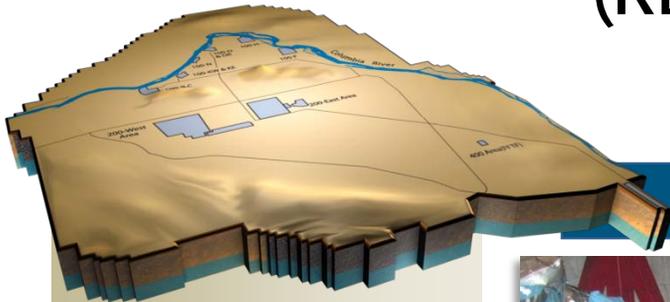


Section C

Solid Waste Stabilization and Disposition (RL-0013)



Monthly Performance Report

L.T. Blackford
Vice President and
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Waste and Fuels
Management Project



**Glovebox Size
Reduction at
PFNW**

**Crane Staged
Trench 94**



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



**Drum Removal
4B Trench 7**

PROJECT SUMMARY

The Waste & Fuels Management Project (W&FMP) focused on delivering safe, compliant performance.

American Recovery and Reinvestment Act (ARRA)

A “Middle-ware” utility providing the foundation for an accessible, user friendly, comprehensive interface for waste inventory, forecast and reporting data was put into production in September. Completed the Key Performance Parameter (KPP) to retrieve 2,500 cubic meters of suspect Transuranic (TRU) waste from storage (2,640 m³ retrieved to date). All Point of Generation (POG) waste was shipped to Perma-Fix Northwest (PFNW), 205 m³ shipped and completed. Completed shipment of the mixed low-level waste (M/LLW) portion of retrievably stored TRU waste. Completed shipment of 142.6m³ Legacy M/LLW to a treatment facility (2,121m³ shipped to date). M-91-42 /435.1 – shipped 118 m³ to processing (1,508 m³ total shipped under ARRA) and completed 154 m³ (1,314 m³ total completed under ARRA); M-91-43 – a total of 588 m³ have been shipped to processing under ARRA and 58 m³ were completed during the month (501 m³ completed under ARRA). The Central Waste Complex (CWC) completed 80 on-site shipments/transfers, 279 containers; and received 191 shipments/transfers, 998 containers.

Base

The W&FMP continued maintaining facilities in a safe and compliant condition; Canister Storage Building (CSB) completed the annual Nuclear Assurance Corporation-1 Cask/International Standards Organization Container inspections. Liquid Effluent Facilities (ETF) 200A Treated Effluent Disposal Facility (TEDF) discharged 1M gallons (CY 11M) and received Environmental Restoration Disposal Facility (ERDF) leachate (68K gallons) at Liquid Effluent Retention Facility (LERF) Basin 44 (CY 1.3M gallons).

EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
09-EMS-WFM-OB1-T1	Reduce the potential for releases from TRU Retrieval Waste repackaging activities in the low-level burial ground.	Implement a point-of-generation approach to waste management that minimizes the transport and handling of wastes.	10/1/2011	On schedule
		No exceedances of permit conditions. Participate in readiness assessment and establish process to confirm permit levels have been met.	9/30/2010	Complete
10-EMS-WFM-OB2-T1	Reduce the levels of air pollution and increase the energy efficiency of Waste Encapsulation and Storage Facility (WESF) Plant heating and cooling operations.	Eliminate the use of the refrigerant R22.	2/26/2010	Complete
		Inactivate the fuel oil fired steam plant and replace with heat recovery chiller and electrical resistance heaters.	2/26/2010	Complete
10-EMS-WFM-OB3-T1	Reduce the generation of waste through implementation of pollution prevention practices.	Conduct a pollution prevention assessment of waste packaging and other operations at T-Plant to identify waste minimization opportunities.	9/30/2010	Complete

TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	7	
Total Recordable Injuries	1	14	9/14/11: Employee attempted to open cabinet in tool crib and door resisted opening. Received prescription medication (22353)
First Aid Cases	10	107	<p>9/1/11: Chemical odor smell in T-Plant canyon. Employees experienced symptoms which required first aid. (22315, 22321, 22324)</p> <p>9/1/11: Employee was delivering coolers of ice and picnic supplies for WRAP employee picnic. Employee felt pain in back. (22333)</p> <p>9/8/11: Employee receiving blood draw at CSC during physical. Employee experienced numbness and tingling. (22340)</p> <p>9/9/11: Employee was bit/stung by insect. (22341)</p> <p>9/12/11: Employee noticed skin pigmentation change after working in sun. Believed to be irritation from something applied to skin. (22350)</p> <p>9/21/11: Employee felt pain in shoulder while hanging a glove bag with a TRU sleeve. (22365)</p> <p>9/23/11: Employee was bit/stung by insect. (22370)</p> <p>9/28/11: Employee's hand was swollen and sore. Employee had increased administrative/desk work. (22375)</p>
Near-Misses	1	1	The event occurred during movement of a rotor assembly at the Effluent Treatment Facility. The rotor was positioned on two carts, while manually pushing the carts, the front wheels of the rear cart hit a transition point, causing the rear cart to stop and the rotor to slide forward and fall approximately 6 inches to the ground. There were no personnel injuries.

KEY ACCOMPLISHMENTS

ARRA

13.01 Project Management

- Continued Project Management support for high priority projects
- "Middle-ware" utility providing the foundation for an accessible, user friendly, comprehensive interface for waste inventory, forecast and reporting data was put into production in September.

13.04 MLLW Treatment

- Completed shipment of 142.6m³ Legacy M/LLW to a treatment facility (2,121m³ to date)
- Completed recharacterization of the Argonne National Laboratory (ANL) solidified irradiated fuel solutions and transferred the waste from MLLW to LLW

- M-91-42/435.1 MLLW:
 - Shipped 118 m³ to processing (1,508 m³ total under ARRA)
 - Completed 154 m³ (1,314 m³ total under ARRA)
- M-91-43 MLLW:
 - Shipped a total of 588 m³ to processing under ARRA
 - Completed 58 m³ (501 m³ total under ARRA)
- Plutonium Finishing Plant (PFP) Glove Boxes Support
 - Supported two shipments of glove box sections were shipped in September totaling 15.4 m³
 - Total shipped 69.1 m³, total completed 36.0 m³

13.05 TRU Retrieval

- Completed the Key KPP to retrieve 2,500 cubic meters of suspect TRU waste from storage (2,602 m³ retrieved to date)
- CH-TRU Retrieval Volumes
 - Removed 216 m³ CH-TRU waste from trenches – 2,645 m³ removed to date under ARRA
 - Shipped 467 m³ CH-TRU waste (shipped to Treatment, Storage, Disposal Facility) – 2,640 m³ retrieved under ARRA to date
- TRU Retrieval Activities
 - Completed 103 4B shipments: 88 shipments (150.0 m³) to CWC; six shipments (62.0 m³) to PFNW, eight shipments to ERDF (101.2 m³), and one shipment to MWT (11.4 m³)
 - Removed 330 drums (68.6 m³) from 4B Trench 7; all drums were overpacked, assays completed, and containers shipped to a TSD
- Point-of-Generation TRUM Repackaging
 - All POG waste shipped to PFNW - shipped 205 m³ and completed 205 m³
- Next Generation Retrieval Activities
 - Completed 29 - 12B shipments: 18 shipments (74.3 m³) to CWC; 11 shipments (68.2 m³) to PFNW
 - Continued 12B lay-up activities – returned leased assay equipment to the vendor (Antech)

