



Section C:1

Nuclear Material Stabilization

PROJECT MANAGERS

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SUMMARY

The Nuclear Material Stabilization (NMS) mission consists of the Plutonium Finishing Plant (PFP), WBS 1.4.5 (PBS TP05).

NOTE: Unless otherwise noted, the Safety, Conduct of Operations, Milestone Achievement, and Cost/Schedule data contained herein is as of January 31, 2001. All other information is as of February 26, 2001 unless otherwise stated.

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that one milestone (100 percent) was completed ahead of schedule. Although eight additional milestones are scheduled for completion later this fiscal year, no milestones were scheduled for completion during this report period. Further details can be found in the milestone exception report following the cost and schedule variance analysis.

NOTABLE ACCOMPLISHMENTS

Maintain Safe & Secure SNM

Packaging of disposable uranium (~50kgs.) was initiated for a March shipment to the Central Waste Complex. Modification to procedure ZO-200-055, allowing in place temperature measurement of loaded Bagless Transfer can containers, has resulted in decreasing employee exposure and shortened inventory time of BTC containers. International Atomic Energy Agency monthly AD-HOC inspections and semiannual domestic inventory for DOE-RL were completed with no findings.

Maintain Safe and Compliant PFP

Eleven of twelve backflow preventers have been installed and tested. This milestone activity remains significantly ahead of schedule to the June 2001 RL completion date. The Preventive Maintenance Overdue Backlog currently is at its lowest level in nearly four (4) years (April, 1997).

Stabilization of Nuclear Material

Residues

Continued semi-weekly shipments of Rocky Flats ash to the Central Waste Complex (CWC) indicate completion of this activity will complete ahead of the April 30, 2001 TPA milestone for packaging and shipment of this material to the CWC.

Oxides/Metals

Fifty metal buttons were brushed and packaged into a bagless transfer can. Four more ignited upon opening and were completely oxidized and packaged in food pack cans. A total of 125 have been brushed or oxidized out of a planned 149 to date. An Alloys disposition plan was developed and issued which segregates the alloys into three distinct groupings; those to be thermally stabilized, those to be disposed this fiscal year; and those to be disposed later. Research and testing was completed to demonstrate that highly pure Plutonium oxides that have been stabilized to the 3013 criteria will not absorb excess moisture and can be safely packaged into a welded container. A plan and schedule were developed to prepare for the packaging of oxides resulting from ignited metal buttons into a welded container. A conceptual design was completed for a device for safely opening a pressurized welded container.

Solutions

A total of 123 liters of Pu solutions were processed through the Magnesium Hydroxide (Mg[OH]₂) precipitation process and thermally stabilized during January 2001. A cumulative total of 289 liters have been thermally stabilized through February 9th. Process improvements continue to be implemented to improve the rate of solution stabilization. These include: increasing the inventory limit in room 227 to 20 Kg; installation of the second, two-boat hot plate was completed with the exception of the seal in the unit and final testing, operation of the second hot plate is pending completion of the USQ and ECN to the FSAR (scheduled completion date of March 1, 2001); installation of a cooling rack will improve utilization of the hot plates to dry the precipitate; relocation of a sampling valve in glovebox 227-S improved operator access and viewing during sampling to support load-in of solutions. The Solutions Team continues its evaluation of alternate disposal methods for a portion of the Solutions inventory.

Disposition of Nuclear Material

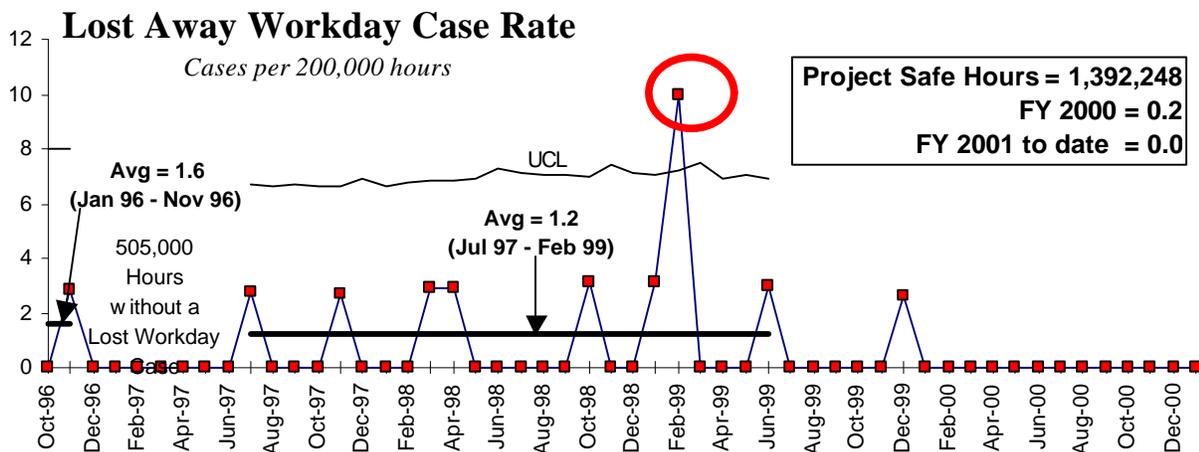
The Acceptance Test Procedure (ATP) for the 2736-ZB BTS has been completed and the unit was delivered to the PFP from the Savannah River Site (SRS). Reliability testing of the 2736-ZB Outer Can Welder (OCW) and operator training was completed in mid-February at the SRS. Delivery of the OCW to the PFP is now forecast for March 2nd. Completed and submitted the FY 2001 FHI Nuclear Materials Inventory Assessment (NMIA) report to RL.

