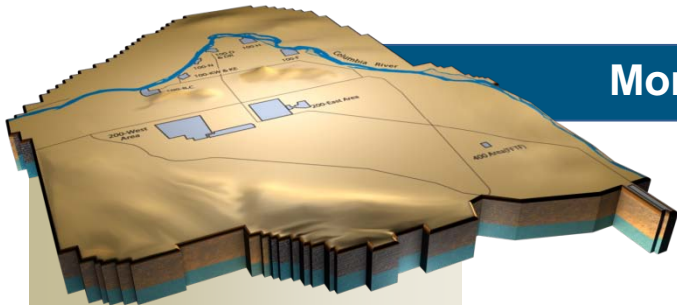


# Section C

## Solid Waste Stabilization and Disposition (RL-0013)



### Monthly Performance Report



**3A Trench 17 Box 80  
with Temporary  
Wooden Cover Installed**

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

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**MLLW Items Ready for Departure from WRAP to PFNW**

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

## PROJECT SUMMARY

The Waste and Fuels Management Project (WFMP) focused on delivering safe, compliant performance.

### **American Recovery and Reinvestment Act (ARRA)**

Weekly and monthly Recovery Act Reporting continued. M/LLW shipped 51.1m<sup>3</sup> and completed 24.3m<sup>3</sup> of M-91-42 waste during the month. In addition, M/LLW completed 24.3m<sup>3</sup> of M-91-43 waste. TRU Retrieval successfully installed temporary covers over 3A Trench 17 Boxes 80 and 27 and continued excavation of 3A Trench 17 Boxes 3 and 12. Next Generation Retrieval (NGR) awarded the contract for non-destructive assay (NDA) equipment and services to ANTECH Services. Site preparations for Trench 12B continued with the installation of the expanded asphalt pad. The Alpha Caisson Retrieval project issued Waste Processing System Preliminary Hazard Analysis report for review. Central Characterization Project (CCP) agreed on the roles and responsibilities between CCP and CHPRC with Hanford Atomic Metal Trades Council (HAMTC). TRU Repackaging continued training of Nuclear Chemical Operators (NCOs) and Radiological Control Technicians (RCTs), including mockup and on-the-job training (OJT). In addition, shift operations were initiated at T Plant in support of additional repackaging lines. The Waste Receiving and Processing Facility (WRAP) completed non-destructive examination (NDE) 238 drums and non-destructive assay (NDA) 237 drums. The mixed waste disposal trenches received six offsite shipments (19 containers) and shipped two on-site transfers (one Effluent Treatment Facility tanker). In addition, the mixed waste disposal trenches completed surface sealing of top of Module 3; placed remaining three waste containers and commenced pouring concrete lifts into Module 10 waste encasement.

### **Base**

The WFMP continued maintaining facilities in a safe and compliant condition. The Waste Encapsulation and Storage Facility (WESF) continued support to Energy Savings Performance Contract construction demolition and upgrade activities. The Central Waste Complex (CWC) shipped four off-site shipments (106 containers), shipped five on-site transfers (155 containers), and received 12 on-site transfers (305 containers). The 200 Area Treated Effluent Disposal Facility (TEDF) discharged 1.7M gallons.

## 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	8	11	<p>11/4/09 - An NCO reported to supervisor feeling pain in the left elbow. The employee performed work the previous day involving moving tarps used to cover wooden boxes in the expansion area of CWC. Employee was transported to AMH and evaluated. Returned to work with a self imposed restriction, limiting the use of left arm. (20534)</p> <p>11/3/2009 - A Teamster, while exiting an ERDF Haul Truck, missed the bottom step of the truck's access ladder and fell to the ground. The worker was transported to AMH, seen by the attending physician and returned to work without restriction. (20537)</p> <p>11/5/09 - An RCT was pulling a slide out platform and the stop mechanism on the unit failed, dropping the equipment onto the truck bed. The RCT suffered lower back pain while assisting two other employees lift the equipment back into the case. Examined at AMH, provided OTC medication and returned to work without restriction. (20542)</p> <p>11/6/09 - An NCO scraped left shin. The employee was assigned to perform a quarterly Chemical Storage Cabinet Inspection. As the employee was exiting, tripped over a panel cutter. Employee was escorted by Op's Supervisor to AMH for evaluation, examined and released with no restrictions. (20543)</p> <p>11/17/09 - An NCO tripped on the curb of an island in the T-Plant parking lot while walking into the facility. The NCO reported the event to their supervisor and complained of back pain. The NCO was transported by management to AMH where they were examined and released back to work with no work restrictions. The NCO was provided OTC medication and an ice pack. (20554)</p> <p>11/16/09 - A Teamster on assignment to ERDF Transportation reported to their supervisor that they were having pain in their right wrist following unloading of empty 85 gallon over-pack drums in the TRU lay-down yard. The Teamster was taken to AMH by the supervisor for further evaluations. The employee was given a soft wrist support, OTC medication and returned to work with the work restriction to "Limit lifting, pushing, and pulling with right hand as tolerated by pain". (20556)</p> <p>11/18/09 - An NCO stepped on a rock in the paved parking lot of 2336W and "rolled" the right ankle. Reported to supervisor who</p>

