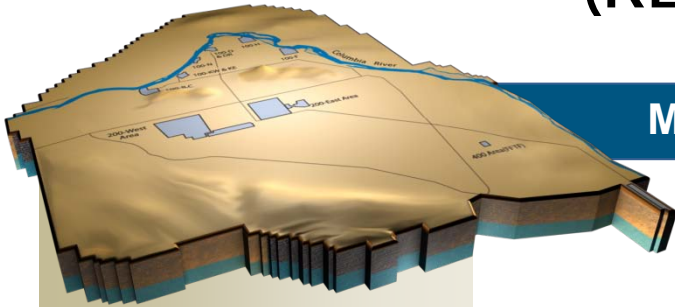


Section B

Spent Nuclear Fuel Stabilization and Disposition (RL-0012)

Monthly Performance Report



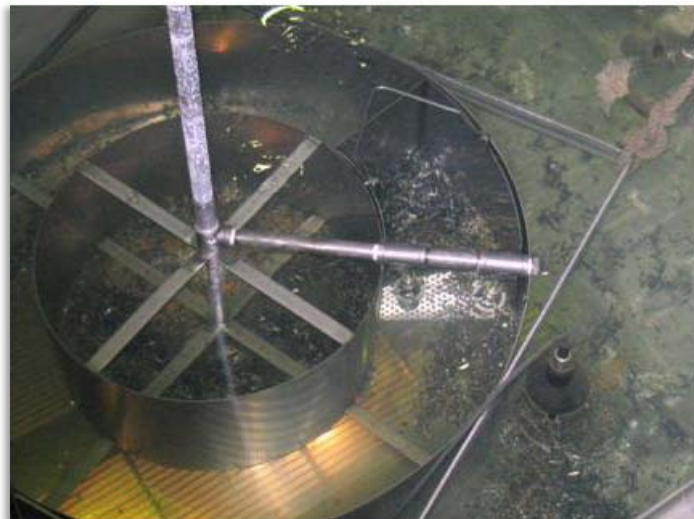
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December 2009
DOE/RL-2008-69, Rev. 14
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1



Maintenance and Storage Facility (MASF) Tank Removed



Testing Knockout Pot Separation Table at MASF

PROJECT SUMMARY

Sludge Treatment Project (STP) and 100K Operations personnel completed the management self assessment and the independent self assessment for the settler tank retrieval start-up. On December 8, 2009, the project initiated retrieval from the first of the ten settler tanks. With the equipment working as designed and tested at the Maintenance and Storage Facility (MASF) (once again demonstrating the value of testing before operational benefit), the first tank retrieval completed on December 22, 2009, with little or no carry-over of material back into the basin. The boroscope inspection of the tank showed positive results with little residual sludge left in the tank. Bulk retrieval from the second tank was also initiated.

STP awarded a contract to Randolph Construction to modify MASF, to install a pool (K West Basin replica) for integrating testing of the engineered container retrieval, transfer, and storage (ECRTS) systems. This is critical for the project to achieve a technology readiness level-6 (TRL-6) at the critical decision-2/3 (CD-2/3). The contractor has completed the removal of both tank vessels, and completed the first lift of 20 feet (457 cubic yards) of controlled density fill in the inert vessel vaults.

The final knockout pot (KOP) Phase 4 In-Basin Inspection Report (KBC-44019) was approved and released into the Hanford Document Control System. This document forms the foundation for determining the feasibility of drying KOP material less than ¼ inch and greater than 600 microns, so that this material can be managed in a similar fashion as the spent nuclear fuel and processed via multi-canister overpacks (MCOs) for interim storage at the Canister Storage Building.

Pacific Northwest National Laboratory (PNNL) has completed and submitted Report 52578 RPT-02, "Characterization Data Package for Containerized Sludge Samples Collected from Engineered Containers SCS-CON-240, 250, 260 and 220," to CHPRC. The data is being analyzed by the STP engineers.

