loadout System. Also, the alpha facility general designation was removed, and job specific alpha controls were implemented. In addition, Basin cleanup efforts continued. 106 bags of compactable waste were removed from the basin. A long-standing fuel-handling obstacle was removed with the removal of a deactivated seismic brace from the KE basin.

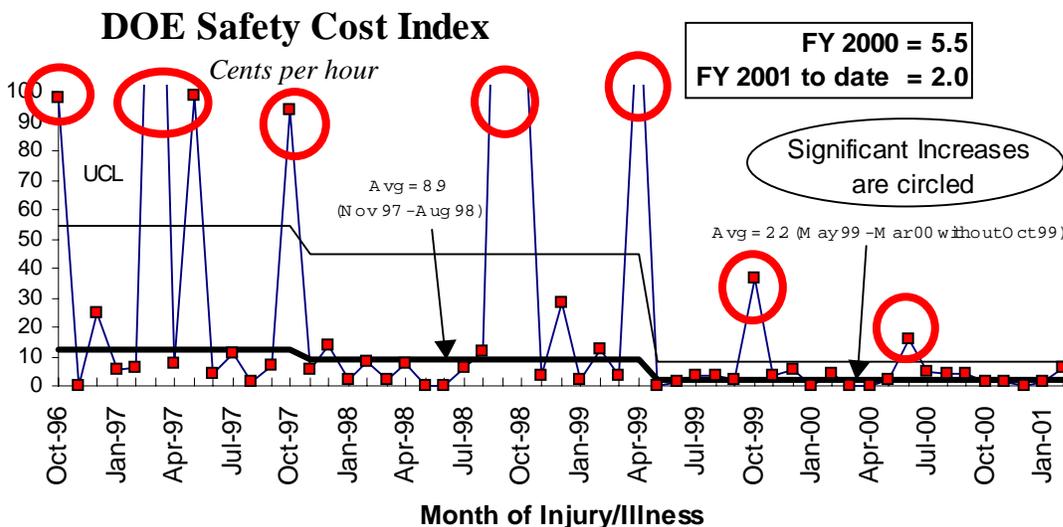
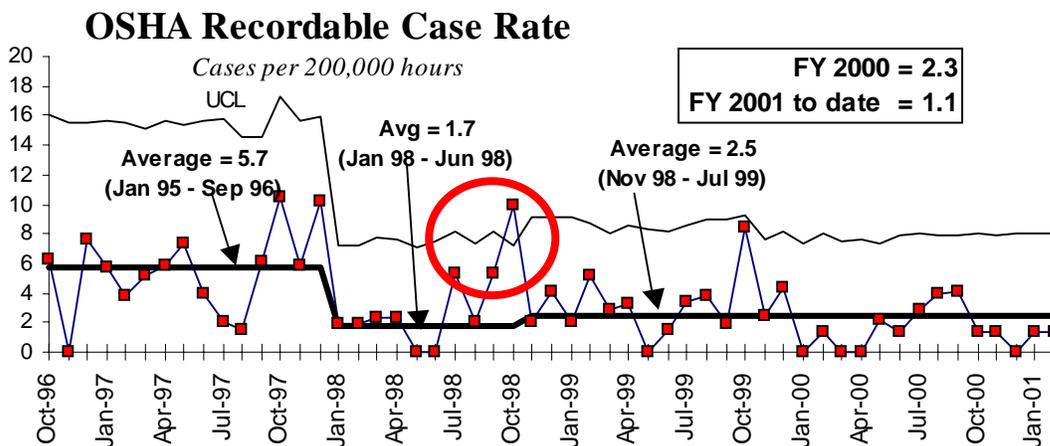
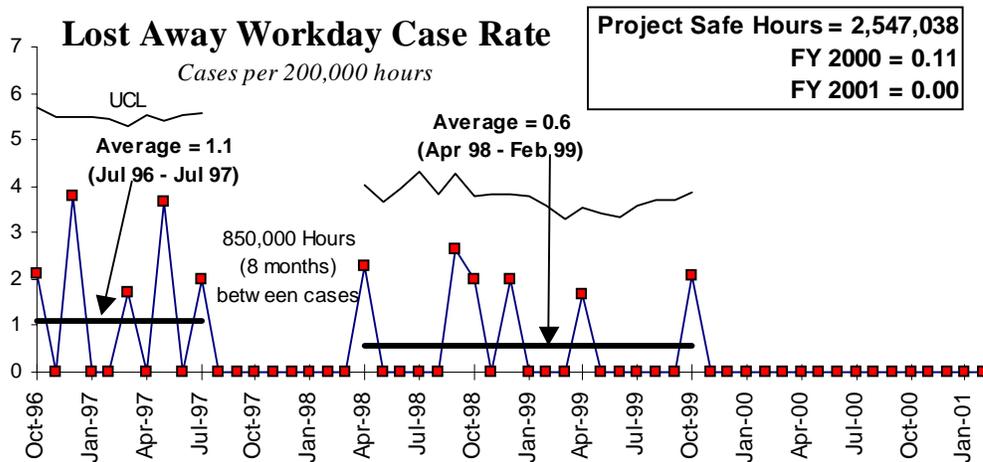
MCO Production Rate Improvement Activities — Funding was identified for upgrades to KW to increase production activities. Project delivery work commenced to procure and install process improvements into KW Basin. Installation of the manual fuel handling tables is scheduled to occur during the July maintenance outage.

