

# Monthly Performance Report

April 2019

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy  
under Contract DE-AC06-08RL14788

**CH2MHILL**  
Plateau Remediation Company

**P.O. Box 1600**  
**Richland, Washington 99352**

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**APPROVED**  
*By Janis D. Aardal at 1:16 pm, May 23, 2019*

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Release Approval

Date

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**CH2MHILL**  
Plateau Remediation Company



L. Ty Blackford  
President and Chief  
Executive Officer

# Monthly Performance Report

U.S. Department of Energy Contract,  
DE-AC06-08RL14788  
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April 2019  
CHPRC-2019-04, Revision 0

**CONTENTS**

EXECUTIVE SUMMARY.....2

TARGET ZERO PERFORMANCE .....5

KEY ACCOMPLISHMENTS .....6

MAJOR ISSUES.....6

EARNED VALUE MANAGEMENT .....7

FUNDING ANALYSIS .....9

BASELINE CHANGE REQUESTS .....10

SELF-PERFORMED WORK.....12

GOVERNMENT FURNISHED SERVICES AND INFORMATION.....13

DOE ACTIONS / DECISIONS .....13

**PROJECT BASELINE SUMMARY SECTIONS**

Section A – Nuclear Materials Stabilization and Disposition of PFP (RL-0011).....A

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

Section C – Solid Waste Stabilization and Disposition (RL-0013) .....C

Section D – Soil and Groundwater Remediation Project (RL-0030) .....D

Section E – Nuclear Facility D&D, Remainder of Hanford (RL-0040).....E

Section F – Nuclear Facility D&D, River Corridor (RL-0041).....F

Section G – FFTF Closure (RL-0042).....G

**APPENDICES**

- Appendix A – Contract Performance Reports
- Appendix B – Project Services and Support (WBS 000)
- Appendix C – Capital Asset Projects

## EXECUTIVE SUMMARY

CH2M HILL Plateau Remediation Company (CHPRC) advanced cleanup throughout the Hanford Site during April. Major accomplishments included:

- Waste and Fuels Management Project:** At the Waste Encapsulation Storage Facility (WESF), the W-135 Management of the Cesium (Cs) and Strontium (Sr) Capsules project team completed incorporation of comments to the final Cask Storage System design. Comments from the design reviews for the W-135 Project WESF Modifications and the Maintenance and Storage Facility Cs/Sr capsule handling mockup facility final designs are being incorporated. Execution of two test pits near the Canister Storage Building in support of the W-135 Project Capsule Storage Area utility verification were completed. At WESF, the project received the replacement truckport cover from the Mission Support Alliance, LLC (MSA) fabrication shop and project crews initiated maintenance on the canyon 15-ton crane. The existing crane wire rope was removed for replacement and the block disassembled for decontamination and rebuilding. At T Plant, Sludge Transport and Storage Container (STSC) 11 filled with 105K West Fuel Storage Basin (105KW Basin) sludge, was placed into interim storage on April 12, 2019.
- Soil and Groundwater Remediation Project:** In the 100K West Area, crews completed construction of the KW Soil Flushing Treatability Test site, and tie-in of the soil infiltration system and extraction well WE11. At 100-KX, crews completed operations acceptance testing (OAT) of extraction well XE4 and stainless steel piping upgrades in Transfer Building 2. In the 100-HR-3 Operable Unit, crews completed construction of three wells, and at the HX Pump and Treat (P&T) they completed distributor replacement in ion exchange vessels G1, E1, and A1. Crews at the 200 West P&T completed cleaning injection well lines from Injection Transfer Building 1. The Injection Manifold Building (nine wells) OAT of 200-BP-5 extraction well YE32, and the Bio Building (289T) main feeder breaker replacement were completed in accordance with 10 CFR 851. Troubleshooting and repair of the isolation valve that is limiting flow through the 200 West P&T to 1,600 gallons per minute were initiated. Preparations were completed to begin liquid transfers from the modutanks to the 200W P&T. The project team transmitted the Draft A Proposed Plan for 200-BP-5 and 200-PO-1, supporting U.S. Department of Energy, Richland Operations Office (RL) submittal to State of Washington Department of Ecology (Ecology) on March 27, 2019, completing Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-015-21A. The Integrated Disposal Facility and 216-B-3 Pond Engineering Evaluation Reports were finalized and are being transmitted from RL to Ecology.
- Plutonium Finishing Plant (PFP) Closure Project:** The PFP team completed sizing and loading debris around the main processing facility (234-5Z). Thirty containers of existing demolition debris were shipped to the Environmental Restoration Disposal Facility (ERDF) for permanent disposal. Lower-risk demolition of the 234-5Z Facility was resumed, beginning with Core Stabilization Zone 2.1. Final preparations were completed for the management assessment, which is one of the items necessary for completion prior to the resumption of higher-risk demolition.
- K Basins Operations:** Operators safely filled STSC 11 with 105KW Basin engineered container (EC) sludge and delivered the STSC to T Plant. STSC 12 was also filled with EC sludge and was forecast to be shipped to T Plant on April 24, 2019. The 100K Closure Remediation Team continued excavation and loadout of soil from the east trench and demolition and loadout of the concrete box culvert from the west trench of Waste



Half of the sludge containers have been shipped. Congratulations to the Sludge Removal Project for safely shipping the 11th sludge container on April 10, 2019.

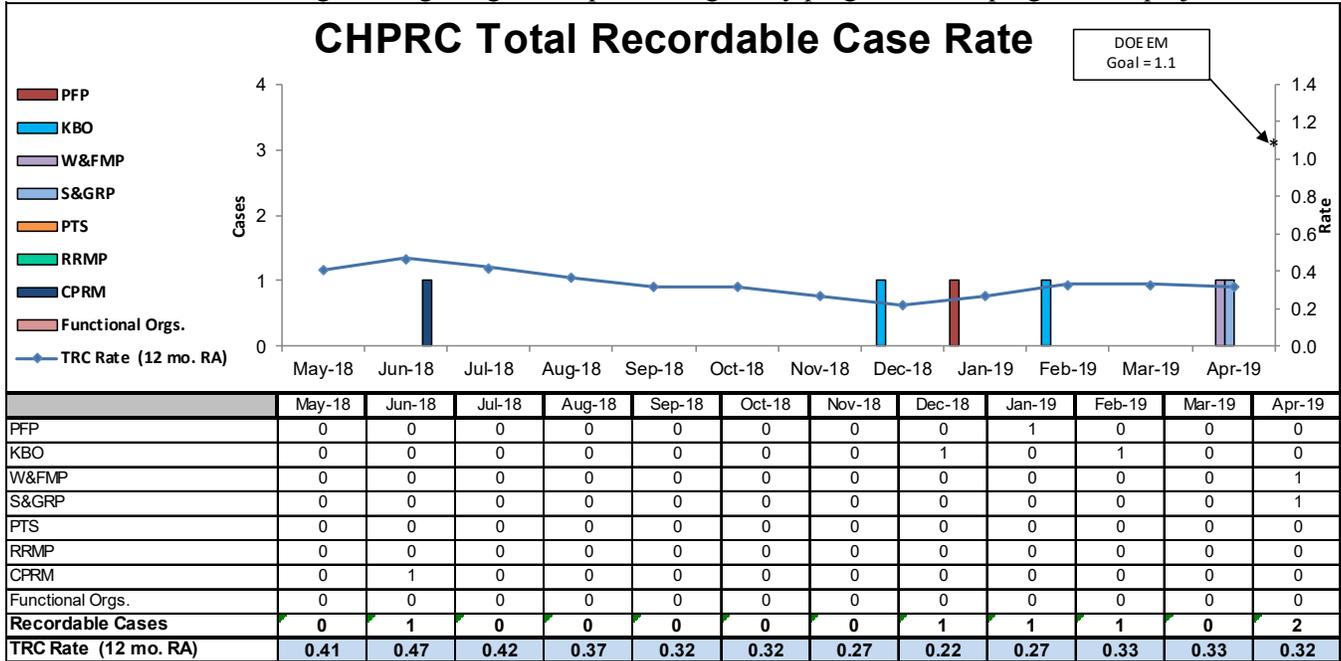
Site 100-K-47:1. The 100K Closure Interim Safe Storage Team awarded the contract to remove asbestos material from the 105KE Reactor Facility. The 100K Closure K West Basin deactivation team resolved final issues surrounding planned shipment of the basin floor settled solids samples and firmed up plans to ship the samples to 222-S Laboratory in early May. The request for proposal for the fabrication of vertical pipe casing was issued with responses due back from bidders in early May.

- River Risk Management Project: Crews at the 324 Building completed B Cell camera installations required for the operation of the Remote Soil Excavation Operations (RSEO) equipment. In addition, external cell sealing was re-initiated. Outside the facility, crews initiated removal of some interfering portions of underground obstructions. A new gate was installed in the northeast portion of the facility fence to support future waste box loadout. B Cell cleanout of debris was initiated with two bins of debris loaded and removed. Two additional bins are in B Cell to continue loadout operations. Progress continued on the final equipment procurements of RSEO items with the completion of the proof of concept testing for the grout system for the cell dams. At the mockup, the team installed and demonstrated the use of the lower remote excavator arm in support of grout test pad demolition.
- Central Plateau Risk Management (CPRM) Project: CPRM personnel performed additional combustible material loadout from the Reduction and Oxidation Plant (REDOX) Facility, completed beryllium sampling for the REDOX Silo sixth floor craneway, performed mercury vapor sampling in the REDOX seventh floor, and staged equipment at REDOX in preparation for Tank 604 and 508 draining. The steam line asbestos insulation abatement at REDOX has been completed, and workers completed final abatement and processing of five steam line crossover locations in the 200 East Area. The project completed the trailer mobilization and installation for 242-B/BL, as well as completed the electrical intrusive investigations and set up temporary power as a step in preparing it for deactivation and demolition. Workers continued efforts to complete the filling of the remaining voids in Plutonium Uranium Extraction Plant (PUREX) Tunnel 2 with grout. At month end, PUREX Tunnel 2 was 99 percent filled with grout.

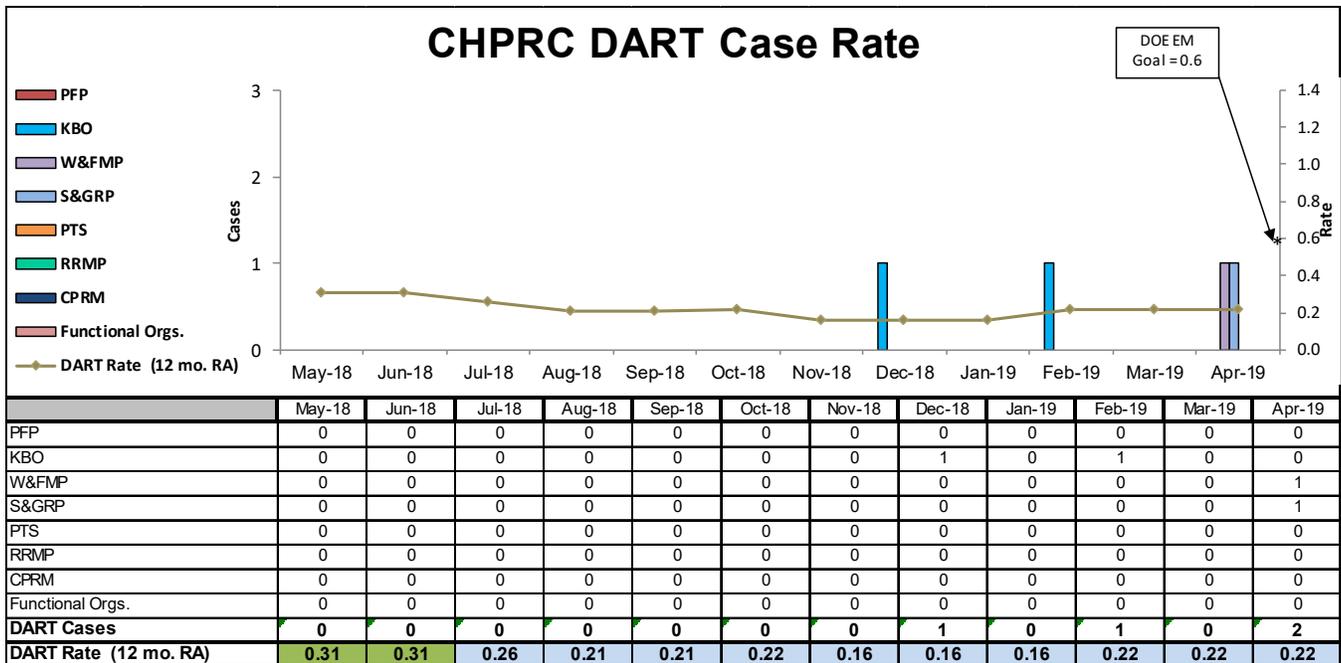
- In lieu of the April President's Zero Accident Council meeting, workers were encouraged to attend the Health & Safety Expo on April 16-17, 2019.
- Five "*Thinking Target Zero*" bulletins were published to convey important occupational, safety, health, and environmental messages:
  - o Exposure Assessments.
  - o Stretch and Flex.
  - o Celebrate Earth Day.
  - o Allergies and Insects.
  - o VPP Safety Expo.
- *Weekly Safety Tailgate* briefing packages communicated relevant topics and safety information to the workforce:
  - o Five Lessons Learned
    - Inadequate procedure use leads to hazardous energy process violation (Idaho National Laboratory).
    - Recent events highlight the need to respond conservatively to unexpected conditions (CHPRC).
    - Operators exposed to halon in reactor control room (offsite).
    - Unplanned power outage investigation reveals lessons learned (offsite).
    - Less than adequate quality inspection leads to acceptance and installation of faulty non-Nationally Recognized Testing Laboratory equipment (CHPRC).
  - o Injuries.
  - o Weekly ethics moments.
  - o Vehicle events.
  - o Windy conditions.
  - o Don't drive distracted.
  - o Off-road vehicle safety.
  - o Hard hat recycling.
  - o Summer safety 2019.
  - o Footwear reminder.
  - o April 22 is Earth Day!
  - o National safety stand-down to prevent falls in construction May 6-10, 2019.
  - o Stop construction falls.
  - o Danger tag revised.

## TARGET ZERO PERFORMANCE

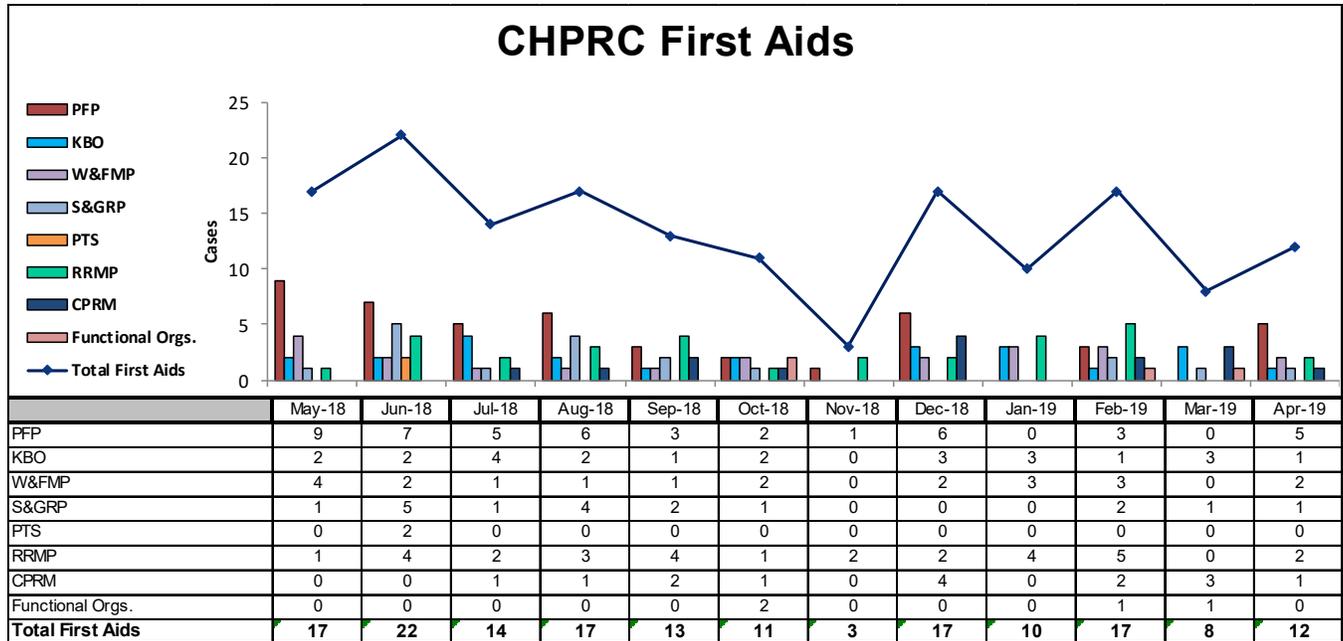
CHPRC continued focusing on integrating and implementing safety programs in all program and project areas.



Total Recordable Injury Case (TRC) Rate: The 12-month rolling average TRC rate of 0.32 is based on a total of six Recordable injuries. April had two reported Recordable cases.



Days Away, Restricted or Transferred (DART) Workdays Case Rate: The 12-month rolling average DART rate of 0.22 is based upon a total of four Days Away cases. April had two reported DART cases.



First Aid Case Summary: CHPRC reported 12 First Aid cases in April. The contributors were six abrasions/bruises/contusions, two sprains/strains/pains, two miscellaneous (burns, rashes, repetitive motion, etc.), one insect bite and one cut/laceration/puncture injury. There were seven self-treat cases reported in April.

## KEY ACCOMPLISHMENTS

### Projects

- Refer to Sections A through G, as well as Appendix C of this report, for project specific accomplishments.

### Project Services and Support

- Refer to Appendix B of this report for overhead support (which is reported quarterly). For specific project support, refer to Sections A through G, and Appendix C of this report.

## MAJOR ISSUES

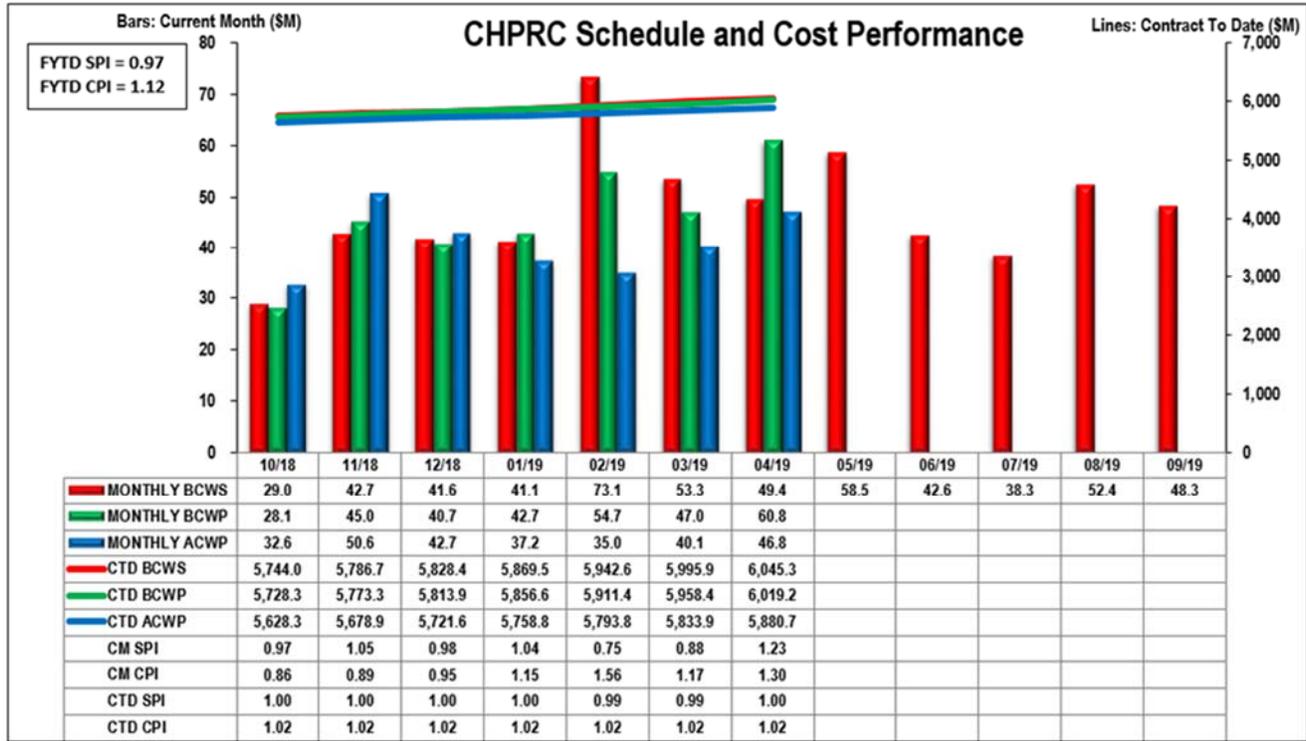
### Projects

- Refer to Sections A through G, as well as Appendix C of this report, for the project-specific major issues.

### Project Services and Support

- No Major Issues to report for April.

### EARNED VALUE MANAGEMENT



	\$M					\$M					\$M		
	Current Period					Contract to Date					Contract Period		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance				
	BCWS	BCWP	ACWP	Schedule	Cost	BCWS	BCWP	ACWP	Schedule	Cost	BAC	EAC	Variance
RL-0011 - Nuclear Materials Stab & Disp PFP	6.0	22.9	5.5	16.9	17.4	1087.2	1080.7	1175.0	(6.5)	(94.3)	1,122.9	1,219.1	(96.2)
RL-0012 - SNF Stabilization & Disposition	1.5	1.3	1.5	(0.1)	(0.1)	752.9	751.9	722.8	(1.1)	29.1	761.1	730.1	31.0
RL-0013 - Solid Waste Stab & Disposition	12.5	13.2	13.3	0.8	(0.0)	1413.8	1411.6	1325.4	(2.2)	86.2	1,484.6	1,392.2	92.4
RL-0030 - Soil & Water Rem-Grndwtr/Vadose	11.3	10.2	9.6	(1.1)	0.6	1588.3	1587.0	1532.3	(1.3)	54.7	1,645.0	1,583.5	61.5
RL-0040 - Nuc Fac D&D - Remainder	7.3	4.9	6.4	(2.4)	(1.5)	534.0	530.8	507.8	(3.2)	22.9	554.9	538.7	16.1
RL-0041 - Nuc Fac D&D - RC Closure Project	10.8	8.1	10.4	(2.7)	(2.3)	641.8	629.8	594.4	(11.9)	35.5	696.1	656.2	39.9
RL-0042 - Nuc Fac D&D - FFTF Project	0.1	0.1	0.1	0.0	0.0	27.4	27.4	23.0	0.0	4.4	28.1	24.2	3.9
<b>Total</b>	<b>49.4</b>	<b>60.8</b>	<b>46.8</b>	<b>11.4</b>	<b>14.0</b>	<b>6,045.3</b>	<b>6,019.2</b>	<b>5,880.7</b>	<b>(26.2)</b>	<b>138.5</b>	<b>6,292.7</b>	<b>6,144.1</b>	<b>148.7</b>

(Values are rounded to the nearest \$0.1M)  
(Values do not have UB breakout)

## Performance Summary

CHPRC continues to track completion of the contract scope within budget and is currently projecting a variance at completion of \$148.7 million, with \$63.3 million of management reserve (MR), for a total positive variance of \$211.9 million. For April, the project was 23.1 percent ahead of schedule and 23.0 percent under planned cost. Contract to date; the project was 0.4 percent behind schedule and 2.3 percent under planned cost.

The current month positive schedule and cost variance is primarily due to project breakdown structure (PBS) RL-0011 implementation of BCR-PRC-011C-19-002R0 to draw down RL contingency to address impacts to the PBS RL-0011 C.2 Project to complete project performance measurement baseline to address delays in resuming debris disposition and restarting low and high risk demolition. The delays due to stop works, the loss of the decontamination and decommissioning crews to other Hanford contractor hiring actions, and impacts from adverse weather in February and early March, were planned as stand alone activities occurring in the future to allow the necessary schedule extension, but were stasured as complete as the risk was experienced.

The positive schedule variance was partially offset by the CPRM mercury discovery in the seventh floor of the silo gallery of REDOX. In addition, PUREX Tunnel 2 stabilization is ahead of the baseline schedule, therefore lagging budgeted cost of work scheduled is attributing to the current month variance. Work package development associated with size reduction in the REDOX radiological zone delayed planned hazardous material removal. Also, offsetting the positive schedule variance was PBS-0041 latent beta contamination found during pilot hole execution which has had a cascading effect on multiple 324 structural modification activities, including micropiling, floor coring, and temporary shoring. The delayed completion of the Structural Modification Design has continued to push as additional dune sand/soil verification testing has been required.

The positive cost variance was partially offset by PBS-0040 and attributed to the 200 West Steam Line Removal project requiring additional labor resources in order to increase abatement output before summer weather impacts the ability to perform this work. Program management also contributed to the negative cost variance as there has been an increase to the required staffing to support field personnel. A previously unplanned subcontracted structural integrity study resulted in costs not planned in the baseline. Also, offsetting the positive cost variance was PBS-0041 increased costs for subcontractor development related to the structural modification design. Additional design requirements were placed on the subcontractor. These requirements included more extensive building modeling, soil stabilization and building foundation verifications and testing demonstrations. Higher than anticipated costs related to closeout of the former cell dams subcontract and planned costs for procurement and fabrication have been experienced to the existing cell dam subcontract because of design changes and testing requirements for the cell dams and seals.

## FUNDING ANALYSIS

### Fiscal Year (FY) 2019 Funds vs. Fiscal Year Spend Forecast (\$M)

PBS	Project	FY2019		Variance
		Projected Funding	Spending Forecast	
<b>Estimate at Complete</b>				
RL-0011	Nuclear Materials Stabilization and Disposition	70.0	66.1	3.9
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	20.1	17.1	3.0
RL-0012	15-D-401 Sludge Retrieval Project	11.3	0.0	11.3
RL-0013	Waste and Fuels Management Project	173.5	150.8	22.8
RL-0013	Management of Cesium and Strontium Capsules	6.6	3.2	3.4
RL-0030	Soil, Groundwater and Vadose Zone Remediation	132.9	115.5	17.5
RL-0040	Nuclear Facility D&D, Remainder of Hanford	81.8	75.2	6.6
RL-0041	Nuclear Facility D&D, River Corridor	148.3	131.6	16.7
RL-0042	Fast Flux Test Facility Closure	4.3	2.5	1.8
<b>Total Estimate at Complete</b>		<b>649.0</b>	<b>561.9</b>	<b>87.1</b>
<b>Scope Pending Change Management</b>				
RL-0013	Waste and Fuels Management Project	0.0	2.8	(2.8)
RL-0030	Soil, Groundwater and Vadose Zone Remediation	0.0	1.3	(1.3)
RL-0040	Nuclear Facility D&D, Remainder of Hanford	0.0	2.5	(2.5)
RL-0041	Nuclear Facility D&D, River Corridor	0.0	0.4	(0.4)
<b>Total Incremental Work Scope</b>		<b>0.0</b>	<b>7.1</b>	<b>(7.1)</b>
<b>Total Fiscal Year Spend Forecast</b>				
RL-0011	Nuclear Materials Stabilization and Disposition	70.0	66.1	3.9
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	20.1	17.1	3.0
RL-0012	15-D-401 Sludge Retrieval Project	11.3	0.0	11.3
RL-0013	Waste and Fuels Management Project	173.5	153.6	19.9
RL-0013	Management of Cesium and Strontium Capsules	6.6	3.2	3.4
RL-0030	Soil, Groundwater and Vadose Zone Remediation	132.9	116.8	16.1
RL-0040	Nuclear Facility D&D, Remainder of Hanford	81.8	77.7	4.1
RL-0041	Nuclear Facility D&D, River Corridor	148.3	132.0	16.3
RL-0042	Fast Flux Test Facility Closure	4.3	2.5	1.8
<b>Total</b>		<b>649.0</b>	<b>569.0</b>	<b>80.0</b>

#### Funds/Variance Analysis

For April, there was no change to overall FY2019 projected funding of \$649 million. The spending forecast increased \$8.0 million overall, primarily due to adding buy back scope into the forecast.