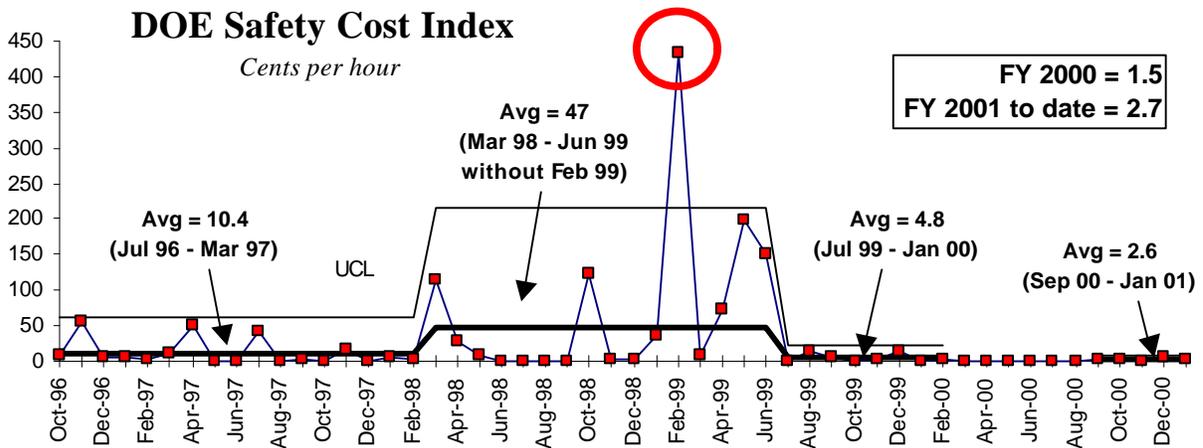
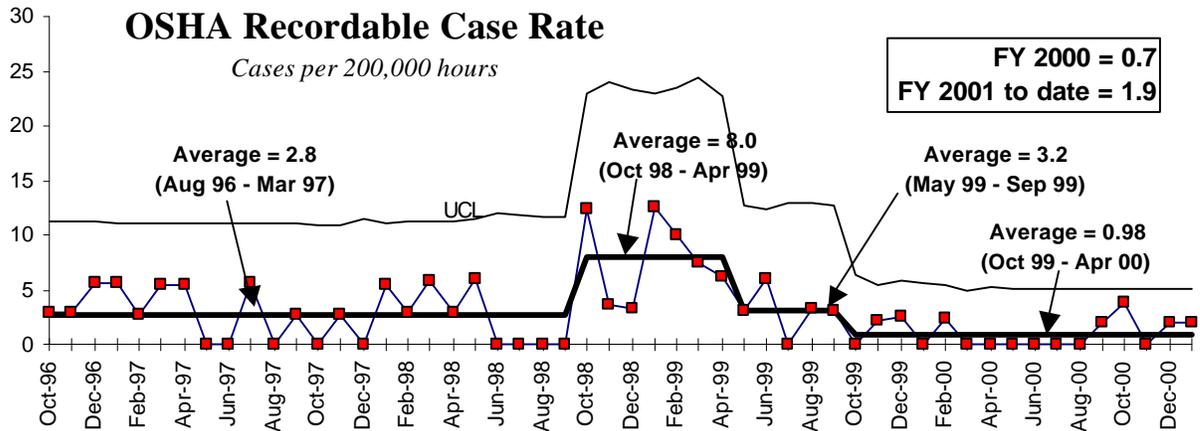
Transition the Plutonium Finishing Plant

Received DOE-RL approval of the PFP Safety Analysis Report (SAR) addendum for the Miscellaneous Underground Storage Tank 241-Z-361. Effective with this approval, the FSAR addendum supercedes the existing Justification for Continued Operation (JCO), brings closure to the Unreviewed Safety Question (USQ) regarding tank characterization and hazard analysis, and removes flammable gas controls due to very low concentrations of combustible gases.

