

# Section B

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



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## PROJECT SUMMARY

On 03/29/12, the Cold Vacuum Drying Facility implemented the changes to the Documented Safety Analysis/Technical Safety Requirements (DSA/TSR) that are required to process KOP material and has released the revised safety basis.

Two shipments of copper inserts arrived at the Hanford Site this month and were processed through receipt inspection. These safety significant OCRWM components are critical to preparing for the KOP Processing System (KPS) readiness review in early May. The combined total of 78 inserts will be sufficient to fulfill the anticipated KPS project need.

CHPRC personnel continued working the implementation plan for the 105KW Basin Safety Basis. The updated procedures and updated Safety Basis were issued toward the end of calendar April.

Final Design of the ECRTS Process Equipment continued this month as planned. Drawings were finalized and provided to Engineering and Drafting staff for checking. Comments will be incorporated into the drawings between late April and early May.

The Award Recommendation Report for the Annex Construction Contract was approved earlier this month. The Consent package for Building of the New Annex was also completed and approved by CHPRC. DOE initiated their review of the Consent Package on 4/2/12 and will complete it on 5/1/12.

Candidates for the Annex construction contract were notified that CHPRC recommended to DOE that FE&C be selected as the Annex construction contractor.

All ECRTS Modified KW Annex Final Design Review Comment Records (RCRs) were resolved and closed.

The Modified KW Annex design team (AREVA and CHPRC) stamped and signed the Issued-For-Construction (IFC) drawings for the Annex. All drawings have been signed.

Work was initiated on both the construction and administration sites to support the KW Annex construction. Ground was broken, civil site preparation and installation of underground electrical utilities was conducted for construction contractor, project management, engineering, and document control personnel.

One of the challenges of the administration site is the disposal of existing spoils which are full of large rocks and boulders. The material is not suitable for backfill without considerable time spent screening the material. The determination has been made to load the soils into ERDF cans.

The CVDF Final Safety Analysis Report and the Technical Safety Requirements documents were updated and the changes implemented in procedures to reflect: 1) the new dryness criteria for found fuel and 2) the RL directed Emergency Preparedness Specific Administration Control (SAC) for control of the Columbia River during specific emergency conditions. In addition, the pre-start items needed to process the first Found Fuel MCO starting 4/16/12 were completed.

DOE issued a Safety Evaluation Report (SER) and contract letter on 03/30/12 that approves the Evaluation of Safety of the Situation (ESS) associated with the PISA and USQ related to the CVDF proof of dryness test. The proof of dryness test is used to demonstrate that MCOs contain less than 200 grams of free water prior to shipment to CSB. The ESS and SER conclude that the temporary restriction on shipment of MCO's from CVDF to the Canister Storage Building can be removed. This completes all actions associated with this PISA/USQ.

Laboratory-scale testing with settler sludge to evaluate effects of increasing flocculent concentration from 1 ppm to 4 ppm (PNNL-21261, Assessment of Increased Clarifloc N-3300P Polymer Concentration During Treat and Transfer Testing using 2.8 wt% SCS-CON-230 Sludge) was completed. The laboratory-scale testing mimicked the planned sludge retrieval / transfer into an STSC and subsequent recirculation of supernatant using the decant system. No adverse effects were observed.

Characterization report PRC-STP-00523 “Validation and Assessment for Characterization Data from Engineered Container SCS-CON-230,” was approved by STP and Environmental Quality Assurance (EQA). This report is an STP review of the detailed radiochemical, chemical, and physical characterization data supplied by PNNL and K-Basin for the settler tube sludge. The data are compared to the original Data Quality Objectives, statistical assessments are made vs. previous characterization data, and uncertainty estimates are provided.

Characterization report PRC-STP-00561 “Validation of Settling Data from Sludge in Container SCS-CON-230,” was approved by STP and EQA. This report is an STP assessment of the settling rates determined by PNNL for sludge from the settler tubes and a comparison of the data to similar information from the current STP settler sludge simulant.

The Phase 2 Treatment and Packaging Siting study is progressing. A workshop was held with a number of facility representatives from CHPRC, MSA, and PNNL. The siting evaluation process for existing facilities was reviewed and the needed facility background data was discussed.

The Draft Siting Study Decision Plan was received from the subcontractor. A CHPRC internal review was held, followed by a comment resolution meeting to resolve outstanding questions for the authors. A more complete draft was provided to RL for informal review, discussions and comments. The Decision Plan identifies the listing of Hanford Nuclear facilities which are going to be screened, the screening criteria to be used to select the few facilities to be evaluated in more detail, and the evaluation process.

