



# **Section I**

## ***Plutonium Finishing Plant***

### **PROJECT MANAGERS**

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## 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 December 2002.

## NOTABLE ACCOMPLISHMENTS

### Maintain Safe and Compliant PFP WBS 3.3.3.

Installation of a new video switcher for the PFP Security System was completed. The security system is now upgraded with state-of-the-art equipment and provides reliable operation for the life of the plant. Prepared and submitted a Notice of Construction (NOC) revision for "Washing Impure Plutonium-Bearing Materials Containing Chloride Salts" to RL for retransmittal to the Washington State Department of Health (WDOH).

Prepared and submitted the "Residual Chemical Hazards Assessment" to RL for retransmittal to Ecology per the Tri-Party Agreement (TPA) milestone M-83-21.

### Stabilization of Nuclear Material WBS 3.3.3.3

**Metals, Alloys, Oxides and Polycubes** — Twenty-four polycube items were completed during the reporting period with a total of 124 polycube items by December 31, 2002. As of December 22, 2002, a total of six hundred and thirty-six oxide items have been processed under the 2736ZB work scope. The six hundred thirty-six items surpassed the contract to date goal by ninety-three items. Thermal stabilization of the remaining Alloys were completed on November 25, 2002.

**Residues** — Completed repackaging of Sand, Slag and Crucible (SS&C) (2,121kg bulk) on December 4, 2002, seven months ahead of schedule.

**Outer Can Packaging** — A total of eighty-two 3013 containers were produced during this reporting period (November 25, 2002 through December 22, 2002). A total of nine hundred ninety 3013 containers have been produced, which is two hundred twenty-two cans ahead of schedule.

### Disposition of Nuclear Material WBS 3.3.3.4

Relocated 77 Product Review (PR) cans in room 236 of 234-52 to support installation of new Nondestructive Analysis (NDA) equipment for thermal stabilization measuring campaign.

### Disposition PFP Facility WBS 3.3.3.5

**Transition 232-Z** — The Documented Safety Analysis for 232-Z Decontamination and Decommissioning submitted on October 31, 2002 was approved by DOE-RL on December 24, 2002. A revised letter from the Washington State Department of Ecology was received December 18, 2002 approving the New Source Review, agreeing that the 232-Z D&D activity is a minor modification to an existing source and is exempt under WAC 173-460-040(2)(b).

**Transition 234-5Z** — Legacy Holdup Removal continued this period on glovebox HC-7C with the removal and 'seal out' of glovebox internal piping, pump flow meters and five (5) glass tanks. Removal activities have generated over seven - 55 gallon drums and 17 smaller waste containers (ITCs) of debris containing between 500 and 600 grams of SNM. Field crews have scrapped the glovebox and containerized eight polyjars of SNM. The glovebox is awaiting the removal NDA reading for record.

Chemical Vulnerability activities concentrated in room 336/337 this period with the removal of 21 cold chemical makeup tanks. Hundreds of feet of chemical lines were flushed and removed along with instrument and power conduit lines. The remaining two tanks in Rooms 336/337 are planned for removal early next period.

**Transition 236-Z Facility** — Holdup Removal and Chemical Vulnerability Mitigation activities concentrated on the removal of electrical services and instrumentation controls to both MT gloveboxes and the Room 40 chemical makeup tanks and pumps.

