

Section C

Solid Waste Stabilization and Disposition (RL-0013)



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

March 2012
CHPRC-2012-03, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

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

American Recovery and Reinvestment Act (ARRA)

Project layup activities were completed.

Base

The W&FMP continued maintaining facilities in a safe and compliant condition. Both Waste Receiving and Processing Facility (WRAP) and T Plant completed eight Technical Safety Requirement (TSR) surveillances. T Plant completed four shipments of the remaining Puck drums to Environmental Restoration Disposal Facility (ERDF). T Plant also set-up and performed venting of both 55 and 85 gallon clean drums in 2706-T to maintain proficiency with procedures and workers performance/qualifications (could support actual waste venting if required). Central Waste Complex (CWC) and Low Level Burial Ground (LLBG) supported Washington Department of Health (WDOH) and Ecology with inspections of the expansion area. CWC and LLBG also supported WDOH with air and liquid sampling evolutions. Central Waste Complex (CWC) shipped 209-E slab tanks and Hanford Engineering Development Laboratory (HEDL) 4B and 12 B Transuranic (TRU) acid drums to Perma-Fix North West (PFNW). Liquid Effluent Facilities (LEF) received five tankers (calendar year [CY] 29k gallons). 200A Treated Effluent Disposal Facility (TEDF) discharged 0.99 million gallons (CY 2.8M). At Liquid Effluent Retention Facility (LERF) Basin 44 received 197k gallons of ERDF leachate (CY 669k). Canister Storage Building (CSB) shipped Cask Transport Trailer HO-64-5260/Cask TN-WHC-01/Cold MCO H-159 to K Basin. Waste Encapsulation and Storage Facility (WESF) relocated 31 capsules out of approximately 1,000 as part of thermal balancing the capsule inventory in the pool cells.

EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
12-EMS-WFM-OB1-T1	Reduce the generation and/or toxicity of waste at the source by using biological spill treatment.	Evaluate biological spill treatment/cleanup products available to address petroleum based spills and identify opportunities for use within the W&FMP based on FY12 work scope.	9/30/2012	On schedule

TARGET ZERO PERFORMANCE

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	5	N/A
Total Recordable Injuries	1	11	3/10/2012: Employee was walking on grating, looking down for a valve. Hit head on pipe. Body part affected: Head/Neck strain. (22694)
First Aid Cases	0	66	N/A
Near Misses	0	1	N/A

KEY ACCOMPLISHMENTS

ARRA

Lay-Up Activities

- No American Recovery and Reinvestment Act (ARRA) funded M/LLW was received during March 2012

Base

13.01 Project Management

- Continued Project Management support for high priority projects.
- Continued Business Case Analysis for deinventory of Cat I nuclear material from the Hanford Site in support of reducing site security costs.

13.02 Capsule Storage & Disposition

- Completed 31 capsule moves (370 completed of 998 scheduled)
- Completed exhaust fan K3-7-2 bearing and belt replacement
- Completed annual test of pool cell sump leak detectors
- Repaired supply fan K2 bag filter door latch and replaced roll and bag filters
- Isolated water to the canyon
- Fabricated pool cell capsule push tool
- Repaired differential pressure indicator recorder..

13.03 Canister Storage Building (CSB)

- Completed 6 month sample hood flow indicator and differential pressure indicator calibrations
- Completed 6 month AH-004 aerosol testing
- Completed readiness activities for receipt of spent nuclear fuel from K Basin
- Completed annual tube and vent cart test/inspection

- Completed repair and retest of Fire Water pump LP-500-2A
- Shipped Cask Transport Trailer HO-64-5260/Cask TN-WHC-01/Cold MCO H-159 to K Basin
- Completed quarterly stack monitoring inspections
- Completed semi-annual test on operating area heating, ventilation, and air conditioning air handler high efficiency particulate air (HEPA) filter banks PF-001/PF-00
- Completed Annual Stack Monitor Detector Calibration
- Completed annual multi-canister overpack (MCO) handling machine inspection and lubrication

13.07 WRAP

- Completed eight Technical Safety Requirement (TSRs) surveillances
- Completed 23 Preventive Maintenance (PMs) packages
- Completed 165 Rad Operational Surveillances
- Completed 197 Operational Surveillances
- Shipped five waste packages to the CWC and PFNW

13.08 T-Plant

- Completed eight Technical Safety Requirement (TSRs) surveillances
- Completed 25 Preventive Maintenance (PMs) packages
- Completed 350 Rad Operational Surveillances
- Completed 231 Operational Surveillances
- Installed new air supply for required tank level indicators enabling the facility to avoid maintenance of 2 large compressors