Consolidation of site-wide SNF at 200 Area — Significant progress was made towards fuel removal from T-Plant with the receipt of the Shippingport (PA) Drying/Inerting System from HiLine Engineering and Fabrication, Inc. This Drying/ Inerting System will condition the Shippingport fuel at T-Plant to satisfy interim storage requirements at the Canister Storage Building (CSB). Additionally, other startup preparations continued on schedule, including canister fabrication at Joseph Oat Corp., CSB Authorization Basis implementation, and the development of CSB operating documents for Shippingport fuel receipt and storage.

Comprehensive Plan — The Comprehensive Plan and associated Baseline Change Request (BCR) was submitted to RL. Formal approval of the BCR to start work on new baseline is pending.

SAFETY

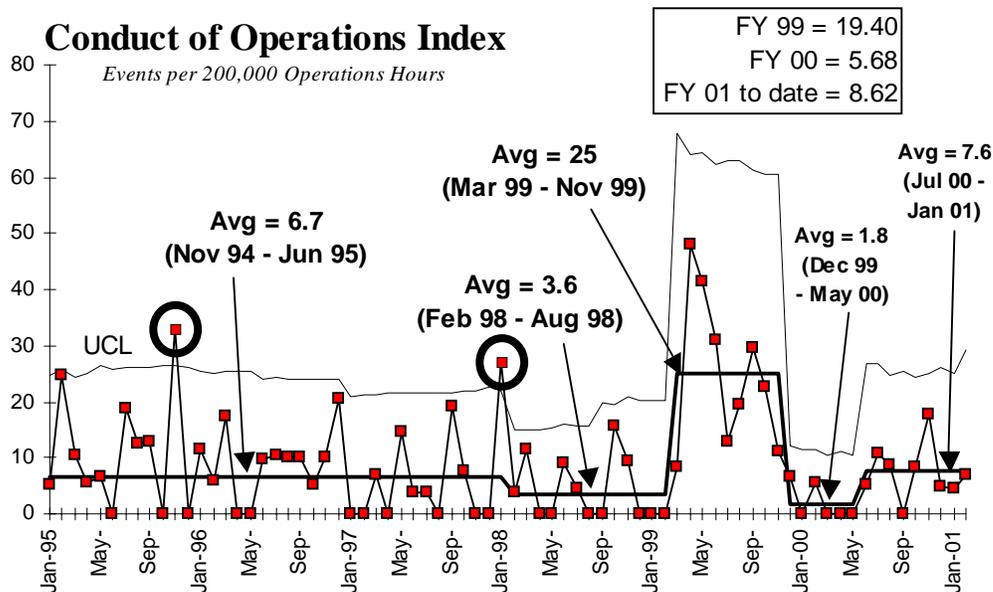
The Project has achieved over 2.5 million safe work hours. No Lost Away Workday Cases have been reported in eighteen months. SNF's OSHA recordable case rate for FY 2001 continues to be favorable, and at 1.1, is approaching the FH goal of 0.9.



ISMS STATUS

Removal of a seismic beam from the KE basin was a significant challenge that was accomplished successfully using Enhanced Worker Planning and ISMS principles. A post-job critique and ALARA review are in progress.