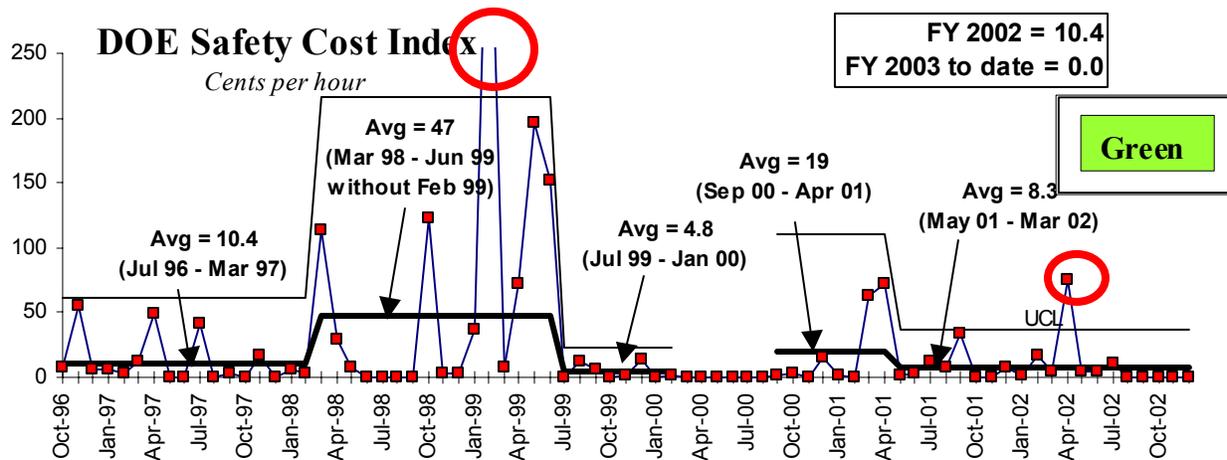
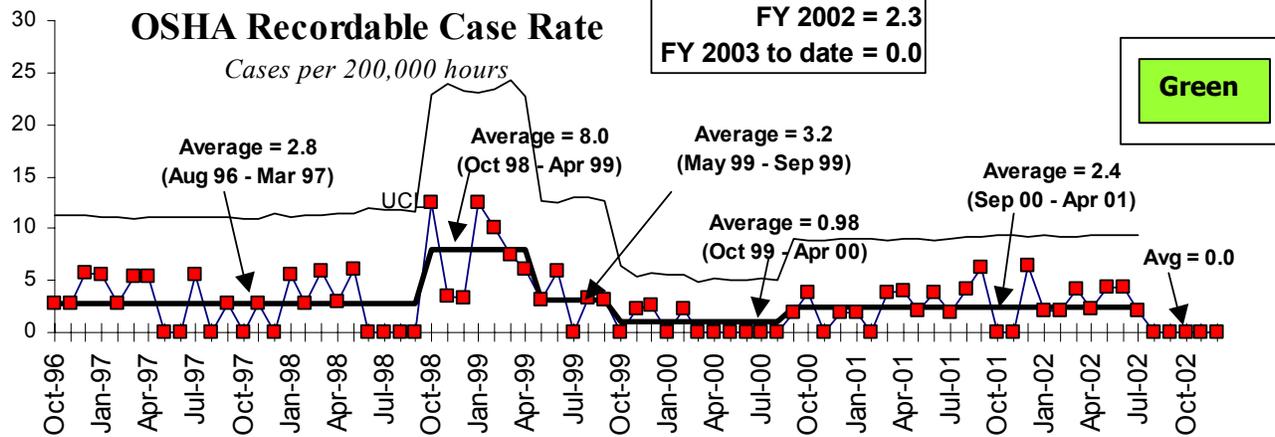
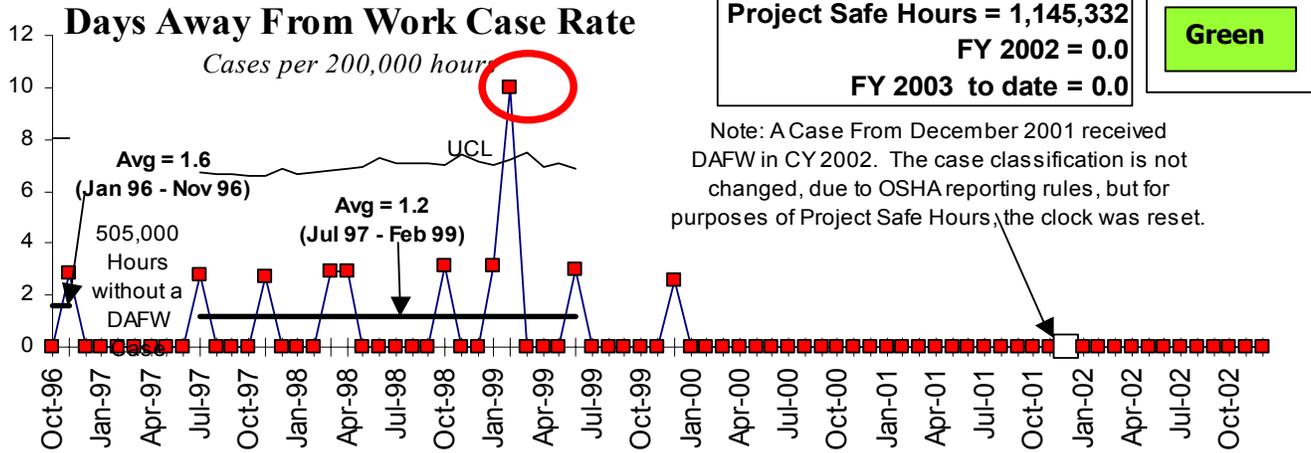
**Transition 241-Z Facility** — The Notice of Construction (NOC) for 241-Z deactivation work was transmitted to RL for approval on 12-5-02.