13.06 TRU Repackaging

- T- Plant Repack
 - Compacted 110 empty 216-Z-9 drums

13.07 WRAP

- Nondestructive examination (NDE)
 - Completed Central Characterization Project (CCP) closeout
 - Six non-WIPP Quickscans performed
- Nondestructive Assay (NDA):
 - CCP completed
 - Two non-WIPP Inventory Assays performed
- WRAP Layup/De-inventory Program
 - Transferred 1,071 drums and 118 SWBs from WRAP to CWC
- High Energy - Real Time Radiography (HE-RTR)
 - Signed work order with Washington Closure Hanford (WCH) to support operations for burial

grounds 618-10

13.08 T-Plant

- Shipped 121 containers from T Plant
- Received one ERDF roll-off container
- Successfully transferred 75 containers from T Plant to CWC

13.09 Central Waste Complex (CWC)

- Shipped seven on-site transfers, 21 containers
- Shipped two offsite shipments, two containers
- Received 187 on-site transfers, 959 containers
- Received four offsite shipments, 39 containers
- Installation of replacement Fire Systems compressors in the Central Waste Complex 2403 buildings continues
- Completed 80 transfer shipments of 279 containers from 4B/4C burial grounds in support of Waste Retrieval Projects.
- Completed roof repairs on 2403 WA, 2403WC, and 2403WB

13.15 TRU Disposition

- Shipments to the Waste Isolation Pilot Project (WIPP): Current month total – eight, total WIPP shipments to date – 217

Base

13.02 Capsule Storage & Disposition

- Completed Exhaust Fan K3-7-2 flex connector replacement
- Completed Pool Cell #11 radiation monitor repair

13.03 Canister Storage Building (CSB)

- Completed annual Interim Storage Cask inspections
- Completed annual Nuclear Assurance Corporation-1 Cask/International Standards Organization Container inspections
- Completed quarterly stack monitoring inspections
- Completed 6-month sample hood flow indicator and differential pressure indicator calibrations
- Completed semi-annual operating area heating, ventilation, and air conditioning air handler high efficiency particulate air (HEPA) filter test
- Completed semi-annual AH-004 HEPA test

13.07 WRAP

- Maintained the facility in a safe and compliant condition

13.11 Liquid Effluent Facilities (LEF)

- Received five tankers (448K gallons)
- 200A Treated Effluent Disposal Facility discharged 1M gallons
- Received Environmental Restoration Disposal Facility (ERDF) leachate (68K gallons) at Liquid Effluent Retention Facility Basin 44
- Continued operating the 310 Area Retention Transfer System (21 batches/674K gallons)

- Processed 24 drums of Waste Sampling and Characterization Facility wastewater into Concentrate Tank B
- Shipped 10 soft-sided waste containers (Mavericks) to ERDF and three acid drums to Permafrix Northwest, Inc. for treatment

13.12 Integrated Disposal Facility

- Completed all required inspections at the Integrated Disposal Facility

13.16 Off Site Spent Nuclear Fuel Disposition

- Maintained coordination for offsite Spent Nuclear Fuel Disposition

13.21 Mixed Waste Disposal Trenches

- Maintained the facility in a safe and compliant condition

MAJOR ISSUES

None Identified.

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	
WSD-007: TRU Retrieval Complexities	Accelerate "next generation" retrieval	●	↔	Significant container degradation encountered; Draw down of available MR complete. ARRA Retrieval completed. However, Layup activities have been impacted due to need to fully recover Retrieval schedule.
WSD-008: Classified Waste Storage Limitations	Implement mobile shredding; evaluate establishing secure storage at CWC or other location	●	↔	Questionable mobile shredding feasibility, working with NNSA to define path forward
WSD-013A: TRU Waste Volumes or Characteristics - Retrieval	Implement in-trench assaying as part of Next Generation retrieval and explore stabilization techniques	●	↔	Encountering issues regarding unexpected waste characteristics; Implementing Trench Face Retrieval and Characterization capabilities implemented.
WSD-013B: TRU Waste Volumes or Characteristics - Processing	Use ARRA funds to add additional process lines	●	↔	No issues regarding unexpected waste volumes or characteristics experienced to date
WSD-018: CSB Major Equipment Failure	Risk accepted without mitigation	●	↔	Risk is very unlikely.
WSD-025: Unexpected Waste Volumes/Characteristics	Work with generators to update forecasting data monthly/quarterly/semi-annually	●	↔	Waste volumes to ERDF significantly greater than projected due to ARRA work acceleration. Post ARRA volumes drop sharply
WSD-043: Orphan Wastes	Obtain regulatory relief for "no path forward" wastes	●	↔	Working to identify treatment options for all waste currently in storage. Issued "No Path Forward" waste and German log alternatives analysis. Annual update of M-91 PMP will documented current

