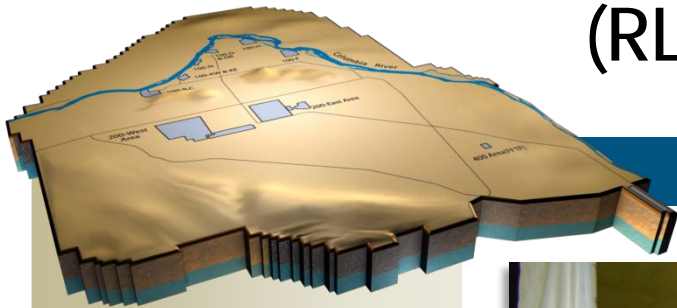


Section A Nuclear Materials Stabilization and Disposition of PFP (RL-0011)



Monthly Performance Report

Room 235D Glove Box 400 Removal



David Del Vecchio
Vice President and
Project Manager for
PFP Closure Project



NCO walking down control room

June 2010
DOE/RL-2008-69, Rev. 20
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

The PFP Project continues to maintain Plutonium Finishing Plant (PFP) facilities compliant with authorization agreement requirements.

American Recovery and Reinvestment Act (ARRA)

Sixty-six gloveboxes and hoods have been removed from their originally installed locations at PFP with Recovery Act funds. Of these, 57 have been shipped out of PFP for treatment or disposal, four are awaiting packaging/shipment, and five are staged for future size reduction and disposal as transuranic (TRU) waste. CHPRC has now shipped approximately 1,228 cubic meters of waste from PFP with support from Recovery Act funds, including 1,062 cubic meters of low level and mixed low level waste (LLW/MLLW), 144 cubic meters of TRU waste, and 22 cubic meters of non-radioactive waste.

234-5Z Laboratory Areas – Three inter-connected gloveboxes previously removed from Room 136 of the Analytical Laboratory have had non-destructive assay (NDA) performed, and we have now confirmed they can be transported to the Environmental Restoration Disposal Facility (ERDF) for disposal as LLW. In addition, two hoods were removed from Room 141 of the Analytical Lab, transferred to the PFP Solid Waste Organization and shipped to ERDF for disposal as LLW.

Plutonium Processing Areas – Samples of material were successfully taken from within the hydrogen fluoride scrubber cell in room 232 and submitted for laboratory analysis. External mechanical isolations on Glovebox HA 46 continued while chemical decontamination of the 70 foot long conveyor Glovebox HA-28 continued. Fixative was applied to the inside of large Glovebox 400 in the former Radioactive Digestion Test Unit area, inlet filters and ventilation monitoring equipment removed, and the glovebox was readied for isolation from building ventilation.

Infrastructure Systems – Non-destructive assay (NDA) measurements on the process vacuum system are now 67% complete. The work document for removal of process vacuum system piping has been released, and the field crew has started final setup of containment tents and other items as per the work document. The set up work includes the portable glovebox for size reduction of long pieces of vacuum piping removed from overhead runs that was fabricated and staged for final setup in the work area upon release of the work document.

During the month of June, 110 feet of asbestos insulation was removed, bringing the total for asbestos insulation removed with Recovery Act funds to more than 9,400 feet and the total for CHPRC to more than 10,100 feet.

Field construction forces continued installation of a supplemental cooling system to improve safety and working conditions during D&D of the process facilities during the upcoming summer months.

2736Z/ZB Vault Facility – The glovebox in Room 636 was successfully removed from ventilation and staged for removal from the building. The new port assembly to be used to facilitate removal of heavier items from the gloveboxes in Room 642 has been installed and is ready for use

242Z Americium Recovery Facility – 242Z Team continued with package development associated with mechanical isolation, electrical isolation, temporary electrical installation, and WT-2 glovebox removal. The Team successfully installed batteries and performed preventive maintenance on the man lift in 242Z. Preparation activities associated with painting the outside of WT-2 glovebox and 242Z airlock were completed and the first coat of paint was applied.

