



Section D

Spent Nuclear Fuel

PROJECT MANAGERS

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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 November 30, 2000. All other information is as of December 21, 2000.

Fiscal year-to-date milestone performance (EA, HQ, and RL) shows that three out of five milestones were completed late and one out of five milestones is forecasted late.

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

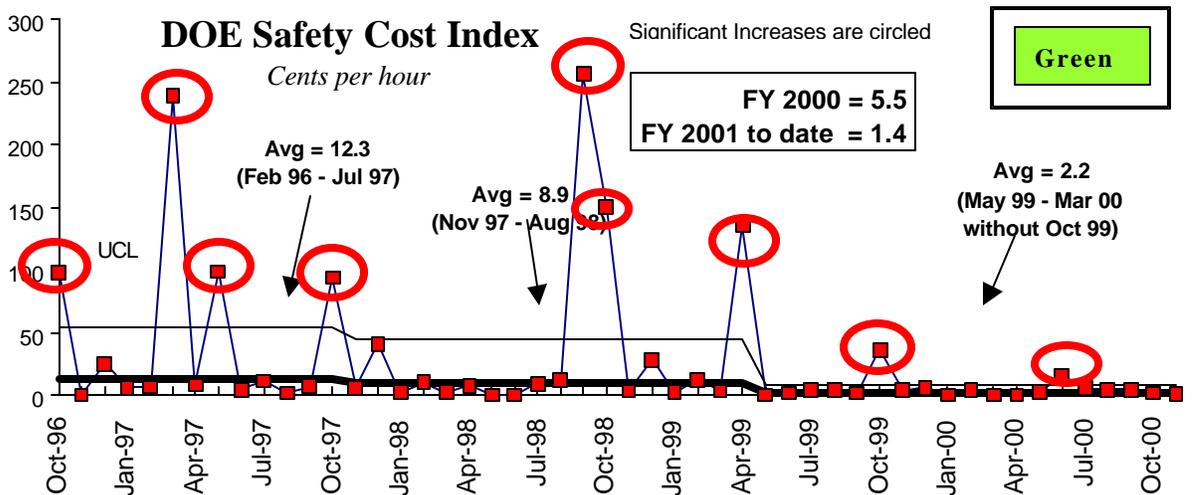
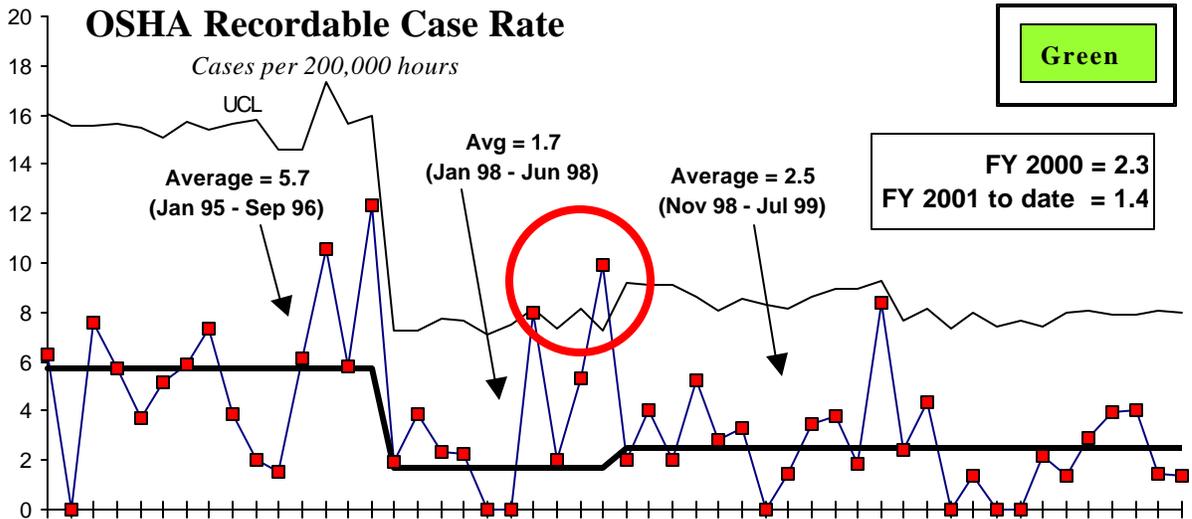
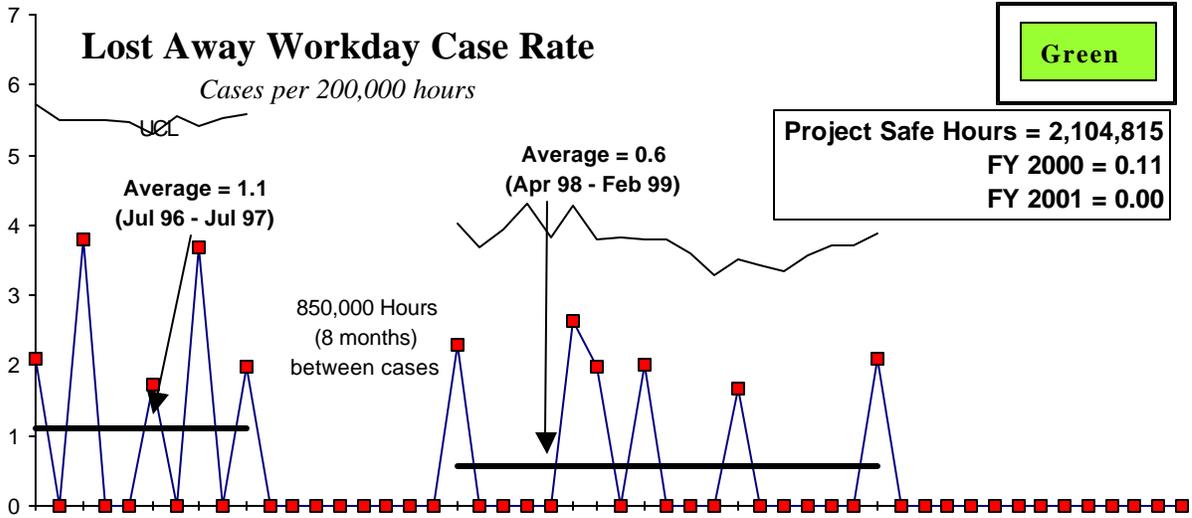
ACCOMPLISHMENTS