CONDUCT OF OPERATIONS



Recent occurrences are results of problems with procedures and equipment as SNF continues to streamline the process, and through the introduction of new operators into the process during hands on training. While discouraging, we are uncovering many of the pitfalls of this unique process now while production rates are low enough to develop elaborate recovery plans, fixes to software, equipment, procedures and conduct of operation attitudes. The lessons learned now will pay big dividends when delays at full production will be extremely disruptive to the closely linked process.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Green

Alternate Fuel Transfer Strategy (AFTS) — The AFTS will move fuel from the KE Basin to the KW Basin for processing in lieu of processing fuel in the KE Basin as currently baselined. A Comprehensive Plan and Baseline Change Request (BCR) encompassing all MCO production rate improvements were submitted in February 2001. Briefings of principle stakeholders are in progress as part of the BCR approval process. Briefings for DOE-HQ and Assistant Secretary for Environmental Management (EM-1) Carolyn Huntoon were conducted the week of March 12, 2001.

Opportunities for Improvement

Green

MCO Production Rate Improvements – The project effort to install additional fuel handling tables in KW is in progress. Installation of the tables is scheduled for the July maintenance outage.

SNF Accelerated Closure Team (ACT) – The ACT is evaluating improvements and breakthroughs to further reduce fuel removal processing times and accelerate the completion of the project. Potential breakthroughs considered to significantly reduce MCO drying time include reduction in Cold Vacuum Drying (CVD) process time and an alternative air drying process. The drying time drivers are the safety requirements to store the MCOs at the CSB in a sealed condition versus a vented condition.

UPCOMING ACTIVITIES

- Continue MCO shipments through FY 2001.
- Conduct first maintenance outage of the fuel processing system the first week of April.
- Complete definitive design for KE Integrated Water Treatment System (IWTS)/Sludge loadout system by April 2001.
- Receive first Shippingport Spent Fuel Canister in April 2001.
- Submit Annual Debris Report to Washington State Department of Ecology (Ecology) and Environmental Protection Agency (EPA) in May 2001. (This report is being considered for deletion as part of ongoing Tri-Party Agreement negotiations.)
- Initiate KW Basin spent nuclear fuel canister cleaning operations August 2001.

MILESTONE ACHIEVEMENT

Green

M I L E S T O N E T Y P E	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			T O T A L F Y 2 0 0 1
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	0	0	1	0	0	0	0	1
DOE-HQ	0	0	0	0	0	0	0	0
RL	0	0	2	1	0	1	0	4
Total Project	0	0	3	1	0	1	0	5

Only TPA/EA milestones and all FY2001 overdue and forecast late milestones are addressed in this report. Milestones overdue are deleted from the Milestone Exception Report once they are completed. The following chart summarizes the FY2001 TPA/EA milestone achievement and a Milestone Exception Report follows. The last milestone table summarizes the first six months of FY 2002 TPA/EA milestones.

FY 2001 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-16 (S00-01-900)	"Initiate Removal of K West Basin Spent Nuclear Fuel"	Due 11/30/00 – Completed on December 7, 2000. 
M-34-06-T01 (S04-99-521)	"Initiate K West Basin Spent Nuclear Fuel Canister Cleaning Operations"	Due 12/31/00 – Overdue. Forecast start, August 31, 2001. 
M-34-05-T01 (S04-01-515)	"Submit DOE Approved Report Debris to Ecology/EPA"	Due 05/31/2001 – On schedule. 

DNFSB Commitments

Nothing to report at this time.

MILESTONE EXCEPTION REPORT

<u>Number/WBS</u>	<u>Level</u>	<u>Milestone Title</u>	<u>Baseline Date</u>	<u>Forecast Date</u>
-------------------	--------------	------------------------	----------------------	----------------------

Overdue – 1

S04-99-521	RL	Start K West Canister Cleaning Operations	12/31/00	8/31/01
1.3.1				

Cause: Suspended design last summer to simplify system and reduce costs. SNF Project made a project management decision to defer work to FY 2001 and focus on near-term critical path items.

Impact: No impact to any other SNF Project baseline schedule activities or TPA/DNFSB milestones.

Corrective Action: Currently in design and on schedule; to be started by August 31, 2001.