### BASELINE CHANGE REQUESTS

In April 2019, CHPRC approved and implemented five Baseline Change Requests (BCRs) into the performance measurement baseline (PMB) budget. Three of the five BCRs impacted the PMB. Each change request is identified in the tables below:

Change Request #	Title	PBS	Summary of Change
BCR-011C-19-002R0	<i>Allocation of PBS RL-0011 CAP 2 Project DOE Contingency</i>	RL-0011	This BCR revised the current CHPRC PMB cost and schedule baseline for the completion of the RL-0011 C2 Project. This BCR increased the PMB value by \$21,301K.
BCR-013-19-007R0	<i>W-135 Weight Capacity Crane Impacts</i>	RL-0013	This BCR modified the FY2019 PMB to resolve the weight capacity issue with the WESF Canyon Crane. This BCR increased the PMB value by \$496K.
BCR-PRC-19-013R0	<i>Delete TPA Milestone M-092-09 and M-091-03M</i>	RL-0013	This BCR deleted Tri-Party Agreement milestones M-092-09 and M-091-03M from the PMB. This BCR did not change the PMB value.
BCR-041-19-008R0	<i>Additional FY2019 300-296 Waste Site Remediation Work Authorization Continued</i>	RL-0041	This BCR added scope to continue 324 Building structural modifications as authorized by the RL contracting officer via email. This BCR increased the PMB value by \$5,849K.
BCRA-PRC-19-014R0	<i>HPIC Updates April 2019</i>	000s, RL-0011, RL-0012, RL-0013, RL-0030, RL-0040, RL-0041	This BCR incorporated April FY2019 Hanford Programs Integrated Control Module (HPIC) updates. This BCR did not change the PMB value.

The allocated (distributed) budget increased by \$27,646K.

#### Undistributed Budget (UB) Activity

BCR Number	Title	PBS	Fiscal Year	UB
N/A	N/A	N/A	2019	\$0

There was no change to UB in April.

#### Management Reserve Activity

BCR Number	Title	PBS	Fiscal Year	MR
N/A	N/A	N/A	2019	\$0

There was no change to MR in April.

#### Fee Activity

BCR Number	Title	PBS	Fiscal Year	Fee
N/A	N/A	N/A	2019	\$0

There was no change to fee in April.

See the Format 3 Report in Appendix A for a listing of the specific change requests that had an impact on the PMB budget by FY. The PMB values of change requests are summarized by FY in the following tables (dollars in thousands).

**April 2019 Summary of Changes**

	FY 2009-2013	FY2014	FY2015	FY2016	FY2017	FY2018	FYs 2014-2018	FY2019	Contract Period Total	Total PMB
<b>March 2019 Estimate</b>										
PMB	3,391,477	391,653	471,323	504,826	485,028	470,649	2,323,478	550,130	6,265,085	6,265,085
MR	0	0	0	0	0	0	0	63,278	63,278	63,278
Fee	155,504	14,325	14,501	27,804	10,612	18,860	86,101	13,165	254,770	254,770
<b>Total</b>	<b>3,546,981</b>	<b>405,978</b>	<b>485,824</b>	<b>532,630</b>	<b>495,639</b>	<b>489,509</b>	<b>2,409,579</b>	<b>626,573</b>	<b>6,583,133</b>	<b>6,583,133</b>
<b>April 2019 Change</b>										
<b>PMB</b>										
Change to PMB	0	0	0	0	0	0	0	27,646	27,646	27,646
<b>MR</b>										
Change to MR	0	0	0	0	0	0	0	0	0	0
<b>Fee</b>										
Change to Fee	0	0	0	0	0	0	0	0	0	0
<b>Total Change</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27,646</b>	<b>27,646</b>	<b>27,646</b>
<b>April 2019 Estimate</b>										
PMB	3,391,477	391,653	471,323	504,826	485,028	470,649	2,323,478	577,776	6,292,731	6,292,731
MR	0	0	0	0	0	0	0	63,278	63,278	63,278
Fee	155,504	14,325	14,501	27,804	10,612	18,860	86,101	13,165	254,770	254,770
<b>Total</b>	<b>3,546,981</b>	<b>405,978</b>	<b>485,824</b>	<b>532,630</b>	<b>495,639</b>	<b>489,509</b>	<b>2,409,579</b>	<b>654,219</b>	<b>6,610,779</b>	<b>6,610,779</b>

**Changes to/Utilization of Management Reserve in April 2019**

	FY2009-2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2014-2018	FY2019	Total
<b>March 2019 MR Totals</b>									
RL-0011	0	0	0	0	0	0	0	15,928	15,928
RL-0012	0	0	0	0	0	0	0	8,163	8,163
RL-0013	0	0	0	0	0	0	0	6,185	6,185
RL-0030	0	0	0	0	0	0	0	7,762	7,762
RL-0040	0	0	0	0	0	0	0	8,700	8,700
RL-0041	0	0	0	0	0	0	0	16,350	16,350
RL-0042	0	0	0	0	0	0	0	189	189
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>63,278</b>	<b>63,278</b>
<b>April 2019 MR Changes/Utilization</b>									
RL-0011	0	0	0	0	0	0	0	0	0
RL-0012	0	0	0	0	0	0	0	0	0
RL-0013	0	0	0	0	0	0	0	0	0
RL-0030	0	0	0	0	0	0	0	0	0
RL-0040	0	0	0	0	0	0	0	0	0
RL-0041	0	0	0	0	0	0	0	0	0
RL-0042	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>April 2019 MR Totals</b>									
RL-0011	0	0	0	0	0	0	0	15,928	15,928
RL-0012	0	0	0	0	0	0	0	8,163	8,163
RL-0013	0	0	0	0	0	0	0	6,185	6,185
RL-0030	0	0	0	0	0	0	0	7,762	7,762
RL-0040	0	0	0	0	0	0	0	8,700	8,700
RL-0041	0	0	0	0	0	0	0	16,350	16,350
RL-0042	0	0	0	0	0	0	0	189	189
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>63,278</b>	<b>63,278</b>

## SELF-PERFORMED WORK

Business structure information documents ongoing compliance with the requirements of the contract Section H.20 clause entitled *Self-Performed Work*.

Contract-to-Date Actual Awards & Mods (\$M) 10/1/2008 - 4/30/2019					
Reporting Category					
	\$ Value	%	Goal %		
SB	1597.95	55.87%	49.3%	PRC clause H.20b small business requirement ≥ 17% of CHPRC Contract Price performed by SB.	
SDB	291.46	10.19%	8.2%		
SWOB	293.16	10.25%	7.5%	CHPRC Contract Value:	6468.42
HUB	91.82	3.21%	2.2%	SB actual:	1597.95
VOSB	244.60	8.55%	3.5%	SB Performed %:	24.70%
SDVO	154.47	5.40%	1.3%	PRC clause H.20a max self performed requirement ≤ 65% of Contract Price Self Performed	
NAB	82.10	2.87%	N/A		
Large	761.09	26.61%	N/A	CHPRC Contract Value:	6468.42
GOVT	5.12	0.18%	N/A	CHPRC Self Performed:	3838.99
GOVT CONT	483.21	16.89%	N/A	CHPRC Self Performed %:	59.35%
EDUCATION	0.17	0.01%	N/A		
NONPROFIT_	4.32	0.15%	N/A		
FOREIGN	8.51	0.30%	N/A		
<b>Total</b>	<b>2860.37</b>	<b>100.00%</b>	<b>N/A</b>		

Notes:

1. Since the CHPRC contract award in October 2008, CHPRC has subcontracted more than \$2.8 billion in goods and services, with more than 55 percent going to small businesses. All subcontracting goals have been exceeded.
2. Approximately 91 percent of the total dollars arise from service and staffing contracts and contract amendments, with six percent of the remaining expenditures arising from PCard purchases and three percent from the balance in purchase orders for materials and equipment.
3. Data is summarized by business categories (Women Owned Minority Business Enterprise codes) in accordance with socioeconomic reporting requirements. Small business categories overlap and should not be added together.

### GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Contract Section	Project	GFS/I	Status
<b>CONTRACT</b>			
J.12/C.2.2, C.2.3	PBS-11, Plutonium Finishing Plant Closure Project  PBS-13, Solid and Liquid Waste Treatment and Disposal	Offsite Transportation of Radioactive Material: RL provides equipment and government drivers to transport TRU materials outbound/inbound between the Hanford Site and Perma-Fix Northwest locations. RL is the authorized shipper, acts as signatory on the shipping papers and ensures compliance with DOE Manual 460.2-1. RL arranges for Commercial Motor Vehicle Safety Alliance Level VI Vehicle Inspections and verifies that the government drivers meet the applicable Department of Transportation (DOT) Federal Motor Carrier Safety Regulations (49 CFR 382 and 383). RL also inspects the load securement to ensure compliance with DOT regulations and/or Transportation Safety Document requirements.	Ongoing.
J.12/C.2.3.6	PBS-13, Transuranic Waste Certification	Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico: 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.	No WIPP shipments are planned within the remaining contract period of performance.

### DOE ACTIONS/DECISIONS

Refer to Sections A through G, as well as Appendix C, of this report for the project specific DOE actions/decisions.

# Section A

## Nuclear Materials Stabilization and Disposition of PFP (RL-0011)

**CH2MHILL**  
Plateau Remediation Company



J. L. Casper  
Vice President for  
Plutonium Finishing Plant  
Closure Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

Loadout of existing 234-5Z Facility debris was completed in April, with the last containers of existing debris shipped to the Environmental Restoration Disposal Facility (ERDF) for disposal on April 4, 2019. Resumption of low-risk demolition began April 11, 2019, starting with the 234-5Z vault. Final preparations were completed for the CH2M HILL Plateau Remediation Company (CHPRC) Management Assessment (MA) of the project's readiness to re-start higher-risk demolition, which will include removal of the A and C lines and the Plutonium Reclamation Facility (PRF) rubble. The MA is scheduled for April 22, 2019, to May 2, 2019. Over the two weeks, the independent assessment is expected to include several Plutonium Finishing Plant (PFP) employee interviews; observation of an emergency drill and waste-loading exercises; a review of hundreds of documents; and an evaluation of implemented controls.

### Key Metrics

<i>Key Performance Indicators</i>	<i>Current Month</i>	<i>Contract To Date</i>
<b>COMPLETE</b> Glovebox/Hood Removed or Dispositioned in Place	0	232 gloveboxes/hoods
<b>COMPLETE</b> KPP Rooms/Areas Ready for Demo	0	72 rooms/areas
<b>COMPLETE</b> Asbestos/Asbestos Containing Material (ACM) Removed	0	35,827
<b>COMPLETE</b> Process Vacuum Piping Dispositioned	0	7,231 feet
<b>COMPLETE</b> Process Transfer Line Dispositioned	0	1,525 feet
<b>COMPLETE</b> Pencil Tank Units Removed (Shipped)	0	196 pencil tank units
<b>COMPLETE</b> Buildings Ready for Demo	0	68 structures
Buildings Demolished or Removed	0	63 structures
Non-radioactive Waste Shipped	0	89.8 m <sup>3</sup>
Transuranic/Transuranic Mixed (TRU/TRU-M) Shipped	0	5,014 m <sup>3</sup>
LLW/MLLW Shipped	30 m <sup>3</sup>	18,117 m <sup>3</sup>

### EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
19-EMS-PFP-OBJI-P1	Improve compliance, Environmental Management System (EMS) awareness, employee involvement	Four EMS presentations at minimum; involve one to two employees in compliance review; and facility walk-downs	9/30/19	60%

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis)

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	0	N/A
Total Recordable Injuries	0	1	N/A
First Aid Cases	5	48	<p>4/3/2019 - Employee smelled a “rotten egg/dirty sock” type of odor near the toe and hand survey conex. Industrial hygiene investigated the odor event and was unable to identify a definitive source. Employee reported smelling the odor and having a burning sensation in their right eye. Employee was taken to HPM Corporation (HPMC) for evaluation and was returned back to work without restrictions. (25122)</p> <p>4/3/2019 – Employee fell onto knee, using their right arm to avoid a full fall, after slipping on loose dirt, while stepping onto a berm outside the cool-down trailer just west of the vault. The employee reported discomfort in the right shoulder as a result of the fall. Employee was taken to HPMC for evaluation and released without restrictions. (25123)</p> <p>4/3/2019 – Employee inadvertently scraped their left shin against the exterior running board/step of taxi vehicle when reaching to retrieve personal items. The employee received a minor abrasion to the left shin area and went to HPMC to get an adhesive bandage. HPMC elected to evaluate the employee and returned them back to work with instructions to follow company protocol for wound protection. (25124)</p> <p>4/22/2019 –Employee tripped on a cobble while performing radiological surveys in a contamination area/airborne radioactivity area, landing on their left forearm and left knee. Injuries included an abrasion to the left forearm near the elbow and a small bruise on the left knee. Employee was taken to HPMC for medical evaluation and then sent for a radiological evaluation for the abrasion on the left arm. No contamination was found in the wound. The employee was released without restrictions. (25141)</p> <p>4/23/2019 – Employee slipped and fell on a sloped gravel surface while performing vehicle maintenance. Employee fell on their left leg, catching themselves with their left hand. The employee sustained a minor abrasion to the outside area of the left pinky finger. The employee was taken to HPMC for evaluation and treatment and returned to work with the instructions to protect the wound/open skin lesions from potential radiological contamination. (25146)</p>
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### RL-0011 Accomplishments:

- Shipped 30 containers of demolition debris to ERDF, completing loadout of existing 234-5Z debris.
- Conducted post-job and lessons learned briefings following the completion of debris loadout activities for application to low-risk demolition activity work packages.
- Performed final preparations for the CHPRC MA of the readiness to restart the higher-risk demolition, which will include removal of the A and C lines and the PRF rubble.
- Continued holding briefings for neighboring projects and teams on plans to resume lower-risk demolition activities. Feedback has been positive on performance and status.
- Removed four high-efficiency particulate air filters from the ion exchange exhauster units. The ion exchange exhauster units will be used in high-risk demolition activities.

### PTS Support:

- Supported key activities in anticipation of the MA, including the performance of operational drills, mock interviews, and tabletop drills.

## MAJOR ISSUES

None currently identified.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**

-  Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.
-  Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.
-  Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.

-  Increased Confidence
-  No Change
-  Decreased Confidence

Unmitigated Risk Impacts	Assessment		Comments						
	Month	Trend							
<b>RL-0011/WBS-011.OA</b>									
<b>Explanation of major changes to the project monthly spotlight chart:</b> Risks PFP-P2-002, <i>Weather Impacts During 235-Z Debris Disposition</i> , and PFP-P-014, <i>Bump and Roll, Labor Assets Management Program (LAMP), or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity</i> , were moved from the Realized Risk section to the fiscal year (FY) 2019 Risk Trigger section, based on no experienced impacts in April.									
<b>Realized Risks</b> (Risks that are currently impacting project cost/schedule)									
No realized risks identified in April.									
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)									
No critical risks identified in April.									
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)									
No high threat value risks identified in April.									
<b>FY2019 Risk Triggers</b> (Risk could be realized in FY2019)									
PFP-P-004: Stop Work From Concerned Workers	Concerned workers result in a stop work to address off-normal or safety issues. The work cannot be restarted until the implementation of corrective actions is completed, resulting in schedule impacts to the project.		<b>Risk Trigger:</b> During resumption of PFP demolition activities, an increase in stop works could result in delays. <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Update communications as positions change.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table>	Mitigation action(s)	FC Date	%	Update communications as positions change.	Ongoing	N/A
Mitigation action(s)	FC Date	%							
Update communications as positions change.	Ongoing	N/A							



	Unmitigated Risk Impacts	Assessment		Comments											
		Month	Trend												
<b>RL-0011/WBS-011.OA</b>															
	<p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Very Likely (&gt;90%)</p> <p><b>Worst Case Impacts:</b> \$0, 52 days</p>			<table border="1"> <tr> <td>Proved new maps, with entry/exit instructions when boundaries are revised.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Encourage additional worker involvement</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Increase frequency of post-job reviews.</td> <td>Ongoing</td> <td>N/A</td> </tr> </table> <p><b>Mitigation Assessment:</b> No major changes in April. Though increased communication and worker involvement to avoid confusion and concern in an effort to minimize stop works has continued; stop works may impact the project schedule going forward. A baseline change request (BCR) was implemented in April to account for the impacts of stop work delays from July 2018 to November 2018.</p>	Proved new maps, with entry/exit instructions when boundaries are revised.	Ongoing	N/A	Encourage additional worker involvement	Ongoing	N/A	Increase frequency of post-job reviews.	Ongoing	N/A		
Proved new maps, with entry/exit instructions when boundaries are revised.	Ongoing	N/A													
Encourage additional worker involvement	Ongoing	N/A													
Increase frequency of post-job reviews.	Ongoing	N/A													
<p>PFPP-P5-006: Additional Soil Removal is Required</p> <p>Prior to the placement of the cover cap, the additional soil added for contamination control is required to be dispositioned, resulting in cost and schedule delays to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Low (10% to 25%)</p> <p><b>Worst Case Impacts:</b> \$0, 54 days</p>	●	↔	<p><b>Risk Trigger:</b> Additional soil, above planned value, is required to be removed due to contamination or regulatory concerns.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Engage early with U.S. Department of Energy, Richland Operations Office (RL) to identify a path forward associated with the additional soil.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Collect and provide radiological mapping data to RL.</td> <td>TBD</td> <td>TBD</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. There has been continued communication with RL on required soil removal. No additional soil above planned quantity is required at this time. RL has requested radiological data to help them determine no additional soil disposition than planned is required.</p>	Mitigation action(s)	FC Date	%	Engage early with U.S. Department of Energy, Richland Operations Office (RL) to identify a path forward associated with the additional soil.	Complete	100	Collect and provide radiological mapping data to RL.	TBD	TBD			
Mitigation action(s)	FC Date	%													
Engage early with U.S. Department of Energy, Richland Operations Office (RL) to identify a path forward associated with the additional soil.	Complete	100													
Collect and provide radiological mapping data to RL.	TBD	TBD													
<p>PFPP-P2-002: Weather Impacts During 235-Z Debris Disposition</p> <p>Inclement weather, including moderate winds, low or high temperatures, and thunderstorms will result in in-scope unplanned work and schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Very Likely (&gt;90%)</p> <p><b>Worst Case Impacts:</b> \$0, 8 days</p>	●	↔	<p><b>Risk Event:</b> In February, there were a significant number of work delays, early releases, and cancellations due to adverse weather conditions on the Hanford Site and surrounding communities, where non-essential personnel were directed not to report to work</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Plan for 80% total operation efficiency</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Work crews normally supporting demolition and demolition support activities have been reassigned to snow removal and weather mitigation activities. Demolition preparation activities resumed in March after conditions improved. A BCR was implemented in April to account for the impacts of weather delays on the project schedule. This risk will be removed from the stoplight prior to May reporting, but will continue to be monitored throughout the remainder of the risk life cycle.</p>	Risk Recovery action(s)	FC Date	%	Plan for 80% total operation efficiency	Ongoing	N/A						
Risk Recovery action(s)	FC Date	%													
Plan for 80% total operation efficiency	Ongoing	N/A													
<p>PFPP-P-014: Bump and Roll, Labor Assets Management Program (LAMP), or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity</p> <p>PFPP Hanford Atomic Metal Trades Council (HAMTC) labor resources are unavailable or unqualified due to the bump and roll, LAMP, or other job postings, resulting in schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Likely (75% to 90%)</p> <p><b>Worst Case Impacts:</b> \$0, 128 days</p>	●	↔	<p><b>Risk Triggers:</b> Thirty Decontamination &amp; Decommissioning (D&amp;D) workers have been hired by other projects on the Hanford Site and have left PFPP. The process to hire and train new D&amp;D workers has been initiated.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Hire and train additional D&amp;D workers as needed to perform demolition work at PFPP. (Group 1)</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Hire and train additional D&amp;D workers as needed to perform demolition work at PFPP. (Group 2)</td> <td>3/28/19</td> <td>100</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. The first group of 31 new D&amp;D workers completed training/field mentoring activities January 24, 2019. The second group of 10 new D&amp;D workers started training January 28, 2019, and completed field mentoring activities in March. An additional week was needed to complete training/mentoring due to weather delays in February and March. A BCR was implemented in April to account for the impacts of weather delays on the schedule. This risk will be removed from the stoplight</p>	Risk Recovery action(s)	FC Date	%	Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A	Hire and train additional D&D workers as needed to perform demolition work at PFPP. (Group 1)	Complete	100	Hire and train additional D&D workers as needed to perform demolition work at PFPP. (Group 2)	3/28/19	100
Risk Recovery action(s)	FC Date	%													
Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A													
Hire and train additional D&D workers as needed to perform demolition work at PFPP. (Group 1)	Complete	100													
Hire and train additional D&D workers as needed to perform demolition work at PFPP. (Group 2)	3/28/19	100													

Unmitigated Risk Impacts	Assessment		Comments
	Month	Trend	
<b>RL-0011/WBS-011.OA</b>			
			prior to May reporting, but will continue to be monitored throughout the remainder of the risk life cycle.
<b>Unassigned Risks</b> (Pending ownership of identified threats/opportunities)			
No unassigned risks identified in April.			

## PROJECT BASELINE PERFORMANCE

### Current Month (CM)

### (\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp FPF	Budgeted Cost of Work Scheduled (BCWS)	Budgeted Cost of Work Performed (BCWP)	Actual Cost of Work Performed (ACWP)	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
Total	6.0	22.9	5.5	16.9	283.9%	17.4	76.1%

Numbers are rounded to the nearest \$0.1 million.

#### CM Schedule Variance: (+\$16.9M/+283.9%)

The CM favorable schedule variance is primarily attributed to the implementation of BCR-PRC-011C-19-002R0 to draw down RL contingency to address impacts to the project breakdown structure (PBS) RL-0011 C.2 Project to complete project performance measurement baseline to address delays in resuming debris disposition and restarting low and high risk demolition. The delays due to stop works, the loss of the D&D crews to Other Hanford Contractor (OHC) hiring actions, and impacts from adverse weather in February and early March, were planned as stand alone activities occurring in the future to allow the necessary schedule extension, but were stauted as complete as the risk was experienced.

#### CM Cost Variance: (+\$17.45M/+76.1%)

The CM favorable cost variance is primarily attributed to the implementation of BCR-PRC-011C-19-002R0 to draw down RL contingency to address impacts to the PBS RL-0011 C.2 project to complete project performance measurement baseline to address delays in resuming debris disposition and restarting low and high risk demolition. The delays due to stop works, the loss of the D&D crews to OHC hiring actions, and impacts from adverse weather in February and early March, were earned upon implementation of the BCR while actual costs associated with impacts were incurred in prior periods.

## Contract-to-Date (CTD) (\$M)

WBS 011/ RL-0011 Nuclear Matl Stab & Disp PFP	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)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	1,087.2	1,080.7	1,175.0	(6.5)	-0.6%	(94.3)	-8.7%	1,122.9	1,219.1	44.1	(96.2)

Numbers are rounded to the nearest \$0.1 million

### CTD Schedule Variance: (-\$6.5M/-0.6%)

The CTD schedule variance is within threshold.

### CTD Cost Variance: (-\$94.3M/-8.7%)

The negative CTD cost variance is primarily a result of unplanned costs to support implementation of schedule efficiency initiatives at PFP (i.e., foaming, Perma-Fix Northwest [PFNW] size reduction support, implementation of the PremAire Breathing System); increased training costs of additional radiological control technicians (RCTs) and D&D workers assigned to PFP; additional resources to recover schedule from asbestos removal activities and to support the unplanned asbestos identified for removal (about 10,000 feet); unplanned shipping materials (waste shipping containers TL-1800s, SLB2s, IP-1 bags, etc.) required to support waste loadout activities for TRU waste disposition efforts; and unplanned work to reconfigure the high-density polyethylene (HDPE) water loop to support the new radiological boundaries also contributed to this variance.

Contributors to the negative cost variance include resumption actions associated with the December 2017 contamination event: fixative applications, performance of radiological surveys, revising radiological postings, infrastructure modifications, and stabilization activities. Reassignment of CHPRC personnel to support the radiological control area and programmatic assessments also contributed to the variance.

After resumption activities were completed, slower progress on size reduction and waste loadout has increased the variance. Process improvements, planning, and training activities to replenish D&D and RCT staffing support has resulted in increased costs with less than optimal project performance.

The negative cost variance is partially offset by using fewer breathing air suits (three suits per day versus five) and fewer hoses than originally planned for 242-Z entries. This is a result of fewer fieldwork team members being required to perform hands-on work in 242-Z due to the confined space. In addition, there were recognized efficiencies where crews were able to complete process vacuum removal in 291-Z with less effort than originally planned. Characterization results indicated lower levels of hold-up than planned, which allowed more efficient piping removal. Isolations of the 291-Z Facility were performed more efficiently than planned due to the main electrical power being disconnected outside of the building rather than performing individual isolations within the facility. Hazardous material removal, stabilization, and decontamination were more efficient than originally planned (i.e., using powerful fans to assist with vertical fixative flow up the stack). Recognition of efficiencies associated with demolition of 242-Z, 291-Z, and 234-5ZA are also contributing to the offset of the negative variance.

### Variance at Completion (VAC): (-\$96.2M/-8.6%)

The unfavorable VAC is reflective of extended hotel load and field resource costs due to delays in demo-ready and demolition activities.

As a result of wall removals and electrical isolations, approximately 10,000 additional feet of asbestos was discovered between the walls that required removal. CHPRC is working with RL to use contingency for the additional 10,000 feet of identified asbestos, impacts from the criticality alarm, and relief from the 30 days of weather delays experienced from December 2016 through March 2017.

Overtime was used to ready the 234-5Z Facility for demolition by September 2017. In addition, unplanned work on the HDPE water loop contributed to this variance. This unfavorable variance is partially offset by recognized efficiencies due to characterization data in the 234-5Z duct level, allowing piping and ducting to be left in place for demolition, and the 291-Z demolition activities.

After a stop work was called due to the December 2017 contamination event, the estimate at completion (EAC) and VAC was adjusted to reflect the projected date to reach slab-on-grade in October 2019. The EAC is reflective of resumption activities, impacts of craft personnel awarded positions to Washington River Protection Solutions LLC, and revised demolition approach implementation.

In February 2019, BCR-011C-18-005R2 implemented the RL-approved revised scope, cost, and schedule baseline for the completion of the RL-0011.C2 project. The BCR set the remaining historical budgeted cost of work scheduled equal to budgeted cost of work performed as of June 24, 2018, consistent with DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, and DOE approving authorities' determination to establish a new performance baseline as documented by 18-AMRP-0062, dated February 27, 2018, *Performance Baseline Deviation Notification of Plutonium Finishing Plant (PFP) Demolition Project – RL-0011.C2*.

In March 2019, BCR-PRC-19-012R0 implemented the Global Settlement, which incorporated the impacts to the performance measurement baseline from the RL/CHPRC agreement on the settlement of pending PRC changes, such as change proposals and request for equitable adjustments, through September 30, 2018, as documented in PRC Modification 684, dated January 9, 2019.

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

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

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2019		Variance
	Projected Funding	Spending Forecast	
Spending Forecast	70.0	66.1	3.9
RL-0011 - Total	70.0	66.1	3.9

Numbers are rounded to the nearest \$0.1 million

### Funds/Variance Analysis

FY2019 spending forecast for PBS RL-0011 is \$66.1 million for continuation of demolition activities to achieve slab-on-grade. Projected funding is \$70.0 million.

### Critical Path Schedule

The PFP critical path schedule begins with completion of the Zone 2 vault, followed by the remaining sections of Zones 2 and 7, with the exception of the drain line. Remote Mechanical C process line demolition, Remote Mechanical A process line demolition, and loadout of glovebox HA-46, in parallel with completion of the basement of 234-5Z demolition, will begin after a second MA and concurrence is obtained to resume high-risk demo from RL. The 234-5Z demolition is projected to complete August 26, 2019. The 236-Z canyon demolition will then resume with completion scheduled for October 24, 2019, meeting the requirements for the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-083-00A – PFP Facility Transition and Selection Disposition Activities. Completion of demolition is followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities completing in early February 2020.

## MILESTONE STATUS

The following table is a one-year look ahead of PBS RL-0011 Tri-Party Agreement enforceable milestones, non-enforceable target due dates, and commitments.

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-083-00A	PFP Facility Transition and Selection Disposition Activities	9/30/2017		10/24/2019	Loadout of the existing debris pile completed in April and demolition started on the vault.

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Contract Section	Project	GFS/I	Status
J.12/C.2.2, C.2.3	PBS RL-0011, PFP Closure Project	Offsite transportation of radioactive material: RL provides equipment and government drivers to transport TRU materials outbound/inbound between the Hanford Site and PFNW locations. RL is the authorized shipper and acts as signatory on the shipping papers, and ensures compliance with DOE Manual 460.2-1. RL arranges for Commercial Motor Vehicle Safety Alliance Level VI vehicle inspections and verifies that the government drivers meet the applicable Department of Transportation (DOT) Federal Motor Carrier Safety Regulations (49 CFR 382 and 383). RL also inspects the load securement to ensure compliance with DOT regulations and/or transportation safety document requirements.	Ongoing

### DOE ACTIONS / DECISIONS

DOE activities supporting approval for ancillary facility status change forms are in progress.

