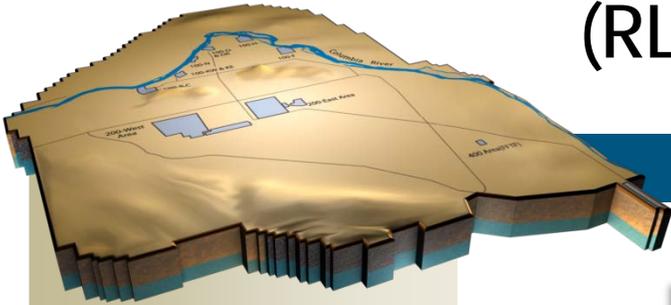


# Section A

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



### Monthly Performance Report

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ISVs buried at ERDF



Removal of Inlet Filter from Top of the PH  
Glovebox

September 2010  
DOE/RL-2008-69, Rev. 36  
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)

The first of two Key Performance Parameters (KPPs) for ARRA-funded work at PFP was completed in September, a year ahead of schedule, with five additional buildings readied for demolition. This brings the number of fuel vaults and ancillary buildings readied for demolition since April 2009 to 22, exceeding the KPP goal of 20 structures ready for demolition by September 2011. Final disposition of the structures, originally planned for just two facilities through FY2011, was also accelerated, and by the end of the quarter all 22 had been demolished/disposed or removed for reuse two years ahead of schedule, 17 with Recovery Act funds and five with Base funding.

Removal of plutonium-contaminated process equipment continued as a top priority in readying the PFP Complex for demolition. A total of 75 gloveboxes and hoods have been removed to date with Recovery Act funds, including ten in the fourth quarter, eight from 234-5Z and two from 2736-ZB Building. Glovebox size reduction was initiated at PFP during the quarter, with five boxes successfully cut up and packaged in Standard Waste Boxes (SWBs) for disposal as transuranic (TRU) waste. Removal of asbestos from PFP facilities continues ahead of schedule, with asbestos removed from 10,879 linear feet of piping and ductwork to date with Recovery Act funds. Non-destructive assay measurement of process support equipment is also continuing ahead of schedule, with more than 70% of the highly contaminated process vacuum system and process transfer lines now measured. Field work to remove assayed sections of piping was initiated, and by the end of the quarter approximately 250 feet of pipe had been removed and packaged for disposal as TRU waste.

With four of nine gloveboxes removed and all process equipment removed from the others, the former PFP SNM Storage Vault Complex is rapidly approaching a ready-for-demolition condition, with work also underway on equipment removal from the NDA laboratory, electrical isolation of various rooms and areas, and removal of hazardous materials that must be disposed of separately from the demolition debris. Work is also proceeding to prepare for D&D of the 242Z Building, where all entries must be performed with extensive protective clothing and supplied air respirators. More than 50 entries into the facility have now been successfully completed to remove combustible materials, restore the fire protection system, improve ventilation flow and reduce airborne contamination levels. By the end of the quarter the team had resolved all outstanding safety concerns underlying a 34-year restriction on performing intrusive D&D work in the building, and had reduced the levels of contamination in the 242ZA entry annex to levels where Powered Air Purifying Respirators (PAPRs) could be used in the annex rather than supplied air.

Removal of the former security infrastructure was accelerated during the quarter by expanding existing small business subcontracts to include additional work scope. The entire inner Protected Area perimeter fence line was removed, along with the 1.5 mile long Ecology Block vehicle barrier, the E-field intrusion alarm system, and miles of razor ribbon concertina and barbed wire. As the pace of D&D work accelerated, so did waste generation at PFP. Cumulatively through September 2010, Recovery Act funds have supported shipment of 2,051 cubic meters of low level waste, 187 cubic meters of TRU waste, and 22 cubic meters of non-radioactive waste from PFP.

### Base

**236Z Plutonium Reclamation Facility** – The pH Glovebox was successfully removed from PRF, placed into a Standard Waste Box (SWB), and shipped to WRAP for disposition as TRU waste. The suspension on breathing air work was lifted on September 21. Two canyon entries to troubleshoot the problem with the canyon crane were conducted identifying that the cable reel on the trolley is damaged and needs to be replaced.

