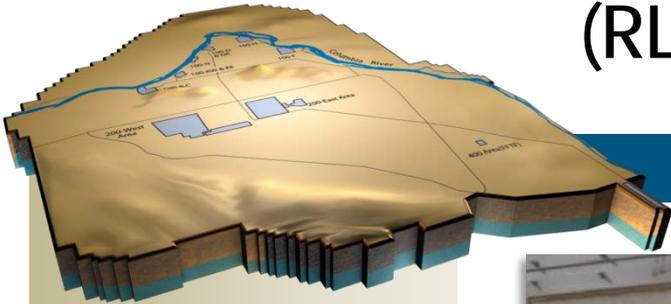


Section A

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



Monthly Performance Report

J.W. Long
Vice President and
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PFP Closure Project



Removal of the
HEPA filters from
E-3 filter rooms
311 and 316

September 2011
CHPRC-2011-09, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PRF Canyon
Crane Repair



7/12/51 PM

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 130 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-Z, 2736-ZA and 2736-ZB buildings were certified Cold and Dark. 2721-Z and 2736-Z and 2736-ZA were also declared ready for demolition. CHPRC D&D plans to demolish the four-building PFP Vault Complex and two ancillary structures and complete waste load-out by the end of December.

Final area cleanout is continuing throughout the three PFP laboratories and backside vault rooms of 234-5Z. To date, 27 of the 47 rooms in these areas have been inspected and verified as complete in support of the Key Performance Parameter for 234-5Z Ready for Demolition (KPP-1).

External isolations, process equipment removal, and decontamination continued on the 47 Remote Mechanical A (RMA) and Remote Mechanical C (RMC) Line gloveboxes, where significant radiation dose rates and high contamination levels complicate work. All four of the HA-14 gloveboxes in the RMA Line (Room 235A-1) were removed from building ventilation, HA-14S and 14P unbolted from HA-14DC, and sleeving to support their removal is being installed. In the RMC Line (Room 228A), external isolations, process equipment removal, and initial decontamination was completed on glovebox HC-11; and external mechanical isolations and process equipment removal was completed on HC-10 and the first section of the HC-1 conveyor glovebox.

This period, 57 feet of highly contaminated process solution transfer lines in the 234-5Z building was removed, bringing the total removed to date to 592 feet. Process vacuum system piping removal remains on hold in support of higher-priority KPP 234-5Z Ready for Demolition work scope in the process and lab areas, and total removed remains at 1,210 feet. Insulator crews removed 229 feet of asbestos from piping and ductwork, bringing the total linear footage completed at PFP with Recovery Act funds to 15,228 feet.

As the pace of D&D work has accelerated at PFP, so have waste generation rates. CHPRC has now shipped approximately 3,679 cubic meters of waste from PFP with support from Recovery Act funds, including 2,949 cubic meters of low level and mixed low level waste, 700 cubic meters of TRU waste, and 30 cubic meters of nonradioactive waste.

Removal of the 224 contaminated HEPA filters from deactivated filter rooms 311 and 316 are complete.

Base

236Z Plutonium Reclamation Facility – Canyon entries to troubleshoot the problem with the crane trolley were impacted by the failure of Exhaust Fan 1 (EF-1) on August 29, resulting in restrictions on work in the radiological areas of PFP. In addition, canyon entries to troubleshoot the crane trolley were impacted by the work force structuring resulting in a new canyon entry team being assembled.

Troubleshooting of the crane resulted in uncertainties as to where the trolley cable has failed. A determination has been made to replace the cable reel. Engineering has completed the design and fabrication has been initiated on installation of a part to address the rubbing of the cable.

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		100% Complete
		➤ Evaluate additional controls	12/31/2010	Complete
		➤ Standardize controls for SOWs	3/31/2011	Complete
		➤ Evaluate alternate fuel options	6/30/2011	Complete
11-EMS-PFP-OB2-T1	Reduce number of private vehicles used for commuting to/from PFP	Ben Franklin Transit (BFT) bus service		100% Complete
		➤ Conduct survey	12/31/2010	Complete
		➤ Summarize survey results	3/1/2011	Complete
		➤ Obtain cost estimate	5/1/2011	Complete
11-EMS-PFP-OB3-T1	Materials Redeployment	Redeployment of unused and contaminate free items		100% Complete
		➤ Review release procedures	12/31/2010	Complete
		➤ Evaluate excess practices	3/31/2011	Complete
		➤ Evaluate procurement practices	6/30/2011	Complete
		➤ Document 3 successes	9/30/2011	Complete

TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	2	N/A
First Aid Cases	5	94	ARRA - 9/1 Employee received an abrasion to their index finger. (22314) ARRA - 9/12 Employee experienced lumbar strain. (22345) ARRA - 9/25 Employee received an abrasion to left knuckle. (22368) ARRA - 9/26 Employee experienced pain in their elbow. (22372) ARRA - 9/28 Employee received a bite/sting to left shoulder. (22379)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