- Successfully completed DOE Operational Readiness Review (ORR) for the Cold Vacuum Drying (CVD) Facility on December 3, 2000. Completed loading of the first production multi-canister overpack (MCO). The MCO contains six fuel baskets with a total of 288 fuel elements. The loading of the MCO performed underwater in the K West Basin in anticipation of removal and transport to the CVD Facility. Completed Phased Startup Initiative (PSI) Phase 3 testing and commenced PSI Phase 4/Process Validation.
- The first shipment of irradiated uranium fuel assemblies was successfully moved from the K West (KW) Basin to the CVD Facility on December 7, 2000. Following a successful drying cycle at the CVD Facility, the MCO was transported to the CSB on December 18, 2000, where it entered long-term safe storage in a carbon steel tube in a below-ground vault. This initiated a Tri-Party Agreement commitment to remove approximately 2,300 tons of spent nuclear fuel from the River Corridor, and subsequently place it in safe long-term storage on the Central Plateau.

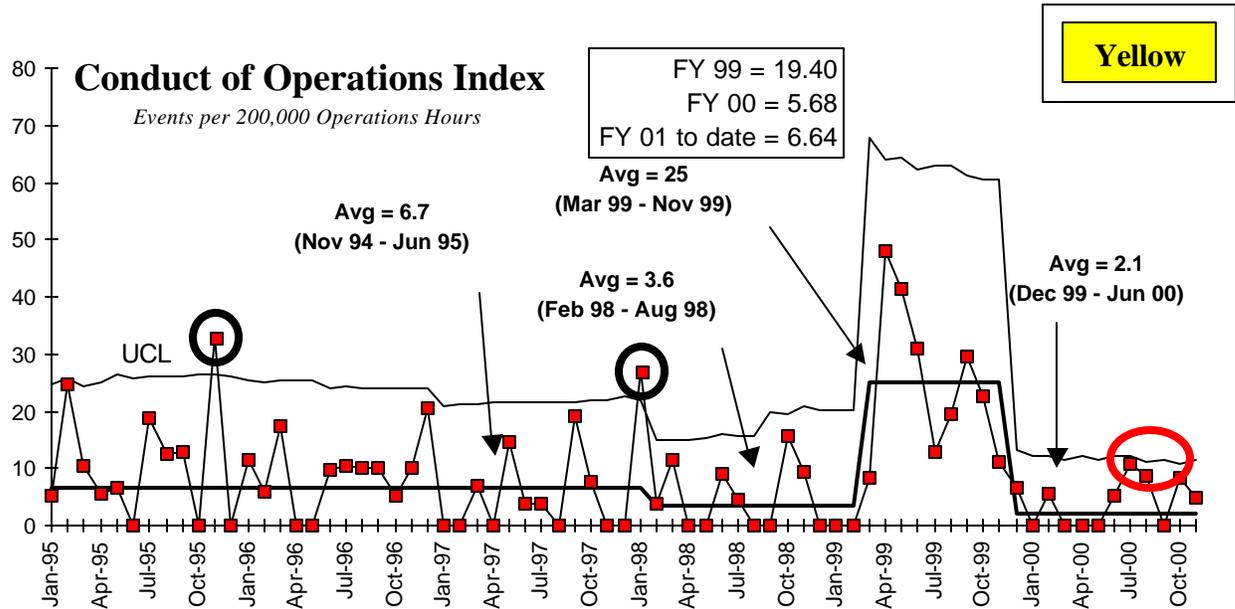
SAFETY

The project achieved over 2,000,000 safe work hours on November 15, 2000. No Lost Away Workday Cases have been reported in the last thirteen months.

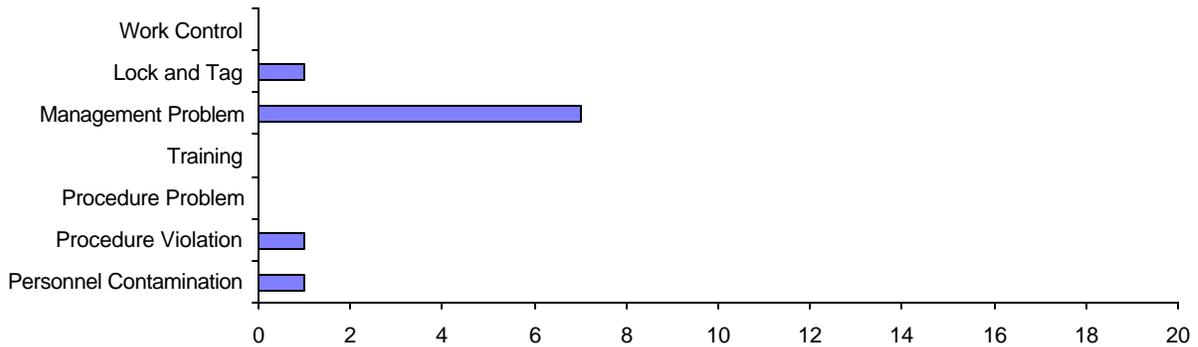
The SNFP Occupational Safety and Health Administration (OSHA) Recordable Case Rate had shown signs of improvement, but has returned to the baseline of 2.5 cases per 200,000 hours. There has been a significant improvement in Lost/Restricted workday case rate.



CONDUCT OF OPERATIONS / ISMS STATUS



Number of Reports Past 12 Months



The increase in the number of events for FY 2000 is indicative of the SNF Project transition from construction and testing to operations. During the period, the project completed two new nuclear facilities and refurbished one existing facility. All three of these nuclear facilities were thoroughly tested and went through several Operational Readiness Reviews prior to the