



# **Section I**

## ***Plutonium Finishing Plant***

### **PROJECT MANAGERS**

G.H. Sanders, RL  
(509) 372-1786

G.W. Jackson, FH  
(509) 373-6622

## INTRODUCTION

The Plutonium Finishing Plant (PFP) consists of Project Baseline Summary (PBS) RL-CP03, Work Breakdown Structure (WBS) 3.3.3.

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

Baseline Change Request (BCR) CP03-02-038, "Revise PFP DNFSB Milestones," adjusted the overdue status of two DNFSB milestones making both milestones due in FY 2003. Approval of BCR CP03-020038 on November 25, 2002 changed the due dates on DNFSB milestones TRP-01-501 on Alloys (was due June 30, 2001, now December 31, 2002, and actually completed on November 25, 2002), and TRP-02-501, on Polycubes (which was due August 31, 2002, now due March 31, 2003). TRP-02-501 on Polycubes is on schedule to the new March 31, 2003 due date.

## NOTABLE ACCOMPLISHMENTS

### Maintain Safe & Secure SNM WBS 3.3.3.1

Continued to transfer material from the 2736-Z vaults to vault rooms 192-B and C in the 234-5Z building in preparation of the first International Atomic Energy Agency (IAEA) material swap. Installed three modified 20 position 3013 racks in Vault 1. Cubicles have been posted and are ready for acceptance of material.

### Maintain Safe and Compliant PFP WBS 3.3.3.2

Submitted a Notice of Construction (NOC) revision form to the Washington State Department of Health (WDOH) for removal of Supercritical Fluid Extraction (SFE) system and relocation of outer can cutter. Submitted a draft of the Residual Chemical Hazards Assessment to RL for review in time to meet the TPA milestone, M-083-21, due December 31, 2002, on this subject. Installation continues on seven Canberra Continuous Air Monitors (CAM) in room 228C, 230A, and 230B.

### Stabilization of Nuclear Material WBS 3.3.3.3

**Metals, Alloys, Oxides and Polycubes** — Thirty-four polycube items were completed during the reporting period. PNNL testing to support the washing of the high chloride oxides has been completed. The Plutonium Process Support Laboratories (PPSL) testing will be completed in early December. Testing results are being used to develop system design modifications, detailed process plans, and a Baseline Change Request (BCR).

A total of 244 Bagless Transfer Containers (BTCs) have been processed under the 2736-ZB work scope as of November 24, 2002, with 26 BTCs processed in November. Stabilization of plutonium (Pu) Oxide material, which began in early August, has processed 549 items through November, with 195 items processed in November. Thermal stabilization of the remaining alloys completed on November 25, 2002.

**Residues** — As of November 27, 2002, of the approximately 133,000 grams of Sand, Slag and Crucible (SS&C) planned, 170,041 grams were packaged into 41 Pipe Over pack Containers (POCs). Processing of SS&C continues to exceed the baseline schedule. Thirty POCs were shipped to the Central Waste Complex (CWC). Nine SS&C Nondestructive Assay (NDA) batch reports were validated. The DOE- RL approved the termination of safeguards on an additional 1,500kg bulk oxide/mixed oxide (MOX) material

to be processed through the Residues Project. Upgrades on a second building at CWC for the storage of POCs were completed, and the building was approved for use.

**Outer Can Packaging** — A total of sixty-four 3013 containers was produced through November 24, 2002. A cumulative total of nine hundred and thirty-six 3013 containers have been produced to date.

### Disposition of Nuclear Material WBS 3.3.3.4

Pipe Overpack Container Shipments 16 and 17 were completed during this reporting period.

**Alternate Onsite Storage Facility** — The Project Execution Plan was transmitted for final comments and will be published in early December. A Capital versus Expense determination of the Alternate Onsite Storage Facility has been sent to DOE-HQ by RL, as a decision could not be reached locally. A definite determination date is unknown.