# Section B

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

**CH2MHILL**  
Plateau Remediation Company



R. M. Geimer  
Vice President for  
K Basin Operations

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

Sludge Transport & Storage Container (STSC) 11 was filled with sludge from the 105KW fuel storage basin and shipped to T Plant on April 10, 2019. The twelfth STSC was filled with sludge from 105KW fuel storage basin and is forecast to be shipped to T Plant on April 24, 2019.

## EMS OBJECTIVES AND TARGET STATUS

None currently identified.

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis)

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	0	N/A
First Aid Cases	1	21	4/2/2019 – Employee was bitten by a bug on the left leg. Evaluated at HPMC and returned to work without restriction. (25125)
Near Misses	0	1	N/A

## KEY ACCOMPLISHMENTS

### 100K Operations

- The 100K Area operations group maintained facilities in a safe and compliant condition. Crews continue to sort, characterize, and relocate/containerize the high-dose sludge material in the center bay.

### KW Basin Sludge Removal

- The 100K Area operations group performed preventive maintenance and calibrations on both engineered container retrieval and transfer system (ECRTS) components and annex utility system components.
- The eleventh and twelfth STSCs were filled with sludge from the 105KW fuel storage basin. STSC 11 was shipped to T Plant on April 10, 2019, and STSC 12 is forecast to be shipped to T Plant on April 24, 2019, for placement into interim storage.

## MAJOR ISSUES

**Issue:**

Discovered sludge densities may require procurement/processing/storage of additional STSCs beyond the baseline assumption of 22.

Engineered container (EC) sludge mass is likely greater than assumed in the baseline. The material-balance calculations completed to forecast the total number of STSCs required to execute the Sludge Removal Project (SRP) may have used sludge density values that do not accurately characterize the sludge stored in the 105KW ECs. If the actual sludge mass in the ECs (mass = density x volume =  $\rho \cdot V$ ) is greater than the mass currently projected in source documents, additional STSCs may be required to remove and store the remaining sludge.

**Corrective Action:**

Video inspections to estimate current volumes of each of the sludge ECs has been completed. Engineering personnel will complete evaluation of settled density values in EC-250, KE sludge, and make final recommendations on the estimated number of STSCs to complete the sludge campaign.

**Status:**

100K engineering personnel believe the sludge density is between the design basis density and the average archived sample density established in PNNL-27704. White paper PRC-STP-01119 was developed and details the current engineering knowledge from the first 12 STSCs and makes projections for the number of STSCs that may be required to complete the sludge campaign. This paper has determined that 20 to 25 STSCs may be required to finish the campaign. Uncertainty remains due to the wide range of sample densities for the EC-260 material, the much lower observed inferred density, the inability to effectively monitor the volumetric removal from EC-260 as retrieval progresses, and because no sludge has been removed from EC-220 or EC-240 as of April 21, 2019. For risk mitigation the project is proceeding to procure material for two additional STSCs via the fiscal year (FY) 2019 buy back list for PBS RL-0041.

**Issue:**

Attrition of qualified personnel. Since the initiation of sludge removal activities in June 2018, there has been greater than 25 percent attrition of Nuclear Chemical Operators (NCOs) and Radiation Control Technicians (RCTs) who have either left the organization or are on short-term disability. The loss of qualified personnel may potentially impact achieving sludge removal schedule goals.

**Corrective Action:**

Additional RCTs and NCOs have been hired to backfill vacant positions. Personnel are being trained and qualified prior to deployment.

**Status:**

Although there are currently sufficient NCOs/RCTs to support dayshift 105KW Basin and ECRTS operations, the attrition over the last six months has been significant. Additional RCTs and NCOs have been hired and the majority are now qualified. These additional resources have allowed the team to work holdovers and overtime shifts to reduce the overall processing times for STSCs 12 and 13. While several exempt employees have left the project in the last six months, replacements for exempt employees are more readily available and deployable. This issue is considered closed.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**

- Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.
- Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.
- Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.

- ↑ Increased Confidence
- ↔ No Change
- ↓ Decreased Confidence

Unmitigated Risk Impacts	Assessment		Comments																		
	Month	Trend																			
<b>RL-0012/WBS-012</b>																					
<b>Explanation of major changes to the project monthly stoplight chart:</b> No major changes to the stoplight chart in April.																					
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>																					
STP-152: Attrition, Acquisition, & Retention of Qualified Employees	Improving job markets/funding uncertainties or sitewide priorities results in competition for key resources, resulting in schedule delays to the project. Additionally, higher-than-anticipated attrition impacts project baseline costs.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$500K, 36 days	<span style="color: red;">●</span> ↑	<p><b>Risk Event:</b> Due to the current job market, K Basin Operations (KBO) personnel have elected to leave the project to pursue other opportunities.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Monitor employee job satisfaction to evaluate/maintain morale.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Actively pursue filling open positions and train/qualify personnel.</td> <td>5/31/19</td> <td>95</td> </tr> <tr> <td>Establish enhanced work schedule. (KWD7442)</td> <td>Complete</td> <td>100</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> Since the initiation of sludge removal activities in June 2018, there has been greater than 25 percent attrition of qualified NCOs and RCTs. The loss of qualified personnel has negatively impacted achieving sludge removal schedule goals. Both operations and radiation protection management have backfilled open positions. Training and qualification is largely complete at this point. The team has been able to work five days a week and holdovers, when necessary, utilizing the benefits of a larger staff during the processing of STSCs 12 and 13.</p>	Risk Recovery action(s)	FC Date	%	Monitor employee job satisfaction to evaluate/maintain morale.	Ongoing	N/A	Actively pursue filling open positions and train/qualify personnel.	5/31/19	95	Establish enhanced work schedule. (KWD7442)	Complete	100						
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Actively pursue filling open positions and train/qualify personnel.	5/31/19	95																			
Establish enhanced work schedule. (KWD7442)	Complete	100																			
STP-153: Sludge Engineered Container End Point Criteria	ECF-100KR2-12-0040 Calculation for 105-KW Substructure Demolition Rubble Environmental Restoration Disposal Facility Compliance specifies the volume of residual sludge that is acceptable to leave in ECs following sludge removal operations. It is possible that the end point criteria cannot be achieved without extensive cost and schedule implications.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$200K, 64 days	<span style="color: red;">●</span> ↑	<p><b>Risk Triggers:</b> During execution of the sludge removal campaign, personnel have come to understand that standard methods of sludge removal are not able to efficiently achieve EC sludge end point criteria.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform periodic video camera inspections throughout the sludge removal campaign to plan retrieval strategies.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Develop and submit Documented Safety Analysis/Technical Safety Requirement revisions that facilitate layering KW sludge (SCS-CON-210/220) with KE sludge (SCS-CON-240/250/260).</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Remove EC-210 lid to facilitate characterization and sampling. (KWD8955)</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Consider sampling heels in ECs to facilitate achieving end point criteria using more accurate source term.</td> <td>6/30/19</td> <td>5</td> </tr> <tr> <td>Use EC-250 as proof of process to ensure end point criteria can be achieved.</td> <td>Complete</td> <td>100</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> A work package was executed to remove the EC-210 lid to facilitate characterization and/or sampling of the heel. This information confirmed that a substantial portion of the remaining 76 gallons must be retrieved to achieve end point in that EC. In parallel, engineering and nuclear safety personnel have prepared a safety document revision that will facilitate layering EC-210/220 sludge with KE sludge. This safety document revision is approved and is in the process of being implemented. A continuing discussion between 100K Closure, U.S. Department of Energy, Richland Operations Office (RL), and the U.S. Environmental Protection Agency is ongoing to redefine the end point criteria for the ECs in the basin. If this discussion is successful, the team will be able to consider EC-250 in its current state (approximately 35 gallons remaining) to be at end point criteria. Operations has removed the lid for EC-230 to aid in transferring the remaining sludge from that container as well. It is anticipated that the EC-230 will be near end point criteria following the processing of STSC 14 in mid-May.</p>	Risk Recovery action(s)	FC Date	%	Perform periodic video camera inspections throughout the sludge removal campaign to plan retrieval strategies.	Ongoing	N/A	Develop and submit Documented Safety Analysis/Technical Safety Requirement revisions that facilitate layering KW sludge (SCS-CON-210/220) with KE sludge (SCS-CON-240/250/260).	Complete	100	Remove EC-210 lid to facilitate characterization and sampling. (KWD8955)	Complete	100	Consider sampling heels in ECs to facilitate achieving end point criteria using more accurate source term.	6/30/19	5	Use EC-250 as proof of process to ensure end point criteria can be achieved.	Complete	100
Risk Recovery action(s)	FC Date	%																			
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Unmitigated Risk Impacts	Assessment		Comments																		
	Month	Trend																			
<b>RL-0012/WBS-012</b>																					
<p>STP-156: Sludge Removal Campaign Impacted by Variations in Engineered Container Sludge Density/Volume</p>	<p>The actual mass of sludge stored in the 105KW Basin ECs is not consistent with the mass assumed in the SRP technical basis, resulting in cost and schedule delays.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$1,600K, 48 days</p>	 	<p><b>Risk Triggers:</b> The actual sludge mass in the ECs (mass = density x volume = <math>\rho \cdot V</math>) is greater than the mass currently projected in source documents, resulting in the need for additional STSCs to remove and store the remaining sludge.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Complete visual inspections of sludge stored in ECs SCS-CON-210/220/230 (at a minimum) to assess volume information specified in technical basis documents.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Evaluate and implement feasible opportunities to more efficiently disposition remaining EC sludge. (KWD7442)</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Complete bulk sludge removal from EC-250, which will facilitate establishment of KE Basin sludge density. (KWD6580)</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Revisit Sludge Removal Project Basis Document HNF-SD-SNF-TI-015 R28, Spent Nuclear Fuel Project Technical Databook, Volume 2, Sludge, and HNF-41051 R13, STP Container and Settler Sludge Process Description and Material Balance based upon PNNL-27769, STP K Basin Sludge Sample Archive Status FY2018. Determine if document revisions are required to complete sludge removal campaign. (KWD9010)</td> <td>5/8/2019</td> <td>95</td> </tr> <tr> <td>Issue final sludge density evaluation, establishing total number of STSC necessary to complete sludge removal.(KWD9010)</td> <td>5/8/2019</td> <td>90</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Engineering personnel are reviewing SRP basis documents to determine how the baseline project assumptions were impacted by sludge density assumptions. After the final review of the documents and completion of visual inspections of sludge currently stored in ECs SCS-CON-210/220/230, set points were evaluated in February. It was determined that the set points for current loading will not change, however, the blending of EC-210/220 with EC-240/250/260 sludge is being added to the baseline document. Following the completion of EC-250, the densities of the sludge materials were re-evaluated and a projection of the number of STSCs required to complete the campaign was developed. This evaluation will continue to be updated as the campaign continues. The data book and other baseline documents may need to be updated for any additional sludge material that is added to the engineered containers.</p>	Risk Recovery action(s)	FC Date	%	Complete visual inspections of sludge stored in ECs SCS-CON-210/220/230 (at a minimum) to assess volume information specified in technical basis documents.	Complete	100	Evaluate and implement feasible opportunities to more efficiently disposition remaining EC sludge. (KWD7442)	Complete	100	Complete bulk sludge removal from EC-250, which will facilitate establishment of KE Basin sludge density. (KWD6580)	Complete	100	Revisit Sludge Removal Project Basis Document HNF-SD-SNF-TI-015 R28, Spent Nuclear Fuel Project Technical Databook, Volume 2, Sludge, and HNF-41051 R13, STP Container and Settler Sludge Process Description and Material Balance based upon PNNL-27769, STP K Basin Sludge Sample Archive Status FY2018. Determine if document revisions are required to complete sludge removal campaign. (KWD9010)	5/8/2019	95	Issue final sludge density evaluation, establishing total number of STSC necessary to complete sludge removal.(KWD9010)	5/8/2019	90
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Issue final sludge density evaluation, establishing total number of STSC necessary to complete sludge removal.(KWD9010)	5/8/2019	90																			
<p>STP-156-C: Sludge Removal Campaign Extended Due to Discovery of High Dose Material</p>	<p>Additional high-dose “sludge-like” material is discovered on the 105KW Basin floor during 100K Closure Project characterization activities that is best dispositioned with the EC sludge waste stream. Adding this additional “sludge-like” material to the SRP campaign negatively impacts existing SRP cost and/or the schedule baseline.</p> <p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Very Likely (&gt;90%)</p> <p><b>Worst Case Impacts:</b> \$500K, 24 days</p>	 	<p><b>Risk Triggers:</b> Additional sludge may be discovered that must be put into ECs and processed with the balance of the EC sludge as 100K Closure Project personnel conduct characterization efforts in the 105KW Basin.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Continue to monitor conditions identified by the baseline characterization efforts.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Collect and quantify the volume and weight of the high-dose material in the 105 KW Basin. (KWD90111)</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Update Sludge Campaign Documentation to disposition recently discovered high-dose material. (KWD90276)</td> <td>5/15/2019</td> <td>60</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> During April, 100K Closure personnel continued development of documentation and work packages that will be required to allow (double barrel fuel canister) high-dose material to be placed into EC-230 and removed from the 105KW Basin via STSCs.</p>	Risk Recovery action(s)	FC Date	%	Continue to monitor conditions identified by the baseline characterization efforts.	Ongoing	N/A	Collect and quantify the volume and weight of the high-dose material in the 105 KW Basin. (KWD90111)	Complete	100	Update Sludge Campaign Documentation to disposition recently discovered high-dose material. (KWD90276)	5/15/2019	60						
Risk Recovery action(s)	FC Date	%																			
Continue to monitor conditions identified by the baseline characterization efforts.	Ongoing	N/A																			
Collect and quantify the volume and weight of the high-dose material in the 105 KW Basin. (KWD90111)	Complete	100																			
Update Sludge Campaign Documentation to disposition recently discovered high-dose material. (KWD90276)	5/15/2019	60																			
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																					
No critical risks identified in April.																					
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)																					
No high threat value risks identified in April.																					
<b>FY2019 Risk Triggers</b> (Risk could be realized in FY2019)																					

Unmitigated Risk Impacts	Assessment		Comments																		
	Month	Trend																			
<b>RL-0012/WBS-012</b>																					
<p>STP-073-C: Processing Efficiency - Retrieval &amp; Shipping</p> <p>The realized processing efficiency associated with sludge retrieval and shipping operations does not match the baseline plan.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$0K, 54 days</p>	●	↔	<p><b>Risk Triggers:</b> Actual processing efficiency associated with sludge retrieval and shipping operations does not match baseline assumptions. This risk will continue in FY2019 during operations campaign.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Establish a production control center to facilitate maximum efficiency integrating SRP operations and maintenance activities.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Review operations and maintenance activities required to produce each sludge STSC and establish a "typical" schedule integrating all activities in the most efficient sequence possible.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Revise plan to establish the appropriate campaign schedule.</td> <td>Complete</td> <td>100</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. Project personnel completed a revised plan to establish the appropriate campaign schedule, taking into account ion exchange module (IXM) change outs and performance of preventive maintenance activities. Additionally, KBO put the sludge removal campaign personnel on a five-day work week (minimum), effective February 2019. The team has recently initiated transfers from EC260, and the material handling is different from previous ECs. The team will continue to monitor the efficiency associated with the sludge retrieval process.</p>	Mitigation action(s)	FC Date	%	Establish a production control center to facilitate maximum efficiency integrating SRP operations and maintenance activities.	Complete	100	Review operations and maintenance activities required to produce each sludge STSC and establish a "typical" schedule integrating all activities in the most efficient sequence possible.	Complete	100	Revise plan to establish the appropriate campaign schedule.	Complete	100						
Mitigation action(s)	FC Date	%																			
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Review operations and maintenance activities required to produce each sludge STSC and establish a "typical" schedule integrating all activities in the most efficient sequence possible.	Complete	100																			
Revise plan to establish the appropriate campaign schedule.	Complete	100																			
<p>STP-108: STP Annex Equipment and ECRS/Ancillary System Reliability</p> <p>Required corrective maintenance on the STP annex and the ECRS equipment is higher than planned due to one-of-a-kind system design or sludge characteristics, resulting in cost and schedule impacts.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$400K, 66 days</p>	●	↑	<p><b>Risk Triggers:</b> Required corrective maintenance on the SRP and ancillary equipment is higher than planned.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Conduct full-scale testing at the Maintenance and Storage Facility to determine baseline for Corrective Maintenance and Preventative Maintenance program.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>The project will provide spare parts for critical or long-lead components.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Develop PM activities prior to construction completion to optimize maintenance costs.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Perform reliability, availability, and maintainability analysis.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Modifications to the skimmer pump and IXM pump to accommodate an alternative IXM water source. (KWD90091)</td> <td>4/30/19</td> <td>60</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. Due to IXM system challenges (potential unavailability), an alternate water supply modification has been generated and hardware procured. Plans are to install this modification in the future to mitigate unavailability of IXM system impact on sludge removal.</p>	Mitigation action(s)	FC Date	%	Conduct full-scale testing at the Maintenance and Storage Facility to determine baseline for Corrective Maintenance and Preventative Maintenance program.	Complete	100	The project will provide spare parts for critical or long-lead components.	Complete	100	Develop PM activities prior to construction completion to optimize maintenance costs.	Complete	100	Perform reliability, availability, and maintainability analysis.	Complete	100	Modifications to the skimmer pump and IXM pump to accommodate an alternative IXM water source. (KWD90091)	4/30/19	60
Mitigation action(s)	FC Date	%																			
Conduct full-scale testing at the Maintenance and Storage Facility to determine baseline for Corrective Maintenance and Preventative Maintenance program.	Complete	100																			
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Perform reliability, availability, and maintainability analysis.	Complete	100																			
Modifications to the skimmer pump and IXM pump to accommodate an alternative IXM water source. (KWD90091)	4/30/19	60																			
<b>Unassigned Risks (Pending ownership of identified threats/opportunities)</b>																					
No unassigned risks identified in April.																					

## PROJECT BASELINE PERFORMANCE

### Current Month (CM)

(\$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 (%)
Total	1.5	1.4	1.5	(0.1)	(9.7)%	(0.1)	-10.9%

Numbers are rounded to the nearest \$0.1 million

#### CM Schedule Performance (-\$0.1M/-9.7%)

The variance is within reporting thresholds.

#### CM Cost Performance (-\$0.1M/-10.9%)

The variance is within reporting thresholds.

## Contract-to-Date (CTD)

(\$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)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	752.9	751.9	722.8	(1.1)	-0.1%	29.1	3.9%	761.1	730.1	7.3	31.0

Numbers are rounded to the nearest \$0.1 million

#### CTD Schedule Performance (-\$1.1M/-0.1%)

The variance is within reporting thresholds.

#### CTD Cost Performance (+\$29.1M/+3.9%)

The variance is within reporting thresholds.

#### Variance at Completion (+\$31.0M/+4.1%)

The variance is within reporting thresholds.

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

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

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	FY2019		Variance
	Projected Funding	Spending Forecast	
Expense – Spending Forecast	20.1	17.1	3.0
Incremental Scope Pending Change Management	0.0	0.0	0.0
Expense – Subtotal	20.1	17.1	3.0
Line Item (LI)	11.3	0.0	11.3
Incremental Scope Pending Change Management	0.0	0.0	0.0
LI – Subtotal	11.3	0.0	11.3
<b>RL-0012 – Total</b>	<b>31.4</b>	<b>17.1</b>	<b>14.3</b>

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis

FY2019 funding for project breakdown structure (PBS) RL-0012 is \$31.4 million. FY2019 funding aligns with the RL Integrated Priority List. The variance primarily reflects funding for line item work scope that was completed in FY2018.

### Critical Path Schedule

The project critical path schedule runs through completion of retrieval operations, including the filling of STSCs with sludge and their transporting to the T Plant canyon for interim storage. The project is on schedule to complete Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-016-176, Complete Sludge Removal from 105KW Fuels Storage Basin, ahead of the December 31, 2019, due date.

## MILESTONE STATUS

The following table is a one-year look ahead of PBS RL-0012 Tri-Party Agreement enforceable milestones, non-enforceable target due dates, and commitments.

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-016-176	Complete Sludge Removal	12/31/2019		10/2/2019	On Schedule

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

## DOE ACTIONS / DECISIONS

None currently identified.

# Section C

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

**CH2MHILL**  
Plateau Remediation Company



K. R. Shupe  
Vice President for  
Waste and Fuels Management  
Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

T. L. Hobbes  
Vice President for  
River Risk Management Project

M. A. Wright  
Vice President for Project  
Technical Services

## PROJECT SUMMARY

During the April reporting period, March 25 - April 21, 2019, Waste and Fuels Management Project (W&FMP) maintained facilities in a safe and compliant condition. The River Risk Management Project operated the Environmental Restoration Disposal Facility (ERDF) and continued document preparation for the Integrated Disposal Facility (IDF) permits.

This month:

- The Management of Cesium and Strontium Capsules (W-135) Project final design comments are being incorporated into the Waste Encapsulation and Storage Facility (WESF) modification and the Maintenance and Storage Facility (MASF) mockup facility. Test pit number one and two for the Capsule Storage Area (CSA) utility verification have been completed. The firewater tie-in location and pipe integrity was verified. The exiting firewater pipeline near Canister Storage Building (CSB) was pressure tested with positive results and will be used for the CSA firewater loop. CH2M HILL Plateau Remediation Company (CHPRC) has completed incorporation of comments to the final Cask Storage System (CSS) design and issued the final design report.
- The sludge receipt team continues to receive sludge transport and storage containers (STSC) from the 100K West Reactor Basin for interim storage at T Plant. STSC 11 was received on April 11, 2019.

## EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
19-EMS-WFMP-OBJ1-P1	Receive 10 STSC sludge shipments at T Plant.	T Plant Complex will receive 10 STSC sludge shipments.	9/30/2019	90%
19-EMS-WFMP-OBJ2-P1	Complete and issue the Preoperational Environmental CSA	Perform sampling and analysis, if needed, as determined by DOE to support the preparation and issuance of the Preoperational Environmental Survey for the CSA. Complete and issue the Preoperational Environmental Survey Report for the CSA.	9/30/2019	100%
19-EMS-WFMP-OBJ3-P1	Complete the CSB Programmable Logic Controller (PLC) Upgrade Project to better avoid exceedance of the air operating permit limits.	Complete PLC Upgrade Project fieldwork. Complete the PLC Upgrade Project test report and final documentation.	9/30/2019	100%
19-ERDF-OBJ1-P1	Track maintenance recycling activities at ERDF.	Monitor and evaluate ERDF maintenance recycling activities for compliance with CHPRC procedures and complete annual review of recycling activities.	9/30/2019	56%

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	CM Quantity	Rolling 12 Month	Comment
<b>Days Away, Restricted or Transferred (DART)</b>	1*	1*	<p>4/16/2019 – While backfilling excavation with a shovel, employee noticed a tight feeling in their right forearm. Employee continued with assigned tasks. Employee reported no pain felt, only tightness in the right arm, and employee assumed it was cramping. The next day, employee reported pain in arm and difficulty moving pinky and right finger (right arm). Employee was escorted to HPM Corporation (HPMC) and was released to work with the restriction of “no use of right hand/arm” (25136).</p> <p>*1 DART, PTS in support of RL-0013.</p>
<b>Total Recordable Injuries</b>	1*	1*	<p>4/16/2019 – See above. (25136).</p> <p>*1 Recordable Injury, PTS in support of RL-0013.</p>
<b>First Aid Cases</b>	4	25	<p>4/16/2019 – Employee was struck in the face (cheek area) by a small rock while dumping a container into the cell at ERDF. Employee was evaluated at HPMC and released without restrictions. (25134)</p> <p>4/22/2019 – Employee was using a wrench to loosen a nut on the load block when employee felt a discomfort in the right shoulder. Employee was taken to HPMC for evaluation and advised to participate in stretch and flex program. Employee returned to work without restrictions. (25142)</p> <p>4/23/2019 – Employee was walking smears to the survey cave. The area was gravel and uneven ground and the employee twisted their ankle. The employee was transported to HPMC for evaluation and given a cold pack and released without restrictions. (25147)</p> <p>4/24/2019 – Employee kneeled on a small rock while changing wheel seals at ERDF. The following day, the employee experienced difficulty kneeling and rising to their feet. Employee was evaluated at HPMC where they were provided aspirin, non-rigid support, icepack, and an X-ray that was negative. Employee was released back to work without restrictions. (25159)</p>
<b>Near Misses</b>	0	0	N/A

## KEY ACCOMPLISHMENTS

### Waste and Fuels Management Project

#### 13.01 Project Management

- The project initiated detailed planning for the CHPRC Post Contract Baseline deliverable to RL addressing fiscal years (FY) 2020, FY2021, and FY2022.
- Provided the Systematic Planning Document associated with the Solid Waste Operations Complex (SWOC) Part B Permit application waste analysis plan to State of Washington Department of Ecology (Ecology) for informal review on April 18, 2019.
- Distributed the redline edits and comment responses for the CSA Part A, Security, and Preparedness and Prevention Addenda to Ecology for review on April 8, 2019. The revised documents incorporate Ecology comments.
- Distributed the redline edits and comment responses for the Low Level Burial Grounds Trenches 31-34-94 process information for joint CHPRC/U.S. Department of Energy, Richland Operations Office (RL) review on April 15, 2019. The revised documents incorporate Ecology comments.
- Continued implementation of the revised Washington Administrative Code (WAC) requirements for waste generators, including new hazard labeling requirements. This included distribution of procedure changes for review as well as initiation of container labeling.

#### 13.02 Capsule Storage & Disposition

- Completed one operational drill and one emergency preparedness drill at WESF.
- Continued canyon entries in support of the W-135 project. Initiated maintenance work on the 15-ton canyon crane. The existing crane wire rope was removed for disposal prior to installation of a new wire rope. Commenced block teardown for decontamination and rebuilding.
- Received the completed replacement truckport cover from the Mission Support Alliance fabrication shops and staged it on the 25-ton crane pad on the west side of the WESF complex in support of the W-135 project.
- Completed recirculation of the Tk-100 collection tank contents through an ion exchange module to reduce contamination.
- Completed 37 preventative maintenance (PM) packages.

#### 13.03 Canister Storage Building

- Completed one operational drill and one emergency preparedness drill at CSB.
- Completed transmittal of the CSB documented safety analysis (DSA) and technical safety requirements to RL for final approval.
- Completed 25 PM packages.

#### 13.06 Transuranic Repackaging

- Completed repackaging of 56.08 cubic meters of transuranic mixed (TRUM) and transuranic (TRU) waste in April, for a total of 253.7 cubic meters fiscal year to date (FYTD).

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

- Completed scheduled operations, rad con inspections, safety inspections, and motor control center thermal scan inspection.
- Completed 193 surveillances and 10 PM packages.

#### 13.08 T Plant

- Completed cell cover block cleaning, installation and inspections.
- Completed canyon cell 14R ledge cleaning, canyon crane below the hook inspections, and 45 ton crane wire rope inspection.
- Completed 554 surveillances and 32 PM packages.
- Shipped two drums to ERDF.

#### Sludge Receipt

- Received STSC 11 from 105KW and placed it into interim storage in the T Plant Canyon.

**13.09 Central Waste Complex (CWC) and Low-Level Burial Ground**

- Completed 243 surveillances and 28 PM packages.
- Received 20 standard waste boxes from Perma-Fix Northwest (PFNW) into CWC in three shipments.
- Shipped one 1800 Top Load from CWC to PFNW.

**13.15 TRU Disposition**

- Continuing enhancement of acceptable knowledge on TRU-waste streams RLPFP-08 and RLPURX-01.

**13.16 Offsite Spent Nuclear Fuel Disposition**

- Maintained coordination of offsite spent nuclear fuel disposition.

**13.21 Mixed Waste Disposal Trenches**

- Completed 180 surveillances.
- Received 24 boxes from PFNW into Mixed Waste Trench (MWT) 31 in five shipments.
- Shipped one drum from MWT 31 to ERDF.

**13.24 Management of Cesium and Strontium Capsules Project**

- Final design comments are being incorporated into the WESF modification design and the MASF mockup facility.
- Completed test pits one and two for the CSA utility verification. The firewater tie-in location and pipe integrity have been verified. The exiting firewater pipeline near CSB has been pressure tested with positive results and will be used for the CSA firewater loop.

**13.25 Capsules Interim Storage Operations**

- Incorporation of comments into the final CSS design was completed and the final design report was issued.

