

Section B

Spent Nuclear Fuel Stabilization and Disposition (RL-0012)



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PROJECT SUMMARY

Members of the Knockout Pot (KOP) Subproject and the 100K staff established a more detailed integrated schedule of the KOP Processing System (KPS) operating campaign early in the month. By adding more activity details, the staff was able to capitalize on activities that could be worked in parallel, off project critical path. The KPS Field Execution Schedule (FES) now supports completion of TPA Milestone M-016-172, Complete KOP Material Removal from 105KW Fuel Storage Basin by 09/30/12, with positive schedule float.

At the beginning of the month, representatives from the 100K staff completed implementation of the 105KW Basin Safety Basis Documentation facilitating execution of KOP material processing in the 105KW Basin. This significant accomplishment, coupled with the completion of hardware installation and testing last week, provided the necessary hardware and documentation for the Operations staff to conduct on-the-job training and evaluations, which was completed later in the month.

The final shipment of copper inserts for the KOP campaign was successfully processed through the MSA warehouse and green tagged for use via the Acquisition Verification Services receipt inspection process. All copper inserts are now staged and available for use in the pending KPS Operating Campaign scheduled for mid-June.

Based on both a variety of efforts to identify activities with a potential to negatively affect the upcoming KOP campaign and a review of the operating experience from the recent final fuel MCO, what-if scenarios were developed to anticipate likely causes of process down time. In addition, several process improvements were identified, such as providing more prescriptive insert loading configurations and establishing better definitions for technical terms applied in the process. These activities were added to the KOP disposition integrated schedule to track completion and ultimately improve the execution of the pending campaign.

Representatives from the DOE Office of Environmental Management (EM) conducted an Office of Civilian Radioactive Waste Management (OCRWM) quality assurance audit. The scope of the audit included multi-canister overpacks (MCOs), fuel scrap, and KOP processing activities, Cold Vacuum Drying Facility (CVDF) activities, HNF records storage and corrective action from the 2009 OCRWM audit. Eleven issues and three recommendations were identified.

The technical safety requirement (TSR) modification necessary to restore previously approved KPS proof-of-dryness testing criteria at the CVDF was submitted to RL on 05/18/12. RL personnel are actively reviewing this TSR submittal and are expected to issue a Safety Evaluation Report (SER) authorizing use of the originally approved "proof-of-dryness" acceptance criteria. The target for receiving RL approval is early to mid-June.

Final design of the Engineered Container Retrieval and Transport System (ECRTS) process equipment continued this month as planned. The ECRTS Code of Record (COR) was approved by CHPRC and sent to RL on 5/9 for review and approval.

Mobile office installation to support the K West annex installation continued all month. An existing multi-wide mobile office located at 100K (MO293) has become available and will be used as the Administrative Office site. As a result, an additional mobile office is not required and all further work related to this installation has been cancelled.

Final grading and compaction at the K West annex construction site is 100% complete. All four of the planned field office double-wide mobile offices have been transported to the Construction Site.

Preparations for the second ECRTS Technology Readiness Assessment (TRA), planned to start on 06/04/12, are complete. Transmittal of the last objective evidence documents to the DOE-TRA Team was completed 05/24/12.

The Project completed routine facility maintenance preventative maintenance (PM) and participated in a

post-job briefing with CVDF and K West staff relating to the last found fuel MCO, which was shipped to the Canister Storage Building (CSB) on 04/23/12. The information and actions from the Post Job will be used to enhance our operations during KOP MCO processing.

Revision 19 of HNF-SD-SNF-TI-015, *Spent Nuclear Fuel Project Technical Databook, Volume 2, Sludge*, was issued. This revision included (1) reduction to the safety basis volume percent water in settler sludge from 73% to 55%, to better align the sludge particle density calculated from volume percent water and settled sludge density with the sludge particle density calculated from major sludge components; (2) minor corrections to settler sludge radionuclide concentrations based on validation of characterization results present in PRC-STP-00523; (3) added tables for decay, correcting the K East originating, K West originating, and settler sludge radionuclide concentrations and decay power to 10/01/13; and (4) added particle size distributions and concentrations of radionuclides and analytes for suspended solids from settling tests with sludge samples.

