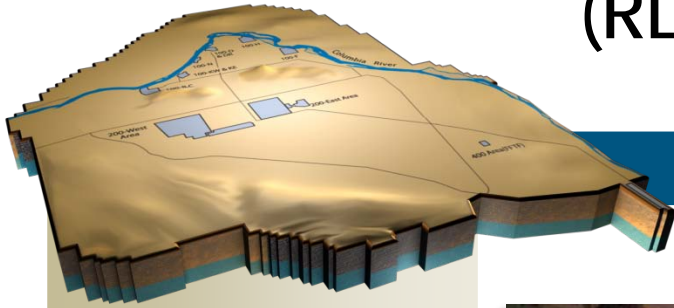


Section A

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

Monthly Performance Report



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Activating HA-19B1 Gloveports in Room 235B

November 2009
DOE/RL-2008-69, Rev. 33
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

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

American Recovery and Reinvestment Act (ARRA)

Field qualification is continuing for the many new staff hired or subcontracted to support an expansion in the number of D&D field work teams. New team members are being rotated through the existing seven teams to gain hands-on experience and complete their on-the-job training and qualification.

Ventilation ducting has been removed and containerized for disposal, completing removals from Rooms 134 and 154. NDA measurements were completed confirming the eight ventilated sample cabinets removed from Vault 174 of the 234-5Z Building as Low Level Waste (LLW). Forty-nine gloveboxes and laboratory hoods have now been cleaned out, decontaminated to low level waste standards and removed from PFP facilities since October 1, 2008, 26 of which were under ARRA. Crews completed final decontamination actions in Gloveboxes HA-20MB and HA21I. Crews also continued decontamination of process Gloveboxes HC-230C-3 and HC-230C-5, and continued equipment removal from HC-60. Preparations were completed for removal of four gloveboxes in room 146 of PFP's former Analytical Laboratory.

Cold and dark isolation was verified for PFP Ancillary Building 2734-ZJ, nitrogen storage tank/pad, in preparation for removal of the vendor-owned tank in December, subject to plant priorities and weather.

Decommissioning of the nitrogen generator facility near the 2731-ZA Building and preparations for cold and dark isolation were also initiated with draining of the coolant from this structure.

Insulators continued removal of asbestos insulation from piping in the 234-5Z Building, bringing the total removed under Recovery Act funding to more than 6,600 feet.

Base

De-inventory of Special Nuclear Material (SNM) is complete. All 3013/9975 containers and all Hanford Un-Irradiated Fuel Packages have been shipped from PFP, and the last of the 19 excess sources and standards to be dispositioned by September 30, 2009, have been shipped to the Central Waste Complex (CWC). De-inventory of slightly irradiated fuel was completed ahead of schedule. Elimination of the Protected Area was completed ahead of schedule.

Terminal cleanout operations are continuing in the 2736-Z/ZB Vault complex.

D&D teams continue removing process equipment from the Plutonium Reclamation Facility (PRF) (236-Z Building) gallery gloveboxes, and have completed process equipment removal from the first floor west glovebox. Process equipment removal from the second floor west gallery glovebox is 80% complete. PRF canyon work focused on replacing the old cable reel and cable with a new reel, this included work package modifications, shop work and actual canyon entry activities. The PRF engineering team has reviewed the new concept of using a Brokk to size reduce the pencil tanks. This approach will now be laid in to the work schedule. It has been determined that not one tool alone will effectively size reduce the pencil tanks but a combination of shears and saws. Tank characterization has started for the RADTU tank located in the South Canyon Airlock.

Detailed planning was initiated for D&D work scope in the 242-Z facility.

TARGET ZERO PERFORMANCE

	CM Quantity	FYTD Quantity	Comment
Days Away, Restricted or Transferred	0	0	N/A
Total Recordable Injuries	0	0	N/A
First Aid Cases	5	9	Base – 11/3 –Employee scraped right finger against locker. Self treated. (20539) Base – 11/4 - Employee scrapped skin on shin. (20533) Base – 11/4 - Employee received puncture wound to finger. (20536) Base – 11/16- Employee scraped back of hand. (20559) Base – 11/17 - Employee scraped thumb. (20562)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