SAFETY

Through February 26, 2001, there were 453 calendar days (over 1.4 million staff hours) since the last recorded lost workday injury.





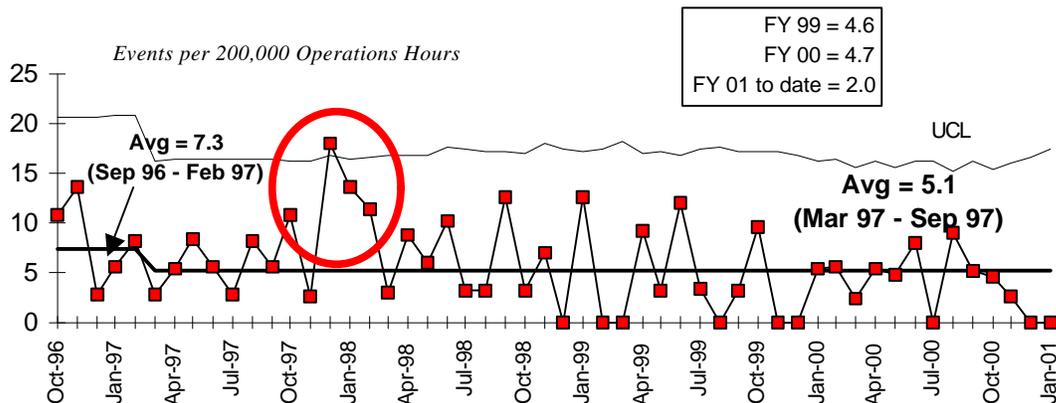
ISMS STATUS

Radiological Control continues to identify areas where dose could be reduced. Lead shielding has been installed to reduce background doses in Thermal Stabilization.

Safety focused meetings began February 26, 2001. These 20-30 minute meetings are scheduled for the mornings of the first day of the workweek and focus on team involvement, Industrial Safety, Radiological Safety, and Conduct of Operations (CONOPs). The Z-News will be the common information source used by team leads to begin each meeting. It is expected that the team leads will initially conduct the meetings, however, it is intended that every member of a team will have the opportunity to prepare and lead a meeting

CONDUCT OF OPERATIONS

Green



BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

None.

Opportunities for Improvement

Green

Residues Stabilization:

A risk-based evaluation is being initiated on the use of the 85-gallon overpacks for shipment of the Pipe Overpack Containers (POC). The goal is to eliminate the requirement thus reducing the shipment preparation time, elimination of the hazard of lifting the POC's into and out of the overpacks and reducing dose by reducing shipment preparation time

Exposure Reduction:

Completed an ALARA evaluation and cost benefit analysis for dose reduction alternatives for the stabilization of the polycube inventory. A shielded can will be used for material transport from the vaults into the glove box system, and shielded tongs will be used for handling the polycubes once the cans have been opened.

UPCOMING ACTIVITIES

- Complete modifications to one vault cubicle by April 2, 2001. (Milestone TRP-99-412)
- Complete repackaging and shipping of Rocky Flats ash to the Central Waste Complex (CWC) by April 30, 2001.
- Complete stabilization of Pu alloys by June 30, 2001.
- Complete repackaging of Pu metal inventory in 3013 inner cans by March 31, 2001, and outer cans by August 31, 2001.

MILESTONE ACHIEVEMENT

Green

M I L E S T O N E T Y P E	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	2	0	2
DOE-HQ	0	0	0	0	0	1	1	2
RL	1	0	0	0	0	4	0	5
Total Project	1	0	0	0	0	7	1	9

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.