**Transition 241-Z-361 Facility** — Project personnel visited LANL to discuss in-situ vitrification and the AEA fluidic technology, both of which have been used at LANL. Key points from the trip report are as follows:

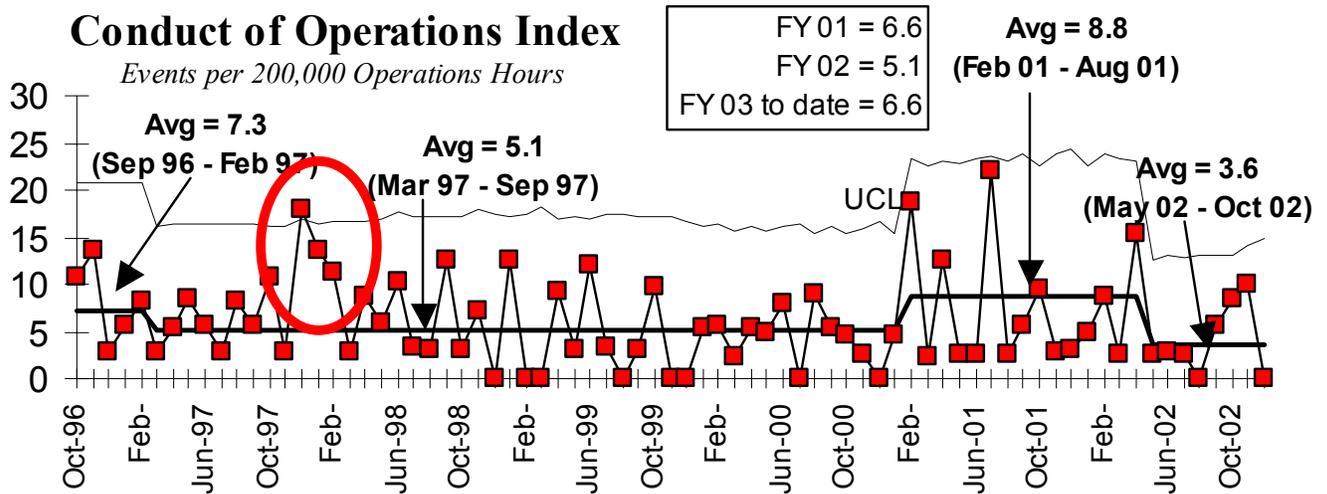
- The vitrification process did not cause any migration of the contaminants into the surrounding soil. This was established through core sampling and analysis. The data indicates very even distribution of the isotopes throughout the melt.
- The glass did not form a solid monolith; in the center region of the melt, the glass fractured into a sort of "gravel bed" appearance. The steel pipes that were left in the adsorption bed did not distribute throughout the melt.
- The moisture in the LANL tank was much lower than that in Z-361.

## 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

None identified at this time.

### Opportunities for Improvement

An engineering study is underway to evaluate the lowering of the muffle furnace temperatures. The Department of Energy-Richland (DOE-RL) transmitted the request to terminate safeguards on 918 items of MOX to the Department of Energy-Headquarters (DOE-HQ). If approved the items will be processed through the Residues project instead of the Thermal Stabilization Project.