commencement of operations. As a result of the knowledge gained during the transition to operations, many actions have been taken and are in progress to improve and monitor the conduct of operations at all four SNF Project facilities as the project safely moves into a more focused and efficient operation.

ISMS STATUS

- The ISMS workshop held December 5-6, 2000 was supported by the SNF Project through presentations by senior management and attendance by Project personnel.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

- Alternate Fuel Transfer Strategy (AFTS) – The AFTS will move fuel from the K East (KE) Basin to the K West (KW) Basin for processing in lieu of processing fuel in the KE Basin as currently baselined. This strategy will greatly reduce worker radiation exposure, safety risks, and increase the confidence level that the life cycle cost and schedule objectives can be achieved.
 - A Baseline Change Request was submitted to RL on November 29, 2000, for the AFTS.

Opportunities for Improvement

- Multi-Canister Overpack (MCO) Production Rate Improvements – The Spent Nuclear Fuel Project is currently analyzing the reduction of fuel processing, loading, and drying times in an effort to meet and improve the baseline schedule for MCO processing.

UPCOMING ACTIVITIES

- Complete Tri-Party Agreement Milestone M-34-06-T01, “Initiate K West Basin Spent Nuclear Fuel Canister Cleaning Operations,” originally due December 31, 2000. Change request to extend target completion date submitted, but subsequently denied by the Environmental Protection Agency (EPA); new forecast date for completion of the milestone is August 31, 2001.
- Complete definitive design for K East Integrated Water Treatment System (IWTS)/Sludge loadout system by April 2001.
- Continue receipt of MCO shipments through FY 2001.
- Submit Annual Debris Report to Washington State Department of Ecology/EPA in May 2001.
- Initiate K West (KW) Basin spent nuclear fuel canister cleaning operations August 2001.

