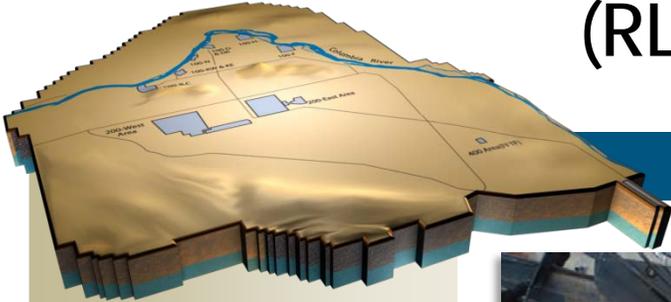


# Section A

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



### Monthly Performance Report

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Vice President and  
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PFP Closure Project



Removal of the last piece of fuel transfer line



Underground Storage Tank being lifted from the ground via crane

May 2011  
CHPRC-2011-05, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

The Plutonium Finishing Plant (PFP) Project continues to maintain PFP facilities compliant with authorization agreement requirements. The project continued with no lost work days or other recordable injuries in May, attaining more than 1.58 million work hours without a lost workday injury. The project also completed 120 days without a reportable event involving hazardous energy control, radiological control or conduct of operations. Nine minor first aid injuries were experienced during the month.

### **American Recovery and Reinvestment Act (ARRA)**

Removal of plutonium-contaminated process equipment continued as a top priority in readying the PFP Complex for demolition, with a particular focus on removal of gloveboxes and associated piping and ductwork from the process, lab, and vault areas. Glovebox Deactivation, Decommission, Decontamination, and Demolition (D&D) is complete in the backside vault rooms, Standards Laboratory, Analytical Laboratory, and the Radioactive Acid Digestion Test Unit (RADTU). A total of 124 gloveboxes have been removed to date with Recovery Act Funds. Of these, 107 have been shipped out of PFP for treatment or disposal and eight have been set aside and staged for size reduction and disposal as transuranic (TRU) waste. Three gloveboxes were shipped to an offsite treatment facility for size reduction—A Labs 152-522, RMA Active Room 235B HA-19B1 and HA-19B2. Size reduction of glovebox, HA-22B, was completed. The team then placed the Room 172 size reduction station in a safe condition and relocated to prepare for in-situ size reduction in Room 227. Recovery actions were completed for the contamination event in the 234-5Z duct level and the process areas were released for resuming intrusive work.

The 2736ZB building has been declared operationally clean which allows for deactivation of safety significant systems in preparation for building demolition. In response, the fire systems panels and pull boxes were deactivated. The 2736Z/ZB complex vault team has size reduced for disposal all the auxiliary exhaust and emergency exhaust in room 642. This exhaust was contaminated and removed for demolition. Fifty percent of the 2736Z/ZB complex filters have also been removed in preparation for demolition. The underground diesel storage tank supporting 2721Z was removed and sent to Environmental Restoration Disposal Facility (ERDF) for disposal. All sampling of the soil surrounding the diesel tank and transfer lines was completed and analyses did not reveal diesel contamination.

In the Plutonium Process Support Laboratories (PPSL), door/wall modifications were completed and six of the seven gloveboxes remaining in Room 179 were transferred to waste operations. Two gloveboxes remain to be removed. Glovebox 188-1 protrusions need to be removed to reduce interferences that might be encountered in loading for shipment. The D&D Team began clean out of Glovebox 179-1, which is scheduled to be removed at the end of June.

The final Key Performance Parameter (KPP) completion criteria for the Radioactive Acid Digestion Test Unit (RADTU) process area—cleanout was completed and the area turned over to waste operations for future use.

Glovebox removal work is ongoing in the Remote Mechanical A (RMA) and Remote Mechanical C (RMC) Lines. The final actions were completed and verified for in-situ disposition of the large Glovebox HA-46. The glovebox has been cleaned out to meet low-level-waste disposal criteria and, since it forms the south wall of the adjacent hydrogen fluoride scrubber cell, it will be left in place for removal during building demolition. In the RMC Line the 25-foot long HC-3 and HC-4 conveyors were removed. These are the last gloveboxes in Room 230C.

The 242Z Americium Recovery Facility D&D team completed size reduction, removal, and disposition of the WT-4 and WT-5 gloveboxes, completed layup of the facility for the balance of FY2011, and shifted to decontamination of large glovebox HA-23S, the final glovebox in 235B of the RMA Line.

Work has not restarted on removing highly contaminated piping from 234-5Z, as the process vacuum piping team and transfer line removal teams continue to support other high-priority PFP work. Total

process vacuum piping removed remained at 1,210 feet, and process transfer line removal remained at 491 feet. Insulator crews have removed 443 feet of asbestos from piping and ductwork, bringing the total linear footage completed at PFP with Recovery Act funds to 14,319 feet.

