

Section A

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



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PROJECT SUMMARY

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

| <i>Key Performance Indicators</i> | <i>Current Month</i> | <i>Contract To Date</i> |
|--|----------------------|-------------------------|
| Glovebox/ Hood Removed or Dispositioned in Place | 3 gloveboxes | 170 gloveboxes/hoods |
| KPP Rooms/Areas Dispositioned | - | 53 rooms/areas |
| Asbestos/ACM Removed | 125 | 16,393 feet |
| Process Vacuum Piping Removed | 169 | 1,558 feet |
| Process Transfer Line Removed | - | 594 feet |
| Pencil Tank Units Removed | 5 | 90 pencil tank units |
| Buildings Ready for Demo | - | 32 structures |
| Buildings Demolished or Relocated | - | 32 structures |
| Non-radioactive Waste Shipped | - m ³ | 35 m ³ |
| TRU/TRU-M Shipped | 5 m ³ | 903 m ³ |
| LLW/MLLW Shipped | 25 m ³ | 3,750 m ³ |

There were no lost or restricted workday cases this period.

D&D mission progress at PFP returned to a level closer to plan, following the loss of several weeks in the prior month for block training of the D&D crews and several key equipment failures.

Removal of plutonium-contaminated process equipment continued, with a particular focus on removing gloveboxes and associated piping and ductwork. Glovebox HA-8A was removed and transferred to Solid Waste Operations, along with the last two sections of the long HC-2 conveyor, bringing the total gloveboxes removed to date to 170, or 73 percent complete. All 16 process gloveboxes originally installed in Rooms 230A, 230B, and 230C, have been removed and bulk area cleanout was initiated in support of Key Performance Parameter closure of these three rooms. Large glovebox 145-1, the last of 76 gloveboxes once located in the former Analytical Laboratories, was declared dispositioned in place (for disposal during demolition), and four gloveboxes were shipped to PermaFix North West (PFNW) for size reduction and packaging for disposal as TRU waste. The project removed 169 feet of highly contaminated process vacuum lines, and an additional 125 feet of asbestos. In Room 235A-2, the first of the five large valve cabinets under the A2 gloveboxes was removed. Fixative was applied to the interior of all five remaining gloveboxes in Room 235A-3 in preparation for removing them from building ventilation.

Demobilization from demolition of the former PFP Vault Complex and adjacent ancillary buildings was completed, installation of a cover over the 2736-ZB foundation was completed and the close-out report is in progress.

Strong progress continued on D&D of the Plutonium Reclamation Facility, 236-Z. Completing size reduction of pencil tank assembly 19 brings the total PRF canyon pencil tank units removed and dispositioned to 90, or 46 percent complete. Substantial progress was also made in isolation and cleanout of the Miscellaneous Treatment and Column gloveboxes, including removal of an abandoned steam line, a nitric acid line, and the MT-3 and MT-4 process sample lines. As a result of FY2013 funding constraints, a determination was made not to continue the Column glovebox work. The work was safely laid up and the team resources redeployed to other scope.

Evaluation and implementation of the three breakthrough initiatives continued. All initiatives have the potential to accelerate schedule and reduce life cycle cost.

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 | 100% |
| | | | Identify types of failure and impact | 03/29/2012 | 100% |
| | | | Research improved hydraulic line technology | 06/29/2012 | 100% |
| | | | Report recommendations to management | 07/30/2012 | |
| 12-EMS-PFP-OB2-T1 | Reduce vehicle miles/ greenhouse 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 | 100% |
| | | | Evaluate selected method for air emissions | 06/30/2012 | 100% |
| | | | 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 | 3 | N/A |
| Total Recordable Injuries | 0 | 5 | |
| First Aid Cases | 4 | 68 | Base – 6/11/2012 – Employee experienced strain to lower back. (22790) Base – 6/13/2012 – Employee experienced carpal tunnel syndrome. (22797) Base – 6/15/2012 – Employee experienced pain in their right knee. (22799) Base – 6/27/2012 – Employee experienced lower back pain. (22811) |
| Near Misses | 0 | 0 | N/A |

