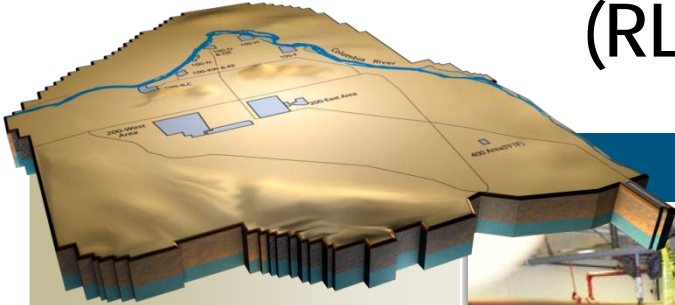


Section A

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



Monthly Performance Report

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Separating Glovebox
HC-230C-3 in Room 230C

December 2010
DOE/RL-2010-126-12, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



Packaging waste during removal of GB100A in Room 235E

PROJECT SUMMARY

The PFP Project continues to maintain Plutonium Finishing Plant (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. Although this work is currently behind schedule, significant progress was achieved on implementation of the schedule recovery plan. The plan was briefed to RL on December 1, 2010 and subsequently incorporated in the project's detailed field execution schedules. Modifications to the project baseline and a baseline change request are being finalized to incorporate the recovery plan into the baseline for implementation in January. All recovery actions for the first quarter of FY2011 were completed as planned, including deployment of the Aspigel® decontamination product, startup of the first centralized size reduction station, placement of a sub-contract for size reduction and packaging of TRU-contaminated gloveboxes, and preparations to receive and deploy 30 experienced staff from other CHPRC projects, including 20 Nuclear Chemical Operators, eight Radiological Control Technicians and two first line supervisors. A significant increase in the rate of completion of field work was achieved, resulting in a record number of gloveboxes removed, removal of the first 550-ft section of process vacuum system piping, and removal of the 2nd and 3rd 115-ft sections of process transfer lines. Insulator crews also removed asbestos from a substantial amount of piping and ductwork, bringing the total linear footage completed at PFP with Recovery Act funds to 12,444 feet.

A total of 93 gloveboxes and hoods have been removed to date with Recovery Act funds, with three more isolated from building ventilation and awaiting transfer to waste operations at month-end. Of these, 83 have been shipped out of PFP for treatment or disposal and six have been set aside for size reduction and disposal as transuranic waste. As the pace of Decontamination and Decommissioning (D&D) work has accelerated at PFP, so have waste generation rates. CHPRC has now shipped approximately 2,643 cubic meters of waste from PFP with support from Recovery Act funds, including 2,272 cubic meters of low level and mixed low level waste (LLW/MLLW), 348 cubic meters of TRU waste, and 23 cubic meters of non-radioactive waste.

With seven of nine gloveboxes removed and much of the process equipment removed from the remaining two, the PFP Vault Complex is rapidly approaching a ready-for-demolition condition. Glovebox 642-C was chemically decontaminated, isolated and relocated from Room 642 to Room 636 pending a final determination of the disposal path. In addition, work has been initiated to remove external equipment from the large furnace glovebox 642B and to prepare it for removal. Work continued in the laboratory and processing areas on process equipment removal, chemical decontamination, electrical isolation of various rooms and areas, and removal of hazardous materials that must be disposed of separately from the demolition debris. Work was also initiated to update the cost estimate and schedule for demolition of the four vault complex facilities, and to evaluate the feasibility of accelerating demolition into FY2011.

Base

236Z Plutonium Reclamation Facility – Vacuuming of the 15 floor pans was completed and the resulting residues were removed from the canyon. A total of 133 poly-jars of waste were removed, size reduction of the hard waste was completed, and 95% of the resulting waste removed from the canyon.

Room 27, containing the maintenance glovebox, was prepared for size reduction, and mechanical and gross decontamination of the canning, loading and charging gloveboxes was completed.

EMS Objectives and Target Status

Objective #	Objective	Target ➤ Actions to achieve target	Due Date	Status
11-EMS-PFP-OB1-T1	Broaden spill mitigation efforts at PFP	Reduce opportunity for hydrocarbon spills		33% Complete
		➤ Evaluate additional controls	12/31/2010	Complete
		➤ Standardize controls for SOWs	3/31/2011	
		➤ 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		25% Complete
		➤ Conduct survey	12/31/2010	Complete
		➤ Summarize survey results	3/1/2011	
		➤ Obtain cost estimate	5/1/2011	
		➤ Report to management	7/1/2011	
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	
		➤ 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	
Total Recordable Injuries	0	11	
First Aid Cases	6	110	ARRA - 12/2 Employee received potential exposure from chemical smell. (21558) ARRA - 12/5 Employee experienced pain in back. (21560) ARRA - 12/7 Employee experienced pain in right arm and shoulder. (21566) ARRA - 12/13 Employee received small scratch on right forearm. (21577) ARRA - 12/16 Employee experienced eye irritation. (21588) ARRA - 12/28 Employee experienced back pain when they fell in the parking lot. (21600)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

11.02 Maintain Safe and Compliant PFP – Base

- Ecology conducted a review of CY2009 documentation associated with the PFP Ecology approval orders under the Air Operating permit. No issues were identified during the inspection.