As the pace of D&D work has accelerated at PFP, so have waste generation rates. CHPRC has now shipped approximately 3,233 cubic meters of waste from PFP with support from Recovery Act funds, including 2,637 cubic meters of low level and mixed low level waste, 527 cubic meters of TRU waste, and 24 cubic meters of nonradioactive waste.

MSA Electrical Utilities energized the two trailer-mounted transformers, which were installed to support temporary power distribution systems. Underground diesel storage tank Tk-701-12B and associated fuel transfer lines were removed, size reduced, and shipped to the ERDF for disposal. In addition, two large breathing air compressor trailers (2711-B1 and 2711-B2) were removed from the PFP area for transfer to the Mission Support Contractor for reuse or excess. This increases the total number of ancillary structures demolished or removed to 25.

### **Base**

**236Z Plutonium Reclamation Facility** – The pencil tank counter balance, band saw frame, and modified band saws were transferred into the canyon. The counter balance will be used to relocate the pencil tank strongbacks from the maintenance cell to the canyon walls.

The pencil tank counter balance was placed on the pencil tank assembly 17 (Tank 17) strongback counter weight bail. The counter balance mounting hangers did not fully engage onto the bail. The transfer of the strongback was stopped, counter balance removed, and modification completed. The counter balance was successfully hung on the Tank 17 strongback and the strongback relocated to the center of the maintenance cell for Nondestructive Assay (NDA) in support of planning for preparing the canyon for demolition.

Reactivation of the Miscellaneous Treatment (MT) glovebox 5 (MT-5) was initiated.

## EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
		➤ Actions to achieve target		
11-EMS-PFP-OB1-T1	Broaden spill mitigation efforts at PFP	Reduce opportunity for hydrocarbon spills		75% Complete
		➤ Evaluate additional controls	12/31/2010	Complete
		➤ Standardize controls for SOWs	3/31/2011	Complete
		➤ Evaluate alternate fuel options	6/30/2011	
11-EMS-PFP-OB2-T1	Reduce number of private vehicles used for commuting to/from PFP	Ben Franklin Transit (BFT) bus service		80% Complete
		➤ Conduct survey	12/31/2010	Complete
		➤ Summarize survey results	3/1/2011	Complete
		➤ Obtain cost estimate	5/1/2011	Complete
		➤ Report to management	7/1/2011	
11-EMS-PFP-OB3-T1	Materials Redeployment	Redeployment of unused and contaminate free items		65% Complete
		➤ Review release procedures	12/31/2010	Complete
		➤ Evaluate excess practices	3/31/2011	Complete
		➤ Evaluate procurement practices	6/30/2011	
		➤ Document 3 successes	9/30/2011	

## TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	3	N/A
Total Recordable Injuries	0	7	N/A
First Aid Cases	9	96	<b>ARRA - 5/3</b> Employee received a contusion to their right hand. (21949) <b>ARRA - 5/12</b> Employee experienced muscle pull in the left pectoral. (21963) <b>ARRA - 5/12</b> Employee received a puncture to their thumb. (21962) <b>ARRA - 5/18</b> Employee received laceration to finger. (21972) <b>ARRA - 5/18</b> Employee experienced muscle strain to their left shoulder. (21973) <b>ARRA - 5/19</b> Employee experienced a foreign body in their left eye. (21978) <b>ARRA - 5/19</b> Employee received an insect bite. (21980) <b>ARRA - 5/20</b> Employee received an abrasion to their elbow. (21982) <b>ARRA - 5/24</b> Employee experienced irritation in their right eye. (21993)
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### 11.02 Maintain Safe and Compliant PFP – Base

- In support of D&D of the 2736Z Complex, compensatory measures (occupancy limit, combustible control, and enhanced equipment alarm response) were implemented upon temporary deactivation of the 291Z fire protection system. Restoration of the system or approval to remain deactivated will be completed by the end of October.
- Completed all required actions and formally declared the 2736ZB facility operationally clean

### 11.05 Disposition PFP Facility – Base

#### Plutonium Reclamation Facility (PRF)

- The pencil tank counter balance, band saw frame and modified band saws developed for size reduction of the pencil tanks were transferred into the canyon.
- A modification of the counter balance was quickly completed and the counter balance was successfully hung on the Tank 17 strongback.
- Reactivation of the Miscellaneous Treatment (MT) glovebox 5 (MT-5) was initiated.