## 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	Completed 9/13/2010
		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% of project personnel).	9/30/2010	Completed 9/13/2010
		Establish and maintain a pre-designation central file for spills.	9/30/2010	Completed 8/30/2010

## TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	1	5	Base - 9/14-Employee hit head and fell. (21318)
Total Recordable Injuries	3	8	Base - 9/14-Same as above. (21318) Base - 9/24-Employee received a laceration to the top of head. (21348) ARRA - 9/23-Employee received a potential exposure. (21349)
First Aid Cases	9	96	Base -9/24-Employee received an abrasion to the knee. (21351) Base - 9/23-Employee hit head. (21355) Base - 9/26-Employee received a potential exposure. (21360) Base - 9/15-Employee fell from broken chair. (21324) Base -9/16-Employee received a spider bite. (21329) ARRA - 9/23-Employee received a potential exposure. (21350) Base - 9/16-Employee received a bruise by dropping section of scaffold on foot. (21325) Base - 9/29-Employee received an abrasion to the leg. (21366) ARRA - 9/29-Employee received a scrape on shin. (21367)
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### 11.02 Maintain Safe and Compliant PFP – Base

- The Plutonium Finishing Plant is continuing to operate in a safe and compliant manner

### 11.05 Disposition PFP Facility – Base

#### Plutonium Reclamation Facility (PRF)

- The pH glovebox was removed, placed into a Standard Waste Box (SWB), and shipped
- The electrical isolation of the maintenance glovebox was completed
- Corrective actions associated with breathing air issues were completed and the suspension on breathing air work was lifted
- Two canyon entries were conducted to troubleshoot the problem with the canyon crane

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

- In RMA Line Room 235B, the team completed RadPro<sup>®</sup> chemical decontamination and the associated radiological surveys in Gloveboxes HA-21I, HA-22, and Conveyor HA-28. All of these gloveboxes will require size reduction and will be disposed as TRU waste.
- In RMA Line Room 232, the isolation of the external mechanical connections to Glovebox HA-46 was completed and preparations continued for a characterization entry into the HA-46 process cell
- In RMC Line Rooms 228A and 228B the first increment for the removal of process transfer lines was completed
- In RMC Line Room 230C, Glovebox HC-60 was relocated to Room 192 to perform low background assay and work continued for the removal of Gloveboxes HC-230C-3, HC-230C-4, and HC-230C-5
- In the RADTU Room 235D work continued on the mechanical isolation for GB200

#### Analytical Laboratory

- Process equipment removal was completed, and decontamination efforts commenced for the six Gloveboxes in Room 139
- The 137-1, 2, 3 and 149-1, 2 Gloveboxes were size-reduced and loaded into SWBs for disposal as TRU waste
- The 144-5, 6, 7, 8 Hoods were mechanically isolated, decontaminated, and removed from the room. These hoods were turned over to the SWO organization for disposition as LLW.

#### Plutonium Process Support Laboratories

- The 180-85 Glovebox was mechanically isolated, decontaminated, separated from its E4 connection, and transferred to Solid Waste Operations for disposition

#### 242Z Americium Recovery Facility

- Completed changing the E-3 filters located in Room 262 of 234-5Z successfully increasing the ventilation flow to the level required to support D&D
- Completed installation and testing of a new containment tent for entry into 242Z

#### 2736Z/ZB Vault Complex

- Electrically isolated and removed the electrical conduit supporting Room 642 gloveboxes and Room 641 equipment
- Removed approximately 70% of the shielding around the gloveboxes in Room 642
- Removed GB636 and GB642F from the facility and transferred them to SWO for NDA and disposal

## 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/Status** – The Aspigel® Hazards Analysis has been released. The work package for the first application of Aspigel® is undergoing final revisions and will proceed to the Hazards Review Board (HRB) by the third week of October. Additionally, the CHPRC Joint Evaluation Team (JET) review of the Aspigel® decontamination process has been scheduled for October 20, 2010. The JET will determine the level of readiness review required before implementation.

**Issue Statement** – PFP submitted an “R” occurrence report due to recurring events and overall poor conduct of operations.

**Corrective Action/Status** –

- Performed a Common Cause Analysis
- Conducted Root Cause Analysis
- Implemented Senior Supervisory Oversight
- Brought in outside expertise to assist the project in developing a plan of action to address the items identified in the “R” occurrence report.
- Developed a PFP Performance Improvement Plan

**Issue Statement** – Failure to effectively re-deploy D&D field work teams when work delays or stoppages are encountered.

**Corrective Action/Status** – Working with the D&D management team to communicate and implement a paradigm shift from continuity of D&D field work teams to “qualified” jurisdictional positions. In addition, evaluating the weaknesses associated with work package availability (lack of work packages) to support this change in approach.

