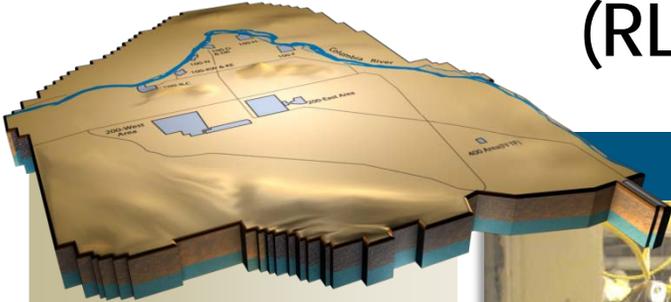


Section A

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



Monthly Performance Report

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



242-Z Team removing glovebox windows in preparation for size reducing gloveboxes WT-4 and WT-5



D& D activities started in 242-Z control room on Glovebox WT-4

January 2011
CHPRC-2011- 01, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

The 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, hoods and associated piping and ductwork from the process, lab and vault areas. Modifications to the project baseline, via baseline change request, occurred this month, which incorporated the recovery plan. Recovery actions for the month were completed as planned, including deploying 30 experienced staff from other CHPRC projects, including 20 Nuclear Chemical Operators, eight Radiological Control Technicians and two first line supervisors. There were nine gloveboxes removed, and Phase II of process vacuum system piping removal was complete, with 81 feet removed this period. Only one foot of process transfer lines was removed; however, the crew tested and installed a new “chop box” for size reducing the piping which will improve efficiency in remaining removals. Insulator crews also removed asbestos from piping and ductwork, bringing the total linear footage completed at PFP with Recovery Act funds to 13,057 feet.

A total of 102 gloveboxes and hoods have been removed to date with Recovery Act funds. Of these, 85 have been shipped out of PFP for treatment or disposal and 11 have been staged for size reduction and disposal as transuranic waste. Five previously-removed gloveboxes were loaded for shipment out of PFP; three of these will be size reduced and packaged for offsite disposal as transuranic waste and two will be treated and packaged for onsite disposal as low level waste at ERDF. Size reduction operations continued in room 172, to cut up and package two gloveboxes for disposal as TRU waste. As the pace of D&D work has accelerated at PFP, so have waste generation rates. CHPRC has now shipped approximately 2,724 cubic meters of waste from PFP with support from Recovery Act funds, including 2,325 cubic meters of low level and mixed low level waste (LLW/MLLW), 376 cubic meters of TRU waste, and 23 cubic meters of nonradioactive waste.

All gloveboxes and hoods have now been removed from all but four of the 30 rooms in the Analytical, Standards, and Process Development Laboratories, and backside vaults that once contained gloveboxes or hoods. Work is ongoing in rooms 145 and 152 of the Analytical Laboratory, with just one glovebox each, and rooms 179 and 188 of the Plutonium Process Support Laboratory (PPSL), containing ten gloveboxes. The first two sections of conveyor HA-28 and glovebox HA-22 were removed and staged elsewhere, pending size reduction. Size reduction and removal of internal equipment from conveyors HC-3 and HC-4 continued. The airlock portion of conveyor HC-4 was removed and will be disposed as TRU waste. Phase 1 of the 234-5Z Floor Trench was also completed. The 242Z Americium Recovery Facility was successfully isolated from all plant electrical power and is now using temporary power for all applications. Intrusive D&D was initiated for the first time in this facility, with removal of miscellaneous waste from glovebox WT-5. Glovebox 642B was isolated from building ventilation and removed. Process equipment removal and chemical decontamination of glovebox 642A was performed, completing the last of nine boxes in the vault support complex.

Base

236Z Plutonium Reclamation Facility – Pencil tank assembly 17 (Tank 17), which was damaged in 1993, was removed from the maintenance cell, rotated, and placed back into the maintenance cell for size reduction. Size reduction tools and equipment were staged in preparation for the initiation of size reduction of Tank 17 planned for February.