The support contractor for the Phase 2 Technology Evaluation and Alternatives Analysis is on board. The first task, updating the project schedule and adding additional detail and logic based on the support contractors approach, was initiated.

The kickoff meeting for the formal independent review of the ECRTS conceptual design and CD-1 package is scheduled for January 12, 2010. Preparations for that session have started, including draft agenda and design presentations.

EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
09-EMS-EPC-10-OB4-T1	Identify Pollution Prevention opportunities for the Sludge Treatment Project locations	Perform Assessment/Surveillance (EPC-STP-SURV-10036 – IEP #7725) of programs to be implemented	3/31/10	On schedule
		Implement recommendation actions at the Federal Bldg	5/31/09	On-schedule
		Implement recommendation actions at MASF	6/30/10	On schedule
		Follow-up Assessment/Surveillance	9/30/10	On Schedule

TARGET ZERO PERFORMANCE

	CM Quantity	FYTD Quantity	Comment
Days Away, Restricted or Transferred	0	0	N/A
Total Recordable Injuries	0	2	N/A
First Aid Cases	4	11	<p>12/16/09 - RCT experienced pain in the right knee while performing routine functions. The employee was transported to AMH for evaluation. Employee was released to work without restrictions and no prescription medications were provided. (20602)</p> <p>12/21/09 - NCO received a small cut to the right hand while tightening a PAPR hood to a hose in an RBA. No contamination was detected. The worker was evaluated and was returned to work without restriction. (20609)</p> <p>12/22/09 - NCO sprained the right thumb during debris removal activities. The employee was evaluated at AMH, provided a cold pack for treatment and returned to work without restriction. (20612)</p> <p>12/28/09 - NCO was moving a laundry bag and sustained a small cut (from a laundry tag) to the left ring finger. No contamination was found. The employee and supervisor agreed to self-treat. (20614)</p>
Near- Misses	0	0	N/A

KEY ACCOMPLISHMENTS

12.16 Sludge Treatment Project (STP)

- The Phase 2 Technology Evaluation and Alternative Analysis Support Contract was awarded to Lucas EMS. A kickoff meeting for this contract was held on December 7, 2009. The first task of the support contract will be the development of the round two performance specification and proof of principal testing statements of work for the selected technology vendors.
- A total of six technology vendor proposals have been received for the treatment and packaging of K Basin engineered container / settler tube (EC/ST) sludge. An STP team has completed the initial evaluation of five of these proposals. The sixth will be completed early next week, and the schedule is to lay out our path forward into the round two testing by the end of next week. It appears that we will select several parts of the vendors proposals, and supplement the testing program with technologies identified by the STP project team that were not proposed by the vendors, to assure that a broad range of potential technology solutions are evaluated in the Technology Evaluation and Alternative Analysis. The testing performance specification and statements of work for this testing will be developed with the support of the recently awarded support contract discussed above.







- The draft plan for loading of KOP material into MCOs was completed and distributed for internal review. The revised plan includes results of Phases 3 and 4 in-basin inspections. The document provides the basis for gas generation, thermal, and criticality analyses.
- A revision to HNF-SD-SNF-RPT-007 (OCRWM “Q” List) was issued on December 17, 2009. The document, which identifies the Hanford Site Items and Activities that require application of the Office of Civilian Radioactive Waste Management (OCRWM), Quality Assurance Requirements Document (QARD) was updated to include loading KOP material into MCOs.
- Test runs using settler tank and K West sludge stimulants with the Hazelton pump (for the wear test) were completed. Degradation in pump performance was noted during the course of testing. Post-run inspection of the pump internals was completed; measurements were taken for comparison with baseline conditions to support further evaluation on the extent of erosion from the sludge stimulants and to reconcile the degradation of pump performance.















MAJOR ISSUES

None identified.