Tri-Party Agreement / EA Milestones		
M-083-07 (TRP-01-515)	"Complete Repackaging & Shipping of Rocky Flats Ash to the CWC"	Due April 30, 2001 – Currently behind schedule but April milestone completion date will be met. Green
M-083-08 (TRP-01-516)	"Complete Requirements to Ship Rocky Flats Ash to WIPP"	Due June 1, 2001 – On schedule. Green
DNFSB Commitments		
M-IP-114 (TRP-01-501) R94-01)	"Ship Alloys to SRS or Complete Stabilization of Alloys"	Due June 30, 2001 - Currently redefining the milestone completion criteria with RL. Yellow
M-IP-110 (TRP-02-500)	"Complete Packaging of Metal Inventory"	Due March 31, 2001 – This milestone has been revised to August 31, 2001 in the DOE DNFSB Recommendation 2000-1 Implementation Plan to reflect the staggered due dates based on current receipt and startup of the Outer Can Welder (OCW). A baseline Change Request (BCR) is in process to reflect this change. Yellow

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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Overdue – 0

Forecast late – 1

TRP-02-500 1.4.5	HQ	Complete Packaging of Metal Inventory	03/31/2001	08/30/2001
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Cause: This milestone has been revised to August 31, 2001 in the DOE DNFSB Recommendation 2000-1 Implementation Plan to reflect the staggered due dates based on current receipt and startup of the Outer Can Welder (OCW). A baseline Change Request (BCR) is in process to reflect this change.

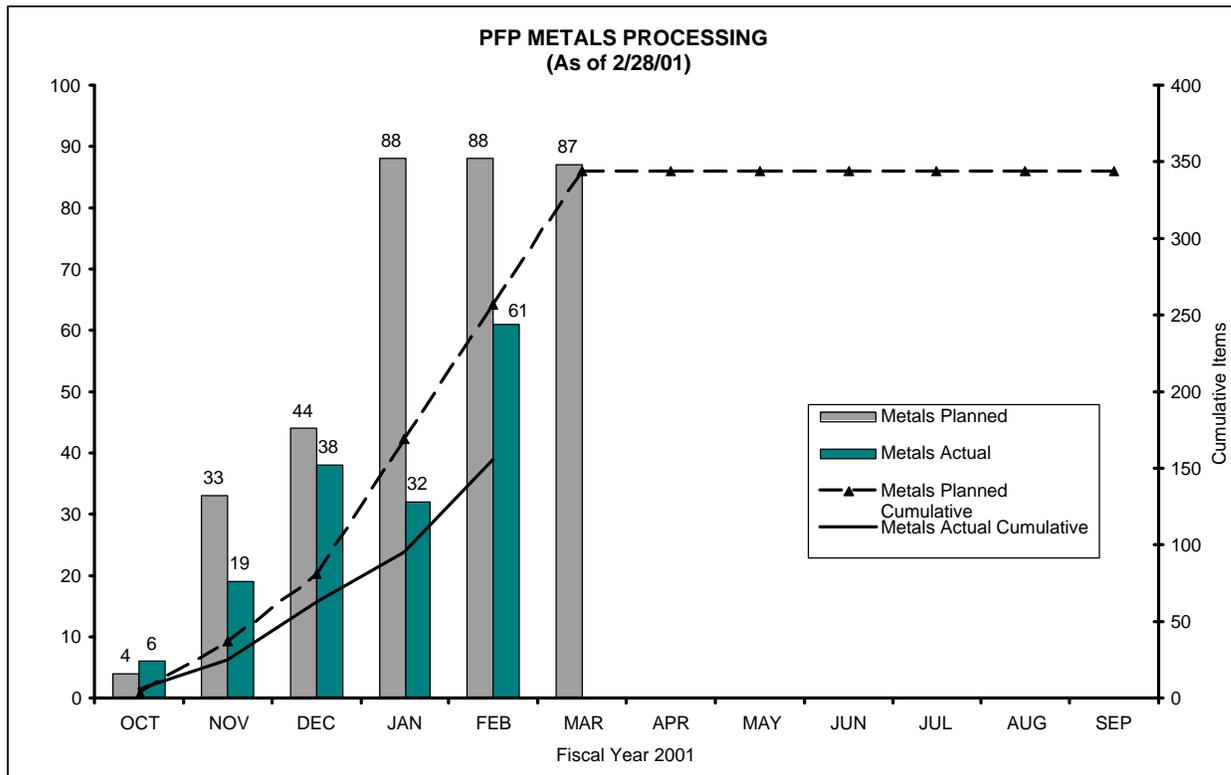
Impact: This DNFSB Recommendation 2000-1 milestone has been revised to August 31, 2001.