Size reduction of the maintenance glovebox in room 27 was initiated and is approximately 60 percent complete. In addition, the removal of the charging, loading and canning gloveboxes was completed, removed from the E-4 systems, and staged for transfer to room 27 for size reduction.

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		35% Complete
		➤ Evaluate additional controls	12/31/2010	Complete
		➤ Standardize controls for SOWs	3/31/2011	In progress
		➤ 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		30% Complete
		➤ Conduct survey	12/31/2010	Complete
		➤ Summarize survey results	3/1/2011	In progress
		➤ Obtain cost estimate	5/1/2011	
11-EMS-PFP-OB3-T1	Materials Redeployment	Redeployment of unused and contaminate free items		25% Complete
		➤ Review release procedures	12/31/2010	Complete
		➤ Evaluate excess practices	3/31/2011	In progress
		➤ 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	6	N/A
Total Recordable Injuries	0	11	N/A
First Aid Cases	8	106	ARRA - 1/6 Employee received a sprain to their right shoulder. (21621) ARRA - 1/10 Employee received a metal sliver in finger. (21624) ARRA - 1/11 Employee received a contusion to their left calf. (21642) Base - 1/13 Employee received a contusion to their left knee. (21648) ARRA - 1/11 Employee felt pain in right knee. (21674) ARRA - 1/18 Employee experienced a potential exposure to spray adhesive, resulting in dry throat and coughing. (21672) ARRA - 1/28 Employee received wood slivers in forearm. (21694) ARRA - 1/31 Employee experienced pain in right arm. (21697)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

11.02 Maintain Safe and Compliant PFP – Base

- Nondestructive assay (NDA) was re-performed on the 291Z vacuum system piping as a result of the 291Z facility unexpected material holdup. The Potential Criticality Nonconformance Response Checklist documenting that the 291Z vacuum system piping is double contingent was revised. A Recovery Plan was issued to document safety basis document change actions that are needed.

11.05 Disposition PFP Facility – Base Plutonium Reclamation Facility (PRF)

- Size reduction of the maintenance glovebox in room 27 was initiated and is approximately 60 percent complete. The first three sections have been transferred to Waste Operations for disposal.
- The removal of the charging, loading and canning gloveboxes is complete and the gloveboxes are staged for size reduction
- The installation of a new HVAC unit in PRF room 70 was completed. This room is part of PRF's South Canyon Airlock and will be used as an access route for entering the PRF Canyon.

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

- In Remote Mechanical A (RMA) Line Room 235B, removal of the third of five total sections of conveyor HA-28 was completed. The airlock portion of conveyor HC-4 was also removed and will be disposed of as TRU waste in a Standard Waste Box (SWB). The first two sections of conveyor HA-28 and glovebox HA-22 which were removed and temporarily staged in room 235B in December were removed from room 235B and staged elsewhere pending size reduction. Use of the Aspigel® chemical decontamination method on gloveboxes HA-19B1 and HA-19B2 continues.
- In RMA Line Room 232, the chemical decontamination of glovebox HA-46 continued
- In RMA Line Room 235A-3 an external framework and shielding were installed around glovebox HA-9A to reduce dose to personnel performing D&D activities in this room. The installation of new gloves on gloveboxes in this room was also started.
- In Remote Mechanical C (RMC) Line Room 230C, the size reduction and removal of the internal equipment for conveyors HC-3 and HC-4 was completed
- In the Radioactive Acid Digestion Test Unit area, Room 235D, Glovebox 100 was activated and staged for making a cut to separate it from Glovebox 200
- Phase I of the 234-5Z Floor Trench Grouting was completed, which includes grouting of five trenches

Analytical Laboratory

- The 143-3, 4, and 5 gloveboxes were separated from their E4 connection and removed from the room. This completes all glovebox removals from Room 143. In addition, process equipment removal from the 145-1 and 152-522 gloveboxes commenced.

