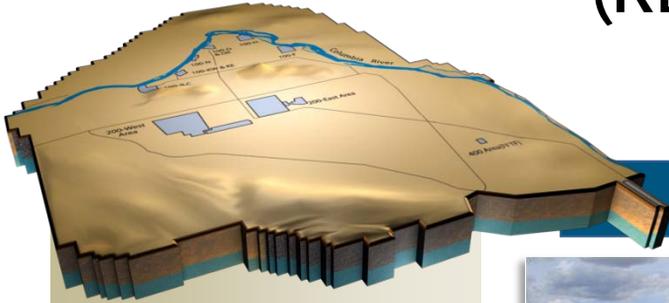


Section C

Solid Waste Stabilization and Disposition (RL-0013)



Monthly Performance Report

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Vice President and
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Waste and Fuels
Management Project



**Paving the Route
2 South Curve
completion**

**MLLW and TRUM
Waste on way to
Disposition**



July 2011
CHPRC-2011-07, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



**Boxes Removed
from 12B Trench 17**

PROJECT SUMMARY

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

American Recovery and Reinvestment Act (ARRA)

Work is nearing completion on a “middle-ware” utility to provide an accessible, user friendly and comprehensive interface for waste inventory, forecast, and reporting data. Completed the Key Performance Parameter (KPP) to ship 1,800 cubic meters (m³) of Mixed/Low Level Waste (MLLW) to a treatment facility. M-91-42 /435.1– shipped 48 cubic meters (m³) to processing, (1,283) m³ total under ARRA) and completed 31 m³ during the month (1,101) m³ total under ARRA); M-91-43 – shipped 36 m³ to processing (534 m³ total under ARRA) and completed 121 m³ during the month (316 m³ total under ARRA).

Transuranic (TRU) Retrieval removed 147.8 m³ of contact handled (CH) TRU waste from the trenches and shipped 215.6 m³ of CH TRU waste to a Treatment, Storage, and Disposal facility (1,769 m³ total under ARRA). Next Generation Retrieval (NGR) removed 271 drums and 22 boxes (62.4 m³); completed assay of 558 drums (Gamma Assay), 33 drum (Passive/ Active Neutron [PAN] Assay System), vented 38 TRU drums, and x-rayed 71 drums in the Real-Time-Radiography (RTR) System. Completed field work for TPA milestone: M-091-46A: Certify 850m³ of small container CH-TRUM on July 21

Base

The W&FMP continued maintaining facilities in a safe and compliant condition; Canister Storage Building (CSB) completed quarterly Gaseous Effluent Monitoring System (GEMS) stack flow and mass flow controller functional checks.

The Central Waste Complex (CWC) completed 13 on-site shipments/transfers, 261 containers; and received 60 shipments/transfers, 579 containers.

Liquid Effluent Facilities sent 2.6M gallons of treated effluent to the state-approved land disposal site, continued Basin 43 processing campaign (processed 22.1M gallons), and received Environmental Restoration Disposal Facility (ERDF) leachate (141k gallons) at Liquid Effluent Retention Facility (LERF) Basin 44 (CY 1.1M 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	13	7/11/11: Employee was attempting to slow/stop fast closing exit door. Employee was diagnosed with fracture to thumb. (22106)
First Aid Cases	5	105	7/12/11: Employee was walking upstairs carrying an instrument bags, felt pain in lower back. Employee was diagnosed with a strain to lower back. (22111) 7/13/11: Employee performing drum movements reported back pain. (22122) 7/15/11: Employee was placing a rubber cap on smoke test tube, when it broke. Piece of glass lodged in glove. Employee was diagnosed with a cut to the hand. (22123) 7/25/11: Employee was climbing into an ERDF truck and felt pain. Employee diagnosed with a strain to the hip. (22161) 7/28/11: Employee was bitten by a sweat bee. Employee diagnosed with a bite/sting. (22165)
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

ARRA

13.01 Project Management

- Continued Project Management support for high priority projects
- Continued work on a “middle-ware” utility to provide an accessible, user friendly, and comprehensive interface for waste inventory, forecast, and reporting data