**River Risk Management Project****13.10 Environmental Restoration Disposal Facility**

- Received 12,925 tons of waste for disposal in April.
- Received 75,923 tons of waste for disposal FYTD.
- Received 40 shipments (428 tons) of Plutonium Finishing Plant waste using the new enhanced radiological controls during disposal operations.

**13.12 Integrated Disposal Facility (IDF)**

- Completed April monthly inspections.
- Initiated annual calibrations.
- IDF Operational Readiness Resource Conservation and Recovery Act (RCRA) Permit Modifications.
  - Completed development of RCRA Permit Addenda C, Process Information; Addenda H, Closure Plan; and Addenda B, Waste Analysis Plan, and the waste acceptance criteria to support IDF RCRA permit modifications.
  - Initiated work on revision to the air operating permit.
  - Completed internal (CHPRC and RL) review of Addenda G, Training; Addenda K, Post-Closure; Addenda I, Inspection; and Addenda F, Preparedness and Prevention. Initiated comment resolution of these addenda.
  - Continue to provide support to RL Legal to initiate development of strategy for obtaining an in-trench treatability variance for IDF.

**Project Technical Services Support**

- Training and Procedures
  - Teamed with facility Nuclear Chemical Operators (NCOs) to walk down the WRAP area to develop a new procedure on glovebox port inspection and breach mitigation. This procedure introduces efficiencies in the process by allowing NCOs to inspect and perform repairs of minor damage identified during inspections.
  - Developed and facilitated operations log keeping gap training.

- o Worked with environmental subject matter experts to develop and complete WAC 173-303 regulatory changes gap training and required reading at the W&FMP. Completion of these activities was required for submittal to the Department of Ecology as part of the WAC 173-303 implementation closing report.
- Project Delivery
  - o NR-1 Reactor Surface Preparation
    - Mobilized contractor April 8, 2019.
    - Completed fieldwork April 11, 2019.
  - o W135 Project Utility Line Investigation
    - Completed excavations at CSB and WESF locations.
    - Completed successful pressure testing of CSB water lines.
    - Completed backfill operations.
    - Construction completion document signed.
  - o W135 – Construction
    - Continued with statement of work (SOW) draft for CSA construction contract.
    - Continued with SOW draft for W135 MASF mockup.
    - Completed constructability review of 90 percent design for the W135 MASF Mockup.
  - o Finalized work package development and premobilization activities for the T Plant west face exterior stairs and firestop wall repair.
  - o CWC/WRAP and T Plant Roof Repair
    - Continued with work package development and premobilization activities.
    - Held labor and preconstruction meeting.
  - o Finalized SOW for Trench 31 and 34 survey.
  - o Continued to support IDF infrastructure project cost estimate and schedule development.

## MAJOR ISSUES

### **Issue:**

Ecology has indicated that they may require the 90 percent design package for the CSA prior to issuing the permit for public comment.

### **Corrective Action:**

Work with Ecology to issue the permit with the design information that is available at the time of permit issuance.

### **Status:**

The permit application was formally submitted to Ecology on November 21, 2017, with the 30 percent design information as agreed in the permitting plan. Ecology's completeness review for the WESF permit modification request was received on February 5, 2018. Ecology's completeness review for the Capsule Interim Storage (CIS) permit application was received on February 13, 2018. Ecology concluded that the permit applications were incomplete. Additional information to address the completeness review was transmitted to Ecology on May 8, 2018. On January 31, 2019, Ecology issued a completeness determination for the CSA permit application. Ecology determined that based on additional information submitted by the permittees, the permit application is complete. In conjunction with the letter, Ecology provided formal copies of the technical comments on the addenda. W&FMP personnel are working to resolve the technical comments.

### **Issue:**

Retrieved and repackaged containers in storage are showing increased degradation, requiring additional mitigation activities.

**Corrective Action:**

TRU disposition activities would prepare the contents of these containers in a configuration suitable for eventual disposal at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. The configuration would also mitigate/eliminate the risk and additional cost for long-term management of these containers.

**Status:**

Continuing to use the best-demonstrated available technology to provide adequate configuration and minimize the potential for contamination spread during the long-term storage (i.e., protecting boxes with tarps or protective shoring; over-packing drums). Streamlined and consolidated container management procedures. RL authorized the additional FY2019 TRU commercial repackaging, allowing shipments to PFNW for repackaging to continue throughout the year.

**Issue:**

TK-100 is a collection tank located underground to the south of the 225B Building and collects miscellaneous contaminated or potentially contaminated waste liquids. TK-100 has an approximate capacity of 4,000 gallons. The volume of liquid contained in TK-100 at the time of identification of this issue was approximately 3,400 gallons. Recent sampling of TK-100 indicated a cesium (Cs)-137 sample result higher than the acceptance criteria at the Effluent Treatment Facility (ETF). As a result, disposal of the tank contents via the normal route to the ETF via tanker truck may not be possible.

**Corrective Action:**

Determine the most cost effective path forward for disposal of the TK-100 contents.

**Status:**

Planning efforts have been completed, which include using an ion-exchange module (IXM) to reduce the Cs-137 inventory, thereby allowing shipment of the liquid to the ETF. A work package was prepared and passed through a Hazard Review Board. Recirculation activities were conducted throughout February as weather conditions allowed. Samples of the TK-100 contents have been taken and sent to an offsite laboratory for analysis. The IXM has been disconnected from TK-100 and shipped to ERDF for disposal. Washington River Protection Solutions (WRPS) ETF management has completed a documentation review and have agreed to accept the contents. Awaiting receipt of WRPS polar tanker truck to transfer the contents.

**Issue:**

It was determined by dynamometer that the WESF truckport cover block measured weight is 30,900 pounds, which is three percent higher than the historical baseline documents for the cover block. This weight exceeds the rated capacity of the WESF canyon crane by 900 pounds (three percent).

**Corrective Action:**

Agreed with RL to perform a planned engineering lift in accordance with ASME B30.2-2016. Additionally, RL requested that CHPRC have a discussion with the crane vendor to determine if vulnerabilities or lessons learned (LL) associated with this vintage/model of crane exist.

**Status:**

The vendor communication resulted in the need to evaluate the replacement of the gearbox gears due to a lesson learned failure with a crane of similar construction/vintage. This evaluation may include performance of a non-destructive evaluation (NDE) of the various gearbox components. In parallel, procurement of replacement gearbox gears is in progress. W-135 Project facility preparation work has been re-sequenced.

**Issue:**

On August 14, 2018, notification was received (18-AMRP-0151) informing CHPRC that RL is supportive of enhancing the operating margin for the cesium salt-metal interface temperature by increasing the number of casks (as appropriate, up to 24 casks) to reduce the heat load in each individual cask in order to bound the range of uncertainty.

**Corrective Action:**

CHPRC transmitted a response letter to RL in October 2018. CHPRC will revise the Hastelloy emissivity for the strontium cask and evaluate increasing the operating margin for the cesium casks. Results of the emissivity change will be incorporated into the final design and analysis of increasing the operating margin will be completed after the CSS final design has been approved.

**Status:**

Analysis of the Hastelloy emissivity has been completed resulting in one additional strontium cask. Analysis for increasing the cesium thermal storage margin indicates three additional Cs casks will be required to reduce the salt-metal interface temperature to 269 degrees Centigrade. CHPRC is preparing a letter to RL with the preliminary results and requesting direction to implement the new operating temperature.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**



Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.



Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.



Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.



Increased Confidence



No Change



Decreased Confidence

Risk Title	Unmitigated Risk Impacts	Assessment		Comments						
		Month	Trend							
<b>RL-0013/WBS-013</b>										
<b>Explanation of major changes to the project monthly spotlight chart:</b> Risk WSD-CSA-007, <i>Delays in CSS Design Impact PDSA</i> , was closed and removed from the spotlight chart, as it no longer poses a threat to the project. Additionally, risk WSD-TR-04, <i>Weather Delays Shipment</i> , was removed as a realized risk. It will continue to be monitored throughout the remainder of the project lifecycle.										
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>										
13-RCRA-REV9-001: RL-13 - Additional DWMUs	Unplanned Dangerous Waste Management Units (DWMUs) are added to the scope requiring additional document support, impacting the project in both cost and schedule.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$0K, 48 days	●	↓	<b>Risk Event:</b> Ecology provided technical comments on permit addendum expanding the number of DWMUs.  <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Incorporating changes to respond to comments.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No significant changes in April. The impacts associated with the realization of this risk are ongoing. As such, this risk will continue to be reported on for visibility until it no longer poses a threat to the project.	Risk Recovery Action(s)	FC Date	%	Incorporating changes to respond to comments.	Ongoing	N/A
Risk Recovery Action(s)	FC Date	%								
Incorporating changes to respond to comments.	Ongoing	N/A								
13-RCRA-REV9-003: RL-13 - Ecology Delays	Scope supported by Ecology is impacted by delays in Ecology review time that do not align with the Permit Management Schedule. This requires recovery actions to be taken by the project that results in schedule impacts.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$0K, 96 days	●	↓	<b>Risk Event:</b> Ecology's review time is impacting the Permit Management Schedule.  <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time.</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No significant changes in April. Preparing resources to respond to comments when they are received. The impacts associated with the realization of this risk are ongoing. As such, this risk will continue to be reported on for visibility until it no longer poses a threat to the project.	Risk Recovery Action(s)	FC Date	%	None identified at this time.	N/A	N/A
Risk Recovery Action(s)	FC Date	%								
None identified at this time.	N/A	N/A								
WSD-138: Regulatory document (closure plan with ecology) results in significant comments from the regulator	Significant comments from the regulator on closure plans submitted for approval results in non-approval of the permit or rework, causing schedule impacts to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$0K, 96 days	●	↓	<b>Risk Event:</b> Eight closure plans were formally resubmitted to Ecology in August 2018 and November 2018. In January 2019, Ecology provided additional comments changing the closure strategy for several units.  <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time.</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No significant changes in April. RL informed Ecology that additional document revisions would not be completed at this time. The impacts associated with the realization of this risk are ongoing. As such, this risk will continue to be reported on for visibility until it no longer poses a threat to the project.	Risk Recovery Action(s)	FC Date	%	None identified at this time.	N/A	N/A
Risk Recovery Action(s)	FC Date	%								
None identified at this time.	N/A	N/A								
<b>Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)</b>										
No critical risks identified in April.										
<b>High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)</b>										

Risk Title	Unmitigated Risk Impacts	Assessment		Comments												
		Month	Trend													
<b>RL-0013/WBS-013</b>																
WSD-013B: TRU Waste Volumes or Characteristics - Processing	TRU waste not identified in records or higher-than-planned volumes due to inaccurate records or unexpected soil contamination impacts TRU processing. This waste is derived from retrieval of waste, non-compliant newly generated waste received from generators, TRU waste that is determined to be low-level and requires further treatment, or more waste is generated than in the plan, resulting in unplanned in-scope cost impacts.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$2 million, 0 day			<p><b>Risk Trigger Metric:</b> A significant volume of newly generated waste is received or nonconforming waste results in the need for new capabilities.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time.</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in April. The destruction of two drums with oil from large box shipment TC158 was not performed at the offsite processing facility due to backlog. An exception to 0063 and a waste profile were approved to temporarily store the waste at CWC until the offsite facility is ready to treat the waste.</p>	Mitigation Action(s)	FC Date	%	None identified at this time.	N/A	N/A						
Mitigation Action(s)	FC Date	%														
None identified at this time.	N/A	N/A														
WSD-097: Major Equipment Failure – T Plant	T Plant suffers a major equipment failure (crane, primary power supply, etc.), resulting in cost impacts and schedule delays.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$3 million, 96 days			<p><b>Risk Trigger Metric:</b> During planned facility operation activities, a suspected system component is discovered that requires attention or an unexpected malfunction results in this risk being realized. This risk will continue throughout the CHPRC (September 30, 2019) contract.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Identify and procure critical spare parts for the T Plant crane.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Implement aggressive CM/PM program.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in April. The project has put into place mitigating strategies (i.e., aggressive surveillance and maintenance activities) to help reduce this risk. Mechanical maintenance on the canyon crane was completed in November. The annual electrical crane maintenance, including the camera cable, was completed in February. The canyon crane is currently operational and spare parts have been procured for most critical spares.</p>	Mitigation Action(s)	FC Date	%	Identify and procure critical spare parts for the T Plant crane.	Ongoing	N/A	Implement aggressive CM/PM program.	Ongoing	N/A			
Mitigation Action(s)	FC Date	%														
Identify and procure critical spare parts for the T Plant crane.	Ongoing	N/A														
Implement aggressive CM/PM program.	Ongoing	N/A														
WSD-136: CWC/WRAP Components Fail	CWC facilities and components may reach their end of life. These items will need to be replaced and/or repaired outside of planned funding profiles, resulting in cost impacts.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$2 million, 0 days			<p><b>Risk Trigger Metric:</b> Maintenance activities at CWC increase due to aging facilities.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Floor repairs, Master Documented Safety Analysis (MDSA) container stacking requirements, replacement of exhaust fans.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Conduct fieldwork for 2727W deactivation.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Conducting doorframe replacements and electrical equipment repairs as necessary.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in April. The WRAP roof was analyzed for structural integrity following water intrusion. There was insufficient basis for the roof's integrity, which may lead to an eventual roof replacement. The MDSA container stacking requirements are complete. Maintenance work at CWC will be scheduled based on facility work priorities. Additional Fire Alarm Control Units spare parts were obtained from the deactivation of 2727W.</p>	Mitigation Action(s)	FC Date	%	Floor repairs, Master Documented Safety Analysis (MDSA) container stacking requirements, replacement of exhaust fans.	Ongoing	N/A	Conduct fieldwork for 2727W deactivation.	Complete	100	Conducting doorframe replacements and electrical equipment repairs as necessary.	Ongoing	N/A
Mitigation Action(s)	FC Date	%														
Floor repairs, Master Documented Safety Analysis (MDSA) container stacking requirements, replacement of exhaust fans.	Ongoing	N/A														
Conduct fieldwork for 2727W deactivation.	Complete	100														
Conducting doorframe replacements and electrical equipment repairs as necessary.	Ongoing	N/A														

Risk Title	Unmitigated Risk Impacts	Assessment		Comments																		
		Month	Trend																			
<b>RL-0013/WBS-013</b>																						
WSD-CSA-006: Ecology Temporary Authorization contingent on 90% Design for CSA RCRA Permit Application	Ecology will, as a pre-condition to approve the temporary authorization (TA) for CSA construction, require that the CSA 90 percent detailed design package to be incorporated into the CSA RCRA permit application (to issue for public comment), thereby delaying the TA and impacting the CSA construction schedule.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$0, 96 days			<p><b>Risk Trigger Metric:</b> Ecology requires the 90 percent design package for the CSA to be completed prior to issuing the permit for public comment.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time.</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> The permit application was formally submitted to Ecology on November 21, 2017, with the 30 percent design information. The project received a determination of incompleteness on February 13, 2018. The determination of incompleteness is primarily associated with the need for additional design information. CHPRC/RL submitted supplemental design information for the WESF modifications and CSA to RL in May to support Ecology's completeness determination.. Ecology has determined that the permit application is complete. CHPRC has submitted the 90 percent design package to Ecology for use in the permit. The project anticipates that a TA will be necessary and has begun preparing the request in anticipation of the permit not being issued before planned start of CSA construction.</p>	Mitigation Action(s)	FC Date	%	None identified at this time.	N/A	N/A												
Mitigation Action(s)	FC Date	%																				
None identified at this time.	N/A	N/A																				
WSD-125: Multi-Year Pause in Waste Processing Results in Unexpected Container Integrity Issues	A pause in waste processing results in an unexpected container degradation within Solid Waste Operations Complex (SWOC) (excluding TRU retrieval activities) and requires additional resources to respond.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$3 million, 0 day			<p><b>Risk Trigger Metric:</b> Degraded containers are discovered in CWC.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform daily/weekly waste container surveillances to identify container abnormalities.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Manage a "watch list" of waste containers that have shown signs of degradation or are associated with degraded containers.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Process waste packages at a rate funded by RL.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Procuring stainless steel 85-gallon over-packs for alternative storage of containers that show signs of degradation.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>FY2019 Over-packs planned: 200</td> <td>9/25/2019</td> <td>0</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in April. The project continued to perform container surveillances in April to identify container and container cover abnormalities. RL authorized additional FY2019 TRU commercial repackaging, allowing shipments to PFNW for repackaging to continue. The remaining containers will continue to require surveillance and enhanced monitoring.</p>	Mitigation Action(s)	FC Date	%	Perform daily/weekly waste container surveillances to identify container abnormalities.	Ongoing	N/A	Manage a "watch list" of waste containers that have shown signs of degradation or are associated with degraded containers.	Ongoing	N/A	Process waste packages at a rate funded by RL.	Ongoing	N/A	Procuring stainless steel 85-gallon over-packs for alternative storage of containers that show signs of degradation.	Complete	100	FY2019 Over-packs planned: 200	9/25/2019	0
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Procuring stainless steel 85-gallon over-packs for alternative storage of containers that show signs of degradation.	Complete	100																				
FY2019 Over-packs planned: 200	9/25/2019	0																				
WSD-W135-19: Unexpected Contamination is Found in the WESF Facility	More contamination is found at WESF, resulting in the need to clean it up to reduce worker exposure or requiring more worker protection.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$2,000K, 32 days			<p><b>Risk Trigger Metric:</b> During WESF preparations for equipment installation (in the G Cell, the canyon, or the truck port) contamination is found that requires decontamination. During equipment installation, contamination is encountered that requires cleanup (e.g. anchoring of equipment inside WESF causes release of contamination).</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Hire additional supervisor and RADCON workers to remain in compliance with stringent rad controls.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Implement lessons learned.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Continuously utilize respiratory protection.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in April. Waste packaging in the canyon is substantially complete; however, waste removal is impacted by WESF canyon crane and truckport cover block weight issues. To date, no excessive contamination has been discovered in the canyon. Decontamination efforts in G Cell are complete.</p>	Mitigation Action(s)	FC Date	%	Hire additional supervisor and RADCON workers to remain in compliance with stringent rad controls.	Ongoing	N/A	Implement lessons learned.	Ongoing	N/A	Continuously utilize respiratory protection.	Ongoing	N/A						
Mitigation Action(s)	FC Date	%																				
Hire additional supervisor and RADCON workers to remain in compliance with stringent rad controls.	Ongoing	N/A																				
Implement lessons learned.	Ongoing	N/A																				
Continuously utilize respiratory protection.	Ongoing	N/A																				

Risk Title	Unmitigated Risk Impacts	Assessment		Comments															
		Month	Trend																
<b>RL-0013/WBS-013</b>																			
WSD-W135-31: Canyon Crane non-functional/not Serviceable	<p>The existing WESF crane was put back into limited usage for the W-130 Project; however, the crane is found to be unserviceable, cannot be repaired for use, or fails during the W-135 operational activities.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$300K, 96 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> The canyon crane fails during use or cannot be returned to service after maintenance.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Procure new crane hook and block.</td> <td>9/30/18</td> <td>100</td> </tr> <tr> <td>Perform preventive/corrective maintenance procedures (i.e. replacement of the wire rope and hook) on the crane early to identify corrective maintenance issues.</td> <td>9/30/19</td> <td>50</td> </tr> <tr> <td>Refurbish current crane block.</td> <td>9/30/20</td> <td>0</td> </tr> <tr> <td>Procure critical spares.</td> <td>9/30/21</td> <td>0</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Performance of the full annual preventive maintenance package is complete. As part of mitigation actions for the canyon crane capacity issue, the manufacturer was consulted to gain insight on any issues with this make/model of crane. Manufacturer does not have data on the WESF crane, but recommended inspection of the gears for stress fractures given crane history and usage. The project is pursuing parallel paths for NDE testing of gears and full replacement of gears. <b>Procurement and planning to perform both paths of this work is in progress. Wire rope removal is complete; new wire rope installation is on hold pending completion of gear box activities. Decon of gear box is in progress. If full refurbishment of the crane is unsuccessful, replacement of the canyon crane as a like-for-like is not possible, as the original manufacturer is no longer in business. A similar replacement hook and block have been procured.</b></p>	Mitigation Action(s)	FC Date	%	Procure new crane hook and block.	9/30/18	100	Perform preventive/corrective maintenance procedures (i.e. replacement of the wire rope and hook) on the crane early to identify corrective maintenance issues.	9/30/19	50	Refurbish current crane block.	9/30/20	0	Procure critical spares.	9/30/21	0
Mitigation Action(s)	FC Date	%																	
Procure new crane hook and block.	9/30/18	100																	
Perform preventive/corrective maintenance procedures (i.e. replacement of the wire rope and hook) on the crane early to identify corrective maintenance issues.	9/30/19	50																	
Refurbish current crane block.	9/30/20	0																	
Procure critical spares.	9/30/21	0																	
WSD-CSS-002: Subcontractor Change Orders and Claims	<p>The CSS construction contractor submits excessive change orders and claims, resulting in schedule delays and increased subcontractor cost.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$2,900K, 24 days</p>	●	↔	<p><b>Risk Event:</b> The CSS construction contractor will fabricate CSS equipment under a fixed price contract. If changes to the design are found to be necessary during fabrication, change orders may be submitted by the fabricator.</p> <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Bid award will be based on best value approach to allow selection of the best qualified contractor. Contractor selection will be handled by formal evaluation processes to ensure scope is understood and estimated correctly.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Scope of each task will be reviewed prior to initiation to ensure contractor is in alignment for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor's location for face to face interface meetings.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> CSS final design has been issued. The contractor is currently obtaining fixed price bids for fabrication. Fabrication of CSS equipment is not planned until FY2020.</p>	Risk Recovery Action(s)	FC Date	%	Bid award will be based on best value approach to allow selection of the best qualified contractor. Contractor selection will be handled by formal evaluation processes to ensure scope is understood and estimated correctly.	Complete	100	Scope of each task will be reviewed prior to initiation to ensure contractor is in alignment for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor's location for face to face interface meetings.	Ongoing	N/A						
Risk Recovery Action(s)	FC Date	%																	
Bid award will be based on best value approach to allow selection of the best qualified contractor. Contractor selection will be handled by formal evaluation processes to ensure scope is understood and estimated correctly.	Complete	100																	
Scope of each task will be reviewed prior to initiation to ensure contractor is in alignment for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor's location for face to face interface meetings.	Ongoing	N/A																	
WSD-CSS-011: Greater than Expected Comments on CSS Design are Received	<p>The CSS design receives more comments than originally expected, resulting in schedule delays.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$600K, 48 days</p>	●	↑	<p><b>Risk Trigger Metric:</b> CSS final design review comment resolution exceeds the time planned due to volume or difficulty in comments.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>CHPRC will provide recommendations for comment resolution, minimizing the effort to respond.</td> <td>4/30/19</td> <td>100</td> </tr> <tr> <td>CHPRC will work closely with NAC during comment resolution to ensure all comments are understood.</td> <td>4/30/19</td> <td>100</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> he CSS final design has been issued. Some comments generated during the final design review necessitate additional analysis to resolve. These additional analyses are necessary for WESF DSA development and will be completed in parallel with analysis necessary to increase operational margin for cesium casks.</p>	Mitigation Action(s)	FC Date	%	CHPRC will provide recommendations for comment resolution, minimizing the effort to respond.	4/30/19	100	CHPRC will work closely with NAC during comment resolution to ensure all comments are understood.	4/30/19	100						
Mitigation Action(s)	FC Date	%																	
CHPRC will provide recommendations for comment resolution, minimizing the effort to respond.	4/30/19	100																	
CHPRC will work closely with NAC during comment resolution to ensure all comments are understood.	4/30/19	100																	
<b>Unassigned Risks (Pending ownership of identified risks/opportunities)</b>																			
No unassigned risks identified in April.																			

## PROJECT BASELINE PERFORMANCE

### Current Month (CM)

(\$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 (%)
Total	12.5	13.2	13.3	0.8	6.2%	(0.0)	-0.3%

Numbers are rounded to the nearest \$0.1 million

#### CM Schedule Performance (+\$0.8M/+6.2%)

The CM positive schedule variance is due to recovering schedule on CSA test pit fieldwork, which was planned in prior periods. Additionally, WESF preparation activities were re-sequenced due to a crane weight capacity issue and a baseline change request was processed to incorporate the resequencing into the performance measurement baseline, resulting in a current period adjustment and positive schedule variance.

#### CM Cost Performance (-\$0.0M/-0.3%)

The CM cost variance is within threshold.

## Contract-to-Date (CTD)

(\$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)	Estimate at Completion (EAC)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	1,413.8	1,411.6	1,325.4	(2.2)	-0.2%	86.2	6.1%	1,484.6	1,392.2	66.8	92.4

Numbers are rounded to the nearest \$0.1 million

#### CTD Schedule Performance (-\$2.2M/-0.2%)

The CTD schedule variance is within threshold.

#### CTD Cost Performance (+\$86.2M/+6.1%)

The CTD favorable cost variance is a result of realizing efficiencies such as organizational flattening and streamlining; right-sizing capabilities for planned scope; optimizing resources with reorganization and consolidation of engineering capabilities across W&FMP; combined administrative/records functions across WESF and CSB; removing waste from building(s) and reducing the need for inspections/surveillances; reducing the size and number of radioactive areas/radioactive material (RAM) and associated surveillances/routines and records; tagging out unneeded equipment and reducing the frequency and number of PM activities; increasing shared resources across all of SWOC; reducing dedicated resources for the Corrective Action System (CAS) and using project-wide support; optimizing maintenance scheduling and execution reducing operations field work supervision; increasing emphasis on managing planned absence coverage within existing resources; simplifying and optimizing acquisition and procurement management within W&FMP; and eliminating the separate waste forecast system by

integrating forecasting as part of the baseline process and the Solid Waste Inventory Tracking System (SWITS).

**Variance at Completion (+\$92.4M/+6.2%)**

The favorable VAC is a result of realizing efficiencies such as organizational flattening and streamlining; right-sizing capabilities for planned scope; optimizing resources with reorganization and consolidation of engineering capabilities across W&FMP; combined administrative/records functions across WESF and CSB; removing waste from building(s) and reducing the need for inspections/surveillances; reducing the size and number of radioactive areas/RAM and associated surveillances/routines and records; tagging out unneeded equipment and reducing the frequency and number of PM activities; increasing shared resources across all of the SWOC; reducing dedicated resources for CAS and utilizing project-wide support; optimizing maintenance scheduling and execution; reducing operations fieldwork supervision; increasing emphasis on managing planned absence coverage within existing resources; simplifying and optimizing acquisition and procurement management within W&FMP; and eliminating the separate waste forecast system by integrating forecasting as part of the baseline process and SWITS.

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

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

WBS 013/RL-0013	FY2019		Variance
	Projected Funding	Spending Forecast	
Waste Stabilization & Disposition	173.5	150.8	22.8
Management of Cesium and Strontium Capsules (Line Item)	6.6	3.2	3.4
Incremental Scope Pending Change Management	0.0	2.8	(2.8)
RL-0013 – Total	180.1	156.8	23.4

Numbers are rounded to the nearest \$0.1 million.

**Funds/Variance Analysis**

The FY2019 projected funding level for PBS RL-0013 of \$180.1 million is based on the RL integrated priority list. The FY spending forecast of \$156.8 million reflects FY to date efficiencies and the current cost projection as of April work to be complete in FY2019. The incremental scope pending changes includes the FY2019 buyback scope.

**Critical Path Schedule**

Critical path analysis will be provided upon request.

## MILESTONE STATUS

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-091-53	Submit Milestone Change Request to Replace Target Dates for Capabilities to Process TRUM Waste	4/30/2019		4/30/2019	Negotiation extended.

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Contract Section	Project	GFS/I	Status
<b>CONTRACT</b>			
J.12/C.2.2, C.2.3	PBS-RL-0011, Plutonium Finishing Plant Closure Project  PBS-RL-0013, Solid and Liquid Waste Treatment and Disposal	Offsite transportation of radioactive material: RL provides equipment and government drivers to transport TRU materials outbound/inbound between the Hanford Site and Northwest locations. RL is the authorized shipper and acts as signatory on the shipping papers, and ensures compliance with DOE Manual 460.2-1. RL arranges for Commercial Motor Vehicle Safety Alliance (CVSA) Level VI vehicle inspections and verifies that the government drivers meet the applicable DOT Federal Motor Carrier Safety Regulations (49 CFR 382 and 383). RL also inspects the load securement to ensure compliance with DOT regulations and/or treatment, storage, and disposal (TSD) requirements.	Ongoing
J.12/C.2.3.6	PBS-RL-0013, 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.	No WIPP shipments are planned within the remaining contract period of performance.