FY TO DATE COST PERFORMANCE (\$M):

	BCWP	ACWP	VARIANCE
Spent Nuclear Fuel	\$20.5	\$28.3	- \$7.8

The unfavorable cost variance of \$7.8 million (38 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 will be implemented to bring costs in line with the baseline.

FY TO DATE SCHEDULE PERFORMANCE (\$M):

	BCWP	BCWS	VARIANCE
Spent Nuclear Fuel	\$20.5	\$20.6	- \$0.1

Schedule variance was within approved threshold.

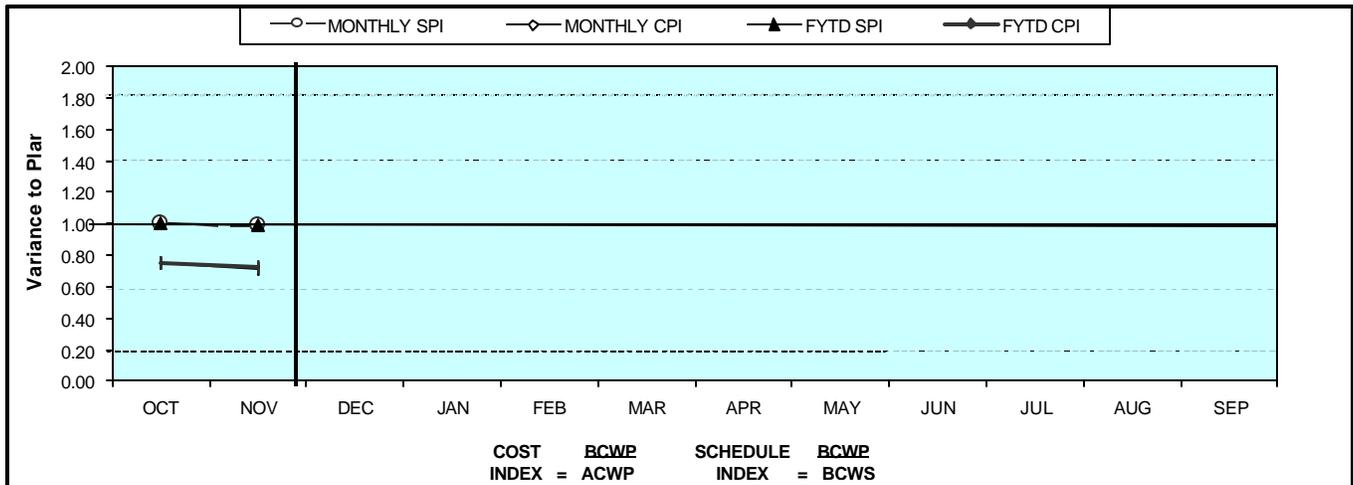
FY 2001 COST/SCHEDULE PERFORMANCE – ALL FUND TYPES
CUMULATIVE TO DATE STATUS – (\$000)

By PBS	FYTD							
	BCWS	BCWP	ACWP	SV	%	CV	%	PEM
PBS WM01 Spent Nuclear WBS 1.3 Fuel Project	\$ 20,648	\$ 20,498	\$ 28,320	\$ (150)	-1%	\$ (7,821)	-38%	\$ 189,761
Total	\$ 20,648	\$ 20,498	\$ 28,320	\$ (150)	-1%	\$ (7,821)	-38%	\$ 189,761

Note: RL-Directed costs (steam and laundry) are included in the PEM BCWS.

COST/SCHEDULE PERFORMANCE INDICES
(MONTHLY AND FYTD)

Yellow



FY 2001	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MONTHLY SPI	1.00	0.99										
MONTHLY CPI	0.75	0.71										
FYTD SPI	1.00	0.99										
FYTD CPI	0.75	0.72										
MONTHLY BCWS	\$7,302	\$13,346	\$10,344	\$17,887	\$12,666	\$13,324	\$14,367	\$18,685	\$14,416	\$14,897	\$19,319	\$33,208
MONTHLY BCWP	\$7,317	\$13,181										
MONTHLY ACWP	\$9,757	\$18,563										
FYTD BCWS	\$7,302	\$20,648	\$30,992	\$48,879	\$61,545	\$74,868	\$89,236	\$107,921	\$122,337	\$137,234	\$156,553	\$189,761
FYTD BCWP	\$7,317	\$20,498										
FYTD ACWP	\$9,757	\$28,320										

COST VARIANCE ANALYSIS: (-\$7.8M)

WBS/PBS

Title

1.3.1/WM01

Spent Nuclear Fuel Project

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

Impact: Variance impact requires corrective action below.

