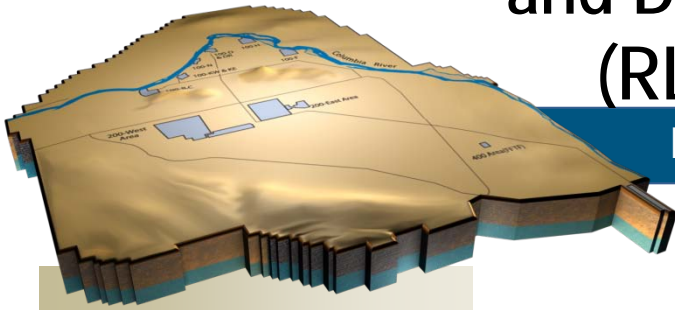


# Section B Spent Nuclear Fuel Stabilization and Disposition (RL-0012)

## Monthly Performance Report



K. L. Kehler  
Vice President and  
Project Manager for  
D&D Project



**Knockout Pot Pretreatment Operator Training  
at the Maintenance and Storage Facility**



**Pretreatment System Operator Training**

February 2011  
CHPRC-2011-02, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

The Knockout Pot (KOP) subproject is progressing towards conducting the “Pretreatment Operations” at the K West Basin in the April/May timeframe. This month the engineering team and Maintenance and Storage Facility (MASF) test personnel conducted the qualification tests and conducted Operator Training sessions on the systems at MASF. The test data concluded the system effectively separated the higher density material from the lower density material. Of note, the testing identified several challenges that required slight modifications to the system prior to final fabrication. Once again, proving the value of testing equipment in a clean environment, before installing the equipment in the K West Basin and then trying to make needed modifications. Also, conducting Operator training in a relevant environment and allowing time to incorporate their functional enhancements will ensure the Operations staff can handle the equipment in an ergonomically configured state to safely accomplish the work. The final design of the KOP Processing System is progressing and fabrication of the test and production systems are on-going at HiLine Fabrication. Qualification testing on this system (which will load the KOP material into the copper inserts and eventually into the multi-canister overpacks will begin after the pretreatment equipment is disassembled and transported to 100K.

The Engineered Container Retrieval and Transportation System (ECRTS) setup to initiate the Integrated Technology Readiness Level – 6 testing at MASF continues. The test article process equipment has been placed, the pool is filled, and wiring and checkout is ongoing. The draft test procedure and test specification are both out for internal review. Testing is scheduled to start in March. The Joint Test Group has approved the XAGO/Transfer Pump “Dry” test report, *STP-PRC-TR-00412, Test Report for Sludge Treatment Engineered Container Retrieval and Transfer System Integrated Retrieval and Transfer Dry Test*.

An update (Revision 15) to HNF-SD-SNF-TI-015, SNF Project Technical Databook, Volume 2, Sludge, has been routed for internal review. The major change from Revision 14 is the replacement of K East originating sludge data with that derived from sampling of the Engineered Containers (EC) SCS-CON-240, -250, and -260.

PRC-STP-00414, *Summary of Analysis Requirements and Input for K-West and Settler Tank Sludge*, was finalized and released. This document fulfills the requirement of PRC-PRO-TP-15665, Section 2.3, *Safety Basis Planning and Documentation*, for the K West Basin and settler tank sludge streams by identifying the conditions to be considered when developing the transportation safety documentation. This information provides the framework for the development of the Fuel - Special Packaging Authorization Checklists and supporting documentation for K West Basin and settler tank sludge.

Pacific Northwest National Laboratories (PNNL) has completed the second 96-hour test, supporting the warm water oxidation Phase 2 Technology Evaluation work scope. The test results provide an upper bound on the extent of agglomeration that might be expected during settler tank sludge processing. A heel larger than the previous K West simulant test was observed after this test. The slump test showed the heel solids did not agglomerate into a rigid mass.

## EMS OBJECTIVES AND TARGET STATUS

Goal #	Goal	Target	Due Date	Status
1	Reduce use of copier paper by 3 percent at 825 Jadwin and MASF during FY2011	Present goal to STP employees in a memo. Include 2010 usage and 2011 target for Room 301-C and 356 copy machines at 825 Jadwin and copy machine S/N31012668 at MASF	12/31/10	Complete
		Issue quarterly status to all employees	03/31/11, 06/30/11	On Schedule
		Issue year-end status to all employees	09/30/11	On Schedule
2	Recycle/reuse test simulant and basin mockup water at MASF	Outline plan for recycling/reuse of test simulant and Basin mockup water at MASF	12/31/10	Complete
		Issue quarterly status to all employees	03/31/11, 06/30/11	On Schedule
		Assess effectiveness of reuse program and evaluate if continued reuse in FY2012 is warranted.	09/30/11	On Schedule

## TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	4	N/A
First Aid Cases	2	18	<b>02/10</b> 105KW NCO was moving debris in IP-2 container with the aid of a coworker. The NCO felt a muscle strain in the abdomen while lifting. <b>(21722)</b> <b>02/23</b> 1—K Millwright felt a pop in the left pointer finger while opening a door. <b>(21765)</b>
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### Sludge Treatment Project (STP)

The initial ECRTS Preliminary Design Control Decision Meeting was completed. No issues were identified.