Base

236Z Plutonium Reclamation Facility – Preparations for the size reduction of the pencil tank assemblies were completed. A management self assessment was successfully conducted to confirm readiness to initiate size reduction activities. The declaration of readiness for the Readiness Assessment (RA) was issued to the RA Team Lead. The nondestructive assay results on the first two canyon floor samples, along with the results from previous sampling of the pans, indicate that the material in the pans meets safeguards termination requirements. There was limited progress on equipment removal on the first and second east

gallery glovebox due to needed repairs to the 17 inch vacuum pump. Work was initiated on the removal of the pulser glovebox. Planning is under way for removal of the pH glovebox and removal of the electrical services to the maintenance glovebox.

EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
10-EMS-PFP-OB1-T1	Reduce the environmental impacts of spills	Develop and implement effective measures that can be taken in advance of a spill to avoid or reduce the environmental consequences.	9/30/2010	On schedule, Training needs analysis completed, Briefing drafted
		Revise PFP spill response procedure consistent with revised company procedures.	2/28/2010	Completed 2/24/2010
		Develop and provide awareness, prevention, response and mitigation training (80 percent of project personnel).	9/30/2010	On schedule
		Establish and maintain a pre-designation central file for spills.	9/30/2010	On schedule

TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	1	8	Base – 6/16 – Slipped while descending the stairs. (20987)
Total Recordable Injuries	1	3	Same as Above
First Aid Cases	15	127	Base - 6/3 - Employee twisted knee/ankle in parking lot. (20962) Base - 6/5 - Employee experienced a laceration to the hand. (20966) ARRA - 6/8 - Employee smelled an odor while on supplied air and had a headache. (20974) Base - 6/15 - Employee experienced pain in the shoulder. (20988) Base - 6/15 - Employee slipped on the steps during the all employee meeting. (20986) ARRA - 6/15 - Employee bumped head. (21041) Base - 6/17 - Employee bumped shin while climbing stairs. (20990) Base - 6/18 - Employee received an abrasion to hand. (20991) Base - 6/18 - Employee bruised thumb on door handle. (20999) Base - 6/22 - Employee cut knee on drawer. (21018) ARRA - 6/23 - Employee bumped their back while moving under ductwork. (21032) Base - 6/23 - Employee received exposure while down posting room - later discovered rad levels at 120,000 - smear detected 6 counts. (21037) Base - 6/29 - Employee received a shock. (21045) Base - 6/30 - Employee received an insect bite. (21039) Base - 6/30 - Employee received laceration to finger. (21040)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

11.02 Maintain Safe and Compliant PFP – Base

- Considerable progress was made towards implementation of DSA and TSR changes to transition the 2736Z Complex into its D&D mission, incorporate RL annual update comments, and to close out the plutonium solubility justification for continued operation. Implementation is anticipated for July 15, 2010.

11.05 Disposition PFP Facility – Base

Plutonium Reclamation Facility (PRF)

- Preparations for size reduction of the PRF pencil tank assemblies were completed
- The management self assessment on the readiness to size reduction the pencil tank was completed and the declaration of readiness for the RA was issued
- Removal of the pulser glovebox was initiated
- Process equipment removal from the first and second floor east gallery gloveboxes continued and is approximately 52% complete

11.05 Disposition PFP (234-5Z) Facility – ARRA

- In RMA Line Room 235B, the team supported review of and input to revisions to existing procedures and work documents to implement new beryllium controls
- In RMA Line Room 232, work continued to remove the remaining external mechanical connections to Glovebox HA-46
- In RMC Line Room 227, the re-planning of work documents to incorporate new chemical controls
- In RMC Line Room 230C, the team supported review of and input to revisions to existing procedures and work documents to implement new beryllium controls
- In the RADTU area, Room 235D, the D&D team completed the internal process equipment removal, separation from ventilation, and removal of Glovebox 400

Standards Laboratory:

- The last eight gloveboxes and hoods were removed from the Standards Lab, and five of the eight have been shipped to ERDF for disposal as LLW. The remaining three have been loaded into a shipping container and are scheduled for shipment to ERDF in late July.

Analytical Laboratory:

- The 136-1, 2, 3 gloveboxes were relocated to a low background area in PFP and NDA measurements were performed, which confirmed the glovebox status as LLW
- Process equipment removal continued for the six gloveboxes in Room 139
- Two hoods were removed from in Room 141, and were turned over to the SWO organization for disposal as LLW.