11.05 Disposition PFP Facility – Base

Plutonium Reclamation Facility (PRF)

- Vacuuming of the 15 canyon floor pans and removal of the resulting residues was completed. A total of 133 poly-jars of waste were removed.
- Size reduction of the hard waste in the canyon was completed and 95% of the resulting waste was removed.
- Preparation of the maintenance glovebox and room for size reduction was completed.
- The mechanical isolation and decontamination of the canning, loading and charging gloveboxes was completed. Fixative was applied to the interior of the gloveboxes.
- Removal of the charging glovebox was initiated with the removal of the glovebox from the E-4 exhaust.
- The electrical modifications to repair the damaged wall and door to the Miscellaneous Treatment (MT) room were completed and removal of the closed loop cooling system was initiated.

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

- In Remote Mechanical A (RMA) Line Room 235B, the team completed the removal of the first two sections of conveyor HA-28 and gloveboxes HA-21I and HA-22. These gloveboxes are on lift tables and are staged in Room 235B pending size reduction in Room 172. In addition, this team supported the initial use of the Aspigel® chemical decontamination method on a glovebox at PFP.
- In RMA Line Room 232, the chemical decontamination of glovebox HA-46 was started
- In RMC Line Room 230C, glovebox HC-230C-3 was separated into two sections and removed from the room. Work was also started on the external mechanical isolation and internal equipment size reduction and removal for conveyors HC-3 and HC-4.
- In the RADTU area, Room 235D, the D&D team removed GB100A and verified via nondestructive analysis (NDA) that enough internal process equipment had been removed from GB200 to determine that the low level waste criteria has been met

Analytical Laboratory

- The six Room 139 gloveboxes have been removed and set aside for future size reduction and packaging as transuranic (TRU) waste
- The Room 144-1,2,3,4 and 144-9 gloveboxes have been decontaminated, internal fixative applied, and removed from Room 144. This completes glovebox removal activities for Room 144. The 144-9 and the 144-1,2 gloveboxes were decontaminated to Low-Level Waste (LLW) levels and will be shipped to the Environmental Restoration Disposal Facility (ERDF) as Surface-Contaminated Objects (SCO). The 144-3 and 4 gloveboxes did not meet LLW criteria after decontamination, and are being set aside for future size reduction and disposal as TRU waste.
- The 143-1,2,3,4 and 143-5 gloveboxes were decontaminated and fixative applied. The 143-1,2 gloveboxes were separated from their E4 connection and removed from the room. The 143-5 glovebox was also separated from its E4 connection and will be removed along with 143-3,4 at a later date. All five gloveboxes will have NDA performed to determine if they meet LLW criteria.

Plutonium Process Support Laboratories (PPSL)

- The 179-5 glovebox was removed from PPSL and was turned over to the PFP Waste Operations organization for disposal as LLW

Disposition PFP (234-5Z) Facility

- Process Vacuum Piping Removal is 11% complete
- A total of 345 feet of Chemical Piping Transfer Line has been removed
- Removed 434 feet of asbestos-containing materials on piping

242Z Americium Recovery Facility

- The Hazard Review Board successfully completed a review of the work package for the fire system electrical isolation
- The reference leg for the control and tank room differential pressure gauges was relocated outside the corridor to true atmosphere. New readings were taken to support the Shift Operating Instruction (SOI) with door configurations requested by DOE.

2736Z/ZB Vault Complex

- Glovebox 642C was removed from the 2736ZB complex
- The 2736Z/ZB complex was declared criticality incredible

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 No.	Risk Title	FY09 Risk		Risk Strategy/Handling	Assessment		Comments
		Unmit.	Mitig.		Month	Trend	
RL-0011/WBS 011							
PFP-001	PFP-001: Inability to effectively decontaminate equipment/materials to LLW	Medium 1.5 mos; to \$1.5M		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.	●	↑	The first application of the Aspigel decontamination process was completed in December and the results are being evaluated. The first of two centralized size reduction stations was started up during December, although productivity was low during the holiday period due to resource availability. Planning for the second station is continuing. An initial contract was also signed with Perma-Fix Northwest to provide an alternate path for treatment and packaging of TRU gloveboxes, and four boxes were shipped to their facility on December 20. All first quarter FY 2011 actions in the PFP life cycle recovery plan were completed as planned. Submittal of a baseline change and request for drawdown of Management Reserve to incorporate the recovery plans in the baseline was delayed until January.
	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 to clean up the canyon floor was completed as planned in December, and pencil tank removal is to begin during January, following an adjustment in the canyon crane to provide additional clearance for movement of the cable reel. Glovebox cleanout and removal is continuing on schedule. Dispersion modeling to evaluate the planned approach to canyon demolition and clarify the extent of decontamination required is well underway.
	PFP-004A: Risk of 291-Z D&D cost/schedule growth	Medium > 2 months; \$6M		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.	●	↔	An initial inspection of the 291-Z plenum was completed and the results were within expected levels. In a parallel action, NDA of the process and air sample vacuum piping in the facility was completed, which indicated that greater than expected holdup may be present, resulting in a reportable occurrence and declaration of a positive USQ. Compensatory measures were taken and further investigation is underway. The contractor selected for conceptual design of an alternate exhaust system has initiated work based on the results of a 3-day workshop held with plant SMEs in November.
	PFP-009: Problems with Aging Building Systems/Components Impacts D&D	Medium up to 2 months; up to \$2M		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 December.
	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.	●	↑	The expanded beryllium sampling program continues to support low potential for contamination at PFP, with no positive sample results to date. 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. No employee-originated stop-work events were experienced during December. The DNFSB staff completed a field review of conduct of operations and radiological control at PFP during December, however no results have been communicated to date.
	PFP-036: Loss of Contamination Control			Rigorous routine radiological surveillance program and contamination control measures.	●	↑	Recovery from the contamination spread in room 139 has been completed and all six gloveboxes have been removed. Several minor contamination events were experienced in December with only minor impacts.

