

Section C

Solid Waste Stabilization and Disposition (RL-0013)



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PROJECT SUMMARY

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

American Recovery and Reinvestment Act (ARRA)

Project layup activities continued. Completed shipments of all Mixed Low-Level Waste (MLLW), subject to 90-Day Storage requirements, to Perma-Fix Northwest (PFNW). Completed five bulk waste shipments to the Environmental Restoration Disposal Facility (ERDF) from burial ground 3A. Developed the work package and passed Hazard Review Board (HRB) to remediate High Contamination Area (HCA) in burial ground 4B. Completed compaction efforts for 442 empty parent drums in 221-T Canyon. Commenced Pacific Northwest National Laboratory (PNNL) Assay of 264 100-gal suspect TRU compacted (“puck”) drums.

Base

The W&FMP continued maintaining facilities in a safe and compliant condition; Canister Storage Building (CSB) completed the annual Multi-Canister Overpack (MCO) Handling Machine (MHM) hoist brake inspection stack monitor pilot tube inspections and the semi-annual high efficiency particulate air filter test. Liquid Effluent Facilities (LEF) received Environmental Restoration Disposal Facility (ERDF) leachate (193K gallons) at Liquid Effluent Retention Facility (LERF) Basin 44 (CY 1.6M gallons) and treated effluent to State-Approved Land Disposal Site 574k gallons (CY 16M). The 200A Treated Effluent Disposal Facility (TEDF) discharged 82k gallons (CY 11M).

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	N/A
Total Recordable Injuries	0	13	N/A
First Aid Cases	5	106	<p>10/7/11: Employee was checking dose rates in the 221-T canyon, stepped on an uneven surface. Diagnosed with sprained ankle. (22388)</p> <p>10/17/11: Employee noticed pain in back when standing up from seated position after lunch break. Diagnosed with back strain. (22399)</p> <p>10/19/11: Employee was placing a neutron detector into a carry bag, it shifted and as employee caught it, felt pain in back. Diagnosed with back strain. (22400)</p> <p>10/27/11: Employee was lifting neutron detector off a flatbed trailer and felt pain in shoulder. Diagnosed with shoulder strain. (22407)</p> <p>10/31/11: Employee was getting on and off a forklift several times in the morning. Felt pain in leg. Diagnosed with leg strain. (22409)</p>

KEY ACCOMPLISHMENTS

ARRA

13.04 MLLW Treatment

- Completed shipments of all MLLW subject to 90-Day Storage requirements to PFNW

13.05 TRU Retrieval

- TRU Retrieval Layup Activities**
 - Completed five bulk waste shipments to ERDF from burial ground 3A
 - Developed work package and passed HRB to remediate HCA in burial ground 4B
 - Continued survey and removal of the retrieval rental equipment (generators and light plants) from 3A,4B,4C, and 12B

13.06 TRU Repackaging

- WRAP Layup Activities**
 - Work Change Notice (WCN) for Final 2404WB Decontamination in approval stage
 - Completed cleaning and inspection of floors in 2336W, 2404WB and 2404WC in support of annual ECO floor inspections
- T-Plant Layup Activities**
 - Completed compaction efforts for 442 empty parent drums in 221-T Canyon (171 remaining)
 - Commenced Pacific Northwest National Laboratory (PNNL) Assay of 264 100-gal suspect

TRU compacted (“puck”) drums. Of the 69 assayed puck drums, five remained suspect TRU

Base

13.02 Project Management

- Continued Project Management support for high priority projects

13.03 Capsule Storage & Disposition

- Waste Encapsulation & Storage Facility (WESF)
 - Completed Exhaust Fan K3-7-1 flex connector replacement
 - Repaired the portable air compressor
 - Initiated ‘fix it now team’

13.03 Canister Storage Building (CSB)

- Continued Security Mobile Office 155 utilities tie-in (construction)
- Completed MCO - MHM tube-plug grapple repair
- Completed semi-annual MHM wire rope inspection and high efficiency particulate air filter test
- Completed annual MHM hoist brake inspection
- Completed annual stack monitor pilot tube inspection
- Completed MCO H-172 gas sample
- Completed quarterly MHM interlock channel tests
- Completed annual uninterruptable power supply maintenance

13.07 WRAP

- Maintained the facility in a safe and compliant condition (supporting WRAP Lay Up activities)