13.09 Central Waste Complex (CWC)

- Completed nine Technical Safety Requirement (TSRs) surveillances
- Completed nine Preventive Maintenance (PMs) packages
- Completed 130 Rad Operational Surveillances
- Completed 75 Operational Surveillances

13.11 Liquid Effluent Facilities (LEF)

- Received 5 tankers (calendar year [CY] 29k gallons)
- Treated effluent to State-Approved Land Disposal Site: 0M gallons (CY 1.8M)
- 200A Treated Effluent Disposal Facility (TEDF) discharged .99M gallons (CY 2.8M)
- Received Environmental Restoration Disposal Facility (ERDF) leachate (197k gallons) at Liquid Effluent Retention Facility (LERF) Basin 44 (CY 669k)
- Continued operating the 310 Retention Transfer System (RTS): CY 67k gallons
- Maintenance activities:
 - Completed repairs and retest of valve actuator/positioner on process control valve 60H-013
 - Completed pumping primary sump at Mixed Waste Burial Trench #31 and initiated new 90-day waste clock
 - Completed calibration of Flow Transmitter #150 in the valve vault at 310 Retention Transfer System
 - Received ERDF leachate transfer into LERF Basin 43; no leaks noted at vacuum valves
 - Completed all repairs on the Thin Film Dryer (TFD) mechanical seal and related components,

and performed retests

- Completed replacement of failed boiler drain valve
- Initiated repairs to the leak on 12-inch fire main at base to fire hydrant
- Repaired positioners on the TFD conveyor system
- Replaced two failed solenoid operating calves (SOV-1B-029/ SOV-1D-017) on air dryer system
- Installed personnel entry doors on four maintenance connex containers
- Installed spool piece and strainer assembly on outlet to Concentrate Pump 60J-P-1A
- Initiated groundwater tie-in with extraction well BP-5
- Completed annual Third Party Inspection on TFD and evaporator boilers
- Replace carbon adsorbers on Vessel Off -Gas system

13.12 Integrated Disposal Facility

- Completed four Preventive Maintenance (PMs) packages
- Completed 22 Operational Surveillances
- Completed 42 annual calibrations at the Integrated Disposal Facility (IDF)

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.
- Completed 30 Radiological and five operational surveillances.
- Disposed of four shipments totaling ten Mixed-Low-Level Waste packages receive drom PFNW.

MAJOR ISSUES

No major issues to report this month.

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-013/WBS 013				
WSD-018: CSB Major Equipment Failure	Risk accepted without mitigation. Continue to maintain equipment in accordance with baseline PM/CM schedule.	●	↔	Risk is very unlikely.
WSD-019: Commercial Capability	MLLW treatment capacity/capability does not meet Hanford needs or treatment does not occur as scheduled.	●	↓	Forecasted volumes may not allow commercial capability to remain viable. Working with vendor(s) to understand impacts.
WSD-025: Unexpected Waste Volumes/Characteristics	Work with generators to update forecasting data monthly/quarterly/semi-annually.	●		Waste volumes to ERDF significantly lower due to suspension of cleanup activities. However, as capability/capacity has been adjusted to align with projections peak transportation needs are problematic.
WSD-043: Orphan Wastes	Obtain regulatory relief for "No Path Forward" wastes.	●	↔	Issued "No Path Forward" waste and German log alternatives analysis. Annual update of M-91 PMP will document current status.
WSD-125: Three-Year Pause in Waste Processing Results in Unexpected Container Integrity Issues	Perform weekly waste container surveillances and overpack as required. Perform overpack or covering as required to mitigate condition. Schedule repackaging at appropriate facility.	●	↔	Unplanned repackaging activities are nearing completion at WRAP. Legacy containers in expansion area are requiring additional resources. The Long-Term Box Storage is not in the contract Statement of Work, and will be addressed as part of the contract alignment process.
WSD-120: WESF Major System/Equipment Failure	Continue with the current maintenance program and aggressive PM and CM program.	●		No significant maintenance issues this month at WESF.
WSD-132: Aging Building/Systems/Components	Perform critical system reliability assessments, continue with PM/CM program, and procure critical spares.	●	↓	Continue CM activities for equipment at ETF and 400 Area.
WSD-133: Results of External Audits/Assessments Impact Operations	Conduct operations in accordance with current approved procedures and processes. CHPRC and RL conduct routine assessments to assess conduct of operations and maintenance activities. Work with oversight groups to understand regulatory basis for interpretations.	●	↔	Impacts to DNFSB Assessment not fully defined. CHPRC & RL working issues.