PPSL

- Commenced process equipment removal from the 179-2, 3, 4, 6, and 9 gloveboxes

Disposition PFP (234-5Z) Facility

- Process vacuum piping removal is 16 percent complete with 894 total feet removed
- A total of 346 feet of chemical piping transfer line has been removed
- 769 feet of asbestos-containing materials on piping was removed during the month of January bring the total to 13,057 feet of asbestos removed to date

242Z Americium Recovery Facility

- The Hazard Review Board successfully completed a review of both work packages for the clean out and size reduction of gloveboxes WT-2, WT-3, WT-4, and WT-5
- The 242Z Americium Recovery Facility was successfully isolated from all plant electrical power and is now using temporary power for all applications
- D&D activities were initiated on gloveboxes WT-4 and WT-5

2736Z/ZB Vault Complex

- Glovebox 642B was removed from ventilation and removed from the room for NDA
- Work commenced to establish criteria for down grade of the Z-7 stack

MAJOR ISSUES

None.

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				
PPF-001: Inability to Effectively Decon 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.	●	↑	This risk has been fully realized, resulting in extended durations for glovebox removal and disposition, and a substantial increase in the percentage of remaining gloveboxes expected to require size reduction and disposal as TRU waste. Mitigation and schedule recovery actions were added to field execution schedules in December, and have now been incorporated in the project baseline through a Baseline Change Request implemented in January. Also during January, process improvements were implemented to resolve plugging of the Aspigel spray equipment and the second application of this new decontamination process was completed. Surveys are being conducted to quantify the decontamination factor achieved. The Room 172 size reduction station operated intermittently during January, but is nearly complete with disposition of the first two gloveboxes. Two more gloveboxes were shipped and three additional boxes loaded for shipment to Perma-Fix Northwest.
PPF-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.	●	↑	With the initial cleanup of the canyon completed, the priority has shifted to preparing for removal and disposition of the pencil tanks. The first tank assembly is expected to be dispositioned in February with 10 units completed by the end of March. Glovebox cleanup, removal and disposition is continuing on schedule. PNNL provided a comprehensive briefing on the status and outcome of the demolition dispersion modeling completed to date. A final report on this phase of the modeling activity is expected within 60 days.
PPF-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.	●	↔	Supplemental NDA measurements were completed on the inactive section of the process vacuum system piping, reducing but not eliminating concerns over the greater than expected holdup originally identified during December. Planning continues on the next phase of the 291-Z characterization plan, which should resolve the uncertainties leading to this project risk. Meanwhile, the alternatives analysis has been completed on the PFP Alternate Exhaust System, and a decision reached to provide stand-alone exhaust capability for longer term D&D of PRF. In parallel, deactivation of the various 234-5Z building support systems and D&D of the 291-Z facility are being replanned so that the ventilation requirements for D&D of 234-5Z can continue to be met with 291-Z and the Z-001 stack without jeopardizing the ability to demolish the complex by September 2013.
PPF-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 and complete planned facility modifications.	●	↑	No significant failures were experienced in January; however the plant has begun to experience a few minor impacts as a result of higher than expected gamma sensitivity on newer models of portable alpha meters. Older models are being redeployed to areas with higher levels of gamma radiation to reduce the impact on the field work teams.
PPF-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.	●	↑	Extensive beryllium sampling is continuing with no positive sample results in January. Improvement actions from the "R" occurrence report and the PFP Performance Improvement Plan continued, and the frequency of reportable events remains below the trend that led to issuance of the "R" report. One employee-originated stop-work event was experienced in January as a result of inadequate resources available to the size reduction team. The DNFSB staff conducted an outbrief on their December review of conduct of operations and radiological control at PFP, with generally positive comments along with several opportunities for improvement.
PPF-036: Loss of Contamination Control	Rigorous routine radiological surveillance program and contamination control measures.	●	↑	Several minor contamination events were experienced in December with only minor impacts on the progress of field work.