The draft Phase 2 Siting Study Decision Plan (PRC-STP-00649) was provided to RL for review. The decision plan describes the siting study process, the nuclear facilities that will be screened, and the criteria to be used for both screening and evaluation of existing facilities and Greenfield sites. A review meeting was held with the Federal Project Director and his staff to discuss the key elements of the Decision Plan and to gain concurrence on the important elements of the decision process.

The Phase 2 Siting Study continued on schedule with a screening workshop that was held with subject matter experts to evaluate the 20 existing nuclear material handling facilities on the Hanford Site. Each facility was evaluated using the screening criteria provided in the Siting Study Decision Plan. Three facilities were identified as being of higher potential value. The draft screening study report was issued for review on 05/30/12.

TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	
Total Recordable Injuries	0	1	
First Aid Cases	6	36	<p>05/01 A pipefitter using a fuel gas torch to cut pipe in the 105KE water tunnel reported a minor slag burn to the top of the left foot. The slag apparently made it past the tongue of the left boot, creating some blistering at the small toe. (22753)</p> <p>05/03 A D&D worker reported that due to climbing in and out of trenches he developed right knee pain. (22757)</p> <p>05/04 A D&D worker was using a reciprocating saw (Sawzall) to cut conduit in the 105KE Water Tunnel. The worker sustained a minor injury when the saw recoiled into the workers right thumb, bending the thumb slightly backwards. (22758)</p> <p>05/08 A D&D worker from 100K was assisting in lining an ERDF can. The worker stepped off of the platform onto a rock and fell to the ground. The worker struck the ERDF can with the right hand and twisted the left knee before striking the ground with the left shoulder. (22763)</p> <p>05/17 A D&D worker from 100K was assisting in wrapping a rope around an ERDF container when a snap ring attached to the end of the rope struck the worker's left forearm causing a contusion. (22768)</p> <p>05/29 A RCT from 105KW was retrieving an instrument out of a cabinet. The worker was hit on the top of the head by a piece of equipment that had not been secured properly on a higher shelf. (22772)</p>
Near-Misses	0	0	N/A

KEY ACCOMPLISHMENTS

The 100K Operations Manager and DWF&RS Vice President signed a formal Declaration of Readiness Memorandum on 05/23/12. This was preceded by Nuclear Chemical Operator training and certification activities at 100K and completion of all 16 Readiness Self-Assessment documents. The CHPRC Level 2 Readiness Assessment commenced the same day and was completed at the end of the calendar month. This readiness assessment is the final significant activity prior to commencing the KPS Operating Campaign.

The formal ECRTS Modified K West Annex Final Design Review Report was approved 05/04/12, followed by approval on 05/10/12 of a Design Change Notice (DCN) to issue the final Issued for Construction drawings of the annex structure and building systems.

The contract for the construction of the modified 105KW annex was issued to FE&C/Baker on 05/07/12, followed by a pre-construction kick-off meeting on 05/17/12.







Processing of the last found fuel MCO was completed and the MCO was shipped to the CSB on 04/23/12.















MAJOR ISSUES



No major issues to report this month.

RISK MANAGEMENT STATUS

Unassigned Risk
Risk Passed
New Risk
Change

 Working - No Concerns  Increased Confidence
 Working - Concern  No Change
 Working - Critical  Decreased Confidence