### Disposition PFP Facility WBS 3.3.3.5

**Transition 232-Z** — The Documented Safety Analysis for the 232-Z building decommissioning was prepared and submitted to RL for approval on October 31, 2002, as scheduled. The Engineering Evaluation/Cost Analysis (EE/CA) for the 232-Z decommissioning activity has been initiated. This documentation will allow most of the 232-Z building work to be done under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

**Transition 234-5Z** — Pu Legacy Holdup Removal continued this period with the removal of glovebox internal piping, pump flow meters and five glass tanks from glovebox HC-7C. Two of the tanks have been sealed out, and the remaining three are on the glovebox floor awaiting seal out. Removal activities have generated five 55 gallon drums and 33 smaller waste containers of debris containing approximately 350 grams of Special Nuclear Material (SNM). Chemical vulnerability activities concentrated in room 336/337 this period, with the isolation of 21 cold chemical makeup tanks, completion of draining operations and removal of makeup and feed lines to 9 of these tanks, and the removal of 3 of the tanks to scrap salvage. Hundreds of feet of chemical lines were flushed and removed along with instrument and power conduit lines.

**Transition 236-Z** — Chemical Vulnerability Mitigation activities continued this period on the removal of the B-Acid line from room 40 to room 41 Miscellaneous Treatment (MT) glove boxes. Work packages for room 40 electrical/instrumentation removals are complete and resources are being marshaled to perform this work.

**Support Buildings and Yard** — Work planning for cleanout and demolition of 234-ZC Waste Material Storage Building is nearing completion and demolition is expected in December. This will be the seventh structure (the third formally numbered structure) removed at PFP since June 2002 under DOE's expedited Environmental Management (EM) cleanup plan and Fluor's PFP Accelerated Decommissioning Initiative.