## DOE ACTIONS / DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
CSB – Obtain RL DSA Approval	1/31/2018 (A)	4/30/2019
Retrieve RSW EE/CA for CH & RH – RL Complete Review of Draft Document	3/12/2019 (A)	4/18/2019 (A)
DOE Review IDF DSA	5/15/2019	8/20/2019
CSA CD2/3 – RL: Review/Approve PDSA (1 <sup>st</sup> FY)	5/16/2019	7/28/2019
DOE Final IDF DSA Review and SER Prep	9/3/2019	9/30/2019

# Section D

## Soil and Groundwater Remediation Project (RL-0030)

**CH2MHILL**  
Plateau Remediation Company



W. F. Barrett  
Vice President and  
Project Manager for  
Soil and Groundwater  
Remediation Project

M. A. Wright  
Vice President for  
Project Technical  
Services

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

M. N. Jaraysi  
Vice President for  
Environmental Program  
and Strategic Planning

## PROJECT SUMMARY

Pump and Treat (P&T) Operations continued making progress on the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) remedial process documentation for the River Corridor and Central Plateau. Groundwater treatment completed in April includes the following:

Treatment Facility	Million Gallons Treated		Chrome (kg)		Carbon Tet (kg)		Tech-99 (pCi)		Uranium (kg)	
	CM	FYTD	CM	FYTD	CM	FYTD	CM	FYTD	CM	FYTD
DX P&T	22.9	181.0	1.8	17.2						
HX P&T	18.0	152.6	1.6	14.8						
KR-4 P&T	11.0	76.7	0.1	0.7						
KW P&T	10.1	81.9	0.2	3.1						
KX P&T	38.2	270.0	2.3	15.2						
200 West P&T	78.4	620.2	6.6	53.1	138	1,156	1.7x10 <sup>11</sup>	1.25x10 <sup>12</sup>	10.2	48.1
<b>Combined</b>	<b>178.6</b>	<b>1,382.3</b>	<b>12.8</b>	<b>104.2</b>	<b>138</b>	<b>1,156</b>	<b>1.7x10<sup>11</sup></b>	<b>1.25x10<sup>12</sup></b>	<b>10.2</b>	<b>48.1</b>
<b>FY2019 KPG</b>	--	<b>1,800.0</b>	--	<b>N/A</b>	--	<b>N/A</b>	--	<b>N/A</b>	--	<b>N/A</b>

Well Drilling Completion by Area	FY2019 Planned	Current Calendar Month	FY2019 Cumulative
100-KR-4	2	0	2
100-HR-3	10	1	6
200-BP-5	4	0	0
200-UP-1	3	0	0
200-ZP-1	5	1	1
M-24 Milestone	5	0	0
100-F/IU	6	0	0
<b>Total Wells</b>	<b>35</b>	<b>2</b>	<b>9</b>
<b>Site Wide Boreholes</b>	<b>9</b>	<b>9</b>	<b>9</b>

## EMS Objectives and Target Status

Objective Action Plan #	Objective	Due Date	Status
19-EMS-SGRP-OBJ1-P1	Reduce adverse environmental impact to health and the environment by monitoring and confirming low-carbon tetrachloride emissions at the 200 West P&T Facility. Evaluate treated off-gas analytical results from compliance sampling and process sampling each quarter.	7/31/2019	75%
19-EMS-SGRP-OBJ2-P1	Installation and testing of a high-density polyethylene (HDPE) pipeline between Modular Storage Units (MSU) and the 200 West P&T. Objective will eliminate the need to truck the MSU water to the P&T and thereby reduce greenhouse gas emissions and other waste production from vehicle use.	12/31/2018	100%
19-EMS-SGRP-OBJ3-P1	Use of electronically completed Groundwater Sampling Reports (GSR) in FLEDGE 3.0. This will lead to a reduction in paper use and waste through completion and record storage of GSRs electronically.	9/30/2019	90%

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis)

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	1	1	4/29/2019 – Employee had been servicing a scissors lift. The employee exited the scissors lift upon completion of the work. In order to gain access to the platform of the lift, one must climb three small ladder-type steps and then pass through a small access gate. As one exits the lift, the configuration requires the person to turn, back out of the lift, and climb down the steps while maintaining a grip on the rails. This resulted in the employee contacting the ground with their left foot first. The employee would have been traveling down and slightly backward as they stepped down and away from the lift. In this event, this motion caused the employee's knee to hyper-extend. HPM Corporation (HPMC) directed employee to the Kadlec emergency room for further treatment and evaluation. Employee was provided medication and a referral to an orthopedic surgeon for further evaluation. (25156)
Total Recordable Injuries	1	1	4/29/2019 – See Above. (25156)
First Aid Cases	1	18	4/29/2019 – Employee was performing surveys of interior of source storage box located within a door panel on outside surface on the vehicle box. Employee's head came in contact with the inside surface of the lid to the storage box and scraped their scalp on screws that were used to secure a radiological posting placed to the outside surface of the source storage lid. This occurred when the lid became dislodged from the retaining latch. Employee was taken to HPMC where the scalp area was cleaned and treated with topical ointment. The employee was released back to work without restrictions. (25157)
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### Strategic Integration

- Completed acceptance testing and signed off the new modeling computing system (Gaia) into production in the Hanford Local Area Network environment. The new computing system will support the cumulative impacts evaluation (CIE) as well as other modeling activities and replaces the existing system (Tellus).
- Completed resolution of U.S. Department of Energy, Richland Operations Office (RL) comments on chapters 5 and 6 of the CIE approach document. Resolution of RL comments has now been completed on four of the six chapters.
- Submitted the revised Chapter 3 (Vadose Zone Flow and Transport Models) to RL for review of text changes that reflect disposition of comments.

### River Corridor

#### 300-FF-5 Operable Unit (OU)

- Completed logging and decommissioning of the nine Stage B post injection boreholes on March 27, 2019.

**100-BC-5 OU**

- Resolved final U.S. Environmental Protection Agency (EPA) legal comments on the Draft Revision 0 Proposed Plan (PP) during a meeting with RL and EPA on April 9, 2019. RL and EPA further concurred with final revisions made to the Draft Revision 0, Remedial Investigation/Feasibility Study (RI/FS) report.

**100-HR-3 OU**

- Completed construction at wells 199-H3-12, 199-H3-13, and 199-H3-32.

**100-KR-4 OU**

- Provided RL the 100-KR-4 explanation of significance difference for cost increase in the interim action record of decision on April 8, 2019.
- Construction has been completed at the KW Soil Flushing Treatability Test site and the construction completion document (CCD) was signed on April 17, 2019.
- Transmitted the Draft B 100-KR-1, 100-KR-2, and 100-KR-4 Operable Units Remedial Investigation to RL on April 17, 2019, for submittal to regulators for review.

**Central Plateau****200-BP-5 and PO-1 OU**

- Transmitted the Draft APP for Interim Action Remediation of the 200-BP-5 and 200-PO-1 Operable Units to RL on March 26, 2019. Subsequent transmittal from RL to State of Washington Department of Ecology (Ecology) on March 27, 2019, completed Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-015-21A.
- Provided TPA-CN-0854 for adding three Integrated Disposal Facility (IDF) wells planned for drilling in fiscal year (FY) 2019 and FY2020 to the 200-PO-1 Waste Control Plan to RL for review.
- Provided the Decisional Draft, Revision 1 Sampling Analysis Plan (SAP) for the 200-BP-5 Groundwater Operable Unit to RL for review on April 11, 2019.

**200-UP-1 OU**

- Provided RL the Revision 1, Draft A Performance Monitoring Plan for the 200-UP-1 Operable Unit Remedial Action on March 27, 2019, for transmittal to EPA for review.

**200-ZP-1 OU**

- Held a workshop with EPA on April 15, 2019, continuing discussions on 200-ZP-1 remedy implementation and nitrate treatment path forward.

**200-DV-1 OU**

- Met with Ecology on April 15, 2019, to provide an update on the cyanide monitoring being performed on the Central Plateau.

**Central Plateau Closure Plans**

- Presented 241-CX-Tanks storyboard to Ecology on April 4, 2019. Ecology indicated agreement that this is a coordinated closure with 200-IS-1. No issues identified.

**Groundwater Sciences**

- The IDF and 216-B-3 Pond Engineering Evaluation Reports were finalized, certified (by CH2M HILL Plateau Remediation Company [CHPRC] and RL). and are being transmitted from RL to Ecology.

**Project Technical Services Support**

- Training and Procedures Developed and presented new just-in-time training, NCO Continuing Training-KW Infiltration System Overview, to familiarize 100KW Area P&T operators with a system modification and upcoming treatability test.
- Project Delivery
  - o Completed KW Soil Flushing Treatability Test installation of infiltration gallery and well reconnection. The CCD has been signed.
  - o Wells YE33/YE35
    - Completed mobilization and installation of four road crossings for well YE33.
    - Commenced layout and bonding of HDPE piping for transfer of ground water between the P&T and the wells.
    - Commenced installation of meter and disconnect box at power pole for well YE33.
  - o DX – Convert Monitoring Wells to MJ29 and MJ30
    - Completed mechanical and electrical installation scope.
    - Completed flushing of HDPE lines.
    - CCD signed and turned over to operations.
  - o Commenced installation of HX permanent power source for MO651.

**Groundwater P&T Facilities****200 West P&T**

- Operated the 200 West P&T at an average of 1,815 gallons per minute (gpm) in April.
  - o Completed pigging/cleaning injection well lines from injection transfer building 1 and the injection manifold building (nine wells).
  - o Completed bio building (289T) main feeder breaker replacement.
  - o Completed operations acceptance testing (OAT) of BP-5 extraction well YE32.

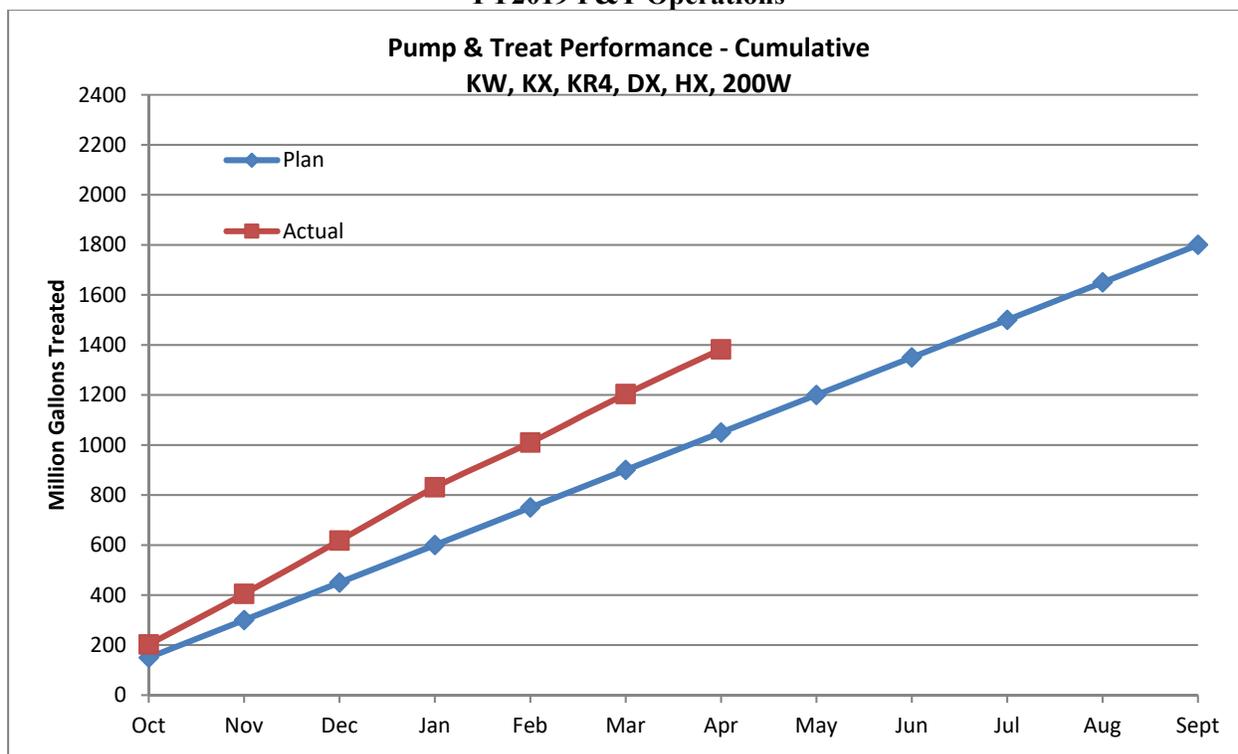
**100 Area P&Ts**

- Operated the DX P&T at 528 gpm, below the facility capacity of 775 gpm.
- Operated the KR-4 P&T at 255 gpm, below the facility capacity of 330 gpm.
- Operated the KW P&T at 234 gpm, below the facility capacity of 330 gpm.
  - o Completed tie-in of the soil infiltration system and extraction well WE11.
- Operated the KX P&T at 883 gpm, below the facility capacity of 900 gpm.
  - o Completed OAT of extraction well XE4.
  - o Completed stainless steel piping upgrades in transfer building 2.
- Operated the HX P&T at 417 gpm, below the facility capacity of 900 gpm.
  - o Completed distributor replacement in ion exchange vessels G1, E1 and A1.

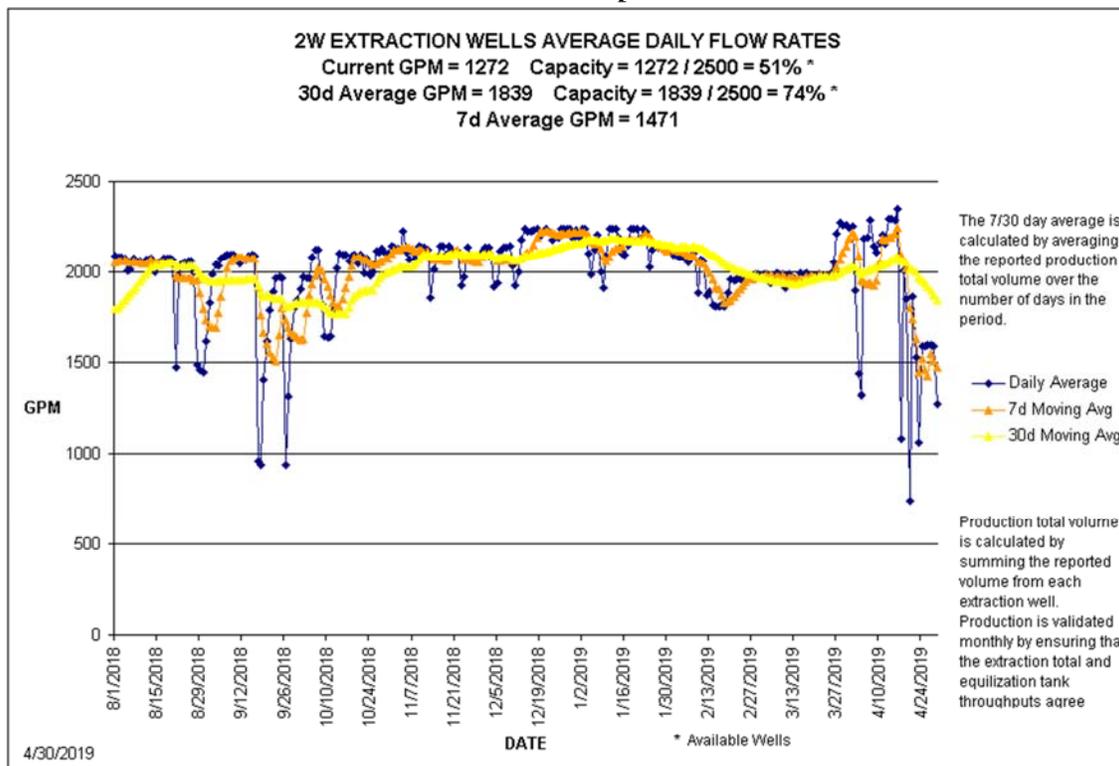
**Groundwater P&T Facilities**

Overall, the P&T systems operated above the targets as depicted in the P&T performance graph below.

### FY2019 P&T Operations



### 200 West P&T Operations



## MAJOR ISSUES

**Issue:**

On March 7, 2019, EPA notified RL that EPA Headquarters (HQ) requires a review of the Draft Revision 0 PP prior to the initiation of the public comment period. This requirement was not included in the FY2019 planning assumptions because an EPA HQ review has not been historically required. EPA HQ’s review will delay completion of the PP and may prevent achieving the 2019 Key Performance Goal (KPG), *Initiate 100-BC-5 Proposed Plan Public Review*. Currently, the Draft Revision 0 is forecast to transmit to EPA HQ in May 2019 for a 75-calendar day review period, which has absorbed all of the project’s float (for the KPG) and has pushed some FY2019 scope into FY2020.

**Corrective Action:**

The unplanned EPA HQ review is outside of CHPRC control. CHPRC will maintain contact with RL and EPA to monitor progress of EPA HQ review of the document, and evaluate and report impacts to the project.

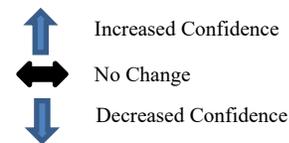
**Status:**

Final EPA legal comments are being incorporated into the Draft A PP. The document will then be updated to Draft Revision 0 and prepared for transmittal to EPA HQ in May 2019. No change.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**

-  Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.
-  Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.
-  Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.



Risk Title	Unmitigated Risk Impacts	Assessment		Comments						
		Month	Trend							
<b>RL-0030/WBS-030</b>										
<b>Explanation of major changes to the project monthly stoplight chart:</b> The following changes have been made to the monthly stoplight chart:										
1. Risk SGW-ZP1-02: <i>ZP1 Well Re-Alignment Design Differs from Planning Assumptions</i> was removed from the stoplight chart, as the risk was re-characterized to a low threat risk value.										
2. Risk SGW-BC5-06DOE: <i>BC5 – Regulatory Delays Impact KPG</i> was added to the Critical Risk section. This accepted DOE transfer risk, if realized, could affect the successful completion of KPG <i>Initiate 100-BC-5 Proposed Plan Public Review</i> .										
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>										
No realized risks identified in April.										
<b>Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)</b>										
SGW-BC5-06DOE: BC5 – Regulator Delays Impact KPG	Completion of the PP is delayed as a result of an extended regulator review leading to schedule delays that will prevent completion of RL’s KPG <i>Initiate 100-BC-5 Proposed Plan Public Review</i> .  <b>Risk Handling Strategy:</b> Transfer  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0K, 180 days	 	<b>Risk Triggers:</b> EPA HQ review of Draft Rev 0 PP is extended beyond the 75-day review calendar.  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Mitigation action(s)</th> <th style="width: 15%;">FC Date</th> <th style="width: 15%;">%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time.</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> Although actions are in place to maintain close contact with RL and EPA to monitor progress of the EPA HQ review, CHPRC’s position is that this risk is out of CHPRC’s ability to manage; therefore, this risk has been transferred to RL for evaluation and monitoring.	Mitigation action(s)	FC Date	%	None identified at this time.	N/A	N/A	
Mitigation action(s)	FC Date	%								
None identified at this time.	N/A	N/A								
<b>High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)</b>										

Risk Title	Unmitigated Risk Impacts	Assessment		Comments		
		Month	Trend			
<b>RL-0030/WBS-030</b>						
SGW-BC5-01: BC5 – Greater Than Expected Comments from RL or Regulators	Comments from RL and/or regulators on CERCLA documents submitted for review/approval are excessive, need multiple rounds of comment resolution, and are global in nature, causing both cost and schedule impacts to the project.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$30K, 64 days	●	↓	<b>Risk Triggers:</b> Additional rounds of comments are required to support completion of CERCLA documentation.		
				<table border="1" style="width: 100%;"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time.</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. Due to additional review of the PP by EPA HQ, CHPRC will be required to perform, at a minimum, one additional round of comment incorporation. The extent of impact associated with this additional round of comment incorporation is yet to be determined, as CHPRC will not receive comments from EPA HQ until late summer (August FY2019). Once comments are received, this risk may be elevated to the realized risk section.</p>	Mitigation action(s)	FC Date
Mitigation action(s)	FC Date	%				
None identified at this time.	N/A	N/A				
<b>FY2019 Risk Triggers (Risk could be realized in FY2019)</b>						
No FY2019 risk triggers identified in April.						
<b>Unassigned Risks (Pending ownership of identified risks/opportunities)</b>						
No unassigned risks identified in April.						

## PROJECT BASELINE PERFORMANCE Current Month (CM) (\$M)

RL-0030 Soil and Groundwater Remediation	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
Total	11.3	10.2	9.6	(1.1)	(9.7%)	0.6	6.0%

Numbers are rounded to the nearest \$0.1 million.

### CM Schedule Performance (-\$1.1M/-9.7%)

Primary drivers for the negative current period schedule variance (SV) include:

- 100-KR-4 P&T optimization well realignment construction was completed ahead of schedule; the SV is returning to zero.
- In Technical Integration, the composite analysis team continued to work on the recovery task (in-scope unplanned) in response to a revised Central Plateau Vadose Zone Geoframe work and necessary updates to the Hanford Site Disposition Baseline, which caused a delay in performance of the Vadose Zone Fate and Transport activities. CIE execution activities are behind schedule due to a delay in modeling subcontract procurement, and an extended RL review of the Decisional Draft Biomobilization and Biointrusion SAP have delayed Draft A preparation activities.
- Design changes for the hypchlorite injection system eliminated the need for several activities that were planned to be performed in April. The project expects those activities will be removed from the performance measurement baseline with FY2019 definitization.
- Drilling of three 200-UP-1 performance monitoring wells has been delayed due to the subcontractor’s lack of availability of qualified personnel, which has resulted in the campaign being performed with one drill rig instead of two as was submitted in the proposal, causing drilling to progress slower than planned.

- The selected subcontractor for the M-24-00 five-well campaign submitted an amended drilling schedule with a later start date than planned, resulting in the delay of subcontractor mobilization. Schedule will be recovered by the end of the fiscal year.

The negative schedule variances described above have been offset, in part, by:

- Routine groundwater sample collection and analysis crews made significant progress in April, recovering the previously behind-schedule condition for routine sample collection, which was caused by adverse weather conditions and facility delays and closures in prior periods.
- Significant performance was achieved by 200-ZP-1 drilling where the subcontractor is using air rotary drill rigs which have been very efficient as compared to the original plan.
- 100-HR-3 P&T optimization well realignment activities are continuing to progress ahead of schedule as a result of work starting sooner than planned, made possible by the early completion of fabrication of mechanical racks and the re-sequencing of fieldwork between the OUs.

### CM Cost Performance (+\$0.6M/+6.0%)

Primary drivers to the positive current period cost variance include:

- 100-HR-3 drilling campaign implemented a more efficient methodology for drilling, eliminating the need for core drilling resulting in cost savings.
- Well maintenance has required less roads and grounds maintenance than planned in the level of effort account.
- The particular sample analyses for routine sampling in April were less costly than the average sample costs planned in the baseline.

The positive cost variances described above have been offset, in part, by:

- Technical Integration required more subcontract and labor support than planned to continue progress of in-scope unplanned activities supporting completion of the composite analysis and to address the RL comments on the CIE Technical Approach Document chapters that have been submitted.
- The 100-KR-4 Soil Flushing project experienced unplanned labor and subcontract costs in order to regain schedule when backfilling the infiltration field proved to be much more challenging than planned because of the nature of the native fill material.

## Contract-to-Date (CTD) (\$M)

RL-0030 Soil and Groundwater Remediation	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)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	1,588.3	1,587.0	1,532.3	(1.3)	(0.1%)	54.7	3.4%	1,645.0	1,583.5	51.2	61.5

Numbers are rounded to the nearest \$0.1 million.

### CTD Schedule Performance (-\$1.3M/-0.1%)

The contract to date negative schedule variance is within reporting thresholds.

### CTD Cost Performance (+\$54.7M/+3.4%)

The contract to date positive cost variance is within reporting thresholds.

**Variance at Completion (+\$61.5M/+3.7%)**

The variance at completion is within reporting thresholds.

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

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

RL-0030 Soil and Groundwater Remediation	FY2019		Variance
	Projected Funding	Spending Forecast	
Spending Forecast	132.9	115.5	17.5
Incremental Scope Change Pending Change Management	0.0	1.3	(1.3)
RL-0030 - Total	132.9	116.8	16.1

Numbers are rounded to the nearest \$0.1 million

**Funds/Variance Analysis**

The FY2019 projected funding for project breakdown structure (PBS) RL-0030 is \$132.9 million. Spending forecast value includes cost and fee.

**Critical Path Schedule**

Critical path analysis will be provided upon request.

## MILESTONE STATUS

The following table is a one-year look ahead of PBS RL-0030 Tri-Party Agreement enforceable milestones, non-enforceable target due dates, and commitments.

Number	Title	Due Date	Actual Date	Forecast Date	Status/Comment
<b>Milestones on Schedule</b>					
M-015-21A	Submit 200 BP-5 & 200 PO-1 OU FS Report and PP(s) to Ecology	3/31/2019	03/27/2019 (A)		Completed
M-024-58L	Initiate Discussions of Well Commitments	6/1/2019		6/1/2019	On Schedule
M-024-70-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	8/1/2019		8/1/2019	On Schedule

## Milestones at Risk

Milestones at Risk					
M-015-93C	Initiate Characterization Field Work for 200-SW-2 Operable Unit Landfills	9/30/2018		TBD	Dispute resolution initiated on July 9, 2018 (18-AMRP-0135).
M-015-98	Complete Remedial Investigation of U Plant Related Waste Sites located in 200-WA-1	6/30/2019		TBD	At Risk. Work not funded in FY2019 (19-AMRP-0056).
M-085-70	Submit to Ecology a Remedial Investigation/Feasibility Study WP for 200-CB-1	9/30/2019		TBD	At Risk. Work not funded in FY2019.