KEY ACCOMPLISHMENTS

ARRA

11.05 Disposition PFP Facility – ARRA

- In Room 235A-2, the hydraulic and pneumatic lines were removed and work was started on removal of the valve control panels under the gloveboxes.
- In Room 235A-3, Glovebox HA-8A was removed and handed off to the PFP Solid Waste Organization for final disposition. Gloveboxes HA-8A, -8B, -9C, -9D, & -9E were wiped down and painted with fixative.
- In Room 235B, 230Z, 230B, and 230C - bulk area cleanout work was initiated
- In Room 228B - mechanical isolation of HC-12S and HC-13MD was completed and internal process equipment for HC-15A & -15B was started.
- In Room 228C - removal of external and internal process equipment for gloveboxes HC-17P, HC-17DC, and HC-17SBB continued.
- Conveyor Sections HC-2B and HC-2A were removed from the glovebox line and staged in Room 236

Base

11.02 Maintain Safe & Compliant PFP

- 291-Z Exhaust Fan Maintenance
 - Completed EF-5 weld repairs and performed run-in testing. Higher than desired axial vibration was observed during testing. Engineering is evaluating results to determine any additional actions.
 - Installed and certified radiological containment tent in preparation for welding of cracks identified on the wheel of EF-3
 - Replaced and torqued bearing bolts on EF-2, 4, 6, & 7.
 - Continued weekly fan vibration and thermal monitoring.
- Initiated replacement of supply fan #2 discharge damper. Completion expected week starting July 9th.
- Submitted the 2012 annual update of the D&D DSA and TSRs to the CHPRC president's office for approval and transmittal to DOE-RL.
- Qualified an alternate USQ Evaluator from the Engineering staff to compensate for the two Nuclear Safety staff members that have recently left PFP. Two Nuclear Safety staff members that have transferred to PFP from other projects are in the qualification process.

11.05 Disposition PFP Facility

Backside Rooms (Rooms 158-172) D&D

- Room 166 D&D
 - Room 166 GB Mechanical Isolation:
 - Removed utility water and air piping associated with hood set
 - Removed pneumatic control lines from HC-6 GB
 - Removed LBWS fire suppression piping from hood set
 - Inspected hood drain trap- confirmed the absence of liquids
 - Installed hot taps and drained residual nitric acid from the *Dilute Acid* piping system
- Electrical isolation of Backside Rooms:
 - Progressed electrical intrusive investigation for isolation of the Room 169 and Room 170

Gloveboxes; effort now 90% complete. Isolation of these Gloveboxes represents the final leg for isolation of the Backside Room areas.

Disposition PFP (234-5Z) Facility

- Removed 169 feet of process vacuum piping for a total of 1,558 feet removed.
- Removed 125 feet of asbestos

2736Z/ZB Vault Complex

- A cover cap was placed over the 2736-ZB foundation for contamination control.

Plutonium Reclamation Facility (PRF)




- Size reduction of pencil tank assembly 19 was completed and removal of the pencil tank assembly was initiated.
- To avoid any impacts from the upcoming work force restructuring, the annual crane maintenance has been rescheduled from October to August. Planning for the canyon entries for the annual crane maintenance has been initiated.
- Mechanical isolation of the MT gloveboxes continued with the removal of the steam line, process airline, process sample lines and nitric acid lines.
- A meeting was held with DOE to review various disposition paths for the MT gloveboxes. It was recommended and agreed to by the attendees that disposition in place for removal just prior to demolition would be the path for the gloveboxes. The selected alternative supports breakthrough initiative 3, "Remove TRU Whole". The selected alternative will be incorporated into the FY2013 baseline update.




MAJOR ISSUES

















None Identified.