	CM Quantity	FYTD Quantity	Comment
			transported to AMH for X-Rays and returned to work without restriction after being provided OTC medication, cold pack, and soft support. (20563) 11/23/09 - A Maintenance Teamster strained their lower back while bending over to loosen cargo straps that were securing a load. The worker was transported by management to AMH and diagnosed with lower back pain. The worker was provided OTC medication, a cold pack and returned to work with no work) restrictions. (20576)
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### ARRA

#### 13.01 Project Management

- Training continued for the ARRA-funded staff
- Continuing weekly and monthly Recovery Act Reporting

#### 13.04 Mixed Low Level Waste (MLLW) Treatment

- Completed the draft Site Specific Land Disposal Restrictions variance for the P015 drum (beryllium dust) and transmitted to DOE for approval
- M-91-42 TPA:
  - 51.1m<sup>3</sup> shipped and 24.3m<sup>3</sup> completed during month
  - 8,044m<sup>3</sup> shipped and 7,876m<sup>3</sup> completed since January 2003 (Base & ARRA)
- M-91-43 TPA:
  - 0m<sup>3</sup> shipped and 24.3m<sup>3</sup> completed during month
  - 662m<sup>3</sup> shipped and 661m<sup>3</sup> completed since January 2003 (Base & ARRA)

#### 13.05 TRU Retrieval

- Shipped 2.6 cubic meters (m<sup>3</sup>) of waste to treatment, storage, or disposal (TSD) facility
- Removed 4.1 m<sup>3</sup> of waste from waste trenches
- Disassembly of 3A Trench 17 Boxes 82 and 80
  - Successfully tested weather protection covers for long reach power tools in presence of misting in Simulation Test Site (STS) trench
  - Procured additional tools, tool modifications, and materials based on lessons learned from STS mock-up
  - Completed STS mock-up of Box 82 disassembly and integrated lessons learned into work instructions; presented package to Hazard Review Board (HRB)
  - Excavated and backfilled to prepare trench for Box 82 disassembly
- Installed temporary covers over 3A Trench 17 Boxes 80 and 27
- Continued excavation of 3A Trench 17 Boxes 3 and 12
- Defined schedule and kicked off initial planning activities for removal activities in 3A Trench 8
- Completed Mobile Radioactive Decontamination Unit factory acceptance test and received trailer
- Prepared PU-238 drums
- Received last 3 of 21 concrete shielded overpacks
- Next Generation Retrieval

- Awarded contract for non-destructive assay (NDA) equipment and services to ANTECH Services
- Awarded contract for remotely operated Brokk excavator and various end effectors
- Continued site preparations for Trench 12B; installed expanded asphalt pad
- Burns and Roe Enterprises, Inc. provided 90% design package for procurement specification for Trench Face Process System
- Alpha Caisson Retrieval
  - The Alpha Caisson Retrieval / Mobile Hot Cell Project Review Board PDRI independent review team kick-off meeting held 11/24/09. Review ratings have been received. Completed internal PDRI self-assessment for Project Review Board PDRI.
  - Finalized development and internal approval of the Functional Design Criteria.
  - Integrated Project risk list with company level risk register.
  - Waste Retrieval System team continued development of conceptual design drawings and reports.
  - Waste Processing System Team, Project Chief Engineer and Operations Manager visited Oak Ridge National Lab 11/19/09 to observe hot cell operations. The objective of this evolution was to evaluate functionality, lessons learned and design application as it applies to the Alpha Caisson project.