Corrective Action: A staff demobilization plan has been developed to bring costs in line with the baseline. The demobilization plan will be initiated following the start of fuel movement.

SCHEDULE VARIANCE ANALYSIS: (-\$0.1M)

WBS/PBS

Title

1.3.1/ WM01

Spent Nuclear Fuel Project

Description /Cause: None.

Impact: None.

Corrective Action: None.

ISSUES

Technical Issues

There is nothing to report at this time.

DOE/Regulator/External Issues

- **CSB Operations** — The Washington State Department of Health (WDOH) agreed to interim operating conditions that will allow the CSB to receive spent nuclear fuel prior to replacement of two backdraft dampers on the main ventilation exhaust system that do not meet the American Society of Mechanical Engineers (ASME) N509 code. WDOH also agreed to a number of deviations with stipulated conditions from the N509 code for operation of the CSB.
- **KW Basin Canister Cleaning System** — The EPA disapproved the request to extend the Tri-Party Agreement target date for the KW Basin canister cleaning system. The target date of December 31, 2000, will be missed, but the canister cleaning system *will* be operational by August 31, 2001, without impact to operations or other Tri-Party Agreement milestones.
- **Milestone Status** — The Tri-Party Agreement milestone M-34-16, "Initiate Removal of K West Basin Spent Nuclear Fuel" was not met. The due date was November 30, 2000; the first fuel was removed from the KW Basin on December 7, 2000. The EPA intends to use its enforcement discretion on this issue.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS (\$000)

PROJECT CHANGE NUMBER	DATE ORIGIN.	BCR TITLE	COST IMPACT \$000	S	C	H	T	E	H	DATE TO CCB	CCB APR'VD	RL APR'VD	CURRENT STATUS
FH-2001-002	09/25/2000	FY2001 Fee Reduction to 90%	-\$1,030	Y	N								At DOE-RL
SNF-2001-002	10/26/2000	MCO Production Rate Changes	N	N	Y								In preparation
SNF-2001-003	11/13/2000	Based on Actual Test Results SNF Alternate Fuel Transfer Strategy	N	Y	Y								In review at DOE
SNF-2001-004	11/14/2000	WM02/CP02 Revision Planning Basis - Continuing CSB Operations	N	Y	N								In review
SNF-2001-005	11/20/2000	KW Canister Cleaning Design and Schedule Change	TBD	Y	Y								In preparation
SNF-2001-006	11/20/2000	Sludge Co-mingling and Water Integration Systems	N	Y	Y								In preparation
SNF-2001-007	12/01/2000	FY01 Budget Reconciliation to Funding Limitations	-871	Y	Y								In preparation

MILESTONE ACHIEVEMENT

MILESTONE TYPE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			Total FY 2001
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	0	0	0	0	0	0	0	0
DOE-HQ	0	0	1	0	0	0	0	1
RL	0	0	2	0	0	1	1	4
Total Project	0	0	3	0	0	1	1	5

Only TPA/EA milestones and all FY 2001 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 FY 2001 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 one week late.
M-34-06-T01 (S04-99-521)	"Initiate K West Basin Spent Nuclear Fuel Canister Cleaning Operations"	Due 12/31/00 – Forecast late, August 31, 2001. Yellow
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.
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MILESTONE EXCEPTION REPORT

<u>Number/WBS</u>	<u>Level</u>	<u>Milestone Title</u>	<u>Baseline Date</u>	<u>Forecast Date</u>
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FORECAST LATE - 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 8/31/01.

FY 2002 Tri-Party Agreement / EA Milestones

Number	Milestone Title	Status
M-34-12 (S04-97-621)	"Complete Construction of KE Basin Integrated Water Treatment System (IWTS)" Due 03/31/2002	On Schedule
M-34-13B-T01 (S04-98-356)	"Complete Construction & Installation of KE Basin 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

Green

Move Fuel Away from the River

Expectation: Remove spent fuel from K Basins

Move first MCO of spent nuclear fuel from KW Basin and transport to the CVD Facility for processing by November 30, 2000 (TPA M-34-16).

Status: Completed one week late.

Continue removal of spent nuclear fuel from K Basins (Complete by July 31, 2004).

Status: On schedule.

KEY INTEGRATION ACTIVITIES

Spent Nuclear Fuel (SNF) final disposition interface activities, including Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Program implementation, are ongoing with the National SNF Program.

The SNF Project and Waste Management Project continued preparations for K Basins' sludge removal and Shippingport (PA) Pressurized Water Reactor Core 2 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.