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	-2.1	9.2	8.9	11.3	-531.5	0.3	3.5
Base	2.9	3.1	3.4	0.2	5.8	-0.3	-9.2
Total	0.8	12.3	12.2	11.5	1,425.9	0.0	0.3

Numbers are rounded to the nearest \$0.1M

ARRA

CM Schedule Variance: (+\$11.3M/-531.5%)

The favorable current month schedule variance is primarily a result of a one-time point adjustment associated with implementation of BCR-PRC-11-011R0, *Re-plan PFP Work Scope to Align with Recovery Plan*, which affected the majority of D&D accounts. When re-planning remaining work, cumulative BCWS is set equal to cumulative BCWP, thus eliminating schedule variance.

CM Cost Variance: (+\$0.3M/+3.5%)

Current month cost variance is within reporting threshold.

Base

CM Schedule Variance: (+\$0.2M/+5.8%)

Current month schedule variance is within reporting threshold.

CM Cost Variance: (-\$0.3M/-9.2%)

Current month cost variance is within reporting threshold.

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	177.0	176.9	170.9	(0.1)	-0.1	5.9	3.3	276.2	273.12	3.1
Base	136.4	136.7	134.4	0.4	0.3	2.4	1.7	354.7	345.5	9.2
Total	313.4	313.6	305.3	0.2	0.1	8.3	2.6	630.9	618.6	12.3

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance: (-\$0.1M/-0.1%)

Negative schedule variance is within threshold. The project is currently experiencing impacts associated with:

- Leak Path Factor/periphery confinement barrier issues associated with 242-Z entry point
- Disqualification of multiple electrical disciplines impacted completion of 2736Z/ZB cold and dark activities and deployment of the 2736Z/ZB team to support RMA/RMC KPP glovebox removals
- Delay in size reduction of gloveboxes in Room 172 associated with lack of full team resources and inexperience

Recovery –BCR-PRC-11-011R0, *Re-plan PFP Work Scope to Align with Recovery Plan*, was implemented in January. Corrective actions have been identified and are reflected in the BCR, which supports completion of all 174 KPP gloveboxes by the September 30, 2011 completion date. Nuclear Safety and RL are continuing to work to resolve the 242Z Leak Path Factor/periphery confinement barrier issues. In addition, gloveboxes are being shipped to PermaFix Northwest (PFNW) to offset the delays being experienced with size reduction of gloveboxes in Room 172 in the 234-5Z facility.

CTD Cost Performance: (+\$5.9M/+3.3%)

Favorable cost variance is primarily due to lower overhead costs (+\$4.2M). The balance is due to efficiencies recognized on cross-cutting support to the D&D work teams (primarily in solid waste management, project management, nondestructive assay, consumables and subcontracts), demolition of ancillary buildings, and the removal of asbestos and non-process equipment from 234-5Z.

Base

CTD Schedule Variance (+\$0.4M/+0.3%)

The positive schedule variance is within established reporting thresholds.

CTD Cost Variance (+\$2.4M/+1.7%)

This positive cost variance is within established reporting thresholds. Contributors to the variance include early completion of Special Nuclear Material De-Inventory, D&D Materials and Subcontracts, Waste Container Procurements, D&D staff ramp-up, early demolition of ancillary facilities, and efficiencies in PRF east gallery glovebox cleanout.

Recovery –BCR-PRC-11-011, *Re-plan PFP Work Scope to Align with Recovery Plan*, was implemented in January 2011 to align remaining work with the D&D Recovery Plan. Corrective actions are reflected in the BCR, which support a September 30, 2013, slab on grade date.

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	FY2011		
	Projected Funding	Spending Forecast	Spend Variance
ARRA	163.1	148.2	14.9
Base	39.3	38.0	1.3

Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority. The positive variances reflect an approved realignment of ARRA and Base workscope. Continued implementation of a site integrated work scope prioritization plan will further align work scope with proposed revised funding levels.

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-11-011R0, Re-plan PFP Work Scope to Align with Recovery Plan

BCRA-PRC-11-019R0, General Administrative Changes for January 2011

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.