Forecast Late – 0

FY 2002 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-12 (S04-97-621)	"Complete Construction of K East Basin Integrated Water Treatment System (IWTS) to Support Spent Nuclear Fuel Removal"	Due 03/31/2002 On Schedule
M-34-13B-T01 (S04-98-356)	"Complete Construction & Installation of K East Basin Spent Nuclear Fuel Retrieval System (FRS)"	Due 03/31/2002 On Schedule
M-34-14B-T01 (S06-97-012)	"Complete KE Basin Cask Facility Mods"	Due 02/28/2002 On Schedule

DNFSB Commitments

	Nothing to report at this time.	
--	---------------------------------	--

PERFORMANCE OBJECTIVES

Outcome	Performance Indicator	Status
---------	-----------------------	--------

Restore the River Corridor for Multiple Uses

MOVE FUEL AWAY FROM THE RIVER

Transfer K-Basin Facility to River Corridor Contractor

Base: Remove spent fuel by 07/31/04, sludge by 08/31/04, canister and racks from the basins by 01/31/05, and water from the basins by 08/31/06.

Expectation 1: Complete removal of spent fuel from K-Basins by 07/31/04. (M-34-18A & M-34-18B)

Expectation 2: Consolidate site wide non-production reactor fuel in 200 Area dry storage by 02/28/05.

Expectation 3: Complete removal or capture of sludge from K-Basins. Removed sludge shall be placed into T-Plant by 08/31/04. (M-34-10).

Expectation 4: Complete water removal from the K-Basins and transfer it to the 200 Area Liquid Effluent Retention Facility (LERF) by 08/31/06. (M-34-24)

Expectation 5: Remove racks and canisters from K-Basins by 01/31/05. (M-34-09-T01)

Expectation 6: Complete Transition Activities for CVD and other Facilities by 09/30/06.

Stretch: Complete water removal by 04/30/06, and transfer to River Corridor contractor by 09/30/06.

Expectation 7: Remove fuel, sludge, water, and debris removal and transfer K-Basins to the River Corridor Contractor by

Expectation 8: Remove racks and canisters from K-Basins by 01/31/05. (M-34-09-T01)

Superstretch: Complete all fuel, sludge, water, and debris removal and transfer the K-Basins to the River Corridor contractor by 09/30/05.

Expectation 9: Accelerate Expectation No. 7 – Complete fuel, sludge, water, and debris removal and transfer the K-Basins to River Corridor contractor by 09/30/05.

Move Fuel Away from the River

Expectation: Remove spent fuel from K Basins

Expectation: Remove spent fuel from K Basins

Move first MCO of SNF from KW Basin and transport to the CVDF for processing by December 7, 2000. (TPA M34-16)

Completed on schedule.

Move 116 Metric Tons Heavy Metal from K West Basin by end of FY 2001.

Status: On schedule.

FY 2001 COST/SCHEDULE PERFORMANCE – ALL FUND TYPES CUMULATIVE TO DATE STATUS – (\$000)

Yellow

		FYTD									
By PBS		BCWS	BCWP	ACWP	SV	%	CV	%	PEM*	EAC	
PBS WM01 Spent Nuclear											
WBS 1.3 Fuel Project		\$ 61,282	\$ 55,619	\$ 70,907	\$ (5,663)	-9%	\$ (15,288)	-27%	\$ 191,715	\$ 187,860	
Total		\$ 61,282	\$ 55,619	\$ 70,907	\$ (5,663)	-9%	\$ (15,288)	-27%	\$ 191,715	\$ 187,860	

Authorized baseline as per the Integrated Planning Accountability, and Budget System (IPABS) – Project Execution Module (PEM).
Note: Above data includes RL contract for Steam.

FY TO DATE SCHEDULE / COST PERFORMANCE

The unfavorable schedule variance of \$5.7 million (9 percent) was due to delays in K East Basin Construction Project. FH developed an Alternate Fuel Transfer Strategy (AFTS) that required TPA milestone changes. The TPA changes have been approved and submitted to FH on April 2. The AFTS essentially eliminates the K East Basins construction scope associated with the schedule variance.

The unfavorable cost variance of \$15.3 million (27 percent) was due to additional facility start up and engineering required to resolve first-of-a-kind equipment issues at K Basins and the Cold Vacuum Drying Facility and subsequent extension of the Operational Readiness Review process. A staff demobilization plan has been implemented to bring costs in line with the baseline.

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.

FYTD, SNFP is behind schedule and over cost. Aggressive actions are in progress to mitigate the overruns.