## TARGET ZERO PERFORMANCE

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	1	1	4/16/2012 – Worker was aiding in installing a new containment floor for an MCO (play pen). Following initial install an adjustment was made to the containment flooring resulting in an employee overexerting himself. This overexertion resulted in a sprain to the middle back. <b>(22739)</b>
Total Recordable Injuries	1	1	Listed above.
First Aid Cases	6	30	4/3/2012 – Employee slipped walking up stairs and landed on right knee causing contusion. <b>(22721)</b> 4/11/2012 – Employee slipped stepping into gravel causing a sprain to left knee. <b>(22746)</b> 4/17/2012 – Employee sprained right shoulder during cleanup activities. <b>(22749)</b> 4/18/2012 – Employee was relocating materials and slipped, spraining shoulder. <b>(22747)</b> 4/18/2012 – Employee was relocating materials and slipped, spraining wrist. <b>(22748)</b> 4/24/2012 – Employee twisted knee climbing. <b>(22750)</b>
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS







- Representatives from 100K Operations, Construction Forces, and the STP Project completed the Construction Completion Document walkdown of the KPS hardware installation and associated grating panel installation on 04/19/12. All punchlist items have now been successfully resolved. This significant accomplishment completes Performance Measurement 12-02.1c.2, “Complete Equipment Installation in the Basin.”
- The found fuel MCO was closed and lifted from the KW basin on Sunday 4/15/12, and shipped to the Cold Vacuum Drying Facility the next day, Monday 4/16/12, where drying operations began the same day. The MCO was shipped to the Canister Storage Building (CSB) on Monday 4/23/12.
- The Phase 2 Preliminary Technology Maturation Plan (PTMP) was issued on 03/29/12. It forms the technical basis for establishing additional interim milestones in 2013 and 2014 as required by TPA Milestone M-016-171. CHRPC provided to RL the additional supporting information needed to finalize the TPA Change package. DOE submitted the Draft Change Request and the required technical reports to the EPA on 03/28/12, completing TPA Milestone M-016-171.











## 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	
<b>RL-012/WBS 012</b>				
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. Due to normal operation of the IWTS a change out may be required sometime during the KOP material processing, this activity would result in an up to one week delay in the current schedule.
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 and the 32 Ton KW crane PMs due in June & August.
STP-054: KOP Startup	Initiate startup/readiness activities to minimize impacts.			Found Fuel Complete – Initiating startup activities for KOP processing. No change in trend over past month. However, several risks may be triggered by KOP Startup activities.
<b>STP-ANX-002: Ecological/Cultural Conditions Restrict Field Activities</b>	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-007 Competing Priorities	Develop detailed working schedules and institute interface meetings to communicate priorities and progress. Overtime used to mitigate impacts of schedule delay.			Found Fuel processing complete. Initiating KOP startup activities. No change in trend over past month.

<b>PRC-021A: Workforce Restructuring Caused by Funding Changes</b>	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 act.
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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 (%)
<b>Base</b>	5.5	4.9	6.2	(0.6)	-10.5	(1.3)	-26.2

Numbers are rounded to the nearest \$0.1M

#### CM Schedule Performance (-\$0.6M/-10.5%)

The negative schedule variance is due to containerized sludge activities ahead of schedule in previous periods and realizing BCWS in the current period, K West fuel processing delays impacting the KOP Project construction testing and readiness activities.

#### CM Cost Performance (-\$1.3M/-26.2%)

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)
<b>Base</b>	294.6	293.4	296.0	(1.1)	-0.4	(2.5)	-0.9	532.2	534.7	-2.4

Numbers are rounded to the nearest \$0.1M

#### CTD Schedule Performance (-\$1.1M/-0.4%)

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.

#### CTD Cost Performance (-\$2.5M/-0.9%)

The CTD cost variance is primarily the result of work completed for KE 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)

FY2012			
RL-0012 Spent Nuclear Fuel Stabilization and Disposition	Projected Funding	Spending Forecast	Spend Variance
<b>Base</b>	87.5	86.0	1.5

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

BCR-PRC-12-015R1 - *Contract Modification 220*

BCRA-PRC-12-014R0 - *Decommissioning, Waste, Fuels and Remediation Services - FOC Changes*

## 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.