

Section A

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



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PROJECT SUMMARY

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

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 and lab 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 132 gloveboxes have been removed to date with Recovery Act Funds. Of these, 123 have been shipped out of PFP for treatment or disposal and one has been set aside and staged for size reduction and disposal as transuranic (TRU) waste.

The 2736-ZB complex ready for demolition crews grouted penetrations, removed other regulated materials and staged heavy equipment in preparation for demolition of the facilities. CHPRC D&D commenced demolition of the four-building PFP Vault Complex and two ancillary structures and will complete demolition and waste load-out by the end of January, 2012.

Final area cleanout is continuing throughout 234-5Z. To date, 48 of the 69 lab, vault and process area rooms in the 234-5Z building have been declared ready for demolition in accordance with the Key Performance Parameter completion criteria.

External isolations, process equipment removal, and decontamination continued on the 47 Remote Mechanical A (RMA) and Remote Mechanical C (RMC) Line gloveboxes, where work has been constrained by the significant turnover in NCOs and RCTs. In Room 235-B, the 26" vacuum line and permanent exhaust to glovebox HA-23S was removed.

Work on removing transfer lines, process vacuum system piping, and asbestos insulation removal is constrained by lack of adequate resources as a result of workforce restructuring. The total number of highly contaminated process solution transfer lines in the 234-5Z building removed remains at 594 feet. Total process vacuum system piping removed remains at 1,210 feet. Asbestos removed from piping and ductwork remains at 15,228 feet.

As the pace of D&D work has accelerated at PFP, so have waste generation rates. CHPRC has now shipped approximately 3,824 cubic meters of waste from PFP with support from Recovery Act funds, including 3,044 cubic meters of low level and mixed low level waste, 749 cubic meters of TRU waste, and 31 cubic meters of nonradioactive waste.

Base

236Z Plutonium Reclamation Facility – Canyon entries were made to complete the replacement of the damaged trolley cable reel. After inspection, the crane was returned to service on November 8, 2011.

EMS Objectives and Target Status

Objective #	Objective	Target	Actions to Achieve Target	Due Date	Status
12-EMS-PFP-OB1-T1	Reduce generation/toxicity of waste through spill reduction	Reduce likelihood of hydraulic spills from D&D work at PFP	Review history of D&D hydraulic failures	12/30/2011	80%
			Identify types of failure and impact	03/29/2012	
			Research improved hydraulic line technology	06/29/2012	
			Report recommendations to management	07/30/2012	
12-EMS-PFP-OB2-T1	Reduce vehicle miles/ green house gas emissions by use of mass transit	Formally request Ben Franklin Transit (BFT) bus service to 200W/PFP	Formally request BFT/CHPRC to implement	10/31/2011	100%
			Conduct tour/employee meetings with BFT	11/01/2011	100%
			Formally request proposal from BFT	11/24/2011	100%
12-EMS-PFP-OB3-T1	Reduce radioactive air emissions from open air demolition of 236-Z	Decontamination of 236-Z Building canyon	Review decontamination methods	12/30/2011	80%
			Evaluate selected method for air emissions	06/31/2012	
			Evaluate method's ability for source reduction	08/31/2012	

TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	1	N/A
First Aid Cases	2	78	BASE - 11/14/2011 - Employee experienced back pain. (22515) BASE - 11/20/2011 - Employee experienced pain in the right toe. (22523)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

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

- In Remote Mechanical A Line Room 235B, the removal of the 26" vacuum line and permanent exhaust to glovebox HA-23S was completed. Mobilization began in the 212-Z lay down yard to mock up the assembly of the two large gantry cranes that will be used to separate glovebox HA-23S.
- RMA Line Room 235A-1, glovebox HA-14DC was removed from the glovebox line. Planning was finalized to reorient the glovebox in Room 235A-1 to facilitate removal from the room and eventual loading into a SLB2 container.
- In RMA Line Room 235A-3 the mechanical isolation of glovebox HA-7A continued.
- In RMC Line Room 230A, the internal wipe downs of gloveboxes HC-21C and HC-2 were completed and both gloveboxes were prepared for chemical decontamination.
- In RMC Line Room 230B, process equipment removal from glovebox HC-21A was completed. After finishing process equipment removal the team initiated sweeps and wet wipe downs of gloveboxes HC-2 and HC-21A in preparation for chemical decontamination.
- In RMC Line Room 228B, the work team completed size reduction of the guide rails in the HC-1 conveyor.
- Due to work force restructuring, all RMA/RMC teams continued to train new team members during the month of November.

Analytical Laboratory

- Bulk Area Cleanup activities for the lab are substantially complete; all identified contaminated piping and E4 ducting systems have been removed. Chemical disposition work has now been completed. The only items remaining for disposition are to finish removal of a contaminated-equipment storage area in A-Lab. Work is now scheduled for completion by the middle of December, 2011.

PPSL

- Bulk Area Cleanup activities for the lab are now complete

Standards Lab

- Bulk Area Cleanup activities for the Standards Lab are complete

Disposition PFP (234-5Z) Facility

- Process vacuum piping removal is 30 percent complete with 1,210 total feet removed.
- A total of 592 feet of chemical piping transfer line has been removed.
- No asbestos-containing materials on piping was removed during the month of November. The total remains at 15,228 feet of asbestos removed to date.