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	10.5	9.2	9.0	(1.2)	-11.7	0.2	2.3
Base	3.7	3.5	3.4	(0.2)	-5.1	0.1	4.1
Total	14.2	12.8	12.4	(1.4)	-10.0	0.4	2.8

ARRA

CM Schedule Variance: (-\$1.2M/-11.7%)

- Glovebox removal delayed by difficulty and complexity associated with removing glovebox exhaust systems and shortage of D&D crew resources.
- Delays in removing gloveboxes and pipe are impacting miscellaneous D&D of 234-5Z.
- 242-Z team not released to start D&D work, pending resolution of Leak Path Factor issues regarding entry point.

CM Cost Variance: (+\$0.2M/+2.3%)

Current month cost variance is within reporting threshold.

Base

CM Schedule Variance: (-\$0.2M/-5.1%)

Current month schedule variance is within reporting threshold.

CM Cost Variance: (+\$0.1M/+4.1%)

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	179.1	167.7	162.1	-11.4	-6.4	5.6	3.3	277.5	275.2	2.3
Base	133.5	133.6	131.0	0.2	0.1	2.7	2.0	326.8	350.2	(23.5)
Total	312.6	301.3	293.1	(11.2)	-3.6	8.2	2.7	604.2	625.5	(21.2)

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (-\$11.4M/-6.4%)

Negative schedule variance is primarily caused by:

- Safety stand-down and stop works
- Breathing air issues
- Leak Path Factor issues associated with 242-Z entry point
- Ultra conservative application of the SCO process
- Unplanned process vacuum mockup work to support application of new glovebag technique
- Additional time needed on chemical decontamination and the removal of external connections
- Late start on the Alternate Exhaust System, due to change in strategy and lack of engineering resources

Recovery – Utilization of an additional decontamination agent (Aspigel[®]), additional overtime, leaving gloveboxes in place for removal during demolition, implementing a new containment approach, prioritizing and reassigning resources, outsourcing a portion of the TRU gloveboxes for treatment/size-reduction, and application of the revised SCO process are expected to contribute to the gradual schedule recovery. The Aspigel[®] Readiness Assessment was completed and deployed in mid-December. The concept to leave four KPP-related gloveboxes in place for extraction during building demolition was presented to RL with favorable response. BCR-PRC-11-011R0, *Re-plan PFP Work Scope to Align with Recovery Plan*, will be 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 DOE are working to resolve the 242-Z Leak Path Factor issue.

CTD Cost Performance: (+\$5.6M/+3.3%)

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 are the cause of this positive variance.

NOTE: This positive cost variance is expected to 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 Cost Performance Index does not fall below the threshold of 1.00.

Base

CTD Schedule Variance (+\$0.2M/0.1%)

The positive schedule variance is within established reporting thresholds.

CTD Cost Variance (+\$2.7M/+2.0%)

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 Subcontracts, Waste Container Procurements, D&D staff ramp-up, and recognized efficiencies in Min-Safe Operations, early demolition of ancillary facilities, and PRF east gallery glovebox cleanout.

Recovery – This positive cost variance is expected to decrease due to recovery actions required to maintain the September 30, 2013, slab-on-grade date. The majority of the impact is in Fiscal Year 2012, due to increased overtime required to support D&D activities and extending resources/teams beyond original plan. BCR-PRC-11-011, *Re-plan PFP Work Scope to Align with Recovery Plan*, will be implemented in January 2011 to align remaining work with the D&D Recovery Plan.

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		Variance
	Projected Funding	Spending Forecast	
ARRA	163.1	150.0	13.2
Base	45.3	43.7	1.6

Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority. The ARRA positive variance of \$13.2M reflects a projected PMB over run of \$1.3M offset by \$14.5M of reserve funds. The BASE positive variance of \$1.6M reflects a projected PMB over run of \$1.8M plus \$3.3M of reserve funds. A CHPRC site integrated work scope prioritization plan is being developed to 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

BCRA-PRC-11-015R0, General Admin & FOC Change for Dec 2010

BCR-PRC-11-014R0, MR Adjustment for PRC Baseline, Rev 2 Update

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.