Corrective Action: See milestone table previous page

PERFORMANCE OBJECTIVES

Oxides/Metals/Polycubes Stabilization

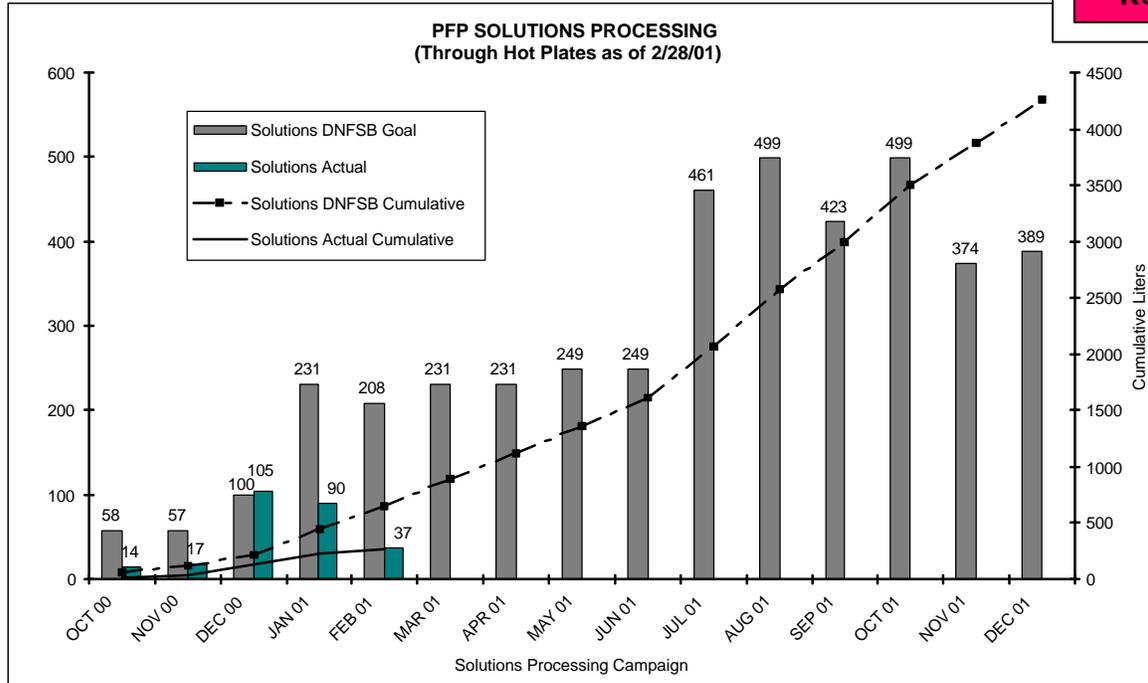
Yellow



Metals stabilization processing was impacted by higher-than-planned spontaneous oxidation of metal items (14 percent versus 10 percent). Inventory activities during February also impacted level of processing. Third shift implementation and weekend overtime have been implemented to recover schedule.

Solution Stabilization

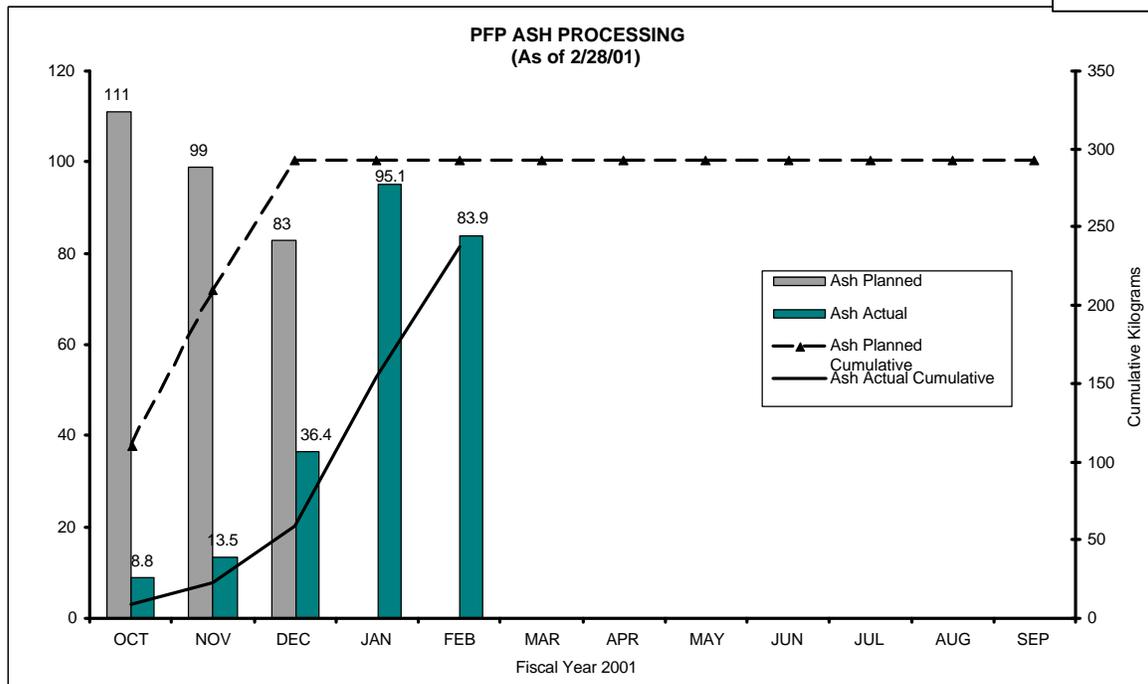
Red



The behind schedule status is due to the quantity of the boats generated per liter of solution from the precipitation process being significantly higher than forecasted in the baseline estimates; hence schedule progress is impacted.