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

- In Remote Mechanical A Line Room 235B, the wall between Rooms 235B and 235A-1 was modified. This modification is necessary to have adequate space to work on the gloveboxes in Room 235A-1 and to also provide an enlarged opening to permit glovebox removals. The team from 242Z mobilized in Room 235B to start the cleanout and removal of the large four level glovebox HA-23S.
- In RMA Line Room 235A-1, the team completed Aspigel® chemical decontamination on four gloveboxes and applied fixative to the interior of the gloveboxes.
- In RMA Line Room 232, the cleanout of the HA-46 process cell was completed.
- In RMA Line Room 235A-3 the isolation and removal of electrical components continued and the work planning continued.
- In RMC Line Room 230A, port activations were completed and electrical isolations were started.
- In RMC Line Room 230B, port activations and electrical isolations were started.
- In RMC Line Room 228A, the team started mechanical isolations of the HC-1 conveyor.
- In RMC Line Room 228B, the work team initiated the mechanical isolation and process equipment removal of Glovebox HC-15 A/B/C.
- In RMC Line Room 228C, electrical isolations were completed for Gloveboxes HC-17 SBB, DC, and P.
- In RMC Line Room 227, a newly established voluntary swing shift D&D team was assigned to this room and mechanical isolation of Glovebox HC-227T was initiated.

#### Analytical Laboratory

- A D&D Team has commenced Bulk Area Cleanup activities for the lab. This involves removal of miscellaneous equipment and piping, which will prepare the lab area for demolition.

#### PPSL

- Work commenced on D&D of the 179-1 glovebox, the last active glovebox in the PPSL area. Currently, the work team is removing process equipment from the glovebox.

- The 188-1 glovebox has been placed on lifting devices in preparation for removal from Room 188.
- Eight deactivated gloveboxes (179-2, 3, 4, 6, 9, 10, 11, 12), were removed from Room 179 and loaded in waste transport containers in preparation for disposition.

**Disposition PFP (234-5Z) Facility**

- Process vacuum piping removal is 30 percent complete with 1,210 total feet removed.
- A total of 491 feet of chemical piping transfer line has been removed.
- 443 feet of asbestos-containing materials on piping was removed during the month of May bringing the total to 14,319 feet of asbestos removed to date.

**242Z Americium Recovery Facility**

- Size reduction of gloveboxes WT-4 and WT-5 is 100% percent complete and waste packaging and load out is 100% percent complete.
- The team was re-allocated to work on the KPP Gloveboxes in the RMA/RMC lines of 234-5Z on May 9, 2011.

**2736Z/ZB Vault Complex**

- Completed characterization and declared 2736ZB operationally clean; which now allows safety significant systems to be deactivated.
- Completed removal and disposal of the Underground Diesel Storage tank supporting 2721Z. Soil sampling was completed and did not reveal diesel contamination.

**PFP Facility Modifications**

- Completed installation of two Portable Electric Substations for Temporary Power. Started modifications to Waste Route Platform Extension for Door 107.

## MAJOR ISSUES

**Issue** – Radiological Controls Performance (people, process, procedures) is less than adequate.

**Corrective Actions** – Multiple actions in-progress to bolster while strengthening the overall program:

- Vacancies filled, additional staff added, significant support from CHPRC Central Radiological Controls
- Expectations set, controls established, programmatic compliance ensured.

**Issue** – Jurisdictional Decisions

**Corrective Actions** – Working with HAMTC to convey impacts and discuss implementation.

**Issue** – Workforce distractions due to Work Force Restructuring, Salary Freeze, and lack of an employee incentive program.

**Corrective Actions** – Training management and HAMTC Union Stewards on “Coping with Change.”  
Developing a Company sponsored incentive program.

## 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-003, Structural Decontamination Required Prior to Demolition; PFP-015, Conditions or Contamination Causes Greater Cleanup Than Planned	Facility sampling and characterization	●	↓	Coupon sampling of 2736-ZB ventilation exhaust ductwork revealed significantly higher than expected levels of contamination in several hundred feet of ducting, downstream of some HEPA filters. Ductwork is being removed and disposed of as necessary to support demolition, resulting in increased scope and cost, and delaying turnover of the facilities to CHPRC D&D.
PFP-036: Loss of Contamination Control	Rigorous routine radiological surveillance program and contamination control measures.	●	↑	No significant contamination events were experienced in May. Implementation of radiological control improvement initiatives continued during the month, with a particular emphasis on the application of more conservative hazard controls that anticipate higher than expected contamination levels and dose rates to avoid potential consequences to workers and lost productivity. Planning is nearing completion to manage much of the RMA/RMC Line process areas as full-time airborne radioactivity and high contamination areas, with implementation of additional beryllium controls in areas where applicable.
PRC-025: Workforce Disruptions; PFP-035: Jurisdictional Issues Impact Planned Labor; PFP-042, Increased Attrition Impacts Availability of Qualified Resources	Risk has historically been accepted without mitigation.	●	↓	As workforce restructuring approaches, PFP is continuing to experience higher than expected levels of attrition and an increasing number of grievances and jurisdictional assignments of work, adversely affecting schedule and cost performance. Critical positions are being backfilled where necessary, and CHPRC management is working with HAMTC leadership to develop jurisdictional implementation plans.