Schedule Variance Analysis: (-\$5.7M)

Spent Nuclear Fuel Project — 1.3.1/WM01

Description /Cause: The unfavorable schedule variance is due to delays in KE Construction Project activities. The recently approved AFTS eliminates the KE construction scope associated with the schedule variance.

Impact: None.

Corrective Action: Incorporate the AFTS into the SNF baseline.

Cost Variance Analysis: (-\$15.3M)

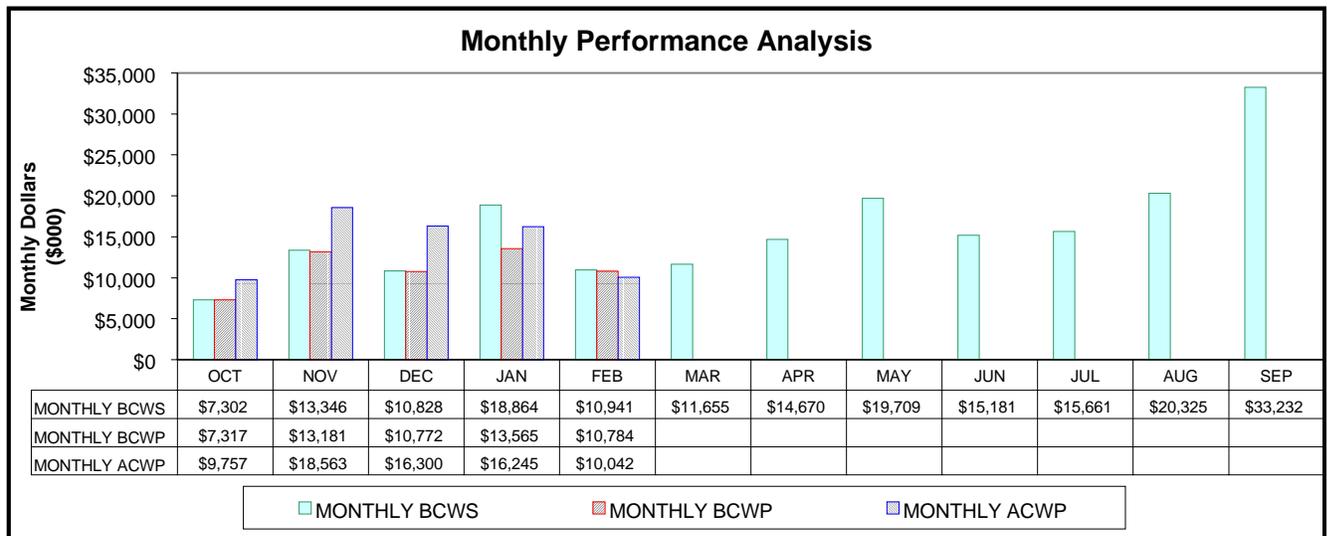
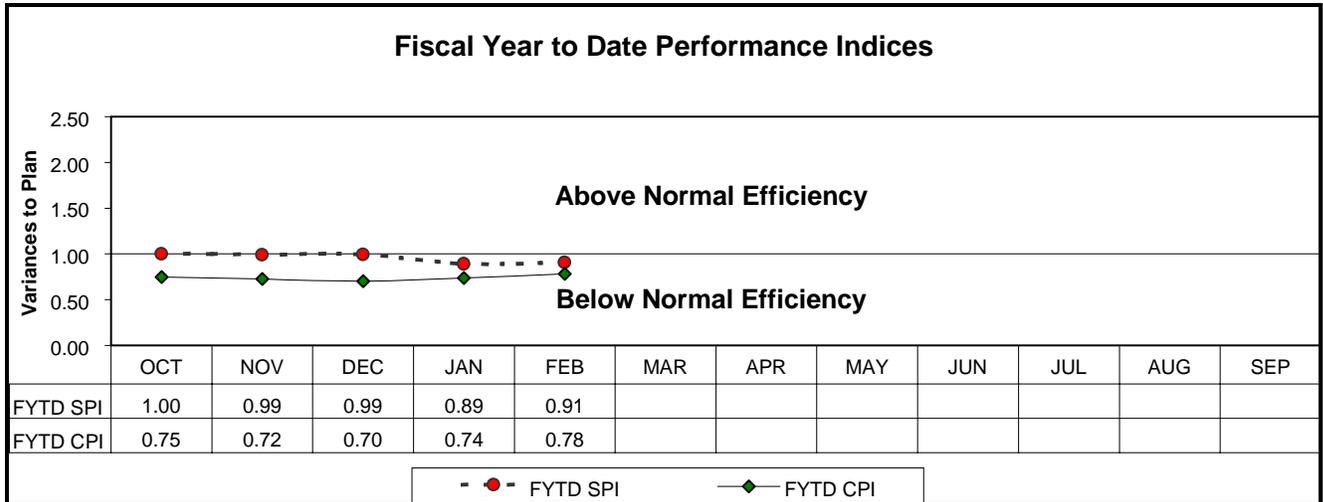
Spent Nuclear Fuel Project — 1.3.1/WM01