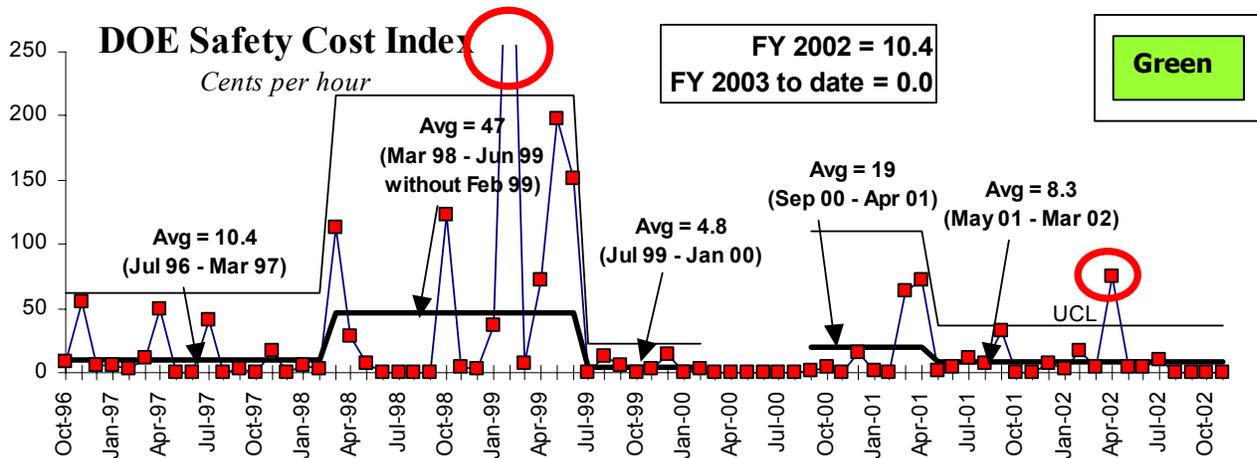
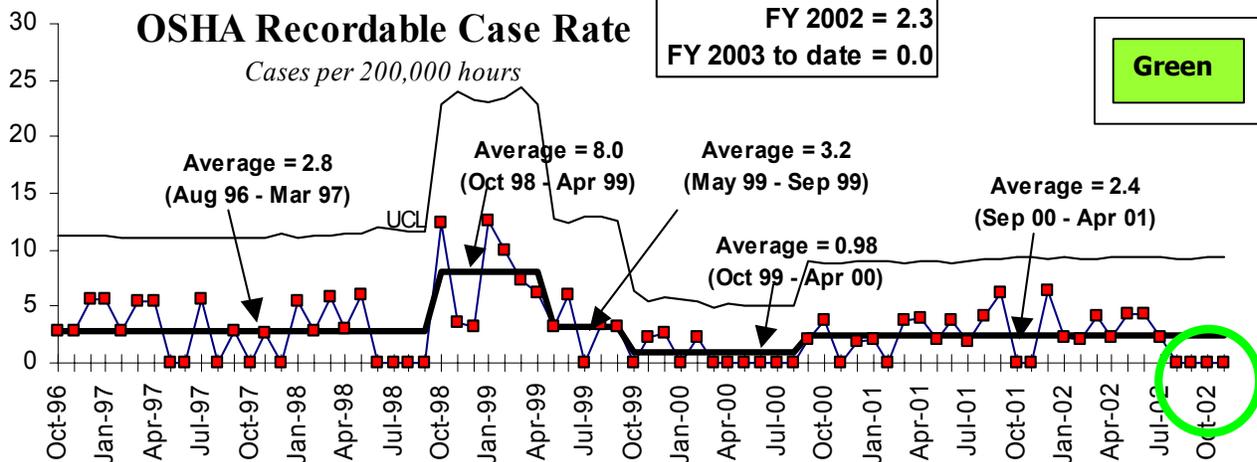
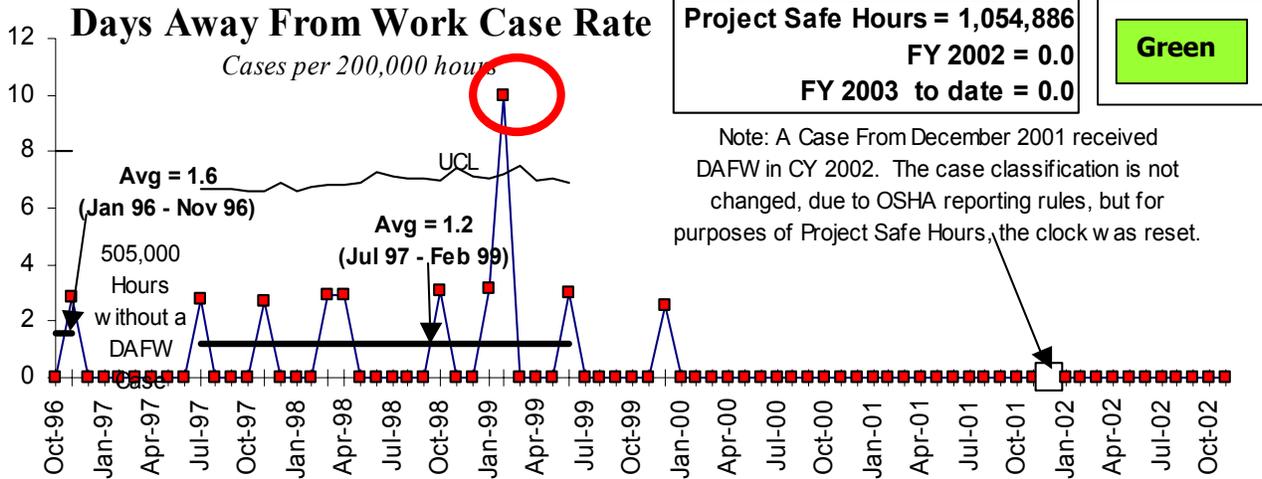
**Transition Pu Holdup Disposition** — The previously submitted Supplement Analysis (SA) to the PFP Environmental Impact Statement (EIS) authorizing Pipe-N-Go disposition as an acceptable path for 'less than Safeguards Termination Limit (STL)' plutonium legacy holdup waste versus the EIS-analyzed 'Cementation' process was revised this period and presented to the RL site manager for approval.