RISK MANAGEMENT STATUS

Unassigned Risk
 Risk Passed
 New Risk
 Change

 Working - No Concerns
 Working - Concern
 Working - Critical

 Increased Confidence
 No Change
 Decreased Confidence

| Risk Title | Risk Strategy/Handling | Assessment | | Comments |
|---|---|---|---|---|
| | | Month | Trend | |
| RL-011/WBS 011 | | | | |
| PFP-003: More Extensive Cleanout/Decon Required | Develop and implement a detailed process facility characterization plan into the field execution schedule. 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. |  |  | Development of a detailed PFP-wide characterization plan is underway to further define ready-for-demolition criteria for the Plutonium Reclamation Facility (236-Z), the most challenging of the facilities. |
| 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. |  |  | The PRF canyon crane continued to operate as expected in June . Pencil tank disposition continued work under findings from management's critique in April . |
| PFP-009: Problems with Aging Building Systems/Components Impacts D&D | 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. |  |  | Repairs of exhaust fans continue; in addition interim issues were identified during vibration analysis. After engineering evaluation of the water wall removal between 228A/B they exposed a structure deficiency causing RMC to suspend work and an evaluation is underway to increase support between the two walls. |
| 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. |  |  | Planning is continuing to further evaluate the disposition path for the section of piping that was discovered to have higher than expected material holdup. |
| PFP-014: Unexpected Chemicals/Chemical Residuals or Hazardous Materials Are Discovered at PFP | Conduct wall-to-wall waste identification walk downs, fill out waste identification forms (WIF) and issue WIF reports. Continue planned sampling and identification of areas and equipment with lower confidence levels. |  |  | PCB oil from a hydraulic ram in RMA was discovered to contain TRU holdup (Waste disposal is still pending). Also in RMA unexpected Asbestos was discovered when E4 ducting was removed exposing a line that contained asbestos. |
| PFP-042, Increased Attrition Impacts Availability of Qualified Resources PRC-021A, Workforce restructuring caused by funding changes | Revise project schedules and work planning documents around workforce restructuring timelines. Work with other contractors to minimize impacts associated with Bump and Roll. |  |  | Based on FY13 baseline update guidance projections PFP is initiating workforce restructuring to incorporate into baseline with interface management between other contractors to identify potential bump and roll impacts to the project. |
| PFP-064 OPP: Reduced Size Reduction Required Consistent With SLB2 Packaging | Implementation of the use of SLB-2s has been identified as a site wide initiative by CHPRC and RL. A specific plan of action was developed and is being executed to support this opportunity. |  |  | This opportunity will continue to be tracked until ongoing efforts to implement miscellaneous debris in SLB2's are complete, and incorporated into the project baseline. |
| PRC-020, Weather Delays | As weather impacts operations, workarounds are continually developed to re-schedule work activities. |  |  | Appropriate capping is complete for the 2736-ZB slab. Pending any additional survey impacts this risk will no longer be tracked. |

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 | 1.3 | 1.4 | 1.0 | 0.2 | 12.4 | 0.4 | 27.2 |
| Base | <u>5.8</u> | <u>6.6</u> | <u>6.5</u> | <u>0.8</u> | 13.9 | <u>0.1</u> | 2.2 |
| Total | 7.1 | 8.0 | 7.5 | 1.0 | 13.6 | 0.5 | 6.5 |

Numbers are rounded to the nearest \$0.1M

ARRA

CM Schedule Variance: (+\$0.2M/+12.4%)

The schedule variance is within reporting thresholds.

CM Cost Variance: (+\$0.4M/+27.2%)

The cost variance is within reporting thresholds.

Base

CM Schedule Variance: (+\$0.8M/+13.9%)

The positive schedule variance is primarily due to implementation of BCR-011-12-003R0, *PFP FY 2012 Scope Deferral and Establish Capital Asset Project RL-0011.C1*. This was offset due to replanned work scope (PRF Column Glovebox, Size Reduction Facility) resulting in single point adjustments of BCWS.

CM Cost Variance: (+\$0.1M/+2.2%)

The cost variance is within reporting thresholds.

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 | 289.8 | 284.3 | 293.8 | (5.5) | -1.9 | (9.5) | -3.3 | 289.8 | 297.7 | (7.9) |
| Base | <u>213.6</u> | <u>214.5</u> | <u>218.0</u> | <u>0.9</u> | 0.4 | <u>(3.6)</u> | -1.7 | <u>602.1</u> | <u>605.1</u> | <u>(3.0)</u> |
| Total | 503.4 | 498.8 | 511.8 | (4.6) | -0.9 | (13.1) | -2.6 | 891.9 | 902.8 | (10.9) |

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance: (-\$5.5M/-1.9%)

The schedule variance is within reporting thresholds.

CTD Cost Performance: (-\$9.5M/-3.3%)

The cost variance is within reporting thresholds.

Base

CTD Schedule Variance (+\$0.9M/+0.4%)

The schedule variance is within reporting thresholds.

CTD Cost Variance (-\$3.6M/-1.7%)

The cost variance is within reporting thresholds.

Variance at Completion (-\$10.9M/-1.2%)

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 May to June, 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 | 91.8 | 89.6 | 2.3 |
| RL-0011 Total | 125.2 | 123 | 2.3 |

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-011-12-003R0, *PFP FY 2012 Scope Deferral and Establish Capital Asset Project RL-0011.C1*

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.