## UPCOMING ACTIVITIES

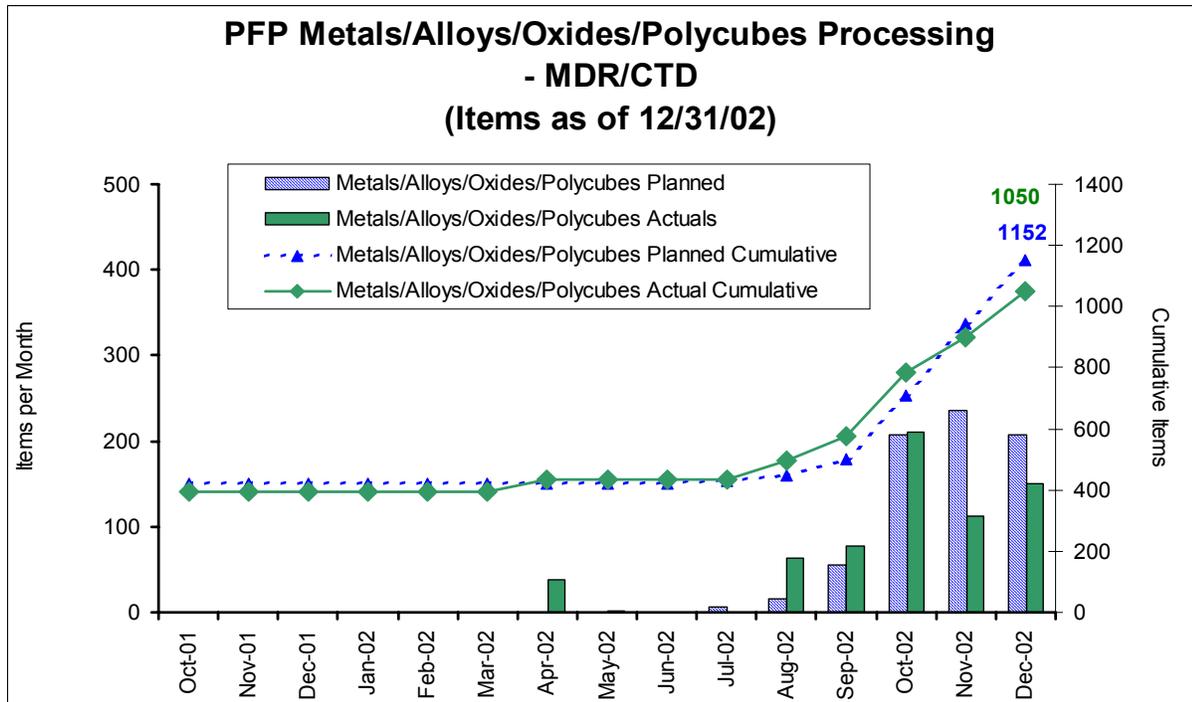
None identified at this time.