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

## DOE ACTIONS / DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
RL Provide 200-UP-1 Remedial Design/Remedial Action Work Plan (RD/RAWP) Decisional Draft Revision I Comments	12/1/2018 (A)	5/23/2019
RL Review of 100-NR-2 RI/FS Decisional Draft B	3/4/2019 (A)	6/28/2019
RL Extended Review of Decisional Draft Biomobilization and Biointrusion SAP	3/7/2019 (A)	5/16/2019
RL Review Draft Annual Groundwater Report	4/16/2019 (A)	5/21/2019
RL Review 100-HR-3 Draft Drilling SAP	4/16/2019 (A)	5/8/2019
RL Transmit 200 Area P&T Report PMP Draft A to EPA	4/18/2019 (A)	5/7/2019
RL Transmit 200-ZP-1 RD/RAWP Draft A Revision 1 to EPA	4/22/2019	5/5/2019
RL Review 200-DV-1 Treatability Laboratory Test Plan Decisional Draft	4/23/2019	5/22/2019
RL Review of 100-KR-4 Feasibility Study Decisional Draft B	4/25/2019	5/24/2019
RL Transmits 100-KR-4 RI Draft B for EPA Review	4/26/2019	5/10/2019
RL Review 200-BP-5 Groundwater Monitoring Plan Revision 1 Decisional Draft	4/30/2019	5/29/2019
RL Review 200- ZP-1 Data Quality Objective/SAP Decisional Draft A	4/30/2019	5/14/2019
RL Transmit 100-NR Biovent Characterization Final Area of Potential Effect to Site Historic Preservation Office (SHPO)/Tribes	5/4/2019	5/5/2019
RL Submit 216-A-37-1 Crib Engineering Evaluation Report Revision 0 to Ecology	5/6/2019	5/17/2019
RL Transmit 100-HR-3 RD/RAWP Draft Revision 0 to Regulators for Review	5/8/2019	6/6/2019
RL Review Draft 100 Area P&T Report	5/15/2019	6/13/2019
RL Review of Draft 200 Area P&T Report	5/15/2019	6/13/2019
RL Review Draft Infiltration Pond Evaluation Report	5/16/2019	6/14/2019
RL Review 100-KR-4 Drilling SAP	5/17/2019	6/15/2019
RL Review 100-KR-4 FY2020 Drilling SAP Addendum	5/17/2019	6/15/2019
RL Transmit 216-B-3 Pond Engineering Evaluation Report Rev. 0 to Ecology	5/20/2019	6/3/2019
RL Review 100-NR Biovent Characterization SAP Draft	5/29/2019	6/27/2019
RL Review 100-HR-3 FY2020 Drilling SAP Addendum	5/30/2019	6/28/2019

Description	CHPRC Delivery Date	Expected RL Due Date
RL Submit 100-BC-5 RI/FS Revision 0 Report to Regulators	6/4/2019	6/18/2019
RL Transmit 200-BP-5 Proposed Plan Draft A to Regulators for Review	6/5/2019	6/8/2019
RL Review 100-NR Biovent Characterization Cultural Resource Review	6/7/2019	6/12/2019
RL Transmit 200-UP-1 Cr Remedy Remedial Design Investigation Report Draft Revision 0 to Regulators for Check Review	6/14/2019	6/28/2019
RL Transmit 200-DV-1 Treatability Laboratory Test Plan Decisional Draft A to Ecology/EPA for Review	6/14/2019	6/25/2019
RL Review 216-A-29 Ditch Draft Ground Water Monitoring Plan	6/18/2019	7/17/2019
RL Review UP-1 RD/RAWP Revision II Decisional Draft	6/18/2019	7/14/2019
RL Transmit 100-NR Biovent Characterization Revised Cultural Resource Review to SHPO/Tribes for Review	6/19/2019	6/22/2019
RL Transmit 200-BP-5 Proposed Plan Draft Revision 0 to Regulators for Approval	6/20/2019	6/22/2019
RL Transmit 200-ZP-1 DQO/SAP Draft A to Regulators	6/20/2019	6/27/2019
RL Review 100-KR-4 Waste Management Plan	6/25/2019	7/24/2019
RL Transmit 200-BP-5 Central Plateau Tracer Study SAP Draft Rev 0 to Regulators for Check Review	6/26/2019	7/9/2019
RL Transmit 200-UP-1 Performance Measurement Plan Rev 1 Document to EPA for Approval	6/27/2019	7/10/2019
RL Transmit 200-EA-1-RI/FS Work Plan Draft Rev 0 to Regulators for Check Review	6/27/2019	7/8/2019
RL Review 100-KR-4 Tri-Party Agreement Change Notice to SAP for FY2019 Wells	6/28/2019	7/17/2019
RL Review 100-HR-3 Tri-Party Agreement Change Notice to SAP for FY2019 Wells	6/28/2019	7/27/2019
RL Review 100-HR-3 Tri-Party Agreement Change Notice to Waste Management Plan to Add FY2020 Drilling Waste	6/28/2019	7/27/2019

# Section E

## Nuclear Facility D&D, Remainder of Hanford (RL-0040)

**CH2MHILL**  
Plateau Remediation Company



T.E. Bratvold  
Vice President for  
Central Plateau Risk  
Management Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

M. A. Wright  
Vice President for  
Project Technical  
Services

## PROJECT SUMMARY

With the improvement of weather, Central Plateau Risk Management (CPRM) was successful in continuing progress of many key activities for the fiscal year (FY). Five steam line crossovers located in the 200 East area completed final abatement and processing, bringing the total to eight completed crossover removals. Additionally, approximately 5,900 linear feet of asbestos steam lines in 200 West have been abated to date. Grouting of Plutonium Uranium Extraction Plant (PUREX) Tunnel 2 is 99 percent complete. Completion and demobilization will occur in May. Mercury was discovered on the seventh floor of the Silo Sample Gallery in the Reduction Oxidation Plant (REDOX) Facility. This required the team to back out and reassess the protective equipment and entry strategy for the area. Electrical isolation of 242-B/BL was completed and mechanical isolation continued supporting demolition preparation.

### EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
19-EMS-CPRM-OBJ-P1	Increase Environmental Management System (EMS) awareness	Present or facilitate a discussion of EMS topics to personnel on a minimum of four different occasions in FY2019 and recruit personnel (other than environmental) to participate in at least two compliance review/programmatic walk downs.	9/30/2019	80%

### TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	0	N/A
Total Recordable Injuries	0	1	N/A
First Aid Cases	1	15	4/16/2019 – Employee was performing asbestos abatement. After abatement was complete, employee began to cut the bag off the pipe and cut their left thumb nailbed. Employee notified co-workers, who let supervisor know while employee was exiting the boundary. Notifications were made and the employee was transported to HPM Corporation for evaluation. Employee returned to work with restriction of “follow company guidelines for wound protection.” (25135)
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### RL-0040 Accomplishments

#### CPRM Surveillance and Maintenance (S&M)

- Completed quarterly CX-70/71/72 inspections.
- Performed PUREX annual surveillance.
- Completed inactive waste information data system site annual surveillance at PUREX, REDOX, and B Plant.
- Supported painting of fixed contamination areas at PUREX laboratory paint room.
- Completed setup of REDOX restroom trailer.

#### PUREX Tunnel 2 Stabilization Project

##### Project Technical Services Support

- Completed grouting 99 percent of PUREX Tunnel 2.

#### PUREX Canyon Mobile Office and Shower Trailers Installation

- Initiated planning with installation subcontractor.
- Finalized engineering change request and trailer design drawings with vendors.

#### REDOX Canyon Risk Mitigation

- Continued seventh floor Silo Sample Gallery interrogation, revised sampling paperwork to incorporate monitoring for additional potential hazards discovered during seventh-floor entry, and re-entered to perform monitoring.
- Provided subject matter expert controls and comments for radio installation performance testing.
- Completed collection of all requested beryllium samples in the REDOX Silo sixth floor canyon.
- Removed additional combustible materials from the REDOX yard, including a decrepit storage shed.
- Commenced patching repairs on blower room number 3 roof to mitigate water intrusion.
- Received draft fire marshal response plan as part of REDOX transition from S&M to decommissioning mission.
- Continued engineering walk downs to determine ventilation penetration locations interior to REDOX.
- Commenced paperwork preparations for sample analysis of powders and container contents discovered during seventh floor Silo Sample Gallery entry.
- Obtained REDOX canyon deck beryllium sample analysis results. These results indicated no beryllium hazard associated with deck.
- Approved use of new restroom to provide services while MO409 lift station repairs are completed.
- Approved work package to allow water sampling in north sample gallery.
- Placed contracts for new access road and personnel trailers for north side of REDOX.
- Troubleshoot and repaired MO409 electrical outage.

#### 242-B/BL Demo Preparation

- Continued installation of mobile trailers near 242-B/BL.
- Completed installation of temporary power and lighting in 242-B/BL.
- Completed electrical isolations and completed all but two mechanical isolations.

#### Steam Line Removal

- Completed asbestos insulation abatement of REDOX Zone 1.
- Completed asbestos insulation abatement of 200W Section 1 (REDOX to Crossover 12).
- Completed final abatement and processing of five steam line crossovers locations in the 200 East Area.

## MAJOR ISSUES

### Issue

On January 11, 2018, the State of Washington, Department of Ecology (Ecology) Nuclear Waste Program performed a Dangerous Waste Compliance Inspection at B Plant. During their review of the “2017 B Plant Complex Annual Surveillance Issue List,” it was noted in the B Plant 221-B “Issue” column, “White residue on the floor (not new).” In addition, the “issue” column also noted “Expansion joint crack, white residue on floor.” As a result of these observations, Ecology has requested that within 90 days upon receipt of the compliance report, designation results of the white residue on the floor of the canyon building, 221-B pipe, and operating gallery be submitted.

### Corrective Action

RL and CH2M HILL Plateau Remediation Company (CHPRC), with legal representation, have met to establish a path forward.

1. Perform a records search to determine when the white powder was first identified.
2. During upcoming entries, as part of the annual surveillance, data (photos and description of surroundings) will be obtained and evaluated to determine if it is sufficient to support designation based on process knowledge.
3. Actual cost information associated with sampling and analysis of the white powder at PUREX will be used to develop a cost estimate for sampling and analysis of the white powder at B Plant.
4. The PUREX sample analysis plan (SAP) will be revised to support sampling and analysis of the white powder in the event that it is determined as part of item number 2 that process knowledge is not sufficient to support designation.
5. If sampling is required to support designation, CHPRC will determine if designation can be accomplished in the required 90-day period and notify RL if an extension is needed.

### Status

CHPRC has received contracting officer direction to remedy environmental and regulatory documents. The initial cost and schedule estimate indicates the committed May cleanup date does not appear achievable at this time based on delays in preparing and approving the environmental documents. RL has indicated that although the May deadline for cleanup will not be met, the powder will be cleaned up within FY2019.

In addition, a waste designation was provided to RL for the B Plant white residues. CHPRC provided clarification to Ecology that although the substance does contain lead, it is not considered hazardous waste.

### Issue

On September 25, 2018, an entry into the REDOX canyon was performed for the first time since 1997. During the entry, significant combustible loading (liquid and solid) was discovered throughout the canyon.

### Corrective Action

Fire Protection Engineering will evaluate as-found condition against National Fire Protection Association (NFPA) requirements for combustible material loading. Fire Protection Engineering determined the hazardous combustible materials required packaging and removal from the REDOX Canyon in order to comply with current NFPA standards.

### Status

Entries into the REDOX Canyon have been performed, and more hazardous combustible material has been discovered. Waste loadout continues and a work package is in development for large items

requiring size reduction. There is a high likelihood of further discoveries of combustible material in the east end of the canyon once further entries are performed.

**Issue**

Over the past six months, the rate of liquid accumulation in the PUREX deep bed filter condensate tank (V11-10-1) has exceeded historical trends. Significant liquid accumulation in this tank indicates water intrusion through the deep bed filter structure. Water intrusion to the deep bed filter structure poses at least three risks: radiological contamination spread, wetting of filter media, and structure erosion.

**Corrective Action**

Structural integrity analysis being performed as part of determining remediation path alternatives to water intrusion.

**Status**

Structural integrity analysis is ongoing with a final report expected to complete by May 30, 2019. The project continues to track the water level in catch tank; current water level tracks consistent with rainfall.

**RISK MANAGEMENT STATUS**

<p><b>Unassigned Risk</b></p> <p><b>Risk Passed</b></p> <p><b>New Risk</b></p> <p><b>Change</b></p>	<p> Opportunity realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.</p> <p> Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.</p> <p> Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.</p>	<p> Increased Confidence</p> <p> No Change</p> <p> Decreased Confidence</p>
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Risk Title	Unmitigated Risk Impacts	Assessment		Comments																		
		Month	Trend																			
<b>RL-0040/WBS-040</b>																						
<b>Explanation of major changes to the project monthly stoplight chart:</b>																						
Based on current project status, risks PRXT-S2-004, <i>Design Maturity</i> , REDOX-01, <i>Inclement Weather</i> , and REDOX-12, <i>Unexpected Discovery – Combustibles</i> , were removed from the stoplight chart as realized risks.																						
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>																						
PRXT-S2-010: Inclement Weather	Inclement weather, including moderate winds, low or high temperatures, and thunderstorms will result in in-scope unplanned work and result in schedule impacts to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$0, 68 day			<p><b>Risk Event:</b> The work was assumed to be performed in fall weather conditions per the contract with the grouting contractor.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Purchase freeze protection equipment.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Drain booms after each shift.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Running extension boom heater off shift.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Renegotiate unit rate with contractor for grout placement.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Negotiate cost impacts to grout contractor for inclement weather delays.</td> <td>May 2019</td> <td>0</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. To mitigate potential bad weather, grout placement has been working a 5/10 schedule. Additionally, the project team and grout contractor worked with facility support (radiological controls) in order to perform startup and shut down sequence of activities as efficiently as possible, thus maximizing the hours available to grout during shift. CHPRC procurement and the grout contractor renegotiated the unit rate for grout placement after December 9, 2018. The contract change was initiated to incorporate impacts for cold weather grout placement and redefine standby/conveyance system maintenance usage and rates in an attempt to minimize stand down/delay time change orders but still incentivize the contractor to complete as quickly as possible.</p> <p>Due to adverse winter weather conditions, the grout placement was put on a temporary hold from February 4 through March 11, 2019. CHPRC project management and the grout contractor proactively worked to mitigate cost</p>	Risk Recovery action(s)	FC Date	%	Purchase freeze protection equipment.	Complete	100	Drain booms after each shift.	Ongoing	N/A	Running extension boom heater off shift.	Ongoing	N/A	Renegotiate unit rate with contractor for grout placement.	Complete	100	Negotiate cost impacts to grout contractor for inclement weather delays.	May 2019	0
Risk Recovery action(s)	FC Date	%																				
Purchase freeze protection equipment.	Complete	100																				
Drain booms after each shift.	Ongoing	N/A																				
Running extension boom heater off shift.	Ongoing	N/A																				
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Negotiate cost impacts to grout contractor for inclement weather delays.	May 2019	0																				

Risk Title	Unmitigated Risk Impacts	Assessment		Comments												
		Month	Trend													
<b>RL-0040/WBS-040</b>																
				impacts, which included layoffs of drivers and cancellation of some equipment rentals. The stand down time is estimated at 23 working days. The final cost impact remains to be negotiated with CHPRC procurement.												
REDOX-01: Resource Availability	Other higher CHPRC priority work results in reallocation of resources, improving job markets, in addition to other factors, result in competition for key resources. In addition, higher-than-anticipated attrition impacts project cost.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$90K, 48 day	●	↔	<p><b>Risk Event:</b> Other Hanford contractors (OHC) and higher CHPRC priority work has impacted the resource availability for REDOX. OHCs impacted work through the labor asset management program (LAMP) taking skilled and trained Decontamination &amp; Decommissioning (D&amp;D) workers.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Identify and hire temporary employees (D&amp;D, asbestos workers, Radiological Control Technicians) early in the fiscal year.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Meet with other CHPRC projects in attempts to spread resources appropriately between projects.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Conduct ongoing Full Time Equivalent analyses to ensure staffing is adequate.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. D&amp;D workers were hired in late January and completed the required training at the HAMMER Federal Training Center. Currently, the D&amp;D workers are in field training while remaining requirements such as chest counts, are being conducted. This will allow D&amp;D workers entry access in radiological areas within REDOX to work on field activities.</p>	Risk Recovery action(s)	FC Date	%	Identify and hire temporary employees (D&D, asbestos workers, Radiological Control Technicians) early in the fiscal year.	Complete	100	Meet with other CHPRC projects in attempts to spread resources appropriately between projects.	Ongoing	N/A	Conduct ongoing Full Time Equivalent analyses to ensure staffing is adequate.	Ongoing	N/A
Risk Recovery action(s)	FC Date	%														
Identify and hire temporary employees (D&D, asbestos workers, Radiological Control Technicians) early in the fiscal year.	Complete	100														
Meet with other CHPRC projects in attempts to spread resources appropriately between projects.	Ongoing	N/A														
Conduct ongoing Full Time Equivalent analyses to ensure staffing is adequate.	Ongoing	N/A														
REDOX-06: Impacted by OHC (Other Hanford Contractors) or Other CHPRC Projects	Delays by Other Hanford Contractors (OHCs), or other CHPRC projects impacts the schedule and technical approach due to inconsistencies with CHPRC execution, resulting in recovery actions, causing unplanned, in-scope work and impacting the schedule.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$100K, 24 day	●	↓	<p><b>Risk Event:</b> Impacts from OHC would impact the ability for work to progress at REDOX due to conflicts with close neighbors (222-S Lab).</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Communication plan and outreach efforts will be developed and executed throughout the project.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Establish north side road parking lot and trailer access to avoid interferences with Mission Support Alliance and Washington River Protection Solutions LLC (WRPS) work to the south.</td> <td>July 2019</td> <td>35%</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Construction of an access road connecting the north side of REDOX to Beloit Avenue will reduce the interaction between REDOX and 222-S Lab. Additionally, a four-wide trailer is in the process of being procured to move personnel from MO409 to the north side of REDOX, reducing the amount of personnel interacting with 222-S Lab.</p>	Risk Recovery action(s)	FC Date	%	Communication plan and outreach efforts will be developed and executed throughout the project.	Ongoing	N/A	Establish north side road parking lot and trailer access to avoid interferences with Mission Support Alliance and Washington River Protection Solutions LLC (WRPS) work to the south.	July 2019	35%			
Risk Recovery action(s)	FC Date	%														
Communication plan and outreach efforts will be developed and executed throughout the project.	Ongoing	N/A														
Establish north side road parking lot and trailer access to avoid interferences with Mission Support Alliance and Washington River Protection Solutions LLC (WRPS) work to the south.	July 2019	35%														
REDOX-07: Building Accessibility due to Water Intrusion	Extensive leaks are experienced in the galleries due to the current state of the Annex areas and silo roof, resulting in schedule delays to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0K, 32 day	●	↓	<p><b>Risk Event:</b> Leaking roofs have allowed water to accumulate in areas of the facility that prohibits personnel in certain areas of the building. Due to electrical concerns, personnel at REDOX has not been able to access the west end of the North Sample Gallery.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Spray roof with engineered roofing sealant prior to the rainy season, in an effort to minimize leaks.</td> <td>June 2019</td> <td>0</td> </tr> <tr> <td>Patch existing roof vulnerabilities.</td> <td>June 2019</td> <td>0</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Work plans involving the electricians to enter the North Sample Gallery to collect samples of the water that has accumulated are underway. Work packages are being modified and hazard identification are being worked to address the water in the west end of the North Sample Gallery.</p>	Risk Recovery action(s)	FC Date	%	Spray roof with engineered roofing sealant prior to the rainy season, in an effort to minimize leaks.	June 2019	0	Patch existing roof vulnerabilities.	June 2019	0			
Risk Recovery action(s)	FC Date	%														
Spray roof with engineered roofing sealant prior to the rainy season, in an effort to minimize leaks.	June 2019	0														
Patch existing roof vulnerabilities.	June 2019	0														

Risk Title	Unmitigated Risk Impacts	Assessment		Comments												
		Month	Trend													
<b>RL-0040/WBS-040</b>																
REDOX-08: Regulatory Documents Delayed	Regulatory documents, specifically the Removal Action Work Plan (RAWP) and the Sample Analysis Plan (SAP) that grant authorization for deactivation and decommissioning activities within 202-S REDOX, are delayed resulting in loss in schedule and cost.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0K, 48 day			<p><b>Risk Event:</b> Regulatory documents (RAWP and the SAP) have been delayed resulting in schedule impacts because demolition preparations activities would not start. A significant amount of unexpected liquids was discovered in Tank 604 in the silo. The delay in regulatory documents would delay the ability to drain and dispose of the liquid.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Work closely with the appropriate organizations responsible for managing the development of the various regulatory documents to ensure the documents are scheduled to be developed sufficiently early to obtain needed DOE or regulator approvals prior to planned start of work.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Establish routine status meetings with these organizations to provide early warning if documents are being delayed in order to help develop acceptable work-arounds in order to minimize the schedule impact.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Ongoing interfaces and meetings with DOE to discuss the status of the RAWP and the SAP are taken place so all interested parties understand the consequences of delayed regulatory documents.</p>	Risk Recovery action(s)	FC Date	%	Work closely with the appropriate organizations responsible for managing the development of the various regulatory documents to ensure the documents are scheduled to be developed sufficiently early to obtain needed DOE or regulator approvals prior to planned start of work.	Ongoing	N/A	Establish routine status meetings with these organizations to provide early warning if documents are being delayed in order to help develop acceptable work-arounds in order to minimize the schedule impact.	Ongoing	N/A			
Risk Recovery action(s)	FC Date	%														
Work closely with the appropriate organizations responsible for managing the development of the various regulatory documents to ensure the documents are scheduled to be developed sufficiently early to obtain needed DOE or regulator approvals prior to planned start of work.	Ongoing	N/A														
Establish routine status meetings with these organizations to provide early warning if documents are being delayed in order to help develop acceptable work-arounds in order to minimize the schedule impact.	Ongoing	N/A														
REDOX-11: Unexpected Discovery - Hazmat	Unexpected or late discovery of hazardous material is discovered during deactivation and decommissioning of 202-S REDOX.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$11K, 48 day			<p><b>Risk Event:</b> During D&amp;D activities, there is an unexpected discovery of hazardous material.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform investigative entries into silo, North Sample Gallery, and canyon.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Characterization in progress.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Innovative methods (i.e., robots) to further understand conditions.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Investigative entries and characterizations are furthering the understanding of the current conditions of REDOX.</p>	Risk Recovery action(s)	FC Date	%	Perform investigative entries into silo, North Sample Gallery, and canyon.	Ongoing	N/A	Characterization in progress.	Ongoing	N/A	Innovative methods (i.e., robots) to further understand conditions.	Ongoing	N/A
Risk Recovery action(s)	FC Date	%														
Perform investigative entries into silo, North Sample Gallery, and canyon.	Ongoing	N/A														
Characterization in progress.	Ongoing	N/A														
Innovative methods (i.e., robots) to further understand conditions.	Ongoing	N/A														
REDOX-16: Facility Integrity	Problems with aging building systems/components (e.g. roofing/structures, etc.) result in inoperability or requires unscheduled maintenance/outages impacting planned D&D activities resulting in schedule delays and cost impacts.  <b>Risk Handling Strategy:</b> Transfer  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$0, 0 day			<p><b>Risk Event:</b> Leaking roof results in unsafe working conditions for personnel.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform cold and dark activities to shut off building power.</td> <td>Sep 2019</td> <td>35</td> </tr> <tr> <td>Repair minor roof defects.</td> <td>May 2019</td> <td>25</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Integrity failures could lead to water issues within radiological contaminated areas causing a hazard to personnel. Going cold and dark will minimize the risk for electrical shock due to water. Making minor repairs to leaking parts of the roof can significantly reduce water intrusion.</p>	Risk Recovery action(s)	FC Date	%	Perform cold and dark activities to shut off building power.	Sep 2019	35	Repair minor roof defects.	May 2019	25			
Risk Recovery action(s)	FC Date	%														
Perform cold and dark activities to shut off building power.	Sep 2019	35														
Repair minor roof defects.	May 2019	25														

Risk Title	Unmitigated Risk Impacts	Assessment		Comments																		
		Month	Trend																			
<b>RL-0040/WBS-040</b>																						
<b>Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)</b>																						
REDOX-05: Collapse of Sand Filter	Due to the close proximity of equipment driving by (cranes, forklifts for waste loadout, steam lines), age, and structural integrity, the project experiences a collapse of a sand filter, resulting in cost and schedule impacts to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very Low (<10%) <b>Worst Case Impacts:</b> \$260K, 48 day	●	↔	<p><b>Risk Triggers:</b> Due to the close proximity of equipment driving by (cranes, forklifts for waste loadout, steam lines), age, and structural integrity, the project experiences a collapse of a sand filter.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Establish project boundary.</td> <td>June 2019</td> <td>50%</td> </tr> <tr> <td>Use bracing when digging.</td> <td>Not yet digging</td> <td>N/A</td> </tr> <tr> <td>Implement communication plan between other Hanford contractor and other CHPRC projects.</td> <td>Ongoing</td> <td>NA</td> </tr> <tr> <td>Engineering to conduct structural integrity and equipment stand-off evaluations.</td> <td>Ongoing</td> <td>NA</td> </tr> <tr> <td>Follow the critical lift process, and hoisting and rigging manual.</td> <td>Ongoing</td> <td>NA</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in <b>April</b>. The project is working to ensure that the steam line removal efforts consider sand filters while planning. The project has been in communication with the 222-S Labs about future work scope at REDOX. Engineering has also been involved in structural evaluations of the sand filters. These evaluations will be used for establishing an equipment stand-off distance. Additionally, discussions for the initial planning of the critical lift process is <b>ongoing</b>.</p>	Mitigation Action(s)	FC Date	%	Establish project boundary.	June 2019	50%	Use bracing when digging.	Not yet digging	N/A	Implement communication plan between other Hanford contractor and other CHPRC projects.	Ongoing	NA	Engineering to conduct structural integrity and equipment stand-off evaluations.	Ongoing	NA	Follow the critical lift process, and hoisting and rigging manual.	Ongoing	NA
Mitigation Action(s)	FC Date	%																				
Establish project boundary.	June 2019	50%																				
Use bracing when digging.	Not yet digging	N/A																				
Implement communication plan between other Hanford contractor and other CHPRC projects.	Ongoing	NA																				
Engineering to conduct structural integrity and equipment stand-off evaluations.	Ongoing	NA																				
Follow the critical lift process, and hoisting and rigging manual.	Ongoing	NA																				
<b>High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)</b>																						
No high risk threat value risks in <b>April</b> .																						
<b>FY2019 Risk Triggers (Risk could be realized in FY2019)</b>																						
PRXT-S2-009: Resources Unavailable	Other higher CHPRC priority work results in reallocation of resources, improving job markets, funding uncertainties, or bump and roll result in competition for key resources. In addition, higher than anticipated attrition impacts project cost.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$102K, 64 day	●	↔	<p><b>Risk Triggers:</b> Due to the current job market, in addition to the need for specialized resources to complete the planned PUREX stabilization activities, qualified and trained resources are needed to support planned activities.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Conduct full time equivalent personnel analysis and identify corrective actions to ensure adequate resource profiles.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in <b>April</b>. The project has hired D&amp;D workers in anticipation of another 25 Nuclear Chemical Operator openings at WRPS in second quarter FY2019.</p>	Mitigation action(s)	FC Date	%	Conduct full time equivalent personnel analysis and identify corrective actions to ensure adequate resource profiles.	Ongoing	N/A												
Mitigation action(s)	FC Date	%																				
Conduct full time equivalent personnel analysis and identify corrective actions to ensure adequate resource profiles.	Ongoing	N/A																				
<b>Unassigned Risks (Pending ownership of identified risks/opportunities)</b>																						
No unassigned risks identified in <b>April</b> .																						

## PROJECT BASELINE PERFORMANCE

### Current Month (CM)

(\$M)

WBS 040/ RL-0040 Nuclear Facility D&D	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
Total	7.3	4.9	6.4	(2.4)	-33.0%	(1.5)	-31.0%

Numbers are rounded to the nearest \$0.1 million

#### CM Schedule Performance: (-\$2.4M/-33.0%)

The current month negative schedule variance is primarily due to the mercury discovery in the seventh floor of the silo gallery of REDOX. In addition, performance of PUREX Tunnel 2 stabilization is ahead of the baseline schedule; therefore, lagging budgeted cost of work scheduled is attributed to the current month variance. Lastly, work package development associated with size reduction in the REDOX radiological zone delayed planned HAZMAT removal due to turnover in Industrial Hygiene.

**CM Cost Performance: (-\$1.5M/-31.0%)**

The current month negative cost variance is partially attributed to the 200 West Steam Line Removal project requiring additional labor resources in order to increase abatement output before summer weather impacts the ability to perform this work efficiently. Program Management also contributed to the negative cost variance as there has been an increase to the required staffing to support field personnel. Additionally, performance of an unplanned subcontracted structural integrity study resulted in costs not planned in the baseline.

**Contract-To-Date (CTD)  
(\$M)**

WBS 040/ RL-0040 Nuclear Facility D&D	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)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	534.0	530.8	507.8	(3.2)	-0.6%	22.9	4.3%	554.9	538.7	30.9	16.1

Numbers are rounded to the nearest \$0.1 million

**CTD Schedule Performance: (-\$3.2M/-0.6%)**

The CTD schedule variance is within reporting thresholds.

**CTD Cost Performance: (+\$22.9M/+4.3%)**

The CTD cost variance is within reporting thresholds.

**Variance at Completion (+\$16.1M/+2.9%)**

The variance at completion (VAC) is within reporting thresholds.

**Contract performance report formats are provided in Appendix A.**

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

WBS 040/RL-0040 Nuclear Facility D&D	FY2019		Variance
	Projected Funding	Spending Forecast	
RL-0040 Spending Forecast	81.8	75.2	6.6
Incremental Scope Pending Change Management	0.0	2.5	(2.5)
RL-0040 – Total	81.8	77.7	4.1

Numbers are rounded to the nearest \$0.1 million.

**Funds/Variance Analysis**

FY2019 funding for project breakdown structure (PBS) RL-0040 is \$81.8 million. FY2019 funding aligns with the RL integrated priority list (IPL). The variance primarily reflects the work scope included in the IPL that is pending authorization.

**Critical Path Schedule**

Critical path analysis can be provided upon request.

**MILESTONE STATUS**

The following table is a one-year look ahead of PBS RL-0040 Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) enforceable milestones, non-enforceable target due dates, and commitments.

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-016-250D	Submit to Ecology a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions.	3/31/2019	3/27/2019 (A)		Complete.
M-016-256	Complete Removal of All Waste Sites for FY2019 as Updated/Modified in M-16-17-01.	9/30/2019		TBD	In negotiation with RL to adjust schedule to FY2020. Currently in dispute resolution.

**GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)**

None currently identified.