2736Z/ZB Vault Complex

- Two buildings in the 2736-ZB complex were demolished and loaded-out, 2731-ZA and 2736-ZC.

Base

11.05 Disposition PFP Facility – Base

Maintain Safe & Compliant PFP

- The Conditions of Approval contained in the DOE-RL Safety Evaluation Report approving the 291-Z exhaust fan Evaluation of the Safety of the Situation (ESS) last September included

direction to convert the ESS into a detailed Justification for Continued Operation that included: 1) an enhanced inspection, testing, and maintenance program for the confinement ventilation system; and 2) the plan and schedule for restoring 291-Z exhaust fans to fully, unrestricted operable status. The requested JCO was submitted to RL via letter CHPRC-1104667 R1 on November 28.

Plutonium Reclamation Facility (PRF)

- Canyon entries were made to complete the replacement of the damaged trolley cable reel. A bumper guard and trolley cable roller was installed to avoid a reoccurrence of the damage to the trolley cable. After inspection, the crane was returned to service on November 8, 2011.
- The field work team initiated seal-out of the Pencil Tank Assembly 23 (Tank 23) segments from the canyon into Pencil Tank Overpacks (PTOs).
- Work was initiated with AREVA on a joint study of the use of a pressurized liquid nitrogen decontamination system for cleanup of the canyon after removal of the pencil tank assemblies has been completed.

MAJOR ISSUES

Issue - On August 29, Exhaust Fan #1 in the 291-Z facility catastrophically failed and caused a small fire when a hot bearing oil made contact with the drive belt. The facility implemented required casualty response actions and the fire was extinguished. Normal ventilation for the facility was shutdown and backup steam turbine driven exhaust fans were placed in service. Per Technical Safety Requirement (TSR), the facility was placed in a "Terminate Activities" mode which halted all D&D activities.







Corrective Actions - A thorough evaluation of the 291-Z exhaust fans was performed. The evaluation identified additional mechanical issues with most of the remaining exhaust fans. A positive Unreviewed Safety Question (USQ) determination was declared and Evaluation of Safety of the Situation (ESS) was prepared and submitted to RL for approval. The ESS was approved by RL on September 15, 2011 (Letter #11-SED-0165). Normal ventilation fans were restarted and the Terminate Activities condition was exited. Normal D&D activities were authorized to commence. A JCO was submitted to RL via letter CHPRC-1104667 R1 on November 28 as directed by the ESS.













Issue – On Sunday, July 24, 2011, the trolley on the PRF canyon crane failed during movement to retrieve the counter balance to install the Tank 23 strongback. A loud noise was heard from inside the canyon when the crane motion switch was moved to either the east or west directions.

Corrective Actions – Canyon entries were made to complete the replacement of the damaged trolley cable reel. A bumper guard and trolley cable roller was installed to avoid a reoccurrence of the damage to the trolley cable. After inspection, the crane was returned to service on November 8, 2011.

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	
RL-0011/WBS 011				
PFP-003: More Extensive Cleanout/Decon Required	Develop and implement a detailed process facility characterization plan. Determine and obtain approval for ready-for-demolition criteria (contamination removal/cleanup endpoints prior to building demolition). Early characterization provides an opportunity to avoid project schedule impact; however, cost impacts remain.			No new discoveries occurred in November. Significantly higher than expected levels of contamination have previously been discovered in deactivated process vacuum piping in 291-Z, a transfer line from 242Z to 234-5Z, and the ductwork downstream of HEPA filters in 2736-ZB. The discoveries have resulted in the need to remove much of these systems/components rather than leave them in place for demolition. The impact of these discoveries has been factored into PMB-3, as has the development and implementation of a detailed facility characterization plan to proactively investigate other areas where facility contamination levels are not well understood.
PFP-004: Risk of PRF Canyon D&D cost/schedule growth PFP-009: Problems with Aging Building Systems/Components Impacts D&D	Complete detailed planning/engineering for D&D of PRF canyon, particularly pencil tank removal and canyon decontamination. Perform critical system reliability assessments for all of the PFP safety and essential systems; procure critical spares; maintain existing redundancies; repair or replace equipment as failures occur and complete planned facility modifications.			The PRF canyon crane was repaired in October and Pencil Tank disposition successfully resumed in November. Following a catastrophic failure of 291-Z ventilation exhaust fan #1 on August 29, all of the fans were inspected and maintained, and four fans (2,4,6,7) were returned to service. Work planning has been completed to repair two others with visible cracks in the fan blades, and the work is scheduled to be completed during December. An enhanced preventative maintenance program for Vital Safety Systems and VSS support systems has been developed and will be fully implemented in January.
PFP-008: Unexpected High Concentration TRU Material Holdup Discovered	Utilize supplemental NDA and other characterization techniques to identify areas of concern early in the project. Discuss potential response actions and administrative controls with Safeguards and Security, and proceduralize them as needed to guide the project in responding in the event unexpected material is identified.			This risk has been realized for the first time in one of the former process glovebox lines, and is being managed in accordance with the approved procedures. In this case the impacts are relatively limited, but will likely require 2-3 weeks of unplanned work scope.
PFP-042: Increased Attrition Impacts Availability of Qualified Resources PRC-021A, Workforce restructuring caused by funding changes	Risks have historically been accepted without mitigation.			Training and qualification is continuing for the personnel transferred to PFP in early October to backfill for lower seniority personnel released during workforce restructuring. Many of the impacted teams have restarted their planned work, although the lower priority teams will not be fully staffed until January. The impacts associated with workforce restructuring were incorporated in PMB-3.
PFP-006: Overall D4 Schedule Impacts from Interferences Between Subprojects	Ensure that activity schedules for all subprojects are integrated and are detailed enough to identify and avoid possible conflicts, and maintain coordination between closely related efforts that could overlap or that use the same resources.			Delays in completion of bulk area cleanout in the Analytical Laboratory and readying 2736-ZB for demolition (refer to PFP-003 above) have significantly impacted other planned work scope during October and November due to the need for continuing RCT support to these activities. This has been compounded by the lack of availability of CHPRC D&D resources to support the vault complex demolition scope. Both sets of activities are now scheduled for completion during December, which will free of the RCT resources planned for other activities.
PFP-064 OPP: Reduced Size Reduction Required Consistent With SLB2 Packaging	Implementation of the use of SLB-2s has been identified as a sitewide initiative by CHPRC and RL. A specific plan of action was developed and is being executed to support this opportunity.			An inventory of SLB-2 containers, along with 4X4X8 waste boxes, which will fit directly into the new SLB-2s are now on hand for immediate use, with the first box expected to be loaded in December. The scope, schedule and cost reductions that will result from the use of SLB-2 packages at PFP have been assessed and incorporated in the updated PMB-3 delivered to RL in late November.