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

- In Remote Mechanical A Line Room 235B, the cleanout of the large four level glovebox HA-23S was completed for all four levels of HA-23S.
- RMA Line Room 235A-1, the chemical decontamination and application of internal fixative was completed for gloveboxes HA-14S, HA-14P, HA-14CC and HA-14DC.
- In RMA Line Room 235A-3 the initial internal wipe down of gloveboxes HA-8A, HA-8B, HA-9C, HA-9D, and HA-9E were started. The mechanical isolation of glovebox HA-7A continued.
- In RMC Line Room 230A, removal of internal components for glovebox HC-21C and conveyor HC-2 were completed.
- In RMC Line Room 230B, the removal of the internal conveyor chain and guide rails for HC-2 were completed and the external isolation of glovebox HC-21A continued.
- In RMC Line Room 228A, the team completed process equipment removal and external isolations of gloveboxes HC-10 and HC-11. During this period the team also completed initiated decontamination of HC-1, HC-10, and HC-11 in preparation for glovebox removals.
- In RMC Line Room 228B, the work team continued process equipment removal from Gloveboxes HC-15 A/B/C and HC-16CC. Also, the team initiated size reduction of the guide rails in the Room 228B sections of Glovebox HC-1. In RMC Line Room 228C, mechanical isolations and process equipment removal from Gloveboxes HC-17 SBB, DC, and P continued. Also, electrical isolations for gloveboxes HC-18M and HC-18BS, the balance of Room 228C, and the balance of Room 228B were continued.

Analytical Laboratory

- Bulk Area Cleanup activities for the lab continue. This involves removal of miscellaneous equipment and piping, which will prepare the lab area for demolition. Cleanup is scheduled for completion by the end of October, 2011.

PPSL

- Bulk Area Cleanup activities for the PPSL lab continue. This involves removal of miscellaneous equipment and piping, which will prepare the lab area for demolition. Cleanup is scheduled for completion by the middle of October, 2011.

Standards Lab

- Bulk Area Cleanup activities for the Standards Lab commenced. This involves removal of miscellaneous equipment and piping, which will prepare the lab area for demolition. Cleanup is scheduled for completion by the middle of October, 2011.

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.
- A total of 229 feet of asbestos-containing materials on piping was removed during the month of September bringing the total to 15,228 feet of asbestos removed to date.

2736Z/ZB Vault Complex

- Facilities 2721-Z, 2736-ZA and 2736-Z were declared Ready for Demolition.

Base**11.05 Disposition PFP Facility – Base****Maintain Safe & Compliant PFP**

- After failure of Exhaust Fan EF-1 (see issues section of this report), a thorough evaluation of remaining exhaust fans in 291-Z was performed. This evaluation revealed the need to perform additional exhaust fan maintenance prior to restart of the normal ventilation system (e.g. bearing replacements; sheave/belt alignments; mounting plate modifications; etc.) The maintenance activities were completed which allowed four of the seven exhaust fans to be restarted and placed into service (EF-2, EF-4, EF-6, and EF-7). The Department of Energy (DOE) authorized restart of normal ventilation on 9/15/2011. Inspection results for EF-3 and EF-5 revealed more extensive repairs are needed prior to allowing normal use.

Plutonium Reclamation Facility (PRF)

- Canyon entries to setup for troubleshooting of the crane trolley were completed.
- A canyon entry was made on Wednesday, September 28th to troubleshoot the failure of the canyon crane trolley. The electrician verified a normal continuity check on the trolley motor and that the trolley motor was not the problem of the open “B” phase. While pulling up and down on the trolley cable, the electrician was able to observe the continuity of the “B” phase go back and forth from an open to closed state validating the previous Time Domain Reflectometry (TDR) results that the trolley cable reel had failed.

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 DOE-RL for approval. The ESS was approved by DOE 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 comprehensive causal analysis is in progress to determine the cause of EF-1 failure and to identify additional corrective actions.

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 – A canyon entry was made on Wednesday, September 28, to troubleshoot the failure of the canyon crane trolley. Just prior to entering, the electrician checked the resistances on the trolley motor wires. It was found that the “B” phase had a normal resistance rather than the “Open” resistance previously identified. While in the canyon, the electrician verified a normal continuity check on the trolley motor and determined that the trolley motor was not the problem of the open “B” phase. While pulling up and down on the trolley cable, the electrician was able to observe the continuity of the “B” phase going back and forth from an open to closed state validating the previous Time Domain

Reflectometer (TDR) results that the trolley cable reel had failed. It is unsure where the trolley cable has failed. Engineering had previously identified the location of a bumper support bracket as a location where the cable continuously rubs over a 6 foot span of cable as the trolley moves back and forth to the east. It is expected that the failure could be anywhere in that span. Cutting the cable reel back past the area where rubbing would occur would cause the cable to be too short to perform its function. Therefore, the cable reel will need to be replaced. A spare cable reel is available for installation. Engineering has completed a design and fabrication has been initiated on a part to install to address the rubbing of the cable.