Description/Cause: The unfavorable cost variance was due to additional startup and engineering required to resolve kind equipment issues at the K Basins and CVD facility, and subsequent extension of the Operational Readiness Review process.

Impact: Costs will exceed plan without taking corrective action (see below).

Corrective Action: A staff plan has been developed which is reducing the number of staff augmentation contractors, adjusting the skill mix of the exempt staff, and hiring bargaining unit staff to support production goals within the baseline.

COST/SCHEDULE PERFORMANCE (MONTHLY AND FYTD)



FUNDS MANAGEMENT FUNDS VS SPENDING FORECAST (\$000) FY 2001 TO DATE

	Project Completion *			Post 2006 *			Line Items *		
	Funds	FYSF	Variance	Funds	FYSF	Variance	Funds	FYSF	Variance
The River									
1.3 Spent Nuclear Fuel WM01 Operating Line Item	\$ 188,071	\$ 187,860	\$ 211				\$ 16	\$ 16	\$ -
Total Spent Nuclear Fuel Operating	\$ 188,071	\$ 187,860	\$ 211						
Total Spent Nuclear Fuel Line Item							\$ 16	\$ 16	\$ -

* Control Point

SNF is carefully monitoring spending levels to keep within approved funding.

ISSUES

TECHNICAL ISSUES, REGULATORY ISSUES, AND External and DOE Issues and DOE Requests

Issue: Nothing to report at this time.

Impacts: None.

Corrective Action: None at this time.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS (\$000)

PROJECT CHANGE NUMBER	DATE ORIGIN.	BCR TITLE	FY01 COST IMPACT \$000	SCH	TECH	DATE TO FH CCB	CCB APR'VD	RL APR'VD	CURRENT STATUS
SNF-2001-004	11/14/2000	WM02/CP02 Revision Planning Basis - Continuing CSB Operations	N	Y	N	01/03/2001	01/03/2001		Awaiting RL approval.
SNF-2001-010	01/15/2001	FY01 Base Ops Reduction Budget Reconciliation	-3855	N	N	01/26/2001	02/09/2001		Awaiting RL approval
SNF-2001-012	02/09/2001	Fuel/Sludge Processing Improvements	N	Y	Y	02/21/2001	02/21/2001		In DOE HQ review

ADVANCE WORK AUTHORIZATIONS									
None									

KEY INTEGRATION ACTIVITIES

- SNF final disposition interface activities are ongoing with the National SNF Program, including Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Program implementation.
- The SNF Project and Waste Management Project continued preparations for Shippingport (PA) Pressurized Water Reactor Core 2 SNF removal.
- The SNF Project and the River Corridor Project interfaced on contracting strategies and records management for 324 Building (B Cell) SNF removal.
- Neutron Radiography Facility Training Research and Isotope Production General Atomics (TRIGA) and Fast Flux Test Facility (FFTF) SNF relocation planning is ongoing with the FFTF Project.
- The SNF Project, FFTF Project, and PFP Project interfaced to define a strategy for management of slightly irradiated fuel from FFTF.
- Bechtel Hanford, Inc. (BHI) provided funding to initiate activities for potential receipt of SNF discovered during upcoming 105F and 105H reactor basins deactivation at K Basins. The F/H Reactor fuel transfer plan was approved by the SNF Project.
- The Sludge Handling Project and T Plant Operations continued preparations for K Basin sludge storage at T Plant. Coordination with T Plant deck clean off, cell clean out, and facility upgrades to support the Shippingport Pressurized Water Reactor Core 2 SNF removal have key interfaces with Sludge Handling activities.