### **13.06 TRU Repackaging**

- Repackaged 115 TRU containers at T Plant this period generating 141 offspring drums
- Released 26 drums from on-hold drum list (51 to-date out of approximately 980)
- Completed training for first wave of new ARRA-funded nuclear chemical operators at T Plant in support of TRU Repack Program (NCOs)
- Initiated shift operations November 30

### **13.07 Waste Receiving and Processing Facility (WRAP)**

- Non-destructive examination (NDE) 238 drums
- Non-destructive assay (NDA) 237 drums
- Supported PU-238 activities
- Successfully implemented Master Documented Safety Analysis/Technical Safety Requirements (MDSA/TSR) Rev 6/6A
- Initiated training for the last group of newly hired nuclear chemical operators (NCOs)

### **13.10 ERDF Additional Capabilities**

- ERDF Maintenance Facility received and approved submittals to allow Site Preparation contractor to initiate field work. Site grading, placed over 11,000 cubic yards of structural fill and 500 cubic yards of stabilization rock on the west and southern site boundary. Also placed and compacted over 1,000 yards of top course material at southern end of site (south from future maintenance pad).
- Procurement awarded construction contract for all remaining work scope (with the exception of the site electrical on 20 November 2009. Electrical work scope has been delayed due to design changes proposed to minimize parking impacts along Dayton Avenue.
- The ERDF Maintenance Facility Project issued the Container Saw Horse 90% design for facility review and prepared and issued the ERDF Container Saw Horses fabrication SOW for review.

### **13.15 TRU Disposition**

- Continuing close-out schedule for Hanford TRU program
  - Closed 26 of 56 non-conformance reports (NCRs)
  - Cancelled 9 of 50 procedures

- Transmitted 38 of 75 boxes of Records to Records Holding Area
- Finalizing details of records transfers (approximately 20,000) to Waste Isolation Pilot Plant (WIPP)
- Continuing public clearance release process to support Central Characterization Project (CCP)
- Reached agreement on roles and responsibilities between CCP and CHPRC with Hanford Atomic Metal Trades Council (HAMTC)
- Completed final draft of memorandum of agreement and interface agreement with CCP

### 13.21 Mixed Waste Disposal Trenches

- Shipped two on-site transfers, one ETF Tanker
- Received six offsite shipments, 19 containers

## Base

### 13.02 Capsule Storage & Disposition

- Waste Encapsulation and Storage Facility (WESF)
  - Completed cleanout of 225BG sump and replaced sump pump
  - Continued support to Energy Savings Performance Contract construction demolition and upgrade activities

### 13.03 Canister Storage Building

- Completed design of Multi-Canister Overpack (MCO) Handling Machine (MHM) fall protection system to resolve employee stop-work

### 13.07 Waste Receiving and Processing Facility (WRAP)

- Maintained the facility in a safe and compliant condition

### 13.08 T Plant

- Maintained the facility in a safe and compliant condition

### 13.08 Central Waste Complex (CWC)

- Completed four off-site shipment, 106 containers
- Completed five on-site transfers, 155 containers
- Received 12 on-site transfers, 305 containers

### 13.11 Liquid Effluent Facilities

- Received (November) 39 tankers; (CY) 637M gallons
- Treated (November) 0 gallons; (CY) 22M gallons
- 200A Treated Effluent Disposal Facility (TEDF) discharged (November) 1.7M gallons; (CY) 336M gallons
- Maintenance activities
  - Initiated replacement of 92% acid diaphragm valves
  - Completed alignment of Thin Film Dryer (TFD) rotor blades
  - Completed preventive maintenance on TFD conveyer and turntable
  - Initiated change out of vent header
  - Installed rebuilt Reverse Osmosis Pump 60F-P-1A (retest remains)
  - Replaced flowmeter on Ultra Violet/Oxidation (UV/OX) unit
- 310/340 Facilities
  - Shipped remaining chemical (FeCL [ferric chloride]) to Hazardous Waste Disposal

### 13.16 Off Site SNF Disposition

- Slightly Irradiated Fuel (SIF)
  - The final SIF received the new 200E Area Protected Area.
  - The Outside Storage Unit (OSU) plug was pumped full of concrete and the contractor mobilized to begin welding the plug in place.



- The SIF Project initiated Definitive Design for the Container Restraint System (for Interim Storage Casks located in the new 200E Area Protected Area)Initiated

### 13.21 Mixed Waste Disposal Trenches

- Maintained the trenches in a safe and compliant condition
  - 218-W-5 - MWT 34 – Completed surface sealing of top of Module 3; created, placed remaining 3 waste containers and commenced pouring concrete lifts into Module 10 waste encasement.

## MAJOR ISSUES

**Issue Statement** – Retrieved FRP boxes at CWC require improvements for long-term outdoor storage. Deteriorated boxes present potential for contamination spread and loss of containment.

**Corrective Actions** – Develop options for improved storage; review options with management to select preferred storage option(s); establish priority; develop recovery schedule to complete improvements; design/procure/implement selected options. This is the last report on this issued.

**Status** – Options have been developed, the preferred option(s) has been selected and the priority has been established. The recovery schedule has been completed. Completing interim actions to stabilize boxes expected to complete Spring of 2010.