## PFP Project Management & Support WBS 3.3.3.6

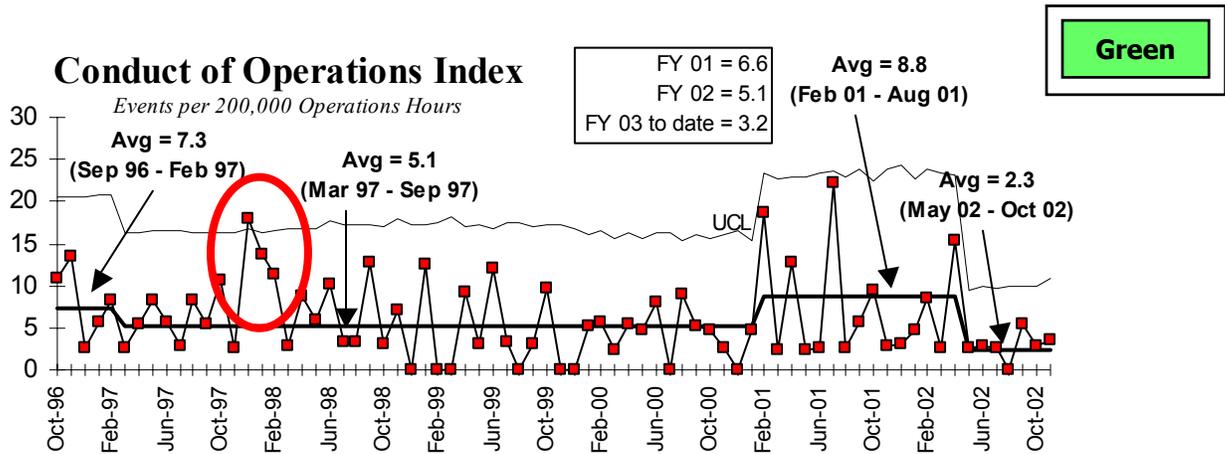
**PFP Project Management & Support** — Baseline change request #CP03-03-004, "PFP Accelerated Closure Plan," documenting the PFP Accelerated Closure Plan was formally submitted to RL on November 26, 2002. This is a significant change to the Project completion, accelerating completion of the Project by seven years, from September 2016 to September 2009.

## Safety

There have now been 1,054,886 project safe hours since the last recorded workday injury in December 2001.



## CONDUCT OF OPERATIONS



## BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

### Breakthroughs

**Stabilization of Nuclear Material** — Gamma assay equipment has been ordered to support nondestructive assay (NDA) examination of the high chloride oxide material. The NDA examinations will be used to determine which items will require washing.

### Opportunities for Improvement

**Residues Stabilization** — An additional 40 potential items from the PFP Analytical Laboratory that appear to be related to SS&C were identified and evaluated. It was determined that the items were covered under the scope of the SS&C campaign and the associated Data Quality Objective document. Processing of the items will be initiated.