11.02 Maintain Safe and Compliant PFP – Base

- Submitted changes (letter CHPRC-0900668) to the D&D Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR) to facilitate transition of the 2736-Z Complex into the D&D mission. The submittal, based upon significantly lower remaining 2736-ZB plutonium inventory assumptions, reduces the number of safety systems within 2736-ZB that will remain subject to TSR Limiting Conditions for Operations. The submittal also includes changes to the criticality alarm system LCO to reflect CAP Z-7 operation in an alarm only function.
- Received approval from RL (letter 10-SED-0005) of DSA and TSR changes necessary to close out both the HEPA filter performance Justification for Continued Operations, and the Room 321 elevator hydraulic oil fire positive Unreviewed Safety Question. Both implementation plan and a management readiness assessment are being finalized to support implementation as required by PRC-PRO-NS-8317.
- To support deactivation of the Hanford Patrol Central Alarm Station at PFP, facility modifications to enable remote monitoring of the Criticality Alarm System (CAS) panels in the 321 power control room has continued for CAPs 7 and 9 Work completions is planned for early-December.
- Completed annual video inspection and leak testing of the 296-Z-7 stack probe in support of complying with the National Emissions Standards for Hazardous Air Pollutants, (NESHAP) requirements.
- Participated in the Environmental Management System (EMS) independent audit of CHPRC EMS conformance to the ISO 14001 Standard and the DOE requirements. Company-wide, only two minor non-conformances were identified which are required to be addressed.

11.04 Disposition SNM - Base

- The last Interim Storage Cask (ISC) was prepared and transferred to the 200 West Interim Storage Area (ISA).

- The EBR-II casks were prepared and transferred to the ISA.
- Disassembly of the Lampson crane for relocation to the 200W West ISA was initiated.
- The PFP protected area was eliminated.

11.05 Disposition PFP Facility - Base

- Process equipment removal from the PRF second floor west gallery glovebox is 80% complete. Integration of new teams to get field experience has slowed monthly progress but the concept of training new workers with experienced workers will help in the future for completing CHPRC milestones.
- Progress continued with the PRF canyon entries for reactivation of the canyon crane with only electrical work left. New cable reel has been assembled and is waiting for installation into the canyon. Preparations are under way to make room for the new reel. Additional scaffolding was added for the new platform along with higher hand rails for safety issues.
- PRF engineering has completed the review of using the Brokk as a means of size reducing the pencil tanks. This concept is the one that team will develop and integrate into the PRF schedule.
- The South Canyon Airlock (SCA) work has started on characterizing the RADTU tank. In preparation for removal of the tank, dimensions have been verified, no water in cooling jacket has been confirmed, and a video of the tank internals was taken to assist in characterization of the contents of the tank.
- New NCOs to support PRF are being integrated into the work teams as their required training is completed. This has worked well with senior NCOs providing hands-on field experience to the new NCOs.
- The completion of the work package for the entries into 242-Z is on hold pending input from Industrial Hygiene (IH). The planned air sampling of the tank room will provide IH the information needed to complete the input.
- The containment tent designs were approved and fabrication initiated. The scaffolding and tent are planned to be erected the end of November.
- Work on the waste disposal guidelines has been initiated. The glovebox equipment will be disposed of in shielded drums. The drums will be loaded based on dose rates which is the most restrictive limit. A chart of the estimated dose rates to grams of americium with a 10 and 20 mil lining is being prepared.
- Engineering is assembling the drawings and initiating work on mechanical and electrical isolation to the 242-Z gloveboxes.

11.05 Disposition PFP Facility – ARRA

- Transferred the Room 146-1, 2, 3, 4 glovebox unit to the PFP Solid Waste Organization (SWO) for disposal.
- Separated the Room 221E Hoods 221E-1, 2, 3 (three separate hoods) from their E4 systems, and transferred them to the SWO for disposal.
 - In Room 230C the process drain on Glovebox HC-60 was removed and approximately 90% of the mechanical isolations on Glovebox HC-230C-2 were completed.
 - The mechanical isolation for Gloveboxes HA-19B1 and HA-19B2 in Room 235B continued in November. Work in November included the removal of an external electrical furnace panel and process vacuum pump along with the associated process ventilation lines.
 - A new crew in Room 232 completed mobilization and replaced Glovebox HA-46 inlet filters and differential pressure gauges to prepare the glovebox for internal equipment removal.
- The following Facility Modifications were completed in November:
 - The central PFP criticality alarm was relocated from the Patrol central alarm station to the PFP Power Operator's Control Room to support the elimination of the PFP protected area.
 - The replacement of the suspect counterfeit hardware installed on the 212-Z Lag Storage Area

tents was completed eliminating a standing restriction on access to these tents under certain wind conditions.