**DOE ACTIONS / DECISIONS**

Description	CHPRC Delivery Date	Expected RL Due Date
RL Review 224-B (B Plant) Removal Action Work Plan (RAWP) (2017-34)	8/16/2017 (A)	5/30/2019
202-A PUREX (2016-15) Draft B Engineering Evaluation/Cost Analysis (EE/CA) Ecology Review	12/11/2017 (A)	6/30/2019
REDOX RAWP (2017-06) Revision 0 Regulator Approval/Complete	3/15/2018 (A)	4/29/2019
REDOX Sampling Analysis Plan (SAP) (2017-05) Revision 0 Regulator Approval/Complete	4/11/2018 (A)	5/10/2019
Tier 2 Misc. (B Plant North) SAP (2017-47) Revision 0 Regulator Approval/Complete	4/17/2018 (A)	4/29/2019
Tier 2 Misc. Fac. (B Plant North) RAWP (2016-50) Revision 0 Regulator Approval/Complete	5/2/2018 (A)	3/27/2019 (A)

# Section F

## Nuclear Facility D&D, River Corridor (RL-0041)

**CH2MHILL**  
Plateau Remediation Company



R. M. Geimer  
Vice President for  
K Basin Operations

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

T. L. Hobbes  
Vice President for  
River Risk Management Project

M. A. Wright  
Vice President for  
Project Technical Services

## PROJECT SUMMARY

### K Basin Operations (KBO):

The 100K Closure remediation team continued excavation and loadout of soil from the east trench and demolition and loadout of the concrete box culvert from the west trench of Waste Site 100-K-47:1. Waste Site 116-KE-2 in-process soil sample results were received and detected hexavalent chromium, uranium, strontium-90, and cesium-137 above remedial action goals (RAGs). Excavation and loadout will resume digging an additional six feet (approximately 54 feet below ground surface) and soil sampling will again be conducted. The 100K Closure Interim Safe Storage (ISS) team awarded the asbestos material removal. The 100K Closure K West Basin deactivation team resolved final issues surrounding planned shipment of the basin floor settled solids samples to the 222-S Laboratory and firmed up plans to ship the samples in early May. The request for proposal (RFP) for vertical pipe casing (VPC) fabrication was issued with responses due back from bidders in early May.

### River Risk Management Project (RRMP):

Crews at the 324 Building completed B Cell camera installations required for the operation of the Remote Soil Excavation Operations (RSEO) equipment. In addition, external cell sealing was re-initiated. Outside the facility, crews initiated removal of underground obstructions. A new gate was installed in the northeast portion of the facility fence to support future waste box loadout. B Cell cleanout of debris was initiated with two bins of debris loaded and removed from B Cell. Additional bins are in B Cell to continue loadout operations. Progress continued on the final equipment procurements of RSEO items with the completion of the proof of concept testing for the grout system for the cell dams. At the mockup, the team installed and demonstrated the use of the lower remote excavator arm (REA) in support of grout test pad demolition. The CHPRC Junior and Mid-level Professionals network toured the mockup on April 11, 2019.

## EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
19-EMS-RRMP-OBJ1-P1	Increase Environmental Management System (EMS) awareness	Present or facilitate a discussion of EMS topics to 324 Building Disposition Project personnel on a minimum of five different occasions in fiscal year (FY) 2019 and recruit personnel from the 324 Building Disposition Project organizations (other than environmental) to participate in at least five compliance review/programmatic walk downs.	9/30/2019	90%
19-EMS-KBOPR-OBJ1-P1	Improve compliance/pollution and spill prevention	Monitor and evaluate universal waste and recycling accumulation areas for compliance with CHPRC procedures. Survey spill prevention measures.	9/30/2019	48%

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	Current Month	Rolling 12 Months	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	0	N/A
First Aid Cases	0	31	N/A
Near Misses	0	2	N/A

## KEY ACCOMPLISHMENTS

### K Basin Operations

- 100K Closure Project:
  - o Received 100K Soil Remediation in-process soil sampling results showing hexavalent chromium in one Waste Site 116-KE-2 sample above river protection RAGs, and uranium, strontium-90, and cesium-137 were also detected at levels above RAGs. Will formulate plan to continue excavation to remove contaminants detected above RAGs.
  - o Continued excavation and loadout on the east leg of Waste Site 100-K-47:1.
  - o K West Basin Deactivation
    - Issued the RFP for equipment fabrication for the Sand Filter Media Removal System (SFMRs) and expect to award a contract in June 2019.
    - K West Basin Below-Water Debris Characterization
      - Completed settled solids sampling of the basin floors. Nine vacuum sample cells were collected, placed in 5-liter cans, and staged in the operations job box awaiting transportation to the 222-S Laboratory. Issued RFP for VPC fabrication contract.
      - Completed Zeolite permeability test at Maintenance and Storage Facility (MASF). One bag of 3-7 mesh material will pass up to 55 gallons per minute. This provides more than adequate flow for intended use as a cation filtration system in the North Load Out Pit (NLOP) chute.
    - Awarded the asbestos and material removal contract for K East Reactor ISS for the KE Reactor Building and started planning activities,
      - including work package development and aligning contractor training.
  - o Ancillary Facility Deactivation and Demolition (D&D)
    - Initiated actions for demolition of 166KE Fuel Storage Basin (Waste Site 130-KE-2).
    - Submitted the revised *Removal Action Work Plan for 105-KE/105-KW Reactor Facilities and Ancillary Facilities* and supporting air monitoring plan for approval.

**River Risk Management Project, 324 Building Disposition Project**

- Equipment Procurement and Fabrication:
  - Continued the design and fabrication of the following 324 systems: waste box shielding/waste bins/waste containers, cell dams, transfer mechanism modifications, and miscellaneous items for the REAs.
  - Completed the factory acceptance test (FAT) on the shielded probe collimator.
  - Completed the proof of concept on the grout system for the cell dams.
- Facility Preparations:
  - Placed REA bucket in B Cell and installed on REA.
  - Completed all 324 core drilling.
  - Staged C Cell snorkels in airlock.
  - Installed two C Cell snorkels.
  - Installed final upper tool hanger.
  - Completed northeast gate installation.
  - Completed B Cell camera install; all seven cameras have been installed (April 10, 2019).
  - Initiated B Cell debris clean out.
  - Initiated geoprobe removal.
  - Continued B Cell debris loadout.
- Structural Modifications:
  - Completed pot holing for dune sand testing.
  - Completed dune sand direct injection testing inside the 324 fence.
  - Re-initiated C Cell external ceiling.
- Mockup:
  - Received the 324 Building water delivery system and A/C/D cell snorkel assemblies.
  - Performed adhesive testing for 324 Building C Cell door sealing activities.
  - Initiated the planning phase for execution of cell dam placement proficiency training, including a walk down at MASF for installation of the test stand.
  - Received the REA hydraulic umbilical pass-through assemblies at the mockup.
  - Hosted a tour for U.S. Department of Energy-Headquarters (DOE-HQ) Environmental Management-1.
  - Conducted an operations drill consisting of a cardiac arrest scenario.
  - Conducted lessons learned and training session on REA OilQuick® connections.
  - Completed the in-field portion of the FAT of the shielded probe collimator (the in-field testing involved integration with the rad assay system installed at the Mockup).
  - Took delivery of the floor saw split plug.
  - Performed operator proficiency training on remote in-cell snorkel installation.
  - Installed lower REA in support of grout test pad demolition.
  - Started REA boom-mounted camera testing.
  - Installed the spark guard on the floor saw.
  - Completed grout test pad demolition and debris loadout.
  - Continued floor saw testing, including maneuvering, placing, and performing remote electrical connections using master-slave manipulators.

**Project Technical Support**

- Training and Procedures worked with facility radiological controls subject matter experts to train facility personnel on use of the new Sentinel system. Created a new Hanford Site Workers Eligibility Tool report to review site personnel for assignment and completion of the course to ensure the training template is properly applied.
- Operations Program:
  - Supported the pre-readiness review boards for the 324 Soil Disposition readiness activities.

- o Performed interview for 324 Facility Work Planning Manager qualification. This interview helps ensure the candidate understands knowledge aspects of the job and the roles and responsibilities associated with the position.

## MAJOR ISSUES

### Issue

A shortage of radiological control technicians (RCTs), radiation control engineers, radiation control work planners, and radiation control first line managers has hampered 100K Closure Project soil remediation and basin characterization work.

### Corrective Action

The project continues to work with Labor Relations and Central Radiation Protection Management to fill needed positions.

### Status

The number of RCTs has improved. 100K radiation control has 11 contract RCTs and five CHPRC RCTs hired or being hired for 100K Closure. When new hire RCT training has been completed and planned hires are onboard RCT resources will be sufficient to support the project in-progress and planned work.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**

-  Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.
-  Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.
-  Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.

 Increased Confidence  
 No Change  
 Decreased Confidence

Risk Title	Unmitigated Risk Impacts	Assessment		Comments						
		Month	Trend							
<b>RL-0041/WBS-041</b>										
<b>Explanation of major changes to the project monthly spotlight chart:</b> Risk, RCC-300-296-01: <i>Latent Conditions Impact Facility Modification</i> was realized in fiscal April. As a result, this risk was removed from the FY2019 Risk Trigger section and captured under the Realized Risk section. These changes are reflected in the table below.										
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>										
RCC-300-296-31: 300-296 Contamination Encountered During Assumption Verification.	To validate the assumptions supporting the 324 Building structural modification design, pilot holes will be drilled into the soil beneath B Cell to collect necessary data. If data results in contamination levels much higher than assumed, or contamination deeper than assumed, the project will have to develop an alternative approach, requiring development and/or fabrication of additional equipment, and limit progress on alternate fieldwork activities to recover.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$3,318K, 256 Days			<p><b>Risk Event:</b> In March, unexpected contamination was found within Room 18 during pilot hole drilling activities.</p> <table border="1"> <thead> <tr> <th>Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>As low as reasonably achievable (ALARA) Review (IPAR) Evaluations</td> <td>5/13/2019</td> <td>Ongoing</td> </tr> </tbody> </table> <p><b>Recovery Assessment:</b> In process, ALARA Review (IPAR) evaluations for process improvements are ongoing and planned to be completed within the upcoming period, along with resuming fieldwork activities. Monitoring of this risk will continue as additional controls are in place to reduce the likelihood of occurrence.</p>	Recovery action(s)	FC Date	%	As low as reasonably achievable (ALARA) Review (IPAR) Evaluations	5/13/2019	Ongoing
Recovery action(s)	FC Date	%								
As low as reasonably achievable (ALARA) Review (IPAR) Evaluations	5/13/2019	Ongoing								

Risk Title	Unmitigated Risk Impacts	Assessment		Comments																					
		Month	Trend																						
<b>RL-0041/WBS-041</b>																									
RCC-300-296-01: Latent Conditions Impact Facility Modification.	Latent conditions, poor visibility in REC cells, or drawing omissions, inconsistencies, or errors impact facility modifications (e.g. mechanical, electrical Industrial Hygiene/radiological control hazards), resulting in unplanned work and subsequently, cost and schedule impacts.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$294.5K, 256 Days	●	↑	<p><b>Risk Event:</b> On March 28, unexpected beta-gamma contamination was detected while performing clearance surveys at the 324 step-off pad. Following sampling, it was determined to be beta contamination (suspected strontium-90), without a corresponding gamma component. To ensure worker safety, a stop work was initiated on all radiological work activities at the 324 project, pending follow-up radiological surveys.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform Follow-up Contamination Surveys</td> <td>4/1/2019</td> <td>100</td> </tr> <tr> <td>Implement Controls and Resume Field-work Activities</td> <td>5/13/2019</td> <td>Ongoing</td> </tr> </tbody> </table> <p><b>Recovery Assessment:</b> Follow-up contamination surveys were performed throughout the front side areas of the 324 Building using strontium controls (developed for Room-18) with no contamination detected. Work scope within the 324 Building is being evaluated and planned to be released in the upcoming period. Based on the historical discovery of an elevated latent contamination level (NOC, CHPRC-1801178); this risk will continuously be monitored as routine preventative maintenance activities are in place to reduce the likelihood of occurrence.</p>	Mitigation action(s)	FC Date	%	Perform Follow-up Contamination Surveys	4/1/2019	100	Implement Controls and Resume Field-work Activities	5/13/2019	Ongoing												
Mitigation action(s)	FC Date	%																							
Perform Follow-up Contamination Surveys	4/1/2019	100																							
Implement Controls and Resume Field-work Activities	5/13/2019	Ongoing																							
RCC-300-296-30: 300-296 Design Changes Result in Increased Subcontractor Change Order(s) / Claims	Structural modifications estimate is currently based on the vendor's estimate as of the 30 percent design. The 60 percent design through initiation of 90 percent design and testing of the currently identified 324 Building structural modifications to support design are ongoing. Due to the uncertainty and evolution of developments, design changes may be required upon completion of all design phases.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$3,318K, 136 days	●	↔	<p><b>Risk Event:</b> Upon review of the 30 percent design submittal, it was determined that the cell wall loading/limitations were inadequate and required additional clarification. To reduce the potential impacts associated with conflicting drawing information, applicable design efforts were updated to encompass further analysis of cell footings, load limitations, and field demonstrations to ensure safe and successful completion.</p> <table border="1"> <thead> <tr> <th>Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Contractor prepare and submit structure modification design - 30%-60% (VE2810)</td> <td>8/15/2018</td> <td>100</td> </tr> <tr> <td>Perform Micropile Demonstration and Verification to Support Structural Mod Design (VS1220A)</td> <td>1/24/2019</td> <td>100</td> </tr> <tr> <td>Structural Mods Design Micro-Pile Comment Resolution (VS1220C)</td> <td>5/9/2019</td> <td>95</td> </tr> <tr> <td>Perform Pilot Holing for Structural Mods (VS5010)</td> <td>6/6/2019</td> <td>30</td> </tr> <tr> <td>Perform Pit 6 Soil Verification Testing / Geotech (VS1220B)</td> <td>5/9/2019</td> <td>87</td> </tr> <tr> <td>Contractor prepare and submit structure modification design (VN1220)</td> <td>8/15/2019</td> <td>87</td> </tr> </tbody> </table> <p><b>Recovery Assessment:</b> Delays for completing the final structural design have been incurred due to the realization of risks RCC-300-296-31: <i>Contamination Encountered During Assumption Verification</i> and RCC-300-296-01: <i>Latent Conditions Impact Facility Modifications</i>. The realization of these risks halted fieldwork activities supporting the completion of the final design. Fieldwork is scheduled to resume mid-May.</p>	Recovery Action(s)	FC Date	%	Contractor prepare and submit structure modification design - 30%-60% (VE2810)	8/15/2018	100	Perform Micropile Demonstration and Verification to Support Structural Mod Design (VS1220A)	1/24/2019	100	Structural Mods Design Micro-Pile Comment Resolution (VS1220C)	5/9/2019	95	Perform Pilot Holing for Structural Mods (VS5010)	6/6/2019	30	Perform Pit 6 Soil Verification Testing / Geotech (VS1220B)	5/9/2019	87	Contractor prepare and submit structure modification design (VN1220)	8/15/2019	87
Recovery Action(s)	FC Date	%																							
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Contractor prepare and submit structure modification design (VN1220)	8/15/2019	87																							
RCC-300-296-03: Mockup Testing and Qualification of Remote Equipment/ Process Identifies Major Modification Requirements	Issues such as equipment interferences, differing as-found conditions than planned, equipment reliability, etc., arise prior to/during mockup testing, leading to re-design of equipment and resulting in cost and schedule delays.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$773K, 80 Days	●	↑	<p><b>Risk Event:</b> During vendor FAT and/or mockup testing, issues and conditions were identified with mockup equipment, resulting in additional redesign, materials, and/or fabrication efforts greater than planned. Remote equipment procurements that have resulted in cost and/or schedule impacts include the REA system components (through supports and dummy post assemblies) and transfer mechanism (electrical components).</p> <table border="1"> <thead> <tr> <th>Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Install Radiological Assay System and perform CAT at Mockup</td> <td>3/14/2019</td> <td>100</td> </tr> <tr> <td>Install Floor Saw and Support System at Mockup (VN1020)</td> <td>4/23/2019</td> <td>99</td> </tr> </tbody> </table> <p><b>Recovery Assessment:</b> The Mockup Floor Saw installation initiated in March and was planned to be completed in early April. Slight delays in completing the floor saw installation were experienced due to necessary mockup crane repairs and maintenance. These repairs are also planned to be completed in the upcoming period. Once installed successful integration with remotely operated equipment, through testing and training at the mockup, will continue with preparations for 324 Building equipment. Impacts continue to be incorporated into the project schedule, along with the estimate to complete, to reflect further impacts of risk being realized.</p>	Recovery action(s)	FC Date	%	Install Radiological Assay System and perform CAT at Mockup	3/14/2019	100	Install Floor Saw and Support System at Mockup (VN1020)	4/23/2019	99												
Recovery action(s)	FC Date	%																							
Install Radiological Assay System and perform CAT at Mockup	3/14/2019	100																							
Install Floor Saw and Support System at Mockup (VN1020)	4/23/2019	99																							

Risk Title	Unmitigated Risk Impacts	Assessment		Comments									
		Month	Trend										
<b>RL-0041/WBS-041</b>													
100K-KWB-102: KW Basin – Resources Unavailable	Other higher CHPRC priority work results in reallocation of key resources (Rad planners, RCTs, Industrial Hygienist, and Nuclear Chemical Operators), which results in cost and schedule delays as projects compete for key CHRPC resources.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$15K, 16 Days			<p><b>Risk Event:</b> 100K Closure Project soil remediation and basin characterization work is experiencing a shortage of RCTs, radiation control engineers, radiation control work planners, and radiation control first line managers.</p> <table border="1"> <thead> <tr> <th>Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>RADCON and Labor Relations have hired two rad engineers/planners and transferred a RADCON first line manager (experienced in soil remediation and D&amp;D) to 100K. RADCON has also staffed up to 37 RCTs and is in the process of hiring an additional three RCTs, which will provide sufficient resources to cover 100K Closure, 100K Operations, and 100K MinSafe work.</td> <td>4/25/2019</td> <td>75</td> </tr> </tbody> </table> <p><b>Recovery Assessment:</b> The number of RCTs hired or planned to be hired and assigned to 100K Closure is sufficient to perform planned work for the remainder of FY19. This risk will be re-characterized to a low threat risk value and removed from the stoplight chart in the next reporting period.</p>	Recovery action(s)	FC Date	%	RADCON and Labor Relations have hired two rad engineers/planners and transferred a RADCON first line manager (experienced in soil remediation and D&D) to 100K. RADCON has also staffed up to 37 RCTs and is in the process of hiring an additional three RCTs, which will provide sufficient resources to cover 100K Closure, 100K Operations, and 100K MinSafe work.	4/25/2019	75			
Recovery action(s)	FC Date	%											
RADCON and Labor Relations have hired two rad engineers/planners and transferred a RADCON first line manager (experienced in soil remediation and D&D) to 100K. RADCON has also staffed up to 37 RCTs and is in the process of hiring an additional three RCTs, which will provide sufficient resources to cover 100K Closure, 100K Operations, and 100K MinSafe work.	4/25/2019	75											
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)													
No critical risks identified in April.													
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)													
RCC-300-296-07: 300-296 Failure of a REC Cranes (B Cell, A Cell, A-D and Airlock, or CHA cranes)	Major crane repair must be performed during operations. This in-scope, unplanned work results in cost and schedule impacts to the project.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$1,561K, 208 Days			<p><b>Risk Trigger Metric:</b> Radiochemical Engineering Cells (REC) crane failure occurs during operations.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Determine B Cell Replacement Crane Options</td> <td>3/19/2019</td> <td>100%</td> </tr> <tr> <td>Award Contract – B-Cell 10T Crane – 324</td> <td>5/20/2019</td> <td>Ongoing</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Request for Proposals (RFP) were issued in April. The project is awaiting estimates and feedback from potential vendors. Once received, source selections will be evaluated for awarding contract for B-Cell Crane Fabrication. These efforts are expected to reduce the potential for impacts.</p>	Mitigation action(s)	FC Date	%	Determine B Cell Replacement Crane Options	3/19/2019	100%	Award Contract – B-Cell 10T Crane – 324	5/20/2019	Ongoing
Mitigation action(s)	FC Date	%											
Determine B Cell Replacement Crane Options	3/19/2019	100%											
Award Contract – B-Cell 10T Crane – 324	5/20/2019	Ongoing											
RCC-300-296-15: 300-296 Cell sealing, interference removal and/or core drilling takes longer than planned	Unexpected field conditions encountered during interference removal, sealing of cell penetrations, and/or core drilling work scope. The unexpected field conditions subsequently cause in-scope unplanned work and result in schedule impacts to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$145.8K, 90 Days			<p><b>Risk Trigger Metric:</b> The project experiences unexpected field conditions outside their control that make cell sealing, interference removal, and core drilling more difficult than planned.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform Core Drilling and Shield Plug Installation (VN1200)</td> <td>3/28/2019</td> <td>100</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. A majority of core drilling interferences have been identified as the project progresses with drilling necessary at the 324 Building in advance of installation of soil remediation equipment. The remainder of known core drilling efforts were completed in the period. However, due to the uniqueness involved with work scope, there exists the potential for unexpected delays and additional core drilling efforts.</p>	Mitigation action(s)	FC Date	%	Perform Core Drilling and Shield Plug Installation (VN1200)	3/28/2019	100			
Mitigation action(s)	FC Date	%											
Perform Core Drilling and Shield Plug Installation (VN1200)	3/28/2019	100											
RCC-300-296-08: 300-296 Failure of Cell Shield Door	Failure of shield door(s) or crane shield door(s) shuts down cleanout of REC cells/airlock, penetration sealing in airlock, equipment installation, and other activities for remote soil removal. It may not be possible to repair a shield door due to radiation dose rate and location, resulting in cost and schedule delays.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$460K, 96 days			<p><b>Risk Trigger Metric:</b> During operations of cleanout activities, a cell shield door inoperable.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Preventative maintenance activities are being conducted</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. To assure REC shield doors maintain operability an engineering evaluation was conducted, resulting in the implementation of monthly PM's and the procurement of spare parts.</p>	Mitigation Action(s)	FC Date	%	Preventative maintenance activities are being conducted	Ongoing	N/A			
Mitigation Action(s)	FC Date	%											
Preventative maintenance activities are being conducted	Ongoing	N/A											

Risk Title	Unmitigated Risk Impacts	Assessment		Comments
		Month	Trend	
<b>RL-0041/WBS-041</b>				
<b>FY2019 Risk Triggers (Risk could be realized in FY2019)</b>				
No FY2019 risk triggers identified in April.				
<b>Unassigned Risks (Pending ownership of identified risks/opportunities)</b>				
RCC-300-296-04DOE: 300-296 Seismic Event (Force Majeure)	A "Force Majeure" incident, such as a seismic event, results in the loss of structural integrity; causing cost and schedule impacts to the project delivery. <u>CHPRC Comment:</u> CHPRC cannot manage the geological seismic movement that may impact the structural integrity of a building. Therefore, this risk is proposed to be transferred to DOE. DOE has "informally" accepted this risk as a transfer risk. A formal letter of acceptance (CHPRC-1705651) was sent to RL on December 12, 2017. Once this risk has been formally accepted, via acknowledgement from the RL contracting officer, it will be removed from the stoplight chart.			
RCC-300-296-23DOE: 300-296 Large Brush Fire (Force Majeure)	A brush fire ignited on the Hanford Site near the proximity of the 300-296 Waste Site, resulting in cost and schedule delays. <u>CHPRC Comment:</u> This risk was identified as "Force Majeure" and is beyond the capabilities of CHPRC to manage. Therefore, this risk was proposed to be transferred to DOE. DOE has "informally" accepted this risk as a transfer risk. A formal letter of acceptance (CHPRC-1705651) was sent to RL on December 12, 2017. Once this risk has been formally accepted, via acknowledgement from the RL contracting officer, it will be removed from the stoplight chart.			
RCC-300-296-27: 300-296 Requirement Changes Result in Additional Work/Entry Prerequisite Training	Due to complex-wide or facility specific changes in requirements outside of CHPRC's ability to manage (e.g. technical documents, procedures, training), project delivery will be impacted in terms of cost and schedule. <u>CHPRC Comment:</u> Changes to DOE orders, federal or state regulations, waste acceptance criteria established by another site contractor, or another DOE site could impact the baseline scope/schedule/cost. Although a contract change is required to incorporate changes to DOE orders, no contract change is required for federal or state regulations or for waste acceptance criteria changes. The potential criteria changes are outside of CHPRC's ability to manage. Therefore, this risk was proposed to be transferred to DOE. DOE has "informally" accepted this risk as a transfer risk. A formal letter of acceptance (CHPRC-1705651) was sent to RL on December 12, 2017. Once this risk has been formally accepted, via acknowledgement from the RL contracting officer, it will be removed from the stoplight chart.			

## PROJECT BASELINE PERFORMANCE

### Current Month (CM)

### (\$M)

WBS 041/RL-0041 Nuclear Facility D&D – River Corridor	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
Total	10.8	8.1	10.4	(2.7)	-24.6%	(2.3)	-28.4 %

Numbers are rounded to the nearest \$0.1 million

#### CM Schedule Performance (-\$2.7M/-24.6%)

The CM negative schedule variance is related to the latent beta contamination found during pilot hole execution which has had a cascading effect on multiple 324 structural modification activities, including micropiling, floor coring, and temporary shoring. In addition, the delayed completion of the Structural Modification Design has continued to push as additional dune sand / soil verification testing has been required.

#### CM Cost Performance (-\$2.3M/-28.4%)

The CM negative cost variance is due to increased costs for subcontractor development related to the Structural Modification Design. Additional design requirements were placed on the subcontractor. These additional requirements included more extensive building modeling, soil stabilization and building foundation verifications and testing demonstrations. In addition, there were higher than anticipated costs related to closeout of the former cell dams subcontract, higher than planned costs for procurement and fabrication have been experienced to the existing cell dam subcontract because of design changes and testing requirements for the cell dams and seals. There were also increased demands for RCT resources necessary to provide routine surveillances and monitoring following unexpected discovery in Room 18 (radiological recovery) as well as Latent Condition (beta-gamma contamination). As a result of these

impacts, RCT resources were unable to support alternate, apportioned field work scope activities, thus contributing to the variance in the period.

## Contract-to-Date (CTD) (\$M)

WBS 041/ RL-0041 Nuclear Facility D&D – River Corridor	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)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	641.8	629.8	594.4	(11.9)	-1.9%	35.5	5.6%	696.1	656.2	61.8	39.9

Numbers are rounded to the nearest \$0.1 million

### CTD Schedule Performance (-\$11.9M/-1.9%)

The CTD schedule variance is within reporting thresholds.

### CTD Cost Performance (+\$35.5M/+5.6%)

The favorable cost variance is primarily due to completing Confirmatory Sampling - No Action (CSNA) waste sites early and under cost. In addition, less demolition was required for the K East Sedimentation Basin, and fewer resources are supporting the level of effort (LOE) program management and usage-based services scope. Some resources have been diverted to other priority work scope, and some resource sharing has occurred. Offsetting the positive cost variance, the 324 Building Disposition Project experienced increased costs for subcontractor development of the design phases for structural modifications. Additional design requirements were placed on the subcontractor that were not originally part of their scope of work. These additional requirements included more extensive building modeling, soil stabilization and building foundation verifications and testing demonstrations, all of which have contributed to the cumulative cost variance. In addition, there were greater than planned labor support by RCTs. Additional support and oversight is required because of the Alpha contamination latent condition discovered at the 324 Building.

### Variance at Completion (+\$39.9M/+5.7%)

The 100K Closure positive variance at completion (VAC) is primarily due to labor; fewer resources have been supporting the LOE program management and usage-based services scope. Some resources have been diverted to other priority work scope, and some resource sharing has occurred. Additionally, the VAC is due to completing the CSNA waste sites early and under cost. Offsetting the positive variance, the 324 Building Disposition Project experienced increased costs associated with airlock cleanout, engineering and design activities, staff ramp up, and equipment procurement activities.

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

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

WBS 041/RL-0041 Nuclear Facility D&D – River Corridor	FY2019		Variance
	Projected Funding	Spending Forecast	
RL-0041 Spending Forecast	148.3	131.6	16.7
Incremental Scope Change Pending Change Management	0.0	0.4	(0.4)
RL-0041 – Total	148.3	132.0	16.3

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis:

The FY2019 projected funding for project breakdown (PBS) structure RL-0041 is \$148.3 million. The projected funding includes carryover from FY2018 and new budget authority. The spending forecast is based on the FY2019 performance measurement baseline annual update submitted to RL with updates through December FY2018. FY2019 funding aligns with the RL Integrated Priority List (IPL). The variance primarily reflects the work scope included in the IPL.

### Critical Path Schedule:

Critical path analysis can be provided upon request.

## MILESTONE STATUS

The following table is a one-year look ahead of PBS RL-0041 Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) enforceable milestones, non-enforceable target due dates, and commitments.

Number	Title	Due Date	Forecasted Date	Status/ Comment
M-016-85A	Complete Remote Excavation of 300-296 Waste Site	9/30/2019	2/11/2021	Milestone will be missed.