## UPCOMING ACTIVITIES

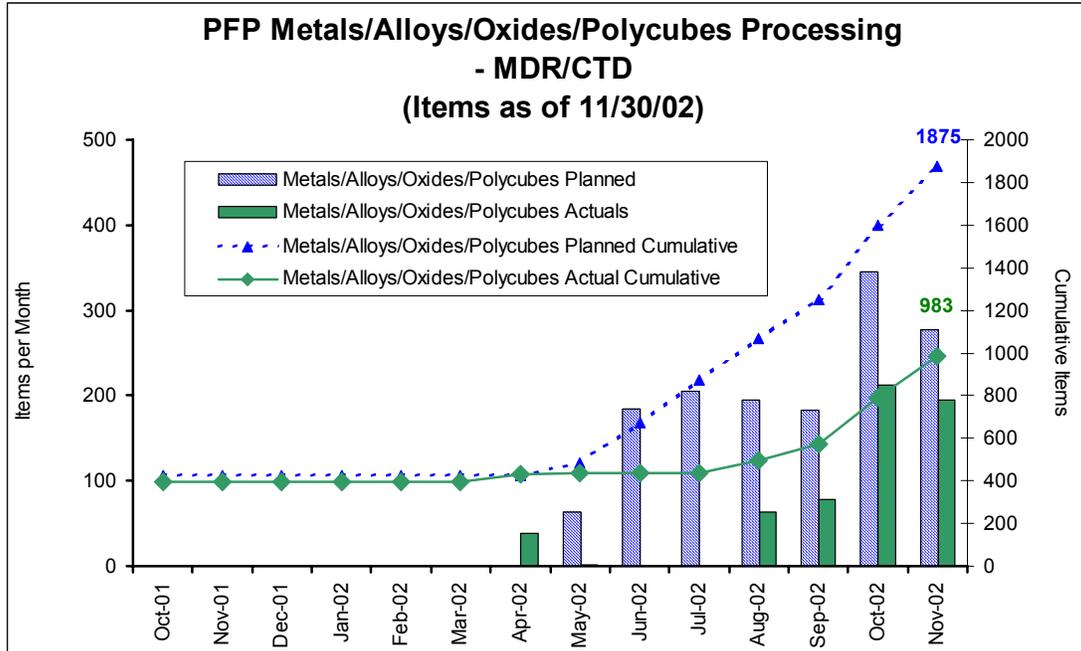
Nothing significant to report.