MAJOR ISSUES

RL-0011 Nuclear Materials Stabilization and Disposition of PFP

Issue Statement – Excessive summer heat and recurring failures of Continuous Air Monitoring Systems (CAMs) impacted the D&D field work teams throughout the summer.

Corrective Action – Engineering previously determined that the best method to improve temperature control in 234-5Z, 236-Z and 242-Z is to install chillers in the yard near 234-5Z and cooling coils in six of the eight supply inlet ducts in room 321. The older style CAMs currently installed in many areas of the 234-5Z Building will also be replaced as needed with newer CAMs operating on portable vacuum pumps.

Status – For the cooling upgrade, the statement of work for the chillers was submitted to CHPRC Procurement at the end of the reporting period. The statements of work for the electrical transformer and for the design-build contract are in final approvals. A sufficient number of newer CAMs have been ordered and received, and the older units are being replaced as needed. This is the last report on this issue.

Issue Statement – Delays in hiring, training and qualifying the large number of new staff added at PFP has delayed deployment of all the new field work teams beyond their planned October 1 start date. Some of the new teams have been deployed to the field and the remainder will initiate field work during November and December. Schedule impacts will also be compounded for the near term due to an insufficient number of qualified Radiological Controls Technicians (RCTs) to support the expanding number of D&D field work teams.

Corrective Action – Work around schedules, additional overtime and potentially shift work will be incorporated in an update of the performance measurement baseline to recover lost time on D&D field work. Alternative actions to minimize the impact of the RCT shortage are being evaluated, including on site posting of additional positions, substitution of less radiologically intensive work in lieu of currently scheduled higher risk work, consolidation of work teams/work areas, etc.

Status – All of the new field work team staff have completed block training and are located at PFP undergoing on the job training and evaluation. Training has been initiated for the final group of newly hired RCTs. The impact due to the shortage of RCTs is likely to persist through training and qualification of the last of the newly hired RCTs into April 2010. This is the last report on this issue.

Issue Statement – An additional decontamination process for PFP gloveboxes/hoods with contamination etched into the stainless steel by historical liquid chemical processes is not currently available. Technical issues have also been identified with the application of the surface contaminated object (SCO) process to gloveboxes with previously inaccessible surfaces.

Status – Six gloveboxes previously removed and destined for ERDF disposal have been put on hold pending a technical evaluation. The SCO survey process and non-destructive assay is also being utilized where practical to support glovebox characterization and verify conformance with waste acceptance criteria. A comprehensive review of available decontamination processes is continuing, and additional testing will be done for those with high potential to complement the decontamination process currently in use. An alternate process for characterizing and transporting qualifying gloveboxes for disposal at Environmental Restoration Disposal Facility (ERDF) as low-level waste has been developed and is being implemented.

RISK MANAGEMENT STATUS

Unassigned Risk

Risk Passed

New Risk

- Working - No Concerns
- Working - Concern
- Working - Critical

- Increased Confidence
- No Change
- Decreased Confidence

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Month	Trend	
PFP-001: Inability to Effectively Decon Equipt/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.	●		13 gloveboxes/hoods have been successfully decontaminated since October 2008 using the RadPro process. Plans for deployment of a second, complementary process were suspended due to decon waste safety concerns. A review of available decontamination processes and methods is nearing completion, and provisions for testing and evaluation of the most promising processes are being incorporated in the project baseline. Technical issues with application of the Surface Contaminated Object survey process to gloveboxes with inaccessible surfaces were identified in September. Non-destructive assay and the CE-SPA process are being applied where applicable to support continued disposition of boxes and hoods as improvements are made to the SCO process.
PFP-004: Risk of 291-Z and PRF Canyon D&D cost/schedule growth	Complete detailed planning/engineering for D&D of 291-Z and cleanout of the PRF Canyon, particularly pencil tank removal and canyon decontamination.	●		An improved approach has been identified for removal and disposition of pencil tanks in the PRF canyon and has been incorporated in the project baseline, revision 2. Other work in the canyon is being resequenced to provide time for detailed planning and preparations to implement the preferred approach. Nearing Completion.
PFP-008: Unexpected high concentration TRU Material Holdup Discovered	Utilize supplemental NDA and other characterization techniques to identify any areas of concern early in the project. Maintain Pipe Overpack Container packaging capability.	●		POC packaging capability was reactivated and is being maintained. Confirmatory NDA is underway in the active D&D areas and on the process vacuum system, with no issues identified to date. This risk will be dropped from the monthly status report unless and until specific issues are identified.
PFP-009:Problems with Aging Building Systems/Components Impacts D&D	Perform critical system reliability assessments; procure critical spares; maintain existing redundancies; replace the 234-SZ filter room 310 filters; remove 234-SZ filter rooms 311 and 316 from service; replace 234-SZ TSR-related transmitter and controllers. Procurement of new, more reliable continuous air monitors has been completed.	●		CAM failures and false alarms are continuing. CAMS are being replaced as needed and methods to reduce voltage fluctuations are being investigated. No other significant failures experienced.
PFP-009:Problems with Aging Building Systems/Components Impacts D&D	Same as above	●		Extended high temperatures last summer significantly impacted D&D productivity due to heat stress controls. Engineering of an improved cooling system for 234-SZ and PRF has been completed and the upgrade is being incorporated in the project baseline.
PRC-042: Resource Availability.	Conduct job fairs; contract with alternate resource providers; develop training programs and work with local educational facilities and union halls to train required job specialties; establish company-wide prioritization for resource assignments.	●		RCT shortage will impact PFP activities beginning in late November 2009 and through April 2010. Sufficient staff have been enrolled in basic training to resolve the shortage, but will not complete training until April.