13.04 MLLW Treatment

- Completed the KPP to ship 1,800 m³ Legacy M/LLW to a treatment facility
- M-91-42/435.1 MLLW:
 - Shipped 48 m³ to processing (1,283 m³ total under ARRA)
 - Completed 31 m³ (1,101 m³ total under ARRA)
- M-91-43 MLLW:
 - Shipped 36 m³ to processing (112 m³ total under ARRA)
 - Completed 121 m³ (316 m³ total under ARRA)
- MLLW key performance parameter (KPP) to ship 1,800 m³:
 - Shipped 1,839 m³ to date
- TRU Retrieval Support
 - Shipped one large MLLW fiberglass-reinforced plywood (FRP) box totaling 32.6 m³ from the Waste Retrieval Project (WRP) to Perma-Fix Northwest (PFNW) utilizing the Super-7A.
 - Shipped the twelve (12) miscellaneous header and duct sections that were retrieved from 4B to PFNW.
 - Completed four (4) shipments of retrieved MLLW out of the 12B location to PFNW for treatment. The shipments totaled 186 drums shipped inside reusable 8x4x4 Type-7A. To date, a total of 110 m³ has been shipped from 12B

13.05 TRU Retrieval

- CH-TRU Retrieval Volumes
 - Removed 147.8 m³ CH-TRU waste from trenches – 2,070 m³ removed to date under ARRA
 - Shipped 215.6 m³ CH-TRU waste (shipped to Treatment, Storage, Disposal Facility) – 1,769 m³ retrieved under ARRA to date
- TRU Retrieval Activities
 - Removed 13 waste containers (82.9 m³) from 4B Trench 11
 - Continued Portable Assay of 4B Trench 11 containers
 - Received Industrial Packages 1 (IP-1) fabricated overpack container from vendor for 4B Trench 11 Box #101
 - Prepared for drum removal from 4B Trench 7; staged materials, removed overburden on Modules 5, 7, and 8
 - Completed Mobile Drum Venting System (MDVS) procedure SW-100-154 validation
 - Completed Mobile Radioactive Decontamination Unit (MDU) start-up and commissioning
- Next Generation Retrieval Activities
 - Removed 271 drums and 22 boxes (62.4 m³)

- Continued excavation in 12B: Trench 17 under the weather enclosure, the north end of Trench 17, and in Trench 27; all are available for removal activities
- Shipped 181 drums (37.6 m³) PFNW
- Completed assay of 558 drums (Gamma Assay), 33 drum (PAN)
- Vented 38 drums assaying TRU and x-rayed 71 drums in the Real-Time-Radiography System

13.06 TRU Repackaging

- T- Plant Repack
 - Completed field work for TPA milestone: M-091-46A: Certify 850m³ of small container CH-TRUM on July 21
 - Processed 52 parent drums and created 113 offspring drums
 - Generated four drums from glovebag change outs
 - 216-Z-9 Repack Campaign & Equipment
 - Vented eight drums in 2706-T Building
 - **RH/Large Package Repackaging** Size reduction of large-container TRUM waste packages shipped from CWC:
 - Phase 2: 458 m³ shipped to date
 - Supported Waste Retrieval Project (WRP) Point-of-Generation TRUM Repackaging (200 m³): Shipped 205 m³ from LLBG 3A to PFNW for repackaging (113 m³ total completed to date)

13.07 WRAP

- Nondestructive examination (NDE)
 - 180 drums (153 for Central Characterization Project [CCP])
 - 93 standard waste boxes (SWBs) (51 for CCP)
- Nondestructive Assay (NDA):
 - 164 drums (123 for CCP)
 - 50 SWBs (49 for CCP)
- Flammable gas analysis sampling
 - 160 drums
 - 36 SWBs
- Received five TRU drums and three standard waste boxes (SWB) from Plutonium Finishing Plant

13.08 T-Plant

- Shipped 87 containers from T Plant
- Continued shipping out repack completes, 85 & 55 gallon drums not needed to complete TPA milestone to prepare for FY12 Minimum Safe at T Plant

13.15 TRU Disposition

- Shipments to the Waste Isolation Pilot Project (WIPP): Current Month total – 0, total WIPP shipments to date – 199
 - Shipments delayed due to delay in CCP receipt of certification and equipment issues

Base**13.02 Capsule Storage & Disposition**

- Waste Encapsulation and Storage Facility
 - Supported DNFSB review
 - Continued pool cell cleaning
 - Continued capsule relocation activities

13.03 Canister Storage Building

- Completed quarterly air compressor maintenance
- Completed annual Multi-Canister Overpack (MCO) Handling Machine (MHM) tube plug and MCO grapple inspection
- Completed annual Rad Vault inspection
- Completed quarterly Gaseous Effluent Monitoring System (GEMS) sample line inspection