## MILESTONE ACHIEVEMENT

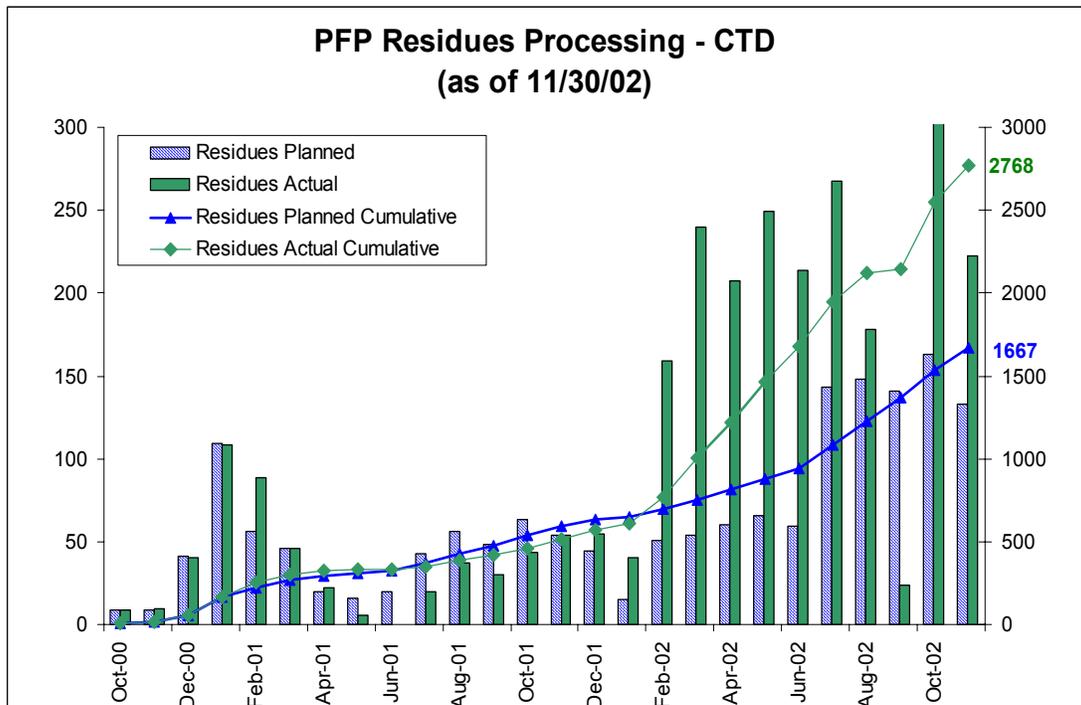
Number	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/Comments
TRP-01-501	Packaging remaining alloy to meet DOE-STD-3013 criteria.	DNFSB	12/31/2002	11/25/2002		Complete
TRP-01-502	Complete Installation of the Bagless Transfer System	RL	10/1/01	8/29/01		Complete
TRP-04-505	Hot Startup of the 2736-ZB Stabilization & Packaging System	PI	11/27/01	11/29/01		Complete
TRP-02-505	Complete Direct Discard of Selected Solutions	TPA	3/31/02	3/11/02		Complete
TRP-01-500	Complete Stabilization & Packaging of Plutonium Solutions	DNFSB	7/31/02	7/29/02		Complete
TRP-02-501	Complete Stabilization & Packaging of Polycubes	DNFSB	3/31/03		3/21/2003	On schedule to revised DOE IP date of 3/2003
TRP-02-504	Complete Repackaging & Shipment of Hanford Ash to CWC	TPA	8/31/02	3/7/02		Complete
TRP-04-506	Completion of all Pu Stabilization & Packaging	PI Stretch	2/18/04			On Schedule
TRP-04-507	Complete Repackaging & Shipment of Sand, Slag and Crucible to CWC	TPA	1/30/04		1/31/03	Ahead of Schedule
TRP-03-500	Complete Stabilization & Packaging of Residues	DNFSB	4/30/04			On Schedule
TRP-05-500	Complete Stabilization & Packaging of Oxides >30% Pu/U	DNFSB	5/31/04			On Schedule
TRP-08-500	Dismantlement NEPA/ CERCLA Decision Document Complete	RL	9/30/05			On Schedule
TRP-06-501	Complete 100% of Legacy Pu Holdup Removal & Disposition	PI Stretch	9/30/06			On Schedule
TRP-06-502	232-Z & PPSL Annex Demolished to Slab-on-Grade	PI Stretch	9/30/06			On Schedule
TRP-06-503	Protected Area Reduced to 2736-Z/ZB and Yard Storage	PI Stretch	9/30/06			On Schedule
TRP-06-504	Relocate SNM Required to Reduce the PFP Protected Area	PI Stretch	9/30/06			On Schedule