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 (%)	Budget at Completion (BAC)
ARRA	9.0	7.3	6.1	(1.6)	-18.3	1.2	16.6	256.9
Base	<u>3.8</u>	<u>3.1</u>	<u>4.3</u>	<u>(0.6)</u>	-16.2	<u>(1.1)</u>	-35.9	<u>321.8</u>
Total	12.7	10.5	10.4	(2.3)	-17.7	0.1	0.8	578.7

Numbers are rounded to the nearest \$0.1M.

ARRA

CM Schedule Performance: (-\$1.6M/-18.3%)

The current month negative schedule variance is associated with delay in field work team qualification and preparation of various documents that must precede the field work (criticality safety, engineering, and work planning). This delay has affected D&D work in 234-5, RMA-RMC and PPSL/Standards Lab, and Balance of 234-5Z. In addition, the extended durations for chemical decontamination of Gloveboxes HC-230-C-3 and HA-20MB (\$0.3M), high dose rates encountered in the 234-5Z Lab Room 139 work, and delays in PRF planned facility modifications contributed to the variance.

CM Cost Performance: (+\$1.2M/+16.6%)

The current month positive cost variance results from material earned as LOE, G&A hold back of services to be provided by RL, and other variances spread across multiple accounts. Consumables budget was increased in FY 2010 to support fully-functioning field work teams (e.g., increased PPE), which is impacted by the delay in field team qualification. The balance is due to over reported progress on the annual cost of solid waste boxes (SWBs) and sample analysis. The positive variance is offset by a negative cost variance from D&D field work teams who charge to the 234-5Z project but are unable to accomplish planned work, due to in progress qualification and limited RCT support.

Base

CM Schedule Performance: (-\$0.6M/-16.2%)

The unfavorable schedule variance is primarily due to D&D work in the 236-Z (PRF) facility, with minimal variance from D&D of Building 242-Z and 2736-Z/ZB Complex. PRF delays continue due to previously-reported causes. Electrical issues on the PRF canyon crane identified during reactivation entries have led to more entries than originally planned. Delay in field work team qualification, along with decontamination of contaminated glove and port ring have impacted the ability to complete the West Gallery glovebox internal cleanout. The delay in field work team availability has diverted fifty percent of the gallery glovebox team's time to support canyon entries. CAM alarms and contamination cleanout efforts, along with plant drill support, caused delays on the gallery gloveboxes and canyon entries. In addition, a three to four week delay has been experienced in PRF due to development of a modified approach to removal of pencil tanks from the facility. The 242-Z and 2736-Z/ZB Complex negative schedule variance result from a lack of available resources to plan and perform the work.

CM Cost Performance: (-\$1.1M/-35.9%)

The unfavorable cost variance is a result of extra entries being made to reactivate the canyon crane as a

result of electrical deficiencies found during investigations, use of overtime to try and recover schedule for the West Gallery glovebox cleanout, and delay in field work team qualification to begin work on the East Gallery glovebox cleanout on October 1, 2009. In addition, variances in labor to support the min-safe activities at PFP are primarily due to understated budget from the FY 2010 baseline which will be corrected in the submittal of CHPRC Performance Measurement Baseline, Revision 2 in January 2010.