Plutonium Process Support Laboratories:

- External equipment removal work continued in Room 180 in preparation for D&D work on the hood and glovebox in that room
- External equipment removal work commenced on the Room 188 glovebox

242Z Americium Recovery Facility

- Completed installation of batteries and performed PM on man lift. Man lift declared operable.
- Finished prepping WT-2 and 242Z airlock for painting activity
- Applied first coat of paint on external of WT-2 and 242Z airlock

2736Z/ZB Vault Complex

- Glovebox 636 has been successfully separated from building ventilation
- A new port assembly was installed to facilitate removal of heavier process equipment from gloveboxes in Room 642
- NDA and radiological surveys were completed to support transition of the PFP vault complex buildings to the D&D DSA and TSRs

MAJOR ISSUES

RL-0011 Nuclear Materials Stabilization and Disposition of PFP

Issue Statement – More effective decontamination agents for gloveboxes/hoods with contamination etched into the stainless steel by historical liquid chemical processes are not currently available

Corrective Action - Testing of the Aspigel® product to determine its suitability for use as a supplemental decontamination agent has been completed. PFP Engineering has released the technical basis document for the safe packaging and transport of Aspigel® in waste form. Additionally, the nuclear safety group is currently finalizing the hazards analysis and the criticality organization is completing the CSER; the expected release date of both documents is mid-July. PFP will hold training on the Aspigel® process in mid-July for the work crews.

RISK MANAGEMENT STATUS

Unassigned Risk
Risk Passed
New Risk

● Working - No Concerns
● Working - Concern
● Working - Critical
 Increased Confidence
 No Change
 Decreased Confidence

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Month	Trend	
RL-0011/WBS 011				
PFP-001: Inability to Effectively Decon Equipment/Materials to LLW	Develop decontamination approach and perform proof-of-principle testing early in the project. Incorporate surgical removal of isolated TRU on gloveboxes into the baseline. Enhance the Surface Contaminated Object (SCO) process, and implement the Contaminated Equipment - Special Package Authorization (CE-SPA) process for use where SCO is not practical. Establish size reduction capability as needed.	●	↑	Testing on Aspigel® is complete and documentation to authorize and support use are in process; implementation is targeted for July-August. A bounding CE-SPA document is now in place for use as needed to support future transport/disposal of gloveboxes meeting the CE-SPA criteria. The SCO process has been revised, and staff briefings are underway. Surgical removal of TRU and establishment of a size reduction station are incorporated in the baseline, and modifications of room 172 in 234-5Z for size reduction is well underway.
PFP-009: Problems with Aging Building Systems/Components Impacts D&D	Perform critical system reliability assessments; procure critical spares; maintain existing redundancies; replace the 234-5Z filter room 310 filters; remove 234-5Z filter rooms 311 and 316 from service; replace 234-5Z TSR-related transmitter and controllers. Procure new Canberra CAMs to replace less reliable existing CAMs. Procurement of a supplemental cooling system for 234-5Z and 236-Z, and provisions for stabilization of the below-grade piping encasement to 241-Z are incorporated in PMB-2.	●	↔	Continuous air monitor failures continue to impact D&D work. Older models are being replaced with newer CAMs, and installation of line conditioners and new power cords have reduced failures. Installation of a supplemental cooling system is nearing completion. Additional roof repairs were completed and appear to have resolved leaks of rainwater into 242-Z. Most recently, the PRF air sample vacuum system has been out of service for weeks, necessitating use of portable CAMs and resulting in some lost work time while lines were flushed and pumps replaced.
PFP-008, Unexpected High Concentration Material Holdup	Utilize supplemental NDA and other characterization techniques to identify areas of concern early in the project. Sample and analyze residual holdup on the PRF canyon floor. Maintain blend-down and pipe overpack container (POC) packaging capabilities will be maintained until no material level of risk remains. Procedures have been developed and coordinated with Safeguards and Security to respond to unexpected discoveries.	●	↑	Representative samples from the PRF canyon floor have now been analyzed, and determined to be relatively low concentration material that can be disposed of without special handling or controls. Non-destructive assay measurements are continuing on the process vacuum system piping, the process transfer lines, and the higher risk E-4 ventilation exhaust ductwork throughout the 234-5Z building.
PFP-034: Assessment Findings or Off-Normal Event Impacts	ISMS and work processes are designed to minimize the potential for significant occurrences and resulting programmatic impacts.	●	↑	Intrusive work in beryllium controlled areas remained on hold into June while PFP's two primary Beryllium Work Permits were improved, 17 related procedures were updated, and the workforce was briefed on changes. The last Stop Work was lifted on June 16, the management suspension on beryllium-related work was removed on June 17, and work was resumed in most areas shortly thereafter. Other facilities and projects, such as the WSCF laboratory and ERDF, have since suspended beryllium related work resulting in some impacts on PFP.