PROJECT BASELINE PERFORMANCE

Current Month

(\$M)

WBS 013/RL-0013 Waste and Fuels Management Project	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
MLLW Treatment	2.0	2.7	2.6	0.7	35.0%	0.2	6.1%
TRU Waste	21.7	18.9	25.2	(2.8)	-13.1%	(6.4)	-33.7%
ARRA Total	23.7	21.6	27.8	(2.1)	-9.0%	(6.2)	-28.7%
Base	<u>19.0</u>	<u>18.5</u>	<u>10.3</u>	<u>(0.4)</u>	<u>-2.3%</u>	<u>8.3</u>	<u>44.6%</u>
Total	42.7	40.1	38.1	(2.6)	-6.0%	2.1	5.1%

Numbers are rounded to the nearest \$0.1M

ARRA

Current Month (CM) Schedule Performance (-\$2.1M/-9.0%)

RL-0013 MLLW Treatment – The positive variance is due to schedule recovery for M-91-43 and M-91-42 MLLW waste treatment.

RL-0013 TRU Waste – The negative variance is due to TRU Retrieval Point of Generation shipments scheduled to and from Perma-Fix Northwest for this month were completed in a prior period, TRU Retrieval planned layup activities behind schedule, and T Plant layup schedule delay associated with drum compactor activities.

CM Cost Performance (-\$6.2M/-28.7%)

RL-0013 MLLW Treatment – The positive variance is due to labor support and contract costs lower than planned.

RL-0013 TRU Waste – The negative variance is due to delayed cost transfer of Central Waste Complex (CWC) Base and Min-Safe Operations from BASE to ARRA (BCR was implemented in August and corresponding cost transfers processed in September) and allocation of Work Force Restructuring costs.

Base

CM Schedule Performance (-\$0.4M/-2.3%)

Within threshold - The negative variance is due to delays in CSB, WESF, and ETF engineering activities due to resource availability.

CM Cost Performance (+\$8.3M/+44.6%)

The positive variance is due to transfer of CWC Base and Min Safe Operations costs from BASE to ARRA (BCR was implemented in August and associated cost transfers processed in September) and lower overheads than planned.

Contract-to-Date (CTD)

(\$M)

WBS 013/RL-0013 Waste and Fuels Management Project	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
MLLW Treatment	47.7	46.3	41.4	(1.3)	-2.8%	4.9	10.7%
TRU Waste	254.8	254.4	251.8	(0.4)	-0.2%	2.5	1.0%
ARRA Total	302.4	300.7	293.2	(1.7)	-0.6%	7.4	2.5%
Base	<u>314.3</u>	<u>313.5</u>	<u>322.0</u>	<u>(0.8)</u>	<u>-0.2%</u>	<u>(8.5)</u>	<u>-2.7%</u>
Total	616.7	614.2	615.2	(2.5)	-0.4%	(1.0)	-0.2%

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance (-\$1.7M/-0.6%)

RL-0013 MLLW Treatment – The negative variance is primarily due to the delay in receipt of M-91-42 feed from TRU Retrieval (shift to Retrieval trench with higher percentage of TRU waste). BCR will move M-91-42 TRU Retrieval MLLW dropouts to occur in conjunction with the resumption of TRU Retrieval.

RL-0013 TRU Waste – The negative variance is the result of the delay of TRU Retrieval layup activities due to focus on ARRA KPP goals.