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-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; procure critical spares; maintain existing redundancies; repair or replace equipment as failures occur and complete planned facility modifications.			The PRF canyon crane remains out of service pending repairs. In mid-September, the crew completed a manned entry into the canyon and verified that the cause of the failure was the electrical feed to the trolley motor. Subsequently, a number of key personnel trained for high-risk entries into the PRF Canyon were lost from the project as a result of workforce restructuring. A newly formed PRF crew is now completing advanced training in preparation for the resumption of manned entries into the canyon to effect repairs. As many as 8- to 12-entries may be needed to effect repairs, perform functional tests of the PRF Canyon crane bridge and trolley, install a bridge retrieval system (in the event of future failure), and declare operational readiness for continuing Pencil Tank size reduction and sealout activities. Pencil Tank size reduction and sealout activities are expected to resume in mid-November. Following a catastrophic failure of one of the 291-Z ventilation exhaust fans on August 29, all of the fans were inspected and maintained, and four fans were returned to service; investigation is underway on cracks detected in the fan blades of two others. With concurrence from RL, compensatory measures were placed in effect and intrusive D&D work has been resumed.
PFP-036: Loss of Contamination Control	Rigorous routine radiological surveillance program and contamination control measures.			Only a few, relatively minor contamination events have been experienced since more conservative radiological controls were implemented in PFP's D&D work packages and RMA/RMC Line area access requirements. Reporting on this risk will be discontinued unless and until additional impacts are experienced.
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.			During September, approximately 300 staff were released from PFP as a result of workforce restructuring to align with FY 2012 funding levels. Sixty of these positions will be backfilled with higher seniority bargaining unit staff from other projects and contractors, however up to three months will be required before they are fully trained and qualified to perform work at PFP. Nearly 25% of the Nuclear Chemical Operators and almost 50% of the Radiological Control Technician positions at PFP are affected.

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	24.6	16.1	14.8	(8.5)	-34.6	1.3	-7.9
Base	6.3	5.6	6.3	(0.7)	-10.8	(0.7)	-13.0
Total	30.9	21.7	21.1	(9.2)	-29.7	0.5	2.5

Numbers are rounded to the nearest \$0.1M

ARRA

CM Schedule Variance: (-\$8.5M/-34.6%)

Current month unfavorable schedule variance is primarily a result of a three-week work restriction of D&D activities, due to loss of normal ventilation, workforce restructuring, and deferred D&D work resulting from resources reassigned to focus on higher priority KPP glovebox removal work scope..

CM Cost Variance: (+\$1.3M/+7.9%)

Current month favorable cost variance is primarily a result of year-end liquidation of overhead and G&A pools.

Base

CM Schedule Variance: (-\$0.7M/-10.8%)

Current month unfavorable schedule variance is due to PRF D&D delays, resulting from reassigned field work teams, failure of the canyon crane, the loss-of-normal-ventilation work restriction, and workforce restructuring.

CM Cost Variance: (-\$0.7M/-13.0%)

Current month unfavorable cost variance is primarily due to the costs associated with loss of normal ventilation and costs to address the PRF canyon crane failure. The cost associated with loss of normal ventilation includes additional exhaust fan maintenance and the down-time of impacted D&D resources unable to perform work in their normal assigned location.

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	282.8	261.4	265.5	21.4	-7.6	(4.0)	-1.5	287.8	271.0	16.8
Base	159.1	156.9	159.9	(2.2)	-1.4	(3.1)	-2.0	347.2	369.7	(22.5)
Total	441.9	418.3	425.4	(23.6)	-5.3	(7.1)	-1.7	634.9	640.7	(5.7)

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance: (-\$21.4M/-7.6%)

The unfavorable schedule variance is due to delays in completing D&D of 234-5Z and deferred D&D work resulting from resources reassigned to focus on higher priority KPP glovebox removal work scope. The 234-5Z process and lab area D&D delays are a result of contamination events, more stringent radiological controls, ventilation event, workforce restructuring, and complexity of work.

CTD Cost Performance: (-\$4.0M/-1.5%)

The cost variance is within reporting thresholds.

Base

CTD Schedule Variance (-\$2.2M/-1.4%)

The schedule variance is within reporting thresholds.

CTD Cost Variance (-\$3.1M/-2.0%)

The cost variance is within reporting thresholds.

Variance at Completion (-\$5.7M/-1.0%)

An unfavorable Base variance at completion results from the cost impact of extending the completion of D&D of 236-Z and 242-Z due to team reassignments to support higher priority RMA/RMC KPP glovebox removal work scope and the continued surveillance/monitoring and maintenance of vital systems required to support D&D, which were planned to be deactivated.

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 August to September, for both ARRA and Base, are within reporting thresholds.

FUNDS vs. SPEND FORECAST (\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2011		
	Projected Funding	Spending Forecast	Spend Variance
ARRA	163.1	129.6	33.4
Base	41.7	38.3	3.3

Numbers are rounded to the nearest \$0.1M

Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority.

Critical Path Schedule

Critical Path analysis can be provided upon request.

Baseline Change Requests

None.

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.