At STP's request, PNNL is re-analyzing the uranium metal of Sample KW-230 B4 core obtained from EC SCS-CON-230. This re-analysis is necessary due to the variability in the data results obtained from the sample and duplicate in the initial analysis.

The ECRTS subproject received and fit-tested a new prototype of the IP-2 covers for the Sludge Treatment System Cask. Changes to the design improved the fit and installation of the covers onto the cask, and enhanced the operations of the closure and securement mechanisms. A few additional improvements have been identified and will be discussed with the manufacturer.

A revision to the design specification for the Annex was issued. This revision modifies seismic, wind, and fire protection requirements to reflect recent preliminary design developments.

A ground penetrating radar scan and topographical survey of the area around the K West Annex where Construction will be working were completed.

## MAJOR ISSUES

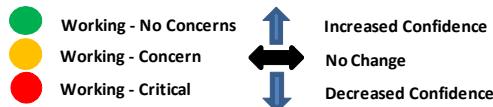
None identified.

## RISK MANAGEMENT STATUS

**Unassigned Risk**

**Risk Passed**

**New Risk**



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	●		MCO Dry Runs completed, Engineered Container Sampling campaign have all completed. The next STP activity in KW is Pretreatment operations in April/May.
KBC-010: Unexpected TRU Debris or Other Waste	Develop characterization & blending/packaging strategy; establish alternate waste disposition pathways	●		No issues at this time.
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	●		Current fuel free validation activities have found no additional fuel elements.
STP-039: KOP Separations Process Qualification	Test the mechanical separations process in a relevant environment at MASF	●		Testing being conducted at MASF has identified changes required to optimize the process.
STP-075A: ECRTS Technology Maturation Testing	Continue technology testing at MASF to demonstrate TRL-6 maturity by March 2012 TRA.	●		Component level testing is being conducted. Full Integrated Testing commenced in January 2011.

## 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 (%)
<b>Base</b>	6.3	6.4	6.2	.1	.9	.1	2.3

Numbers are rounded to the nearest \$0.1M

#### CM Schedule Performance (\$0.1M/0.9%)

The combined 100K and STP positive variance is within reporting thresholds.

#### CM Cost Performance (0.1/2.3%)

The combined 100K and STP positive variance is within reporting thresholds.

## 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)	Estimate at Completion (EAC)	Variance at Completion (VAC)
<b>Base</b>	201.1	197.5	202.3	(3.6)	-1.8	(4.8)	-2.5	581.6	589.0	(7.4)

Numbers are rounded to the nearest \$0.1M

#### CTD Schedule Performance (-\$3.6M/-1.8%)

The combined 100K and STP variances are within reporting thresholds.

#### CTD Cost Performance (-\$4.8M/-2.5%)

The combined 100K and STP variances are within reporting thresholds.

**Contract Performance Report Formats are provided in Appendix A.**

## FY2011 FUNDS VS. SPEND FORECAST (\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	FY2011		Spend Variance
	Projected Funding	Spending Forecast	
<b>Base</b>	83.8	78.9	4.9

Numbers are rounded to the nearest \$0.1M.

### Funds/Variance Analysis

Funding includes FY2010 carryover and FY2011 new Budget Authority. The variance reflects an approved realignment of ARRA and Base work scope that was implemented in February.

### Critical Path Schedule

Critical Path Analysis can be provided upon request.

### Estimate at Completion (EAC)

The BAC and EAC now include FY2009 through FY2018, the PRC contract period.

### Baseline Change Requests

BCRA-PRC-11-023R0, General Administrative & FOC Changes for February 2011

BCR-PRC-11-020R0, Align FY 2011 PMB Scope to Revised RL Priorities

## 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. 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
DNFSB 120W	Complete Sludge Treatment	DNFSB	11/30/09			Letter dated 30 June 2010, from Ms Triay to DNFSB, notifying the board of a pending Implementation Plan update that will address this missed milestone.
M-016-140	Submit Revised RD/RAWP for 100K RODs with New Milestones	TPA	03/31/11			On Schedule

## 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.