13.07 WRAP

- Maintained the facility in a safe and compliant condition

13.09 Central Waste Complex (CWC)

- Shipped 13 on-site transfers, 261 containers
- Shipped three offsite shipments, 73 containers
- Received 60 on-site transfers, 579 containers
- Received five offsite shipments, six containers
- Completed the Navy project to re-grade the route 2S curve on 7/13/11. The next reactor compartment is expected 9/15/11
- Tarp and plastic wrapping replacement continues in the expansion area. The re wrapping of packages will continue until storage boxes can be obtained for the packages.
- Installation of replacement Fire Systems compressors in the Central Waste Complex 2403 buildings continues
 - Phase 1, new conduit runs and disconnects have been installed in 2403WA 2403WB 2403WC and 2403WD is complete.
 - Phase 2, wire pulls and terminations to new equipment in 2403WA 2403WB 2403WC and 2403WD is complete.
 - Phase 3, L&T and tie in of new equipment will start 8/15/11
- Completed multiple transfer shipments from 4B and 3A burial grounds in support of Waste Retrieval Projects.
- Roof repairs are complete on 2404WA and 2403 WA. 2403WC is 80% complete. Expected completion for 2403WB, 2403WC and 2403WD is 9/9/11
- Completed the Hazard Review Board (HRB) took package to receive the U-Plant Cell 30 D-10 tank. The D-10 tank is scheduled to ship on the evening of 8/10/11

13.11 Liquid Effluent Facilities (LEF)

- Received seven tankers (396K gallons)
- Treated effluent to State-Approved Land Disposal Site: 2.6M gallons
- 200A Treated Effluent Disposal Facility discharged 1.0M gallons
- Received Environmental Restoration Disposal Facility (ERDF) leachate (141K gallons) at Liquid

Effluent Retention Facility Basin 44

- Continued operating the 310 Area Retention Transfer System (17 batches/1.4M gallons)
- Received ten drums of Waste Sampling and Characterization Facility wastewater
- Received 1K gallons of 50% sodium hydroxide
- Loaded and shipped 40 powder drums to ERDF
- Continued with Basin 43 Processing Campaign (processed 22.1M gallons)

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

Issue – Avoid falling behind recovery plan to retrieve 2,500 m³ by September 30, 2011.

Corrective Action – Implement recovery plan: Work in multiple trenches to improve flexibility and mitigate impacts from weather and container conditions, deploy resources from completed KPP scope to supplement Retrieval crews (Repackaging NCOs and Ground Water HPTs reassigned), use alternate retrieval feed locations, initiate multiple summer shifts (6/13/11) to maximize daylight hours and mitigate heat impacts, closely coordinate shipments with MLLW and PFP to maximize ability for all projects to meet goals

Status – Corrective actions implemented and in progress. Performance Measurement Baseline and Performance Based Incentive milestones risk being mitigated.

Issue – WRAP Repack paused awaiting completion of corrective actions arising from Causal Analysis

Corrective Action – Identify impacted procedures; revise as appropriate

Status –All impacted procedures identified and being revised; Casual Analysis approved; Repack impacted drums (5)

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	
WSD-007: TRU Retrieval Complexities	Accelerate "next generation" retrieval	●	↔	Significant container degradation encountered; Draw down of MR implemented March for additional summertime overtime shifts. However, continuing issues with container integrity are expected and OT may not be adequate to mitigate all impacts. An additional draw down of MR to supplement current staffing levels was implement in June 2011.
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; Implementng Trench Face Retrieval and Characterization capabilities
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 status.

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	1.3	1.4	0.8	0.1	7.8	0.6	44.8
TRU Waste	<u>11.5</u>	<u>11.0</u>	<u>10.3</u>	<u>(0.5)</u>	-4.6	<u>0.6</u>	5.9
ARRA Total	12.8	12.3	11.1	(0.4)	-3.4	1.3	10.2
Base	<u>5.7</u>	<u>5.4</u>	<u>6.0</u>	<u>(0.3)</u>	-5.8	<u>(0.6)</u>	-11.2
Total	18.5	17.7	17.0	(0.8)	-4.1	0.7	3.7

Numbers are rounded to the nearest \$0.1M

ARRA

Current Month (CM) Schedule Performance (-\$0.4M/-3.4%)

RL-0013 MLLW Treatment – Within reporting threshold. Schedule recovery for M-91-43 waste, performance taken on prior period Large Type A waste container shipments to PermaFix Northwest (PFNW); partially offset by 435.1 waste processing achieved in prior period and delay in M-91-42 feed from TRU Retrieval.