**Issue Statement** – Integrity of Retrievably Stored Waste (RSW) containers is significantly less than expected. Increased resources are required to retrieve containers. Retrieval volumes required to meet TPA milestones or PBIs may not be reached.

**Corrective Actions** – Use multiple crews for concurrent retrieval; redirect resources to alternate retrieval sites; stabilize deteriorated containers pending in trench processing or alternate disposition.

**Status** – Hired additional staff, implemented multiple trench retrieval activities, and initiated interim stabilization preparations. This is the last report on this issued.

**Issue Statement** – Unknown item has been identified in 4B Trench 10

**Corrective Actions** – Shifting retrieval operations to another trench pending resolution

**Status** – Waste removal from 4B Trench 11 is on hold. Information on unknown item is scheduled for February 2010.

**Issue Statement** – RL determined Trench Face Processing System is a major modification to Low-Level Burial Grounds.

**Corrective Actions** – Propose tailored approach to DOE-STD-1189 (December 2010). Document impacts of agreed-to approach in letter to RL (January 2010).

**Status** – Additional documents are required and potential 6-month schedule impact due to required RL review durations.

## 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 Contamination Levels	Accelerate "next generation" retrieval	●	↔	No near-term impacts
WSD-008: Classified Waste Storage Limitations	Implement mobile shredding; evaluate establishing secure storage at CWC or other location	●	↔	Researching mobile shredding feasibility
WSD-013A: TRU Waste Volumes or Characteristics - Retrieval	Implement in-trench assaying as part of Next Generation retrieval	●	↔	No issues regarding unexpected waste volumes or characteristics experienced to date
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
<b>WSD-018: CSB Major Equipment Failure</b>	<b>Risk accepted without mitigation</b>	●	↔	<b>Risk is very unlikely; reclassified as Unassigned risk</b>
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
WSD-043: Orphan Wastes	Obtain regulatory relief for "no path forward" wastes	●	↔	Working to identify treatment options for all waste currently in storage
PRC-042: Resource Availability	Evaluate onsite posting of additional positions, substitution of less radiologically intensive work in lieu of currently scheduled higher risk work, consolidating work teams/work areas, etc. 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 TRU retrieval; teamster shortage may temporarily impact waste shipments to ERDF.
<b>Retrieval Area Issues</b>	<b>Potential to impact project scope, schedule and cost as a result of issues identified outside the RS burial grounds.</b>	●	↓	<b>Working to identify operational impacts/issues with the Non-RS burial grounds.</b>



## 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 (%)	Budget at Completion (BAC)
<b>ARRA</b>	9.9	9.3	8.3	(0.6)	-5.5	1.0	10.9	109.4
<b>Base</b>	<u>8.2</u>	<u>7.1</u>	<u>7.1</u>	<u>(1.1)</u>	-13.8	<u>(0.1)</u>	-1.1	<u>92.5</u>
<b>Total</b>	<b>18.1</b>	<b>16.4</b>	<b>15.5</b>	<b>(1.7)</b>	<b>-9.3</b>	<b>0.9</b>	<b>5.8</b>	<b>201.8</b>

Numbers are rounded to the nearest \$0.1M.

#### ARRA

##### CM Schedule Performance (-\$0.6M/-5.5%)

The current month negative schedule variance is primarily attributable to delays in ERDF hiring, equipment purchases, and maintenance facility activities as well as TRU Disposition activities; partially offset by TRU Retrieval schedule.

##### CM Cost Performance (+\$1.0M/+10.9%)

The current month positive cost variance is primarily due to TRU Retrieval schedule recovery without commensurate increases in cost and efficiencies in TRU repackaging activities.

#### Base

##### CM Schedule Performance (-\$1.1M/-13.8%)

The current month negative schedule variance is primarily due to continued delays in Next Generation TRU Retrieval procurements (including planning anomalies).

##### CM Cost Performance (-\$0.1M/-1.1%)

The current month negative cost variance within reporting thresholds.

## Contract-to-Date (\$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)
<b>ARRA</b>	42.8	41.2	39.5	(1.6)	-3.7	1.7	4.2	241.3
<b>Base</b>	<u>163.9</u>	<u>160.1</u>	<u>153.2</u>	<u>(3.8)</u>	<u>-2.3</u>	<u>6.9</u>	<u>4.3</u>	<u>1,601.0</u>
<b>Total</b>	<b>206.7</b>	<b>201.4</b>	<b>192.7</b>	<b>(5.4)</b>	<b>-2.6</b>	<b>8.7</b>	<b>4.3</b>	<b>1,842.3</b>

Numbers are rounded to the nearest \$0.1M.