PROJECT BASELINE PERFORMANCE

Current Month

(\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
ARRA	8.2	5.8	6.6	(2.4)	-28.9	(0.8)	-13.0
Base	3.5	3.7	3.3	0.2	4.8	0.4	11.3
Total	11.7	9.5	9.9	(2.2)	-18.7	(0.3)	-3.6

ARRA

CM Schedule Variance: (-\$2.4M/-28.9%)

- (-\$2.1M) In early June, a stop work was initiated related to programmatic changes to the beryllium program and the implementation of revised beryllium related procedures. For June, this resulted in a loss of 14 working days as well as 26 shifts of overtime across multiple D&D accounts.
- (-\$0.3M) D&D 242Z – Obstacles were encountered that resulted in the inability to perform ten scheduled entries into the 242Z facility. Obstacles included rain water intrusion, outside support personnel not having adequate respiratory training, breathing air odor issue, and PRF contamination event. Schedule recovery is expected to be realized late in FY 2011.

CM Cost Variance: (-\$0.8M/-13.0%)

- (-\$0.6M) Inability to perform work due to work stoppages, while labor costs for the field work teams remained relatively constant. This resulted in a loss of 14 working days.
- (-\$0.2M) D&D 242Z – D&D Team personnel continue to charge while working through water intrusion issues, adequate respiratory training and breathing air odor issue.

Recovery – this negative cost variance is expected to continue through FY 2011 while corrective actions related to work stoppage are implemented. The life cycle cost performance is expected to decline due to the need for utilization of increased overtime to recover schedule associated with stop work and safety stand-downs.

Base

CM Schedule Variance: (+\$0.2M/+4.8%)

Current Month Schedule Variance is Within Reporting Thresholds

CM Cost Variance: (+\$0.4M/+11.3%)

Current Month Cost Variance is Within Reporting Thresholds

Contract-to-Date (\$M)

WBS 011/ RL-0011 Nuclear Matl Stab & Disp PFP	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
ARRA	120.0	113.4	105.9	(6.6)	-5.5	7.5	6.6	292.3	271.8	20.5
Base	<u>113.3</u>	<u>111.4</u>	<u>108.1</u>	<u>(1.9)</u>	-1.7	<u>3.3</u>	3.0	<u>339.7</u>	<u>336.8</u>	<u>2.9</u>
Total	233.4	224.9	214.0	(8.5)	-3.6	10.8	4.8	632.0	608.6	23.4

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (-\$6.6M/-5.5%)

- (-\$3.1M) Safety stand-downs and stop works resulted in loss of 20 working days and 37 shifts of overtime.
- (-\$2.1M) 234-5Z Process Facility and Labs – Emergent scope related to recovery actions from the nitric acid event, a number of false Continuous Air Monitor (CAM) alarms, and delays in enlarging Room 230C door to facilitate glovebox removal. Recovery actions are being developed to address this schedule delay to ensure the milestone for completing glovebox removal is achieved by September 30, 2011. Schedule delay will not be completely realized until the end of fiscal year 2011.
- (-\$0.6M) Facility Modifications – Late completion of chiller design, lack of engineering resources associated with alternate exhaust system design and installation is the cause of this variance. Chiller schedule recovery is expected by the middle of July. A recovery plan for the alternate exhaust system work scope has been evaluated, engineering resources are being assigned, and a recovery schedule is being developed.
- (-\$0.6M) 2736Z/ZB – Work package priorities and engineering paperwork has caused delays in removal of NDA equipment from Room 637 and clean out of process support equipment from Room 641. Expected schedule recovery – November 2010.