Risk Title	Risk Strategy/Handling	Assessment		Comments
		Month	Trend	
RL-012/WBS 012				
STP-057: PWC & IWTS IXM Change Out	Physical properties of the KOP material are not expected to result in change out of the PWC & IWTS ion exchange media. 8 Additional IXM on hand to change out as required.			No issues at this time. The physical properties of the material will not be the driver to cause a required change out. A buffer has been placed within the schedule to accommodate change out (if required)
STP-030: 100K KOP Systems Operation (CHPRC Risk)	Perform aggressive CM &PM Program for the IWTS, RRS, CLS, and other system to support MCO Loading.			No issues at this time. MLS/CLS Gantry complete - On schedule for 32 ton crane PM in July/August.
STP-054: KOP Startup	Initiate startup/readiness activities to minimize impacts.			Completed KOP Startup Review and closing pre-start activities. Operational activities are on track to begin in June.
STP-007 Competing Priorities	Develop detailed working schedules and institute interface meetings to communicate priorities and progress. Overtime used to mitigate impacts of schedule delay.			No change in trend over past month.
PRC-021A: Workforce Restructuring Caused by Funding Changes	Revise project schedules and work planning documents around workforce restructuring timelines. Work with other contractors to minimize impacts associated with Bump and Roll.			Based on FY-13 funding projections, CHPRC is initiating a workforce restructuring action.
PRC-029, Unforeseen Facility Condition	Maintain questioning attitude within the workforce to identify unforeseen conditions early. Mobilize task team to respond to issues promptly and obtain priority for document approvals.			Based on efficiencies achieved during Found Fuel processing, CHPRC believes schedule lost to resolve MCO dryness USQ can be recovered during KOP processing. However, impending workforce restructuring may impact productivity.
STP-ANX-002: Ecological/Cultural Conditions Restrict Field Activities	Accelerate cultural resource review to minimize schedule impact of cultural resource mitigation is required prior to initiating Annex Construction.			Cultural resource review initiated. No issues.

STP-ANX-008: Annex Design and Requirements Changes	Maintain rigorous control of design specifications. Streamline approach for addressing contractor submittals and RFI's to acknowledge and minimize design changes. Communicate regularly with stakeholders (DOE, contractors, and CHPRC organizations) regarding impacts and potential changes.			Annex design/construction contract released in May
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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 (%)
Base	7.4	5.9	7.5	(1.5)	-19.9	(1.6)	-26.4

Numbers are rounded to the nearest \$0.1M

CM Schedule Performance (-\$1.5M/-19.9%)

The negative schedule variance is due to K West fuel processing delays impacting the KOP Project construction testing and readiness activities. KOP Operations will begin in June.

CM Cost Performance (-\$1.6M/-26.4%)

Fuel packaging operations took longer than planned due to additional debris in the containers requiring more resource time to complete and the cost to install trailers to support ECRTS Construction have been greater than expected.

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)
Base	302.0	299.4	303.5	(2.6)	-0.9	(4.1)	-1.4	532.2	536.3	-4.1

Numbers are rounded to the nearest \$0.1M

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

The primary schedule variance is in the KOP Project with delays to the start of packaging driven by the delays in found fuel packaging and safety documentation to support startup activities. KOP Operations will begin in June.

CTD Cost Performance (-\$4.1M/-1.4%)

The CTD cost variance is primarily the result of work completed for K East Basin Deactivation costing more than budgeted and fuel free work exceeding budget due to additional costs to sort out all the debris in the final fuel containers and additional schedule being used for readiness activities.

Contract Performance Report Formats are provided in Appendix A.

Estimate at Completion (EAC)

The current EAC change is within reporting thresholds.

FUNDS vs. SPEND FORECAST (\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	FY2012		
	Projected Funding	Spending Forecast	Spend Variance
Base	87.7	87.7	0.0

Numbers are rounded to the nearest \$0.1M.

Funds/Variance Analysis

The spend variance to funding reflects forecasted efficiencies achieved by the project team.

Critical Path Schedule

Critical Path Analysis can be provided upon request.

Baseline Change Requests

None identified at this time.

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
DNFSB 120W	Complete Sludge Treatment	DNFSB	11/30/09			A pending Implementation Plan update will address this milestone.
M-016-172	Complete KOP Material Removal from 105-KW Fuel Storage Basin	TPA	9/30/12		9/30/12	Project is progressing.

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.