## MILESTONE ACHIEVEMENT

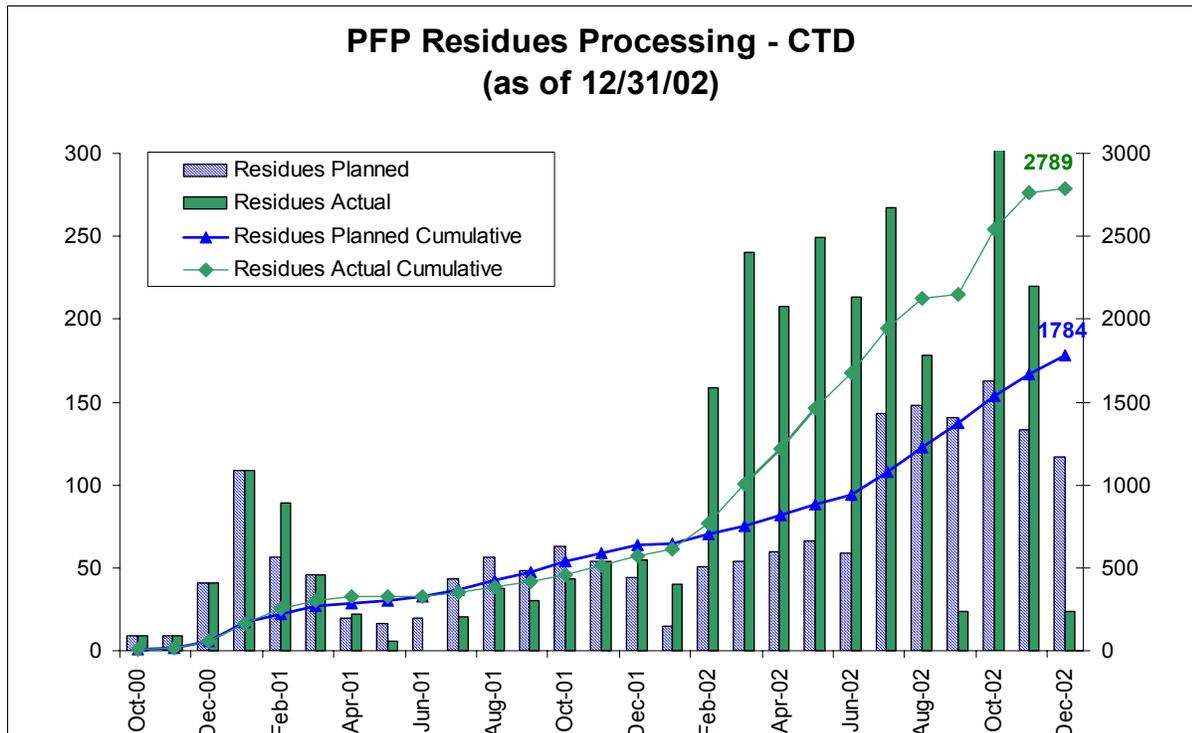
Number	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comments
TRP-01-501	Package Remaining Alloys to Meet DOE-STD-3013 Criteria	DNFSB	12/31/02	11/25/02		Complete
TRP-02-501	Complete Stabilization and Packaging of Polycubes	DNFSB	3/31/03		3/21/03	On Schedule
TRP-03-501	Submit Facility End Point Criteria Document to Ecology	TPA	9/30/03			On Schedule
TRP-03-503	Submit to Ecology a PFP Residual Chemical Hazards Assessment	TPA	12/31/02	12/27/02		Complete
TRP-03-504	Submit Closure Plan for 241-Z Waste Treatment Facility TSD Unit to Ecology	TPA	7/31/03			On Schedule
TRP-04-506	Complete all Pu Stabilization and Packaging	PI	2/18/04			On Schedule
TRP-04-508	Complete Repackaging of PFP Residues and Ship to CWC	TPA	4/30/04			On Schedule
TRP-05-501	Discontinue Waste Discharges from the 241-Z Tanks to Tank Farms	TPA	6/30/05			On Schedule
TRP-05-503	SNM Transferred to SRS or DOE Approved Interim Storage	PI	9/30/05			On Schedule
TRP-05-504	Legacy Pu Holdup Removed & Dispositioned	PI	9/30/05			On Schedule
TRP-06-501	Complete 100% Legacy Pu Holdup Removal	PI	9/30/06			On Schedule
TRP-06-502	Complete Transition & Dismantlement of the 232-Z Bldg Incinerator	PI	9/30/06			On Schedule
TRP-06-503	Eliminate the PFP Protected Area	PI	12/31/05			On Schedule
TRP-06-507	PFP Facilities (61 Buildings) Ready For Demolition	PI	9/30/06			On Schedule