Residues Stabilization

Yellow



Previous technical and operational issues now completed have impacted RF ash packaging. Recovery plan currently projects a completion date of March 23, 2001, in advance of April 30, 2001 milestone.

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

Yellow

		FYTD									
By PBS		BCWS	BCWP	ACWP	SV	%	CV	%	PEM	EAC	
WBS 1.4.5 PFP PBS TP05 Deactivation		\$ 36,436	\$ 32,956	\$ 33,086	\$ (3,480)	-10%	\$ (131)	0%	\$ 109,344	\$ 106,004	
Total		\$ 36,436	\$ 32,956	\$ 33,086	\$ (3,480)	-10%	\$ (131)	0%	\$ 109,344	\$ 106,004	

FY TO DATE SCHEDULE / COST PERFORMANCE

The unfavorable schedule variance is within established threshold. The unfavorable cost variance is also within established threshold.

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.

Cost Variance Analysis: (-\$0.1M)

PFP Deactivation — 1.4.5/TP05

Description and Cause: The Project is within the authorized baseline reporting threshold.

Impact: No impact projected.

Corrective Action: None Required.

Schedule Variance Analysis: (-\$3.5M)

1.4.5.1.10 Maintain Safe & Secure SNM (-\$162K)

Description and Cause: The unfavorable variance is primarily attributable to a later than planned start of the Remote Material Surveillance System upgrade.

Impact: No impact at this time. Despite the delayed start, this project is expected to be completed as scheduled.

Corrective Action: None required.

1.4.5.1.11 Maintain Safe & Compliant PFP (-\$385K)

Description and Cause: The unfavorable variance is attributable to the unavailability of engineering and planning resources required to initiate planned special projects. (i.e. 2736-ZB air conditioning, Continuous Air monitor (CAM) installation upgrades)

Impact: No impact at the present time.

Corrective Action: None. Despite the delayed start, these special projects are expected to be completed this fiscal year as resources become available.

1.4.5.1.13 Stabilization of Nuclear Material (-\$878K)

Description and Cause: Early operational issues in the Residues Packaging project are primarily driving the unfavorable schedule variance. Also contributing to this variance is the Solutions Stabilization Project that is currently processing material behind the baseline schedule due to generation of higher than planned quantities of precipitate.

Impact: Although Residues Packaging is significantly behind schedule to the original December 2000 target date, the April 30, 2001 Tri-Party Agreement Milestone (M-083-07) commitment will be met. The DNFSB milestone (TRP-01-500) to complete solutions stabilization by December 31, 2001, is forecast to be 3 months behind schedule.

Corrective Action: Staffing to support second shift Residues Packaging Project operations has been implemented. Additional process improvements are expected to increase the solutions stabilization processing throughput. Baseline Change Request (BCR) FSP-2001-014 is in process to extend the completion of the Solutions Stabilization Project.