## PERFORMANCE OBJECTIVES

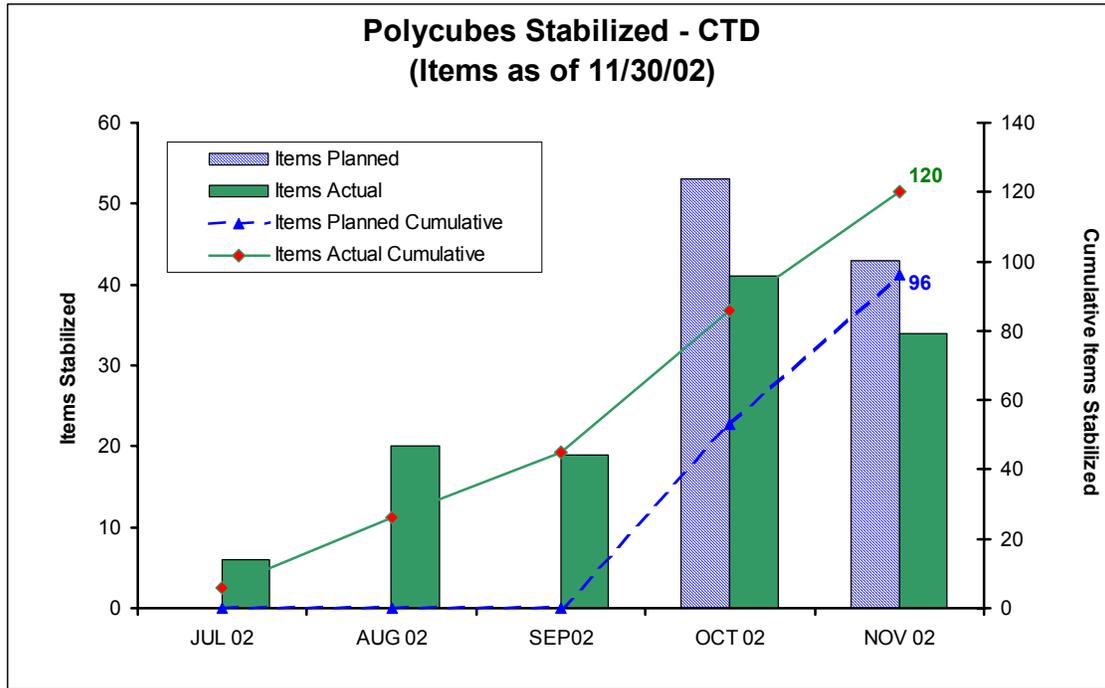
### METALS/ALLOYS/OXIDES STABILIZATION



### RESIDUE STABILIZATION



## POLYCUBE STABILIZATION



## ISSUES

### Technical Issues

**Issue:** Oxide items with high levels of chloride salts are currently identified in the baseline as being processed via direct thermal stabilization.

**Impact:** Recent testing by PNNL indicates that the approach isn't feasible.

**Corrective Action:** A follow-up study recommended washing the chloride salts in the existing solutions precipitation equipment to remove the salts. Laboratory testing of high chloride oxides continues and alternate washing methods are being explored. Comments from the design criteria document review are being incorporated. Detailed design of conductivity instrumentation, decant system and filtrate recycle line are in progress.

**Issue:** The disassembly and lay-up of the prototype vertical denitration calciner has not been completed.

**Impact:** Until this work scope is completed, the Solutions project cannot be closed out.

**Corrective Action:** This work scope is being evaluated for transfer to an appropriate, but alternate, WBS section. Of course, work is ongoing to complete the disassembly and lay-up of the calciner.

**Issue:** The schedule for the qualification of the two calorimeters (AR-1 and AR-5) has slipped significantly.

**Impact:** Minimal impact at this time as the segmented gamma scan assay system may be an alternate measurement system for calorimetry on this material.

**Corrective Action:** The qualification of AR-1 is now scheduled to complete the end of January 2003. The qualification of AR-5 is now scheduled to complete the middle of February 2003. Every effort is being made to accelerate the qualification of the two calorimeters.

### Regulatory, External, and DOE Issues and DOE Requests

**Issue:** The certification for the Safkeg has slipped due to the Safety Analysis Report for Packaging (SARP) not being approved.

**Impact:** The earliest PFP could now make the shipment would be after the first of the year. This process is still ongoing with no completion date as yet.

**Corrective Action:** DOE Albuquerque is working to certify the SafKeg Shipping container to enable PFP to start making shipments to Lawrence Livermore National Laboratory, which will count towards the Special Nuclear Material de-inventory milestone/commitment.

## BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

BCR No.	Date Originated	Description	Impact		Date Action Taken	Status	Approval Level
			Days	Dollars (\$000s)			
CP03-02-038	8/12/02	Revise DNFSB Milestones		- 0 -	11/25/02	Approved	RL
FH-2003-001	9/3/02	Mega BCR - Unicall rates		(\$157)		At FH	RL
FH-2003-002	10/22/02	Convert to FY 2003 Dollars		- 0 -	11/8/02	Approved	FH
CP03-03-002	8/7/02	Chloride Wash		TBD		At PFP	RL
CP03-03-004	10/31/02	Accelerate PFP Closure		\$31,090		Approved by FH 11/26/02; RL action pending	RL
FH-2003-003	12/11/02	40 CFR 61 (NESHAPS) Amendment		\$35		At FH	FH