CTD Cost Performance: (+\$7.5M/+6.6%)

- (-\$1.6M) Inability to perform work due to the safety stand-downs and work stoppages, while labor costs for the field work teams remained relatively constant.
- (+\$6.0M) Efficiencies recognized on cross-cutting support to the D&D work teams (primarily in solid waste management, project management, NDA, and consumables and subcontracts).
- (+\$3.2M) Efficiencies experienced in completing facility modifications, early D&D of ancillary buildings, and the removal of asbestos and non-process equipment from 234-5Z.
- (+\$3.0M) Overhead allocations.
- (-\$3.1M) Use of overtime and additional usage-based services (MSA Brokered Resources) to recover schedule.

Recovery – this positive cost variance is expected to decline as corrective actions and recovery plans are implemented. Additional overtime and weekend work will be used to mitigate schedule delays and maintain baseline milestones. As a result of near-term actions taken (installation of air conditioning, work simulations, dedicated resources, planning templates), efficiencies are expected during execution of D&D work scope, which will bring cost performance at or better than plan.

Base**CTD Schedule Variance (-\$1.9M/-1.7%)**

- (-\$0.7M) Safety stand-downs and stop works resulted in loss of 20 working days and 37 shifts of overtime.
- (-\$0.8M) PRF – Delayed BROKK Procurement due to decision to manually size reduce pencil tanks and Canyon Floor Cleaning caused by delay of reactivation of canyon crane offset by early execution of Readiness Assessment in support of Manual Size Reduction of Pencil Tanks.
 - The schedule variance associated with the procurement of the BROKK will continue pending the completion of the evaluation of the manual size reduction approach (~August 2010) (Expected Recovery ~January 2011).
 - The schedule variance associated with floor cleaning and hood removal is due to the increased duration for canyon crane reactivation. Expected Recovery – September, 2010.
- (-\$0.4M) Facility Modifications – Additional safety, health, and Beryllium requirements are causing this variance.

CTD Cost Variance (+\$3.3M/+3.0%)

- (+\$1.4M) Early Completion of Spent Nuclear Material De-Inventory.
- (+\$1.7M) D&D Materials, Subcontracts, and Waste Container Procurements, D&D staff ramp-up, and recognized efficiencies in Min-Safe Operations.

Recovery – this positive cost variance is expected to decrease with increased utilization of overtime to recover schedule associated with the canyon floor cleaning and pH and Pulsar Hood Removal.

Contract Performance Report Formats are provided in Appendix A and Appendix A-1.

FUNDS vs. SPEND FORECAST (\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY 2010		Variance
	Projected Funding	Spending Forecast	
ARRA	118.7	101.4	17.3
Base	<u>57.2</u>	<u>50.3</u>	<u>6.9</u>
Total	175.9	151.7	24.2

Funds/Variance Analysis

Projected funding includes FY 2009 un-costed and FY 2010 expected new budget authority. The positive variance in RL-0011 Base reflects the elimination of the “Q” shift resources planned for the PRF Pencil Tank Removal, the elimination of the PRF waste elevator, delay in potential procurement of the BROKK remote handling system, delay in procurement of the transformers to support installation of temporary power, and delay in the installation and procurement of the alternate exhaust system.

Critical Path Schedule

Critical Path analysis can be provided upon request.

Estimate at Completion (EAC)

The BAC and EAC now include FY 2009 through FY 2018, the PRC contract period.

Baseline Change Requests

BCR-011-10-001R0, Elimination of Plutonium Reclamation Facility Elevator Work Scope.
BCR-R11-10-001R0, 241Z Underground Trench – Scope Deferral.

MILESTONE STATUS

None at this time.

SELF-PERFORMED WORK

The Section H. clause entitled, “Self-Performed Work,” is addressed in the Monthly Report Overview.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None identified at this time.