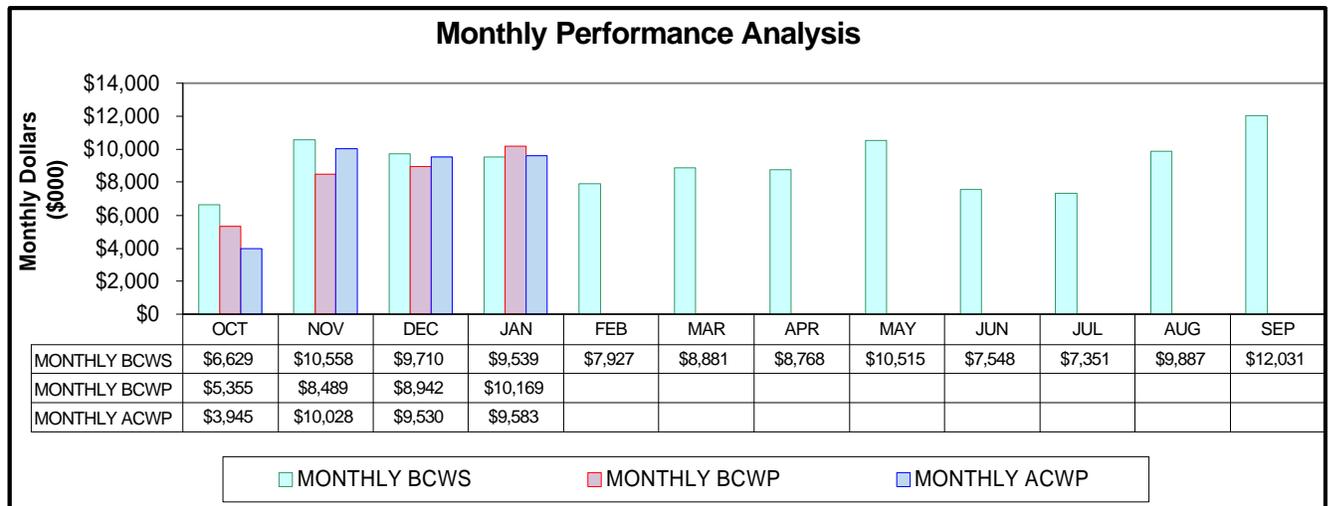
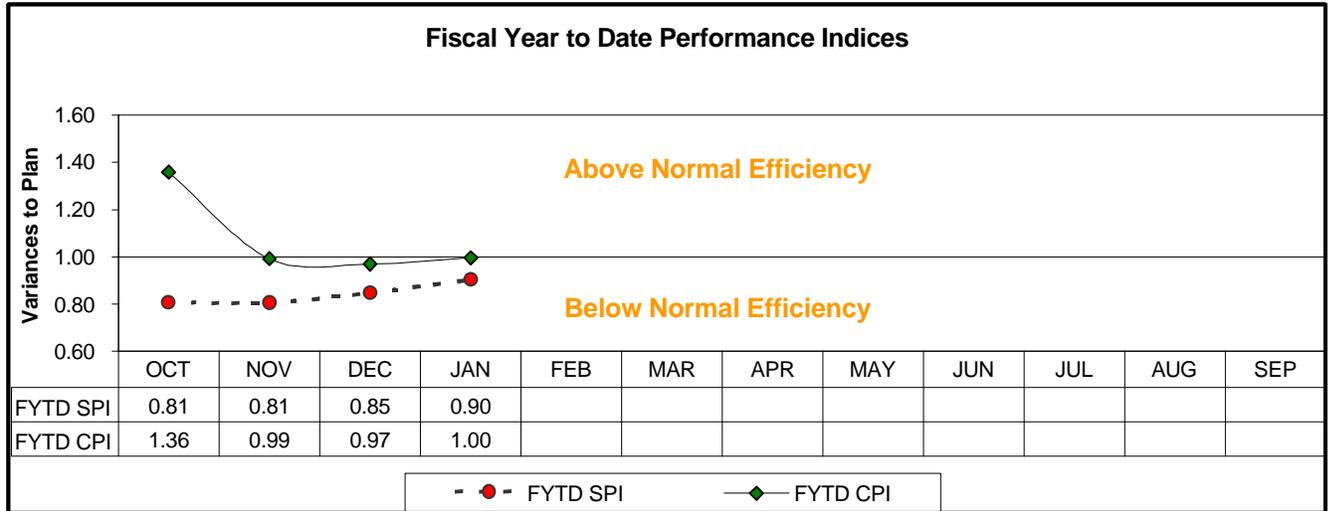
1.4.5.1.14 Disposition of Nuclear Material (-\$2.0M)

Description and Cause: The unfavorable schedule variance is primarily due to delays in receiving Project W-460 stabilization and laboratory equipment and material procurements and late approval of the Fire Hazards Analysis that has impacted 2736-ZB Bagless Transfer System construction. Shipments of packaged Rocky Flats ash to the Central Waste Complex are also behind schedule.

Impact: No impact is currently forecast for completion of Project W-460 or Rocky Flats residue packaging.

Corrective Action: The construction portion of Project W-460 has been awarded to Apollo Construction Inc. to minimize and recover the schedule slippage. Residue packaging second shift operations are underway that is expediting transfer of Rocky Flats ash to the Central Waste Complex.