## PROJECT BASELINE PERFORMANCE

### Current Month

(\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	Budgeted Cost of Work Scheduled (BCWS)	Budgeted Cost of Work Performed (BCWP)	Actual Cost of Work Performed (ACWP)	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
<b>ARRA</b>	10.7	8.5	10.8	(2.2)	-20.5	(2.2)	-26.0
<b>Base</b>	2.5	2.1	2.7	(0.4)	-15.6	(0.6)	-28.4
<b>Total</b>	<b>13.2</b>	<b>10.6</b>	<b>13.4</b>	<b>(2.6)</b>	<b>-19.6</b>	<b>(2.8)</b>	<b>-26.4</b>

Numbers are rounded to the nearest \$0.1M

#### ARRA

##### **CM Schedule Variance: (-\$2.2M/-20.5%)**

Current month unfavorable schedule variance is a result of delays in completing D&D of 234-5Z process and lab areas, which has been impacted by work package development delays, resource demand for electrical isolations, and more complex glovebox removal. In addition, resources have been reassigned to focus on higher priority KPP glovebox removal work scope and as a result, planned D&D work in 242Z, balance of 234-5Z, ancillary buildings, and facility modifications has been deferred. The 234-5Z process area electrical isolations are on the critical path for completing the KPP, which has been extended to December 31, 2011.

##### **CM Cost Variance: (-\$2.2M/-26.0%)**

Current month unfavorable cost variance is primarily a result of inefficiencies associated with 234-5Z process area D&D teams providing support for electrical isolations, the lack of work packages has limited progress while still incurring the cost of the full team. In addition, to recover schedule, another team has been assigned to support future work in Room 227. Higher cost has also resulted from more complex glovebox removal in Labs, additional resources required to bring the Z/ZB complex to a Cold and Dark status, and higher use of MSA brokered craft to support D&D.

#### Base

##### **CM Schedule Variance: (-\$0.4M/-15.6%)**

Current month schedule variance is within reporting threshold.

##### **CM Cost Variance: (-\$0.6M/-28.4%)**

Current month unfavorable cost variance is primarily due to continued surveillance/monitoring and maintenance of vital systems required to support D&D, which were originally planned to be deactivated. Additional resources and overtime used to complete pencil tank size reduction activities in PRF, including tool and equipment problem resolution actions and fabrication/mockup activities to develop tools expected to improve efficiency, also contribute to the 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>	223.0	217.3	218.8	(5.7)	-2.6	(1.5)	-0.7	292.3	286.0	6.3
<b>Base</b>	145.0	144.4	144.8	(0.6)	-0.4	(0.4)	-0.3	344.8	368.0	(23.2)
<b>Total</b>	<b>368.1</b>	<b>361.7</b>	<b>363.6</b>	<b>(6.3)</b>	<b>-1.7</b>	<b>(1.9)</b>	<b>-0.5</b>	<b>637.1</b>	<b>654.0</b>	<b>(16.9)</b>

Numbers are rounded to the nearest \$0.1M

### ARRA

#### CTD Schedule Performance: (-\$5.7M/-2.6%)

Negative schedule variance is within reporting threshold.

#### CTD Cost Performance: (-\$1.5M/-0.7%)

Favorable cost variance is within reporting threshold.

### Base

#### CTD Schedule Variance (-\$0.6M/-0.4%)

The schedule variance is within established reporting thresholds.

#### CTD Cost Variance (-\$0.4M/-0.3%)

The negative cost variance is within established reporting thresholds.

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

### Estimate at Completion (EAC)

The BAC and EAC include FY2009 through FY2018, the PRC contract period.

The EAC change from April to May is within reporting thresholds.

## FUNDS vs. SPEND FORECAST

(\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2011		
	Projected Funding	Spending Forecast	Spend Variance
<b>ARRA</b>	163.1	155.5	7.6
<b>Base</b>	41.7	36.9	4.8

Numbers are rounded to the nearest \$0.1M

### Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority. "Projected Funding" for Base PBSs was changed in May, 2011 to reflect a reallocation among PBSs and a reduction of \$7.3 to align with the final FY 2011 Appropriations Act (RL-0011 Base: +\$2.3M).

### Critical Path Schedule

Critical Path analysis can be provided upon request.

### Baseline Change Requests

BCR-RCH-11-001R0, Remove FY 2011 Budget for 222-S Laboratory Support

## 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.