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 (%)
ARRA	9.6	10.5	9.6	0.9	9.6	0.9	8.2
Base	208	3.1	(0.1)	0.3	11.9	3.2	104.7
Total	12.3	13.6	9.5	1.2	10.1	4.1	30.2

Numbers are rounded to the nearest \$0.1M

ARRA

CM Schedule Variance: (+\$0.9M/+9.6%)

Current month schedule variance is primarily a result of a point adjustment of BCWS/BCWP following implementation of BCR-PRC-12-001R0, *FY2012-FY2018 Lifecycle Update, PRC Baseline Revision 3*. Partially offset by RMA/RMC schedule delays resulting from unavailable resources continuing to support higher priority work scope that is taking longer than expected.

CM Cost Variance: (+\$0.9M/+8.2%)

Current month cost variance results from the PMB Offset processed this period, which increased BCWS and BCWP on adjusted FY2011 activities. This is offset by the transfer of prior period costs associated with extended ARRA work scope from base-funded work packages, recognized inefficiencies, higher use of MSA brokered craft, and the extended use of resources and overtime to complete more complex work scope.

Base

CM Schedule Variance: (+\$0.3M/+11.9%)

Current month schedule variance is primarily a result of adjusted BCWS/BCWP following implementation of BCR-PRC-12-001R0, *FY2012-FY2018 Lifecycle Update, PRC Baseline Revision 3*. This is partially offset by PRF schedule delays resulting from unavailable resources continuing to support higher priority work scope.

CM Cost Variance: (+\$3.2M/+104.7%)

Current month cost variance results from the PMB Offset processed this period, which increased BCWS and BCWP on adjusted FY2011 PRF activities. This is offset by the transfer of prior period costs associated with extended ARRA work scope from base-funded work packages. Without the adjustment, there is a favorable variance of \$0.4M.

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	271.5	270.3	277.2	(1.2)	-0.4	(6.9)	-2.6	293.6	299.3	(5.7)
Base	162.5	161.9	164.6	(0.6)	-0.4	(2.7)	-1.6	595.6	597.2	(1.6)
Total	434.0	432.2	441.8	(1.8)	-0.4	(9.6)	-2.2	889.2	896.4	(7.3)

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance: (-\$1.2M/-0.4%)

The schedule variance is within reporting thresholds.

CTD Cost Performance: (-\$6.9M/-2.6%)

The cost variance is within reporting thresholds.

Base

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

The schedule variance is within reporting thresholds.

CTD Cost Variance (-\$2.7M/-1.6%)

The cost variance is within reporting thresholds.

Variance at Completion (-\$7.3M/-0.8%)

The variance at completion is within reporting threshold.

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 changes from October to November, for both ARRA and Base, are within reporting thresholds.

FUNDS vs. SPEND FORECAST (\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2012		
	Projected Funding	Spending Forecast	Spend Variance
ARRA	33.4	33.4	0.0
Base	100.6	93.1	7.5

Numbers are rounded to the nearest \$0.1M

Funds/Variance Analysis

Funding includes FY2011 carryover and FY2012 new Budget Authority.

Critical Path Schedule

Critical Path analysis can be provided upon request.

Baseline Change Requests

BCR-PRC12-001R0, Baseline Rev. 3

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.