RL-0013 TRU Waste – Suspension of RH/Large Package Commercial Repack to align with FY11 priorities; partially offset by TRU Retrieval accelerated Point of Generation (POG) commercial processing.

CM Cost Performance (+\$1.3M/+10.2%)

RL-0013 MLLW Treatment – Schedule recovery for M-91-43 without commensurate costs, coupled with delay in receipt of costs for M-91-42 completions.

RL-0013 TRU Waste – TRU Retrieval schedule recovery without commensurate costs, efficiencies in TRU Characterization and Shipping; partially offset by late receipt of subcontractor costs for RH/Large Package Commercial Repack.

Base

CM Schedule Performance (-\$0.3M/-5.8%)

Within reporting threshold. Suspension of K1/K3 ventilation upgrades.

CM Cost Performance (-\$0.6M/-11.2%) Increased assessments above plan, Kelly Klosure materials received but not installed, increased resources required for support of Transportation and Packaging activities.

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 (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
MLLW Treatment	44.3	41.7	37.6	(2.6)	-5.9	4.1	9.9	49.8	46.0	4.0
TRU Waste	<u>218.6</u>	<u>215.6</u>	<u>217.7</u>	<u>(3.1)</u>	-1.4	<u>(2.2)</u>	-1.0	<u>251.1</u>	<u>256.0</u>	<u>-4.5</u>
ARRA Total	262.9	257.2	255.3	(5.7)	-2.2	2.0	0.8	300.9	301.5	-0.6
Base	<u>298.4</u>	<u>295.8</u>	<u>305.3</u>	<u>(2.6)</u>	-0.9	<u>(9.6)</u>	-3.2	<u>1604.3</u>	<u>1572.1</u>	<u>32.2</u>
Total	561.3	553.0	560.7	(8.3)	-1.5	(7.6)	-1.5	1905.2	1872.5	32.7

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance (-\$5.7M/-2.2%)

RL-0013 MLLW Treatment – Delay in receipt of M-91-42 feed from TRU Retrieval, coupled with delay of M-91-43 returns (receiving facility processing higher priority waste), partially offset by accelerated shipments of 435.1 waste.

RL-0013 TRU Waste –T-Plant Repack impacted by need to vent drums with 90 mil liners, coupled with suspension of RH/ Large Package Commercial Repack to align with FY11 priorities, and delayed WRAP Repack due to Beryllium (Be) program impacts and 2404WB recovery activities, delay in TRUPACT II shipments awaiting CCP certification letter and equipment issues; partially offset by TRU Retrieval accelerated Point of Generation (POG) commercial processing.

CTD Cost Performance (+\$1.9M/+0.8%)

RL-0013 MLLW Treatment – 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 PFWN and in Mixed Waste Disposal Trenches (MWDT) upgrades, partially offset by higher costs for ETF Containment Berm repairs .

RL-0013 – TRU Waste – 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 increased Recovery Act expenditures; partially offset by efficiencies in TRU Characterization and Shipping, T-Plant, WRAP and TRU Repackaging.

Base

CTD Schedule Performance (-\$2.6M/-0.9%)

Delayed start to WESF K1/K3 Upgrades/Definitive Design pending decision to move forward with final design. Canister Storage Building (CSB) engineering activities delayed due to resource availability (assigned to higher priority activities), ETF Thin Film Dryer Vessel replacement suspended until required (unit failure); partially offset by accelerated WRAP HEPA filter replacement (scheduled for FY13).

CTD Cost Performance (-\$9.6M/-3.2%)

Increased 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 subcontractor support for Transportation and Packaging; partially offset by efficiencies in LEF, MLLW, TRU Disposition, TRU

Repackaging, Interim Storage Area upgrades, Capsule Storage and Disposition, Mixed Waste Disposal Trenches (MWDT) and lower General & Administrative 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 June to July, for both ARRA and Base, are within reporting thresholds.

FUNDS vs. SPEND FORECAST
((\$M))

WBS 013/RL-0013 Waste and Fuels Management Project	FY2011		
	Projected Funding	Spending Forecast	Spend Variance
ARRA	162.6	156.0	6.5
Base	86.2	84.3	1.9

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

BCRA-PRC-11-041R0, Gen Admin & Metric Milestone Changes for July 2011

MILESTONE STATUS

Tri-Party Agreement (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 Baseline Revision 2 Update, implemented in September 2010, defines 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	On Schedule
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
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