### ARRA

#### CTD Schedule Performance (-\$1.6M/-3.7%)

The CTD negative schedule variance is primarily due to delays in ERDF hiring and procurements coupled with delays in TRU Retrieval activities caused by the discovery of significantly deteriorated boxes, the inability to make progress while resolving the 85-gallon Overpack issues, a respirator failure and associated recovery actions, and weather impacts. This is partially offset by the acceleration of FY 2010 MLLW treatment and TRU Repackaging activities.

#### CTD Cost Performance (+\$1.7M/+4.2%)

The CTD positive cost variance is primarily attributable to efficiencies in MLLW 435.1 Compliance waste disposal activities due to direct disposal vs. planned treatment. This is partially offset by additional allocation for Ramp Up and Transition associated with increased ARRA spending within the PBS. Additionally, TRU Repackaging continues to experience efficiencies which are partially offset by TRU Retrieval project's incurrence of cost while unable to make planned progress due to significantly deteriorated boxes, resolving the 85-gallon Overpack issues, a respirator failure and associated recovery actions, and weather impacts.

### Base

#### CTD Schedule Performance (-\$3.8M/-2.3%)

The CTD negative schedule variance is primarily attributable to delays in next Generation TRU Retrieval procurements, Large/RH package capabilities, ETF fine filter upgrades and returns of W5 waste. CTD

#### CTD Cost Performance (+\$6.9M/+4.3%)

The CTD positive cost variance is primarily attributable to efficiencies in MLLW Treatment, Liquid Effluents, Slightly Irradiated Fuel, CCP Support, SWOC facilities, and Project Management coupled with a labor reduction (continuity of service). This is partially offset by increased cost for TRU Retrieval activities associated with significantly deteriorated containers and resolution of the 85-gallon drum Overpack issues.

**Contract Performance Report Formats are provided in Appendix A and Appendix A-1.**

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

WBS 013/RL-0013 Waste and Fuels Management Project	FY 2010		
	Projected Funding	Spending Forecast	Variance
<b>ARRA</b>	105.8	122.8	(17.0)
<b>Base</b>	<u>110.8</u>	<u>94.6</u>	<u>16.2</u>
<b>Total</b>	<b>216.6</b>	<b>217.4</b>	<b>0.8</b>

Numbers are rounded to the nearest \$0.1M.

### Funds/Variance Analysis

Projected Funding includes FY 2009 uncosted and FY 2010 expected new Budget Authority (BA). Fiscal year 2010 ARRA expenditures are expected to exceed planned funds due to scope accelerations and the addition of DOE-directed TRU Characterization and shipments to WIPP commencing in March 2010.

### Critical Path Schedule

Critical Path analysis can be provided upon request.

### Estimate at Completion (EAC)

The BAC and EAC now include FY 2009 through FY 2018.

### Baseline Change Requests

See Overview.

## 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 submitted in June defines CHPRC planning with respect to TPA milestones.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comment
M-091-40G-T01	Retrieve 9,950 Cubic Meters CH-RSW (Cumulative)	TPA	9/30/09			Field work completed 03/04/09. Awaiting RL completion letter.
M-16-93A	Submit implementation work plan to prepare TRU/TRUM waste for disposal.	TPA	12/31/09			On schedule
M-091-45	Complete Negotiations And Submit Change Package Replacing Specified M-91 TBD Dates	TPA	12/31/09			On schedule
C-026-07E	Tritium Treatment Technology Developments to Ecology and EPA	TPA	3/31/10			On schedule
M-091-03D-01	Submit Annual Revision of TRUM and MLLW PMP to Ecology	TPA	6/30/10			On schedule
M-091-43D-T01	Treat 300 CM per Year RH MLLW and Large Containers CH MLLW	TPA	6/30/10			Field work complete 8/31/09. Awaiting RL Completion Letter.
M-091-40G-T02	Retrieve CH-RSW 10,700 Cubic Meters (Cumulative)	TPA	9/30/10			On schedule
M-091-42J-T02	Treat 200 Cubic Meters of CH TRUM by 9/30/10	TPA	9/30/10			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)

WIPP provides shipping resources and manages the schedule for transportation of containers to WIPP. The schedule is variable and the number of shipments is controlled by DOE-Headquarter (HQ) on a complex-wide priority. Cost for shipment of waste offsite is borne by the Carlsbad Field Office (CBFO).

Contract Section	Project	GFS/I	Status
<b>CONTRACT</b>			
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 Carlsbad Field Office (CBFO).	Ongoing