## RISK MANAGEMENT STATUS

Unassigned Risk  
Risk Passed  
New Risk

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

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Month	Trend	
<b>RL-0011/WBS 011</b>				
PFP-001: Inability to effectively decontaminate equipment/materials to LLW	Develop decontamination approach and perform proof-of-principle testing early enough to minimize the potential for unanticipated TRU waste. Incorporate surgical removal of isolated TRU on gloveboxes into the baseline. Implement use of the Contaminated Equipment - Special Package Authorization (CE-SPA) process for cases where the Surface Contaminated Object (SCO) survey process is not practical. Establish size reduction stations as needed.	●	↓	In-situ size reduction capability was established in the Analytical Laboratory and five laboratory hoods were successfully cut up and packaged for disposal as TRU waste in September. Facility modifications are continuing for a full-time size reduction station in room 172, and the field team has been identified to begin preparations for startup. The three additional RMC Line gloveboxes that will require size reduction are being painted and prepared for removal from room 230C. The hazard analysis for implementation of Aspigel has been completed and final preparations are underway for Hazard Review Board and Joint Evaluation Team meetings the week of October 11. Implementation of the revised SCO process is continuing to be refined. The baseline glovebox disposition plan will be reassessed based on experience with the revised SCO process, the effectiveness of Aspigel, and the availability of the size reduction station.
PFP-004: Risk of PRF Canyon D&D cost/schedule growth	Complete detailed planning/engineering for D&D of PRF canyon, particularly pencil tank removal and canyon decontamination.	●	↑	Work requiring supplied air has been resumed following the implementation of process improvement actions. Several entries have been made to the PRF canyon to troubleshoot and plan needed repairs. Canyon work will resume with initial work on pencil tank assembly 17, then cleanup of the canyon floor, followed by pencil tank disposition. Gallery glovebox work is several months ahead of schedule, and the team is being reassigned to accelerate disposition of other gloveboxes throughout PRF.
PFP-004A: Risk of 291-Z D&D cost/schedule growth	Complete detailed planning/engineering for D&D of 291-Z, particularly characterization to help definitize the scope of work for relatively inaccessible areas and evaluation of the need for an alternate exhaust system.	●	↔	Preparations for initial characterization of the 291-Z plenum are complete and work is scheduled to be conducted later in October, on a non-interference basis with ongoing D&D. Responses to a request for proposal for conceptual design of an alternate exhaust system are being evaluated.
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.	●	↑	Non-destructive assay measurements are continuing with no issues identified to date. Regular reporting on this risk will be discontinued after this month, and will be reinitiated if NDA results indicate areas of concern.
PFP-009: Problems with Aging Building Systems/Components Impacts D&D	Perform critical system reliability assessments; procure critical spares; maintain existing redundancies; repair or replace equipment as failures occur. Procurement of a supplemental cooling system for 234-5Z, 242-Z and 236-Z, and provisions for stabilization of the below-grade piping encasement to 241-Z are incorporated in PMB-2.	●	↔	Continuous air monitors failures remain at a low level and the new chillers avoided the need for intensive heat stress controls during the summer. Troubleshooting and repairs to the PRF canyon crane are again underway with resumption of supplied air work. The exhaust filters for 242-Z have been successfully changed out and ventilation flow is being recorded as the last action required to lift a 34-year restriction on intrusive D&D in the facility. No significant failures of essential systems were experienced during the past two months.
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.	●	↑	Initial improvement actions were completed in response to incidents with supplied air, and intrusive work has resumed in PRF and 242-Z. Sample analysis results continue to show no actionable levels of beryllium contamination from any of the process areas sampled. Senior Supervisory Observation coverage of intrusive work has shifted from 100% oversight to a continuing, longer term program.
PFP-036: Loss of Contamination Control	Rigorous routine radiological surveillance program and contamination control measures.	●	↑	No significant contamination events have occurred during the past two months.

## 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	14.1	13.0	11.8	(1.2)	-8.2	1.2	9.2
Base	5.9	5.1	5.4	(0.8)	-13.6	(0.4)	-7.0
Total	20	18.0	17.2	(2.0)	-9.8	0.8	4.7

**ARRA****CM Schedule Variance: (-\$1.2M/-8.2%)**

The late award of the temporary power substations is the primary cause of this month's variance. The continued delays experienced by D&D, due to additional time required for chemical decontamination and issues with the use of breathing air, was mitigated by completing removal of eight gloveboxes.

**Recovery** – The delay in receipt of the substations does not impact completion of temporary power by the September 2011 baseline date. However, the cumulative D&D negative schedule variance is expected to continue. Utilization of an additional decon agent (Aspigel®), additional overtime, leaving gloveboxes in place for removal during demolition, and application of the revised SCO process is expected to contribute to the schedule recovery. Shift work is also being evaluated.