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)
ARRA	63.3	59.3	48.5	(3.9)	6.2	10.9	18.8	256.9
Base	<u>82.6</u>	<u>81.0</u>	<u>83.1</u>	<u>(1.6)</u>	-1.9	<u>(2.1)</u>	-2.6	<u>321.8</u>
Total	145.9	140.4	131.6	(5.5)	-3.8	8.8	6.2	578.7

Numbers are rounded to the nearest \$0.1M.

ARRA

CTD Schedule Performance: (-\$3.9M/-6.2%)

The cumulative negative schedule variances are associated with delay in field work team qualification and preparation of various documents that must precede the field work (criticality safety, engineering, and work planning). This delay has affected D&D work in 234-5Z, PPSL/Standards Lab, and Balance of 234-5Z. In addition, delays in procurement of several large pieces of equipment, delays in several planned facility modifications, including establishing more efficient waste routes and relocation of the PFP tool crib out of the 234-5Z, modifications to PRF (elevator), and removal of the Liquid Nitrogen Storage Pad, and late delivery of the PFP Decontamination Trailer are contributing to this negative variance.

CTD Cost Performance: (+\$10.9M/+18.8%)

Nearly half of the cumulative positive cost variance is due to overhead allocations: Project Services Distribution, G&A, and Direct Distributables. The project is experiencing a labor rate under-run, which contributes \$2M to the positive variance. This is due to late hiring of ARRA-funded staff, overstatement of resources for cross-cutting support, MSA-supplied craft budgeted as labor and costed as subcontract, and delay in completion of facility modifications. The remaining variance is due to delayed procurement of waste containers and metal pallets, overstatement of 222S lab sampling support, delay in receiving costs associated with waste disposition and delayed subcontract cost associated with the Decontamination Trailer.

Base

CTD Schedule Performance: (-\$1.6M/-1.9%)

The unfavorable schedule variance is associated with work in the 236-Z (PRF) facility. Specifically, electrical issues identified during investigations have led to more entries than originally planned. Delay in field work team qualification, along with contaminated glove and port ring issues resulting in decontamination activities has impacted the ability to complete the West Gallery glovebox internal cleanout. The impact of the delay in field work team availability has diverted fifty percent of the Gallery Glovebox field work team's time to support canyon entries. In addition, a management decision was made for one of the qualified PRF field work teams to perform two weeks of dress/undress training for all PFP D&D field work teams. This will mitigate ALARA in high risk areas and minimize the spread of contamination. In addition, a three to four week delay has been experienced in PRF due to development

of a modified approach to the D&D of the PRF facility.

CTD Cost Performance: (-\$2.1M/-2.6%)

The unfavorable cost variance is driven by non-labor overruns, caused by MSC services and min-safe calibration costs. In addition, labor usage contributes an unfavorable, driven by extra entries being made to reactivate the canyon as higher electrical deficiencies found during investigations, the use of overtime to recover schedule for the West Gallery glovebox cleanout, and to complete min-safe maintenance activities in order for day shift to focus on accelerated D&D. The unfavorable usage performance is offset by reduced resource requirements for maintenance of the 2736-Z/ZB Vault complex and reallocation of resources to support miscellaneous fuels/materials and disposition of un-irradiated and slightly-irradiated fuel. The overall unfavorable cost performance is offset by a labor rate under-run of \$4.5M.

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	FY 2010		
	Projected Funding	Spending Forecast	Variance
ARRA	135.6	120.8	14.8
Base	<u>58.1</u>	<u>62.0</u>	<u>(3.9)</u>
Total	193.7	182.8	10.9

Funds/Variance Analysis:

Projected Funding includes FY 2009 uncosted and FY 2010 expected new Budget Authority (BA). Fiscal Year 2010 Base expenditures are forecasted to exceed planned funds due to a newly planned approach in the Plutonium Reclamation Facility (PRF) utilizing a remote handling system and continuing min-safe operations in the 2736Z/ZB Vaults until the facility is ready for demolition in the first quarter of FY 2011. Funds management coupled with efficiencies from implementation of the new approach in PRF will mitigate the variance.

Critical Path Schedule:

Critical Path analysis can be provided upon request.

Estimate at Completion:

The BAC and EAC now include FY 2009 through FY 2018, the PRC contract period.

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.