## PERFORMANCE OBJECTIVES

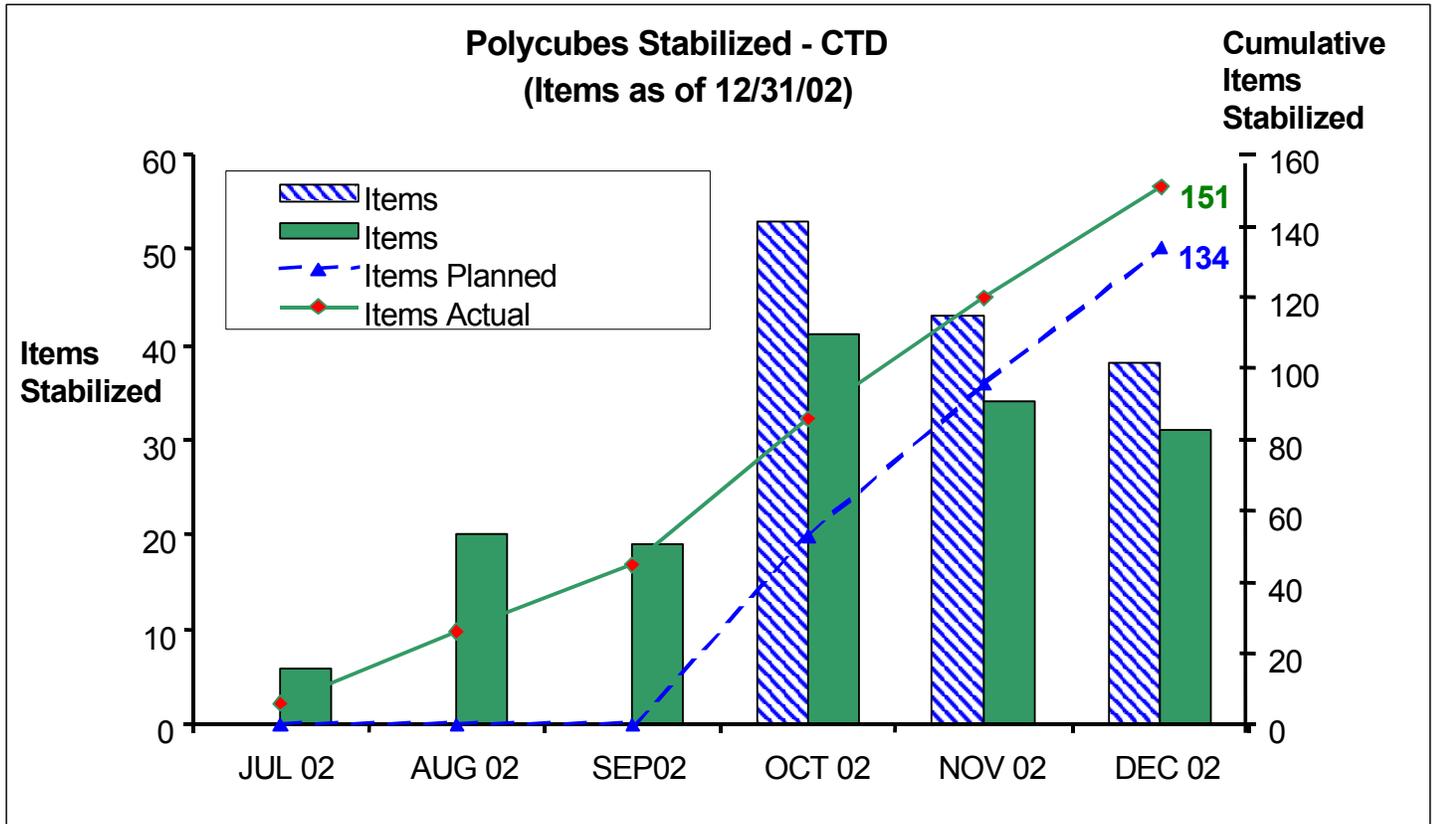
### METALS/ALLOYS/OXIDES STABILIZATION



### RESIDUE STABILIZATION



### POLYCUBE STABILIZATION



### FY 2003 SCHEDULE/COST PERFORMANCE

Cost/schedule performance is not available for this reporting status; data will be provided during the next reporting period based upon contract baseline updates as submitted to RL on January 30, 2003.