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	0.0	0.0	(0.0)	0.0	0.0%	0.0	0.0%
TRU Waste	0.0	0.0	(0.1)	0.0	0.0%	(0.1)	0.0%
TRU Wst Facil Trans MinSafe	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	0.0%	<u>(0.1)</u>	0.0%
ARRA Total	0.0	0.0	0.0	0.0	0.0%	(0.0)	-0.0%
Base	<u>8.4</u>	<u>8.5</u>	<u>8.5</u>	<u>0.1</u>	1.1%	<u>0.0</u>	0.2%
Total	8.4	8.5	8.5	0.1	1.1%	0.0	0.2%

Numbers are rounded to the nearest \$0.1M

ARRA

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

RL-0013 MLLW Treatment / RL-0013 TRU Waste/ RL-0013 TRU Waste Facility Transition to Min Safe
The positive schedule variance is within threshold.

CM Cost Performance (-\$0.0M/-0.0%)

RL-0013 MLLW Treatment / RL-0013 TRU Waste/ RL-0013 TRU Waste Facility Transition to Min Safe
The unfavorable cost variance is within threshold.

Base

CM Schedule Performance (+\$0.1M/+1.1%)

The favorable schedule variance is within threshold.

CM Cost Performance (+\$0.0M/+0.2%)

The favorable cost variance is within threshold.

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	47.7	42.7	(0.0)	(0.0)%	5.0	10.5%
TRU Waste	255.3	255.3	253.7	(0.0)	(0.0)%	1.6	0.6%
TRU Wst Facil Tran MinSafe	<u>1.5</u>	<u>1.5</u>	<u>1.3</u>	<u>0.0</u>	0.0%	<u>0.2</u>	15.0%
ARRA Total	304.5	304.5	297.7	(8.4)	(0.0)%	6.9	2.3%
Base	<u>353.6</u>	<u>352.7</u>	<u>359.0</u>	<u>(0.8)</u>	(0.2)%	<u>(6.3)</u>	(1.8)%
Total	658.1	657.3	656.7	(0.8)	(0.1)%	0.6	0.1%

Numbers are rounded to the nearest \$0.1M

ARRA

CTD Schedule Performance (-\$0.0M/-0.0%)

RL-0013 MLLW Treatment – The negative CTD schedule variance is within threshold.

CTD Cost Performance (+\$6.9M/+2.3%)

The positive cost variance due to efficiencies in Transuranic Waste (TRU) Characterization and Shipping, TRU Repackaging, T Plant and Waste Receiving and Processing Facility (WRAP), Mixed Low Level Waste (MLLW) efficiencies created by treating waste at Energy Solutions (ES) - Clive rather than planned treatment at Perma-Fix Northwest (PNW) due to a waiver received from the Department of Energy (DOE), Environmental Restoration Disposal Facility (ERDF) negotiated rate reduction with vendor for waste containers, partially offset by increased materials and labor costs in support of the Trench Face Retrieval and Characterization System (TFRCS), and 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%)

The negative CTD schedule variance is within threshold and is due to Canister Storage Building (CSB) and Effluent Treatment Facility (ETF) activities delayed due to resource availability (assigned to higher priority activities).

CTD Cost Performance (-\$6.3M/-1.8%)

The unfavorable CTD cost variance is the result of MSA assessments above plan, TRU Retrieval additional resources to deal with FY09 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 February to March, 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	0.0
Base	88.3	85.2	3.1
RL-0013 Total	92.9	89.8	3.1

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

BCRA-013-12-001R0 – *W&FM PMB Rev 3 RCR Administrative Changes*

BCR-013-12-002R0 – *SNM De-Inventory Analysis*

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 PMB Revision 3, implemented in November 2011, and subsequent approved BCRs define CHPRC planning with respect to TPA milestones.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-091-03F	Submit Annual Revision of TRUM and MLLW PMP to Ecology	TPA	6/30/12			On schedule
M-091-40U-T01	Retrieve a minimum of 250 cubic meters of CH RSW in FY 2012	TPA	9/30/12			To be missed. Activity currently not funded. Ltr in draft to DOE-RL.
M-091-46B-T01	Certify 300 cubic meters of small container CH TRUM waste	TPA	9/30/12			To be missed. Activity currently not funded. Ltr in draft to DOE-RL.
M-016-93B	Submit Implementation Workplan To Prepare TRU/TRUM Waste	TPA	12/31/12			On schedule
M-091-44P	Designate all RH TRUM Waste & Lrg Containers of CH TRUM Waste	TPA	12/31/12			Ahead of schedule
M-091-44Z-003	Annual PMM or Qtrly Notification of Cert of CH/RH TRUM	TPA	12/31/12			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 (pending restart of WIPP Shipments)