CTD Cost Performance (+\$7.4M/+2.5%)

RL-0013 MLLW Treatment – The positive variance is due to Mixed Low Level Waste costs below plan due to efficiencies created by treating waste at Energy Solutions (ES) - Clive rather than planned treatment at PermaFix Northwest (PFNW) due to a waiver received from the Department of Energy (DOE), ERDF negotiated rate reduction with vendor for waste containers, decreased operations costs at Low Level Burial Grounds (LLBG), efficiencies in Large Type A waste container shipments to PFWW and in Mixed Waste Disposal Trenches (MWDT) upgrades, partially offset by higher costs for ETF Containment Berm repairs.

RL-0013 TRU Waste – The positive cost variance due to efficiencies in TRU Characterization and Shipping, TRU Repackaging, T-Plant and WRAP, partially offset by increased materials and labor costs in support of the Trench Face Retrieval and Characterization System (TFRCS), coupled with increased resources for TRU Retrieval deteriorated waste containers, increased allocations for additional office space and other assessments as a result of allocations to Recovery Act expenditures.

Base

CTD Schedule Performance (-\$0.8M/-0.2%)

Within Threshold - The negative variance is due to Canister Storage Building (CSB) engineering activities delayed due to resource availability (assigned to higher priority activities); partially offset by accelerated WRAP high-efficiency particulate air (HEPA) filter replacement (scheduled for FY13).

CTD Cost Performance (-\$8.5M/-2.7%)

MSA assessments above plan, TRU Retrieval additional resources to deal with deteriorated containers

and drum wedge issue, FY09 WRAP facility increased levels of corrective and preventive maintenance activities as a result of repack operations, increased labor and subcontractors support for Transportation and Packaging; partially offset by efficiencies in Liquid Effluent Facility (LEF), MLLW, TRU Disposition, TRU Repackaging, Interim Storage Area upgrades, Capsule Storage and Disposition, MWDT and lower G&A allocations.

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 changes in EAC from July to August, for both ARRA and Base, are within reporting thresholds.

FUNDS vs. SPEND FORECAST

(\$M)

WBS 013/RL-0013 Waste and Fuels Management Project	FY2011		Spend Variance
	Projected Funding	Spending Forecast	
ARRA	158.0	158.0	0.0
Base	84.1	84.1	0.0

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

BCR-000-11-003R0, "Definitize Change Order #83, Contract Modification 152, Beryllium"

BCRA-PRC-11-048R0, September 2011 Yearend Admin Changes, FOC et al

BCR-PRC-11-049R0, CHPRC Displaced Worker Medical Benefits – Alignment

BCR-PRC-11-050R0 Work Force Restructuring

MILESTONE STATUS

TPA milestones represent significant events in project execution. DOE Enforceable Agreement milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The PRC FY2012 Annual PMB Update, implemented in August 2011, and subsequent approved BCRs define CHPRC planning with respect to TPA milestones. The following table is a one year look ahead of key milestones.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-091-40T	Retrieve 2,000 Cubic Meters of CH RSW	TPA	9/30/11		9/30/11	Field work completed 8/10/11. Completion letter issued after 9/30/11.
M-091-46A	Certify 850 Cubic Meters of Small Container CH TRUM Waste	TPA	9/30/11		9/30/11	Field work completed 7/21/11. Completion letter issued after 9/30/11.
M-091-44Z-002	Min. Annual PMM or Qtrly Notification of Cert. of CH/RH TRUM	TPA	12/31/11			On Schedule
C-026-07G	Tritium Treatment Technology Developments to Ecology & EPA	TPA (commitment)	3/31/12			On Schedule

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)

Contract Section	Project	GFS/I	Status
CONTRACT			
J.12/C.2.3.6	PBS-13, Transuranic Waste Certification	WIPP provides shipping resources and manages the schedule for transportation of these containers to WIPP. The schedule is variable and the number of shipments is controlled by DOE-HQ on a complex-wide priority. Cost for shipment of TRU waste offsite is borne by the CBFO.	Ongoing