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	
STP-030: 100K KOP system operations	Refurbish IWTS, FRS, CLS to minimize operational downtime			Baseline includes refurbishment.
STP-007: Competing K Basin Priorities	Integrated, detailed working schedules/plan-of-the-week meetings			Close interactions between the projects is occurring, schedules are reviewed and evaluated, against established priorities.
KBC-009: Jurisdictional Issues (Davis-Bacon) Impact Productivity	Risk handling options being evaluated			No impacts at this time.
KBC-010: Unexpected TRU Debris or Other Waste	Develop characterization & blending/packaging strategy; establish alternate waste disposition pathways			Completed shipment of Legacy CERCLA waste in October, increasing the confidence trend.
KBC-011: DSA/FHA Limits Impact Waste Staging	Modify DSA/FHA to increase combustible loadings			Work in this area is proceeding without impact.
KBC-018: Discovery of Additional Sludge or SNF	Ensure SNF handling capabilities and WCH agreements are in-place			With completion of KOP / Canister washing with no surprises, confidence level increased for this risk area.
STP-005: STP Settler Tank Retrieval	Develop multiple retrieval tools, and bounding simulant, to test most adverse conditions expected in Settler Tanks.			Initial Settler Tank insertion went well. Bulk retrieval on first tank currently underway.

PROJECT BASELINE PERFORMANCE

Current Month

(\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	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)
Base	5.7	5.3	6.2	-0.4	(6.9)	-0.9	(16.4)	565.8

Numbers are rounded to the nearest \$0.1M.

CM Schedule Performance (-\$0.4M/-6.7%)

The negative schedule variance is within reporting thresholds.

The STP negative variance (-\$0.4M) is due to: the budgeted cost of work scheduled for the KOP work scope that was completed in FY 2009 is now catching up, creating a negative schedule variance in both the KOP Phase 4 activities and the KOP design activities (-\$0.6M); offset by the performance taken for the completion of the PNNL analysis report on EC-SCS-CON-240, 250, 260, and 220 (+\$0.2M)

CM Cost Performance (-\$0.9/-16.4%)

The 100K Area positive variance (+\$0.3M) is due to the point adjustment created with the implementation of the Advanced Work Authorization (AWA-PRC-10-017).

The STP negative variance (-\$0.7M) is due to: 1) cost of PNNL to complete the analysis report and the accrual adjustment from the previous month (-\$0.6M) and 2) additional cost to procure a second backup pump for the settler tank retrieval system (original backup now in operation, when first pump failed) (-\$0.1M).

The Project Services & Support negative variance is (-\$0.5M)

Contract-to-Date

(\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	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)
Base	113.6	114.4	115.3	0.7	0.6	-1.0	(0.8)	565.8

Numbers are rounded to the nearest \$0.1M.

CTD Schedule Performance (+\$0.7M/+0.6%)

The positive variance within 100K (\$0.0M) is within reporting threshold.

The STP positive variance (+\$0.7M) is within the reporting threshold.

CTD Cost Performance (-\$1.0M/-0.8%)

The STP positive variance (+\$1.9) and 100K negative variance (-\$2.0M) are within the reporting thresholds.

Contract Performance Report Formats are provided in Appendix A.

FY 2010 FUNDS VS. SPEND FORECAST (\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	FY 2010		Variance
	Projected Funding	Spending Forecast	
Base	86.8	73.0	13.8

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

Projected Funding includes FY 2009 uncosted and FY 2010 expected new Budget Authority.

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, the PRC contract period.

Baseline Change Requests

AWA-PRC-10-017.

MILESTONE STATUS

Tri-Party Agreement 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.

Number	Title	Type	Due Date	Actual Date	Forecast Date	Status/Comment
DNFSB 120W	Complete Sludge Treatment	DNFSB	11/30/09			Revised STP commitment dates provided to DNFSB by DOE-EM on 12/1/09

SELF-PERFORMED WORK

The Section H.20 clause entitled, Self-Performed Work, is addressed in the Monthly Report Overview.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.