**CM Cost Variance: (+\$1.2M/+9.2%)**

Direct distributable pool liquidation credits are responsible for the current month variance.

**Recovery** – The cost variance is expected to continue to trend downward while D&D recovery plans are implemented. Utilization of overtime will be managed to control the trend of the CPI.

**Base****CM Schedule Variance: (-\$0.8M/-13.6%)**

Suspension of breathing air work prevented completion of canyon crane repairs and canyon floor cleaning.

**Recovery** – Breathing air work resumed September 21, resulting in re-start of canyon crane repairs.

Canyon crane repairs are expected to complete mid-October, allowing resumption of floor cleaning and manual size reduction of the PRF Pencil Tanks.

**CM Cost Variance: (-\$0.4M/-7.0%)**

Inability to effectively re-deploy field work teams when work delays/stops are experienced is causing this variance.

## 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)
<b>ARRA</b>	152.4	141.2	136.4	(11.2)	-7.4	4.8	3.4	279.2	269.9	9.3
<b>Base</b>	127.6	123.7	121.7	(3.9)	-3.1	2.0	1.6	340.8	344.2	(3.5)
<b>Total</b>	<b>280.0</b>	<b>246.9</b>	<b>258.0</b>	<b>(15.1)</b>	<b>-5.4</b>	<b>6.8</b>	<b>2.6</b>	<b>619.9</b>	<b>614.1</b>	<b>5.9</b>

Numbers are rounded to the nearest \$0.1M.

### ARRA

#### CTD Schedule Performance: (-\$11.2M/-7.4%)

Negative schedule variance is primarily caused by:

- Safety stand-down and stop works
- Breathing air issues
- Ultra conservative application of the SCO process
- Unplanned process vacuum mockup work to support application of new glovebag technique

**Recovery** – This negative schedule variance is expected to continue. Utilization of an additional decon agent (Aspigel<sup>®</sup>), additional overtime, leaving gloveboxes in place for removal during demolition, and application of the revised SCO process is expected to contribute to the schedule recovery. It is expected that the negative schedule variance will be recovered by March, 2012.

#### CTD Cost Performance: (+\$4.8M/+3.4%)

Efficiencies recognized on cross-cutting support to the D&D work teams (primarily in solid waste management, project management, NDA, and consumables and subcontracts), early demolition of ancillary buildings, and the removal of asbestos and non-process equipment from 234-5Z are the cause of this positive variance.

**NOTE:** This positive cost variance will diminish as corrective actions and recovery plans are implemented. Additional overtime will be used to mitigate schedule delays and maintain baseline milestones. Overtime will be monitored closely to ensure the CPI does not fall below the threshold of 1.00.

### Base

#### CTD Schedule Variance (-\$3.9M/-3.1%)

Safety stand-down and stop works, delayed equipment procurement for manually size reducing pencil tanks, canyon crane operability, and breathing air suspensions are contributing to this variance.

**Recovery** - A BCR is being prepared to incorporate the manual size reduction approach into the PRF Plan and remove the scope associated with the procurement of the BROKK. This BCR will be implemented by the end of October. A decision has been made to leave gallery gloveboxes in place for removal during demolition which will reduce cost and schedule. This negative schedule variance will be recovered by March, 2012.

#### CTD Cost Variance (+\$2.0M/+1.6%)

This positive cost variance is the result of early completion of Special Nuclear Material De-Inventory, D&D Materials Subcontracts, Waste Container Procurements, D&D staff ramp-up, recognized efficiencies in Min-Safe Operations and Demolition, and PRF east gallery glovebox cleanout.

**Recovery** – This positive cost variance is expected to decrease with increased utilization of overtime to recover schedule associated with the PRF canyon floor cleaning and Canning and Charging glovebox removals, but will be monitored closely to ensure the trend does not drive CPI below the threshold of 1.0.

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



## FUNDS vs. SPENDING (\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2010		
	Funding	Actual Spending	Spend Variance
ARRA	106.7	101.9	4.8
Base	<u>57.2</u>	<u>51.1</u>	<u>6.1</u>
<b>Total</b>	<b>163.9</b>	<b>153.0</b>	<b>10.9</b>

### Funds/Variance Analysis

Funding includes FY2009 carryover and FY2010 new budget authority. The positive variance in ARRA reflects the delay in removal of gloveboxes from 234-5Z process and lab areas associated with safety stand-down and stop-works. The positive variance in 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 FY2009 through FY2018, the PRC contract period.

### Baseline Change Requests

BCR-PRC-10-053R0, PRC Baseline, Revision 2 Update

BCRA-PRC-10-060R0, General and Administrative Changes for FY2010 Year End

### 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.