SCHEDULE / COST PERFORMANCE (MONTHLY AND FYTD)



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

Green

	Project Completion *			Post 2006 *			Line Items *		
	Funds	FYSF	Variance	Funds	FYSF	Variance	Funds	FYSF	Variance
The Plateau									
1.4.5 Nuclear Materials Stabilization									
TP05 Operating	\$ 91,021	\$ 91,061	\$ (40)				\$ 12,244	\$ 12,244	\$ -
Line Item									
Total Nuclear Mat. Stab. Operating	\$ 91,021	\$ 91,061	\$ (40)						
Total Nuclear Mat. Stab. Line Item							\$ 12,244	\$ 12,244	\$ -

ISSUES

Technical Issues

Issue: The quantity of boats from the precipitation process is higher than expected or forecasted in the baseline estimates and schedules

Impact(s): Extends solutions completion date

Corrective Action(s): Processing estimates and production schedules have been revised based on results of the characterization processing task. One two-boat hot plate has been installed and the operational testing of the second two-boat hot plate began in mid-January. Preliminary results are favorable. Additional lag storage and increased glovebox inventory items are in work.

Issue: A portion of the oxides to be processed contains fairly high levels of chloride.

Impact(s): Could impact completion of oxide stabilization.

Corrective Action(s): A meeting was held with PNNL to select the characterization and material pretreatment methods to remove chlorides prior to processing. A draft report from PNNL was received the end of January. Further work is underway to develop detailed plans and schedules.

Issue: The rate of throughput for polycube processing was determined to be less than planned during the latest Integrated Project Management Plan (IPMP) update.

Impacts: The processing method change will provide a recovery of the schedule delay. However, the completion of polycube stabilization may still be impacted up to two months because of the increased amount of precipitate to be stabilized, limiting furnace availability.

Corrective Action: The change to the processing method has been implemented which will accommodate the original rate of throughput and allow schedule recovery. *(No further status to be provided)*

Regulatory, External, and Doe Issues and DOE Requests

Issue: No other issues identified at this time.

Impacts: None at this time.

Corrective Action: None at this time.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS (\$000)

PROJECT CHANGE NUMBER	DATE ORIGINAL	BASELINE CHANGE REQUEST TITLE	FY 01 COST IMPACT (\$000s)	S C H	T E C H	DATE TO FHI CCB	CCB APR'VD	RL APR'VD
FSP-2000-022	19-Dec-00	Parking Lot Enhancements	\$150	X	X	29-Dec-00	8-Jan-01	N/A
FSP-2001-021	13-Dec-00	Additional Cost Savings	<\$1672>			29-Dec-00	10-Jan-01	In Process
FSP-2001-013	28-Nov-00	Tank 241-Z-361 Cont'd Operations	\$150	X	X	30-Nov-00	6-Dec-00	N/A
FSP-2001-014	29-Nov-00	Extend Solutions Campaign	<\$407>	X	X	11-Dec-00	19-Dec-00	In Process
FSP-2001-024	29-Dec-00	Rebaseline Alloys Stabilization	<\$104>	X	X			
FSP-2001-030	18-Jan-01	Transfer Rocky Flats GFE to PFP	\$10	X		Approved by Geo. Jackson on 01/23/01		
FSP-2001-037	9-Feb-01	Accelerate Hanford Ash						
FSP-2001-038	9-Feb-01	Maintenance Calendar Restructure						
FSP-2001-040	22-Feb-01	Travel Savings	<\$106>					
ADVANCED WORK AUTHORIZATIONS								
AWA-01-003		Mg(OH) ₂ FSAR Addendum	\$70	X	X	9-Nov-00	13-Nov-00	N/A
AWA-01-004		Characterize Hanford Ash	\$217	X		9-Nov-00	13-Nov-00	N/A
AWA-01-005		291-Z Stack Monitor	\$100	X	X	12-Feb-01		

KEY INTEGRATION ACTIVITIES

- Testing of the 2736-ZB Outer Can Welder (OCW) to demonstrate the reliability of the OCW to consistently produce 3013 containers, and operator training were completed at Westinghouse Savannah River (WSR) on February 16. The OCW Acceptance Test Procedure (ATP) was subsequently completed on February 23.
- Techniques for improving the precipitate processing are being worked jointly by staff members of the Plutonium Process Support Laboratories and Pacific Northwest National Laboratory. A meeting was held with Pacific Northwest National Laboratory (PNNL) to select the characterization and material pretreatment methods to remove chlorides prior to processing. A draft report from PNNL was received the end of January. Further work is underway to develop detailed plans and schedules.
- Coordinating with Lawrence Livermore National Laboratory (LLNL) to ship requested oxide material (81 kg.) this spring to that facility at no cost to the PFP. The testing of a new neutron counter with the International Atomic Energy Agency in the March through April time frame has the potential to increase Non-Destructive Analysis efficiency.