### FUNDS MANAGEMENT FYTD FUNDS VS SPENDING FORECAST (\$000)

	FH Funds Reallocation	FYSF	Variance
<b>3.3.3 Plutonium Finishing Plant</b>			
<b>CP03</b>			
<b>Project Completion - Operating</b>	\$ 110,000	\$ 112,800	\$ (2,800)

[Status through December 2002]

## ISSUES

### Technical Issues Regulatory, External, and DOE Issues and DOE Requests (Status through January 20, 2003)

#### Working with SRS and DOE (RL, HQ, RFFO, SR) to resolve and complete all activities needed to make the first shipment of material from PFP to SR.

Goal is to ship one shipment to verify readiness in the April/May time period

<u>Action/Status</u>	<u>Responsibility</u>	<u>When</u>
- Revise 9975 SARP to allow PFP cans	SRS, DOE/HQ	2/28/03
- Approve shipper/receiver agreement	FH/RL/SR contractor/SR	1/31/03
- Issue EIS ROD	SR/DOE/HQ	2/28/03
- Compliance with SR acceptance criteria	FH	
- Prepare SST/9975 procedures	FH	2/28/03
- Procure support hardware	FH	2/28/03
- Obtain 9975 over packs	FH	2/28/03

#### Shipment of Mixed Oxide Fuels from PFP

##### Actions/Status

PFP's accelerated closure baseline removed the cost for repackaging and shipping of FFTF fuel based on an assumption that the Radial Reflector Shipping Container (RRSC) and M-60s would receive a one-time exemption for shipment to the Savannah River Site (SRS).

##### **Path forward options:**

**Option 1** - Co-mingle irradiated and un-irradiated fuel for shipment to CSB and later shipment to Yucca repository with other SNF, or provide adequate delay times to allow storage of the material outside of a PA. PTH was requested to prepare a Security Risk Assessment (SRA) to support either co-mingling or other engineered features to provide necessary delays or barriers required for self-protection or storage outside of a PA. Meeting between PTH and PFP on preliminary results and path forward was held January 9. Task team of FFTF/PTH/SNF and PFP personnel will start SRA preliminary workweek of January 19. RL will approve or reject VA within 60 days of submittal. If engineered barriers or other means can provide the required delay times, the irradiated and un-irradiated fuel will not require co-mingling and can still be stored without requiring a PA.

**PFP Impact:** Cheapest, lowest dose option. Fully supports new PIs.

**FFTF Impact:** If the un-irradiated fuel can be made self protecting or provide adequate delay times, using engineered features, impact to FFTF will be minimal.

**Option 2** – Obtain one time DOE exemption to ship containers "as is" to SR. Statement of Work (SOW) prepared, cost estimate and schedule received from Duratek site transportation group. SOW, cost and schedule reviewed and authorization to proceed given to Duratek on January 14. First waiver (M-60) will be ready for transmittal to DOE/RL and HQ by February 17. DOE has 90 days to approve or reject the waiver.

**PFP Impact:** None; fully supports new PIs.

**FFTF Impact:** If waivers are approved, FFTF/PFP will have to procure additional containers to store and ship the remaining fuel at FFTF to SR.

**Option 3** - If Options 1 or 2 fail, a certified over pack container will have to be found for shipment to SR. Option will have costs not currently in either FFTF or PFP baseline to implement, costs depend on the over pack chosen, and may affect the de-inventory and ready for dismantlement date, and new PFP PIs. No funding exists in either the PFP or FFTF program to support this option. Existing SP-10 containers

owned by a commercial firm may be able to be used by amending the existing SARP. This would greatly reduce the cost impacts if it can be achieved.

**PFP Impact:** May not support new PI dates, cost for implementation is not in baseline budget.

**FFTF Impact:** May not support FFTF fuel off-load schedule.

## BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

BCR No.	Date Originated	Description	Impact		Date Action Taken	Status
			Days	Dollars (\$000s)		
FH-2003-001	9/3/02	Mega BCR - Unicall Rates		(\$157)		At FH
CP03-03-004	10/31/02	Accelerate PFP Closure		\$31,090		Approved by FH 11/26/02: Will Be Incorporated In New Contract Baseline
FH-2003-003	12/11/02	40 CFR 61 (NESHAPS) Amendment		\$15		At FH