13.11 T-Plant

- Maintained the facility in a safe and compliant condition

13.12 Central Waste Complex (CWC)

- Maintained the facility in a safe and compliant condition

13.11 Liquid Effluent Facilities (LEF)

- Received 3 tankers (calendar year [CY] 469k gallons)
- Treated effluent to State-Approved Land Disposal Site: 574k gallons (CY 16M)
- 200A Treated Effluent Disposal Facility (TEDF) discharged 82k gallons (CY 11M)
- Received Environmental Restoration Disposal Facility (ERDF) leachate (193k gallons) at Liquid Effluent Retention Facility (LERF) Basin 44 (CY 1.6M)
- Continued operating the 310 Retention Transfer System (RTS): 23 batches; CY 744k gallons
- Shipped 40 powder drums from Basin 44 to ERDF
- Established boundary lines/stripping for waste container storage to facilitate meeting requirements of Resource Conservation and Recovery Act of 1976
- Sampled Basin 44 solid and influent
- Maintenance activities:
 - Initiated repairs to Basin 43 recirculation line
 - Completed Department of Transportation running gear inspection for tankers
 - Completed annual preventive maintenance on Pump Stations 1 and 2 Transfer System

- Repaired primary air compressor
- Replaced Concentrate Tank B recirculation pump
- Unplugged solid buildup in the evaporator dump line
- Dissolved solids in Concentrate Tank B with 1% dilute sulfuric acid
- Decontaminated reverse osmosis primary pump for repair

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

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 document current

Unassigned Risk
Risk Passed
New Risk

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

↑ Increased Confidence
↔ No Change
↓ Decreased Confidence

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	0.7	0.6	0.2	(0.1)	-14.8%	0.4	61.7%
TRU Waste	<u>0.6</u>	<u>0.3</u>	<u>2.0</u>	<u>(0.2)</u>	<u>-40.9%</u>	<u>(1.7)</u>	<u>-504.4%</u>
ARRA Total	1.3	0.9	2.2	(0.3)	-26.2%	(1.3)	-136.2%
Base	<u>4.8</u>	<u>4.8</u>	<u>4.3</u>	<u>0.0</u>	<u>0.4%</u>	<u>0.6</u>	<u>11.8%</u>
Total	6.1	5.8	6.5	(0.3)	-5.2%	(0.7)	-12.3%

Numbers are rounded to the nearest \$0.1M

ARRA

Current Month (CM) Schedule Performance (-\$0.3M/-26.2%)

RL-0013 MLLW Treatment / RL-0013 TRU Waste – The negative variance is due to delay in receipt of planned volumes of M-91-42 MLLW returns from PFNW, partially offset by early M-91-43 returns.

CM Cost Performance (-\$1.3M/-136.2%)

RL-0013 MLLW Treatment / RL-0013 TRU Waste – The negative variance is primarily due to an accrual issue at FY2011 year end, and receipt of subcontract charges (CLTR labor) in excess of system-generated accruals for September subcontract labor. In addition, some start-up anomalies occurred which will require corrections to base-funded work scope.

Base

CM Schedule Performance (+\$0.0M/0.4%)

The positive schedule variance is within threshold.

CM Cost Performance (+\$0.6M/+11.8%)

The positive variance is due to resources deferred to higher priority lay-up activities coupled with start-up anomalies which will require corrections from ARRA to base-funded work scope.

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	48.4	46.9	41.6	(1.5)	-3.0%	5.3	11.3%
TRU Waste	255.3	254.7	253.8	(0.6)	-0.2%	0.9	0.4%
ARRA Total	303.7	301.6	295.4	(2.1)	-0.7%	6.2	2.1%
Base	<u>319.1</u>	<u>318.4</u>	<u>326.3</u>	<u>(0.7)</u>	<u>-0.2%</u>	<u>(7.9)</u>	<u>-2.5%</u>
Total	622.8	620.0	621.6	(2.8)	-0.5%	(1.7)	-0.3%

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance (-\$2.1M/-0.7%)

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 during the final months of FY11). The PMB Rev 3 will defer 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 impact on TRU Retrieval layup activities due to the focus on ARRA KPP completions in FY2011 and resource limitations in FY12.

CTD Cost Performance (+\$6.2M/+2.1%)

RL-0013 MLLW Treatment – The positive variance is due to Mixed Low Level Waste 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 PFNW 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 (-\$0.7M/-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).

CTD Cost Performance (-\$7.9M/-2.5%)

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 September to October, for both ARRA and Base, are within reporting thresholds.

FUNDS vs. SPEND FORECAST

(\$M)

WBS 013/RL-0013 Waste and Fuels Management Project	FY2012		
	Projected Funding	Spending Forecast	Spend Variance
ARRA	4.6	4.6	0
Base	87.1	83.7	3.4

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-PRC-12-003R0 - October FY 2012 Rate Changes

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