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

**DOE ACTIONS / DECISIONS**

Description	CHPRC Delivery Date	Expected RL Due Date
RL Concur on DSA/TSR Revision Comment Resolution	2/25/2019(A)	4/25/2019
RL Prepare DSA/TSR Revision SER	4/26/2019	4/28/2019
RL Review EPHA Draft	5/2/2019	5/16/2019
SRB Review SER for DSA/TSR Revision	5/16/2019	5/22/2019
RL Issue SER for 324 DSA/TSR	5/23/2019	5/29/2019
RL Approval EPHA Final	6/5/2019	6/19/2019
DOE Independent Design Review - IFC Structural Modification	7/10/2019	7/30/2019

# Section G

## Fast Flux Test Facility Closure (RL-0042)

**CH2MHILL**  
Plateau Remediation Company



T. E. Bratvold  
Vice President for  
Central Plateau Risk  
Management Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

The Fast Flux Test Facility (FFTF) is being held in a low-cost surveillance and maintenance condition.

## EMS OBJECTIVES AND TARGET STATUS

None currently identified.

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	0	N/A
Total Recordable Injuries	0	0	N/A
First Aid Cases	0	0	N/A
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### RL-0042 Accomplishments

- Resumed preparation of the work package modification for completing the P-16 variable frequency drive replacement after receiving approval of the corresponding engineering change request (ECR).
- Started initial planning for moving 400 Area fire/potable water system engineering from 100K Engineering to Central Plateau Risk Management Engineering. Discussions on the transition with CH2M HILL Plateau Remediation Company stakeholders initiated in late April.
- Started updating the acceptance test plan for the P-16 pump variable frequency drive replacement to incorporate information from the recently approved ECR.
- Started Design Authority (DA) check of updated ECR that was prepared to replace obsolete panel boards and associated cables for LPN-43 in Building 480A, LPN-18 in Building 480B, and LPN-51 in Building 4842B. Initial set of comments were incorporated and returned to the DA for review.
- Submitted the final ECR to replace pump P-27 controller C-670 to the 100K engineering manager for final approval. Panel replacement is needed to allow the fire pump to be disconnected from power without requiring a building outage.
- Completed 402 exterior and 4717 interior roof inspections.

## MAJOR ISSUES

### Issue

Initiated development of an ECR to replace the aging diesel engine fire pump P-28; however, work was halted after determining that this replacement would require a long-term outage of the diesel backup to the fire water system.

### Corrective Action

An alternative option was identified that involves replacing diesel fire pump P-61 in 481A Building. However, this will require additional work to restore power to the building and install additional valves to connect the P-61 replacement to the area wide water.

### Status

A determination on how to proceed is pending discussion and direction from the U.S. Department of Energy, Richland Operations Office.

## RISK MANAGEMENT STATUS

None currently identified.

## PROJECT BASELINE PERFORMANCE

Current Month (CM)

(\$M)

RL-0042 FFTF Closure	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
Total	0.1	0.1	0.1	0.0	4.6%	0.0	3.4%

Numbers are rounded to the nearest \$0.1M

### CM Schedule Performance: (+\$0.0M/+4.6%)

The schedule variance is within reporting thresholds.

### CM Cost Performance: (+\$0.0M/3.4%)

The cost variance is within reporting thresholds.

## Contract-to-Date (CTD) (\$M)

RL-0042 FFTF Closure	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)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	27.4	27.4	23.0	0.0	0.0%	4.4	16.1%	28.1	24.2	1.3	3.9

Numbers are rounded to the nearest \$0.1 million

### CTD Schedule Performance (+\$0.0M/+0.0%)

The schedule variance is within reporting thresholds.

### CTD Cost Performance (+\$4.4M/+16.1%)

The contract to date favorable cost variance is due to reduction in surveillance and maintenance requirements at FFTF as the facility was deactivated. Efficient use of resources to support deactivation activities within available time further aided this favorable cost variance.

### Variance at Completion (+\$3.9M/+13.9%)

The variance at completion reflects efficient use of resources to support deactivation activities.

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

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

RL-0042 FFTF Closure	FY2019		Variance
	Projected Funding	Spending Forecast	
RL-0042 Spending Forecast	4.3	2.5	1.8

Numbers are rounded to the nearest \$0.1 million

### Funds Analysis

Fiscal year 2019 funding for project breakdown structure RL-0042 is \$4.3 million. The spending forecast is \$2.5 million, which represents increased support due to electrical component failures and configuration challenges, increased interest by regulators requiring additional inspections, and a recent failure of the water system/water piping.

### Critical Path Schedule

Critical path analysis is not applicable to this project. The remaining contract scope is the performance of interim surveillance and maintenance activities pending facility disposition.

## MILESTONE STATUS

None currently identified.

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

## DOE ACTIONS/DECISIONS

None currently identified.

# Appendix A

## Contract Performance Reports

Format 1 - Work Breakdown Structure

Format 2 - Organizational Categories

Format 3 - Baseline

Format 4 - Staffing

Format 5 - Explanation and Problem Analysis

**CH2MHILL**  
Plateau Remediation Company



April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT  
FORMAT 1 - WORK BREAKDOWN STRUCTURE**

DOLLARS IN Thousands of \$ FORM APPROVED OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>										
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME Plateau Remediation Contract		a. FROM (YYYYMMDD) 2019 / 03 / 25										
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 04 / 21										
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO X YES (YYYYMMDD) 2009 / 09 / 18												
<b>5. CONTRACT DATA</b>																
a. QUANTITY 1	b. NEGOTIATED COST 5,588,957	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK 760,600	d. TARGET PROFIT/FEE 254,770	e. TARGET PRICE 5,843,728	f. ESTIMATED PRICE 6,462,116	g. CONTRACT CEILING 5,843,728	h. ESTIMATED CONTRACT CEILING 6,462,116									
<b>6. ESTIMATED COST AT COMPLETION</b>				<b>7. AUTHORIZED CONTRACTOR REPRESENTATIVE</b>												
		MANAGEMENT ESTIMATE AT COMPLETION (1)	CONTRACT BUDGET BASE (2)	VARIANCE (3)	a. NAME (Last, First, Middle Initial) Underwood, Teresa		b. TITLE Prime Contract Compliance Manager									
a. BEST CASE		6,144,068			c. SIGNATURE		d. DATE SIGNED (YYYYMMDD)									
b. WORST CASE		6,227,782														
c. MOST LIKELY		6,207,346	6,349,557	142,211												
<b>8. PERFORMANCE DATA</b>																
CAPN.PBS  ITEM (1)	CURRENT PERIOD					CUMULATIVE TO DATE					REPROGRAMMING ADJUSTMENTS			AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (9)	VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)						
RL-0011 Nuclear Mat Stab & Disp PFP	5,954	22,858	5,458	16,903	17,400	1,087,214	1,080,739	1,175,002	-6,475	-94,263	0	0	0	1,122,883	1,219,124	-96,240
RL-0012 SNF Stabilization & Disp	1,495	1,350	1,497	-145	-147	752,947	751,870	722,799	-1,077	29,070	0	0	0	761,100	730,062	31,038
RL-0013 Solid Waste Stab & Disp	12,469	13,244	13,285	775	-41	1,413,760	1,411,593	1,325,418	-2,168	86,175	0	0	0	1,484,642	1,392,208	92,434
RL-0030 Soil & Water Rem-Grndwtr/Vadose	11,344	10,245	9,631	-1,099	614	1,588,258	1,586,979	1,532,280	-1,280	54,698	0	0	0	1,644,997	1,583,514	61,483
RL-0040 Nuc Fac D&D - Remainder Hanfrd	7,253	4,859	6,368	-2,394	-1,509	534,022	530,777	507,832	-3,244	22,945	0	0	0	554,854	538,737	16,118
RL-0041 Nuc Fac D&D - RC Closure Proj	10,760	8,109	10,415	-2,651	-2,306	641,750	629,833	594,363	-11,918	35,470	0	0	0	696,118	656,207	39,910
RL-0042 Nuc Fac D&D - FFTF Proj	133	139	134	6	5	27,365	27,365	22,962	0	4,403	0	0	0	28,137	24,217	3,921
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
c. GENERAL AND ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
d. UNDISTRIBUTED BUDGET																
e. SUBTOTAL	49,408	60,803	46,788	11,394	14,015	6,045,317	6,019,155	5,880,656	-26,161	138,499	0	0	0	6,292,731	6,144,068	148,663
f. MANAGEMENT RESERVE														63,278		
g. TOTAL	49,408	60,803	46,788	11,394	14,015	6,045,317	6,019,155	5,880,656	-26,161	138,499	0	0	0	6,356,009	6,144,068	211,941
<b>9. RECONCILIATION TO CONTRACT BUDGET BASELINE</b>																
a. VARIANCE ADJUSTMENT																
b. TOTAL CONTRACT VARIANCE																

\*CPR Format 1 displays fully burdened dollars which includes indirect G&A that is distributed to each Project.

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT  
FORMAT 2 - ORGANIZATIONAL CATEGORIES**

DOLLARS IN Thousands of \$ OMB No. 0704-0188

FORM APPROVED

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME Plateau Remediation Contract		a. FROM (YYYYMMDD)  2019 / 03 / 25	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD)  2019 / 04 / 21	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group  ITEM (1)	CURRENT PERIOD						CUMULATIVE TO DATE					REPROGRAMMING ADJUSTMENTS			AT COMPLETION		
	BUDGETED COST		ACTUAL	VARIANCE		BUDGETED COST		ACTUAL	VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)	
	WORK SCHEDULED (2)	WORK PERFORMED (3)	COST WORK PERFORMED (4)	SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)	COST WORK PERFORMED (9)	SCHEDULE (10)	COST (11)							
34 - Env Program & Strategic Plng	1,129	725	1,111	-404	-386	92,793	92,010	85,511	-783	6,499	0	0	0	98,812	91,740	7,072	
35 - Business Services	0	0	0	0	0	476,879	476,879	453,596	0	23,283	0	0	0	476,879	453,596	23,283	
36 - Prime Contract & Proj Integr	0	0	0	0	0	1,111	1,111	492	0	618	0	0	0	1,111	492	618	
37 - Resource Mgmt & Strategic Intg	131	131	105	0	26	8,583	8,583	5,175	0	3,408	0	0	0	9,314	5,729	3,585	
3B - PFP Closure Project	5,954	22,858	5,458	16,903	17,400	998,574	992,099	1,093,937	-6,475	-101,838	0	0	0	1,034,244	1,138,059	-103,815	
3C - Waste & Fuels Management Project	9,772	10,597	11,218	825	-621	1,258,146	1,256,129	1,172,941	-2,017	83,188	0	0	0	1,314,083	1,224,196	89,887	
3D - Soil & Groundwater Remediation	10,182	9,487	8,494	-695	993	1,393,745	1,393,248	1,339,181	-496	54,067	0	0	0	1,444,281	1,384,047	60,235	
3G - K Basin Oper & Plateau Remediation Project	5,857	5,355	5,589	-502	-234	1,078,683	1,074,296	1,012,715	-4,387	61,581	0	0	0	1,113,117	1,048,787	64,330	
3H - River Risk Management Project	9,030	6,685	8,339	-2,345	-1,654	264,080	255,322	265,835	-8,758	-10,513	0	0	0	306,745	314,127	-7,382	
3K - Central Plateau Risk Reduction	7,353	4,965	6,475	-2,388	-1,509	472,722	469,478	451,273	-3,244	18,205	0	0	0	494,144	483,294	10,851	
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
c. GENERAL AND ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
d. UNDISTRIBUTED BUDGET																	
e. SUBTOTAL (Performance Measurement Baseline)	49,408	60,803	46,788	11,394	14,015	6,045,317	6,019,155	5,880,656	-26,161	138,499	0	0	0	6,292,731	6,144,068	148,663	
f. MANAGEMENT RESERVE														63,278			
g. TOTAL	49,408	60,803	46,788	11,394	14,015	6,045,317	6,019,155	5,880,656	-26,161	138,499	0	0	0	6,356,009			

CONTRACT PERFORMANCE REPORT																	Form Approved OMB No. 0704-0188			
FORMAT 3 - BASELINE										DOLLARS IN THOUSANDS							4. REPORT PERIOD			
1. CONTRACTOR CH2M HILL Plateau Remediation Company b. LOCATION: Richland, WA			2. CONTRACT a. NAME: Plateau Remediation Contract b. NUMBER: RL14788 c. TYPE: CPAF d. SHARE RATIO:				3. PROGRAM a. NAME: Plateau Remediation Contract b. PHASE c. EVMS ACCEPTANCE NO YES X 9/18/2009							a. FROM: 2019/03/25 b. TO: 2019/04/21						
5. CONTRACT DATA			a. ORIGINAL NEGOTIATED COST 4,312,366		b. NEGOTIATED CONTRACT CHANGE \$1,276,591		c. CURRENT NEGOTIATED COST (A + B) \$5,588,957		d. ESTIMATED COST AUTH UNPRICED WORK \$760,600		e. CONTRACT BUDGET BASE (C + D) \$6,349,557		f. TOTAL ALLOCATED BUDGET \$6,356,009		g. DIFFERENCE (E - F) (\$6,452)					
h. CONTRACT START DATE 6/19/2008			i. DEFINITIZATION DATE 6/19/2008		j. PLANNED COMPL DATE 9/30/2019		k. CONT COMPLETION DATE 9/30/2019				l. EST COMPLETION DATE 9/30/2019									
6. PERFORMANCE DATA																				
ITEM (1)	BCWS CUM TO DATE (2)	BCWS FOR REPORT PERIOD (3)	SIX MONTH FORECAST						BUDGETED COST FOR WORK SCHEDULED (NON - CUMULATIVE)										UNDISTRIB BUDGET (18)	TOTAL BUDGET (19)
			+1 May-19 (4)	+2 Jun-19 (5)	+3 Jul-19 (6)	+4 Aug-19 (7)	+5 Sep-19 (8)	+6 Oct-19 (9)	FY09-13 (10)	FY14 (11)	FY15 (12)	FY16 (13)	FY17 (14)	FY18 (15)	FY19 (16)	FY20 (17)				
a. PM BASELINE (BEGIN OF PERIOD)		5,995,908	49,828	56,601	41,023	35,773	45,226	40,726	0	3,391,477	391,653	471,323	504,826	485,028	470,649	550,130	0	0	6,265,085	
b. BASELINE CHANGES AUTH DURING REPORT PERIOD																				
BCR-011C-19-002R0 - Allocation of PBS RL-0011 CAP 2 Project DOE Contingency																				
BCR-013-19-007R0 - W-135 Weight Capacity Crane Impacts																	13,982	7,319	21,301	
BCR-041-19-008R0 - Additional FY2019 300-296 Waste Site Remediation Work Author																	496	0	496	
BCRA-PRC-19-014R0 - HPIIC Updates April FY2019																	5,849	0	5,849	
c. PM BASELINE (END OF PERIOD)		6,045,317	49,408	58,514	42,583	38,335	52,390	48,274	4,260	3,391,477	391,653	471,323	504,826	485,028	470,649	570,457	7,319	0	6,292,731	
7. MANAGEMENT RESERVE																			63,278	
8. TOTAL																			6,356,009	

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT  
FORMAT 4 - STAFFING**

Dollars in: FTE

FORM APPROVED  
OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME Plateau Remediation Contract		a. FROM (YYYYMMDD) 2019 / 03 / 25	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 04 / 21	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group	ACTUAL CURRENT PERIOD	ACTUAL END OF CURRENT PERIOD (Cumulative)	FORECAST (Non-Cumulative)												AT COMPLETION	
			SIX MONTH FORECAST BY MONTH (Enter names of months)						ENTER SPECIFIED PERIODS							
			+1 MAY 2019	+2 JUN 2019	+3 JUL 2019	+4 AUG 2019	+5 SEPT 2019	+6 OCT 2019	NOV 2019	DEC 2019	JAN 2020	ATCOMPLETE	(14)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)		
300 - Office of the President	8	853	7	7	7	7	7	7	7	0	0	0	0	0	0	886
303 - Internal Audit	6	567	6	6	6	6	6	6	6	0	0	0	0	0	0	596
304 - General Counsel	5	524	4	4	4	4	4	4	4	0	0	0	0	0	0	545
31 - Communications	8	1170	8	9	9	9	9	9	8	0	0	0	0	0	0	1215
32 - Safety Health Security & Quality	58	8172	62	64	62	62	62	62	62	0	0	0	0	0	0	8484
34 - Env Program & Strategic Plng	43	5586	45	48	48	49	49	49	49	0	0	0	0	0	0	5825
35 - Business Services	56	7782	55	58	59	61	59	0	0	0	0	0	0	0	0	8075
36 - Prime Contract & Proj Integr	36	4182	41	42	42	42	42	42	42	0	0	0	0	0	0	4392
37 - Resource Mgmt & Strategic Intg	39	3116	41	41	43	43	43	43	43	0	0	0	0	0	0	3327
38 - Project Technical Services	34	6237	38	37	41	41	41	41	41	0	0	0	0	0	0	6434
3B - PFP Closure Project	219	52678	213	211	210	209	204	188	152	126	35	8	0	0	54234	
3C - Waste & Fuels Management Project	373	56310	401	390	386	386	383	3	2	6	6	6	0	0	58274	
3D - Soil & Groundwater Remediation	274	41377	271	268	265	250	226	6	3	5	8	16	0	0	42696	
3G - K Basin Oper & Plateau Remediation Project	219	35575	228	245	244	246	220	15	11	19	12	0	0	0	36816	
3H - River Risk Management Project	224	7750	231	230	230	229	225	10	0	0	0	0	0	0	8905	
3K - Central Plateau Risk Reduction	233	18862	224	198	172	184	188	35	25	12	1	0	0	0	19901	
<b>g. TOTAL DIRECT</b>	<b>1834</b>	<b>250742</b>	<b>1875</b>	<b>1858</b>	<b>1827</b>	<b>1830</b>	<b>1767</b>	<b>256</b>	<b>193</b>	<b>165</b>	<b>62</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>260605</b>	

**FORMAT 5, DD FORM 2734/5, EXPLANATION AND PROBLEM ANALYSIS**

CLASSIFICATION (When Filled In)									
CONTRACT PERFORMANCE REPORT FORMAT 5 - EXPLANATIONS AND PROBLEM ANALYSES							FORM APPROVED OMB No. 0704-0188		
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD			
<b>a. NAME</b> CH2M HILL Plateau Remediation Company		<b>a. NAME</b> Plateau Remediation Contract		<b>a. NAME</b> Plateau Remediation Contract		<b>a. FROM (YYYY/MM/DD)</b>  2019/03/245			
<b>b. LOCATION (Address and ZIP Code)</b>  Richland, WA 99354		<b>b. NUMBER</b> DE-AC06-08RL14788		<b>b. PHASE</b> Base		<b>b. TO (YYYY/MM/DD)</b>  2019/04/21			
		<b>c. TYPE</b> CPAF	<b>d. SHARE RATIO</b>	<b>c. EVMS ACCEPTANCE</b> 2009/09/18 NO YES X					
	<b>BCWS</b>	<b>BCWP</b>	<b>ACWP</b>	<b>SV in \$</b>	<b>SV in %</b>	<b>CV in \$</b>	<b>CV %</b>	<b>SPI</b>	<b>CPI</b>
<b>Current:</b>	49,408	60,803	46,788	11,395	23.1%	14,015	23.0%	1.23	1.30
<b>Cumulative:</b>	6,045,317	6,019,155	5,880,656	(26,161)	-0.4%	138,499	2.3%	1.00	1.02
	<b>BAC</b>	<b>EAC</b>	<b>VAC in \$</b>	<b>VAC in %</b>	<b>TCPI</b>				
<b>At Complete:</b>	6,292,731	6,144,068	148,663	2.4%	1.04				
<b>Explanation of Variance/Description of Problem:</b>									
<p><b>Current Period Schedule and Cost Variance:</b> The current month positive schedule and cost variance is primarily due to project breakdown structure (PBS) RL-0011 implementation of BCR-PRC-011C-19-002R0 to draw down RL contingency to address impacts to the project breakdown structure (PBS) RL-0011 C.2 Project to complete project performance measurement baseline to address delays in resuming debris disposition and restarting low and high risk demolition. The delays due to stop works, the loss of the decontamination and decommissioning crews to other Hanford contractor hiring actions, and impacts from adverse weather in February and early March, were planned as activities occurring in the future to allow the necessary schedule extension, but were stauted as complete as the risk was experienced.</p> <p>The positive schedule variance was partially offset by the CPRM mercury discovery in the seventh floor of the silo gallery of REDOX. In addition, PUREX Tunnel 2 stabilization is ahead of the baseline schedule, therefore lagging budgeted cost of work scheduled is attributing to the current month variance. Lastly, work package development associated with size reduction in the REDOX radiological zone delayed planned hazardous material removal. Also, offsetting the positive schedule variance was PBS-0041 latent beta contamination found during pilot hole execution which has had a cascading effect on multiple 324 structural modification activities, including micropiling, floor coring, and temporary shoring. The delayed completion of the Structural Modification Design has continued to push as additional dune sand/soil verification testing has been required.</p> <p>The positive cost variance was partially offset by PBS-0040 and attributed to the 200 West Steam Line Removal project requiring additional labor resources in order to increase abatement output before summer weather impacts the ability to perform this work. Program management also contributed to the negative cost variance as there has been an increase to the required staffing to support field personnel. A previously unplanned subcontracted structural integrity study resulted in costs not planned in the baseline. Also, offsetting the positive cost variance was PBS-0041 increased costs for subcontractor development related to the structural modification design. Additional design requirements were placed on the subcontractor. These requirements included more extensive building modeling, soil stabilization and building foundation verifications and testing demonstrations. Higher than anticipated costs related to closeout of the former cell dams subcontract and planned costs for procurement and fabrication have been experienced to the existing cell dam subcontract because of design changes and testing requirements for the cell dams and seals.</p> <p><b>Cumulative Schedule Variance:</b> The variance is within reporting thresholds.</p> <p><b>Cumulative Cost Variance:</b> The variance is within reporting thresholds.</p>									
<b>Impact:</b>									
<p><b>Current Period Schedule:</b> The current month schedule variance is not expected to impact the overall contract schedule.</p> <p><b>Current Period Cost:</b> Cost impacts are being estimated and will be incorporated in the project estimate to complete (ETC).</p> <p><b>Cumulative Schedule:</b> N/A</p> <p><b>Cumulative Cost:</b> N/A</p>									
<b>Corrective Action:</b>									
<p><b>Current Period Schedule:</b> No corrective actions have been identified.</p> <p><b>Current Period Cost:</b> No corrective actions necessary.</p> <p><b>Cumulative Schedule:</b> N/A</p> <p><b>Cumulative Cost:</b> N/A</p>									

**FORMAT 5, DD FORM 2734/5, EXPLANATION AND PROBLEM ANALYSIS**

**Monthly Summary** (to include technical causes of VARs, Impacts, and Corrective Action(s):

CHPRC continues to track completion of the contract scope within budget and is currently projecting a variance at completion (VAC) of \$148.7 million, with \$63.3 million of management reserve (MR), for a total positive variance of \$211.9 million. For April, the project was 23.1 percent ahead of schedule and 23.0 percent under planned cost. Contract to date (CTD); the project was 0.4 percent behind schedule and 2.3 percent under planned cost.

There was a decrease in the difference between the Contract Budget Base and the Total Allocated Budget on Format 3 since last month due to an adjustment to align AUW to the global settlement in the amount of \$590,630.

Three of the five BCRs implemented in the period impacted the PMB:

- BCR-011C-19-002R0, Allocation of PBS RL-0011 CAP 2 Project DOE Contingency
- BCR-013-19-007R0, W-135 Weight Capacity Crane Impacts
- BCR-041-19-008R0, Additional FY2019 300-296 Waste Site Remediation Work Authorization Continued

**Contractually Required Cost, Schedule, EAC variance, Management Reserve Use**

Variance in Performance BAC and EAC: The variance at complete (VAC) between the BAC and EAC this month is a +\$148.7 million, +2.4% and is within reporting thresholds.

**Format 1 and 3 Contract Data:**

**Contract Price Adjustments**

CPS - In Process		
	Total Authorized Unpriced Work	\$760,600
Approved Adjustments to Contract Price (not reflected in B.4-1 Table)		
	Total Negotiated Cost Changes	-
	Grand Total Adjustments	\$760,600

**Use of Undistributed Budget (UB), Management Reserve (MR), and Fee Activity:**

**Undistributed Budget Activity**

BCR Number	Title	PBS	Fiscal Year	UB
N/A	N/A	N/A	2019	\$0

There was no change to UB in April.

**Management Reserve Activity**

BCR Number	Title	PBS	Fiscal Year	MR
N/A	N/A	N/A	2019	\$0

There was no change to MR in April.

**Fee Activity**

BCR Number	Title	PBS	Fiscal Year	Fee
N/A	N/A	N/A	2019	\$0

There was no change to fee in April.

**Best/Worst/Most Likely Estimate:** The Best EAC is the EAC reported this month, which assumes all efficiencies gained contract-to-date will remain at completion with no use of management reserve. The most likely EAC is the EAC reported this month plus the to-go (available) management reserve, which assumes all efficiencies gained contract-to-date will remain at completion but all available management reserve is used (e.g., all identified risks realized). The worst EAC is the ACWP plus the ETC or BCWR if greater plus the to-go (available) management reserve, which assumes all efficiencies gained contract-to-date will be eroded at completion and all available management reserve is used (e.g., all identified risks realized), plus the scope identified in the Trend Log that is not in the EAC. The Best/Worst and Most Likely EAC values are documented in the Format 1 Report.

<b>Prepared by:</b> Project Control Staff	<b>Date:</b> 05/21/2019	<b>Approved by:</b>	<b>Date:</b>
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# Appendix B

## Project Services and Support (WBS 000)



K. A. Wooley  
Vice President for  
Safety, Health, Security  
and Quality

M. A. Wright  
Vice President for  
Project Technical  
Services

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

M. N. Jaraysi  
Vice President for  
Environmental Program  
and Strategic Planning

D. J. Henderson  
Director of  
Communications

K. K. Dickerson  
Vice President for  
Prime Contract and  
Project Integration

M. W. Wells (Acting)  
Vice President for  
Business Services  
Chief Financial Officer

C. J. Simiele  
Vice President for  
Resource Management  
and Strategic Integration

This section is reported quarterly.

# Appendix C

## Capital Asset Projects

**CH2MHILL**  
Plateau Remediation Company



J. L. Casper  
Vice President for  
Plutonium Finishing Plant  
Closure Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

Appendix C.1  
Capital Asset Project  
RL-0011.C1 - PFP D&D  
(Removal of 174 Gloveboxes from 234-5Z)



J. L. Casper  
Vice President for  
Plutonium Finishing Plant  
Closure Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

Progress has been temporarily put on hold for work associated with critical decision (CD)-4 closure to remove the final glovebox from the 234-5Z Facility during demolition. The remaining glovebox (HA-46) has been staged until the area of the 234-5Z Facility is demolished. The total gloveboxes removed to date is 173 and is 99 percent complete.

The following are key metrics associated with this Capital Asset Project (CAP).

<i>Key Metrics</i>	<i>Current Month Plan</i>	<i>Current Month Actuals</i>	<i>Cumulative Plan</i>	<i>Cumulative Actuals</i>
Glovebox/Hood Removed	-	0	174	173
<b>COMPLETE</b> KPP Rooms/Areas Ready for Demo	-	0	72	72 rooms/areas

## KEY ACCOMPLISHMENTS

### RL-0011\_C1 Accomplishments:

- The project is on hold pending completion of lower-risk demolition. Glovebox HA-46 will be removed during higher-risk demolition.

## MAJOR ISSUES

None currently identified.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**

- Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.
- Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.
- Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.

Increased Confidence  
 No Change  
 Decreased Confidence

Risk Title Risk Owner	Unmitigated Risk Impacts	Assessment		Comments
		Month	Trend	
<b>RL-0011/WBS-011.05.01.01.06 (CAP.1)</b>				
<b>Explanation of major changes to the project monthly spotlight chart:</b> No major changes to the spotlight chart in <b>April</b> .				
<b>Realized Risks</b> (Risks that are currently impacting project cost/schedule)				
No realized risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in <b>April</b> .				
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)				
No critical risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in <b>April</b> .				
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)				
No critical risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in <b>April</b> .				
<b>Unassigned Risks</b> (Pending ownership of identified risks/opportunities)				
No unassigned risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in <b>April</b> .				

## CRITICAL PATH SCHEDULE

The PFP Critical Path Schedule begins with completion of the Zone 2 vault, followed by the remaining sections of Zones 2 and 7, with the exception of the drain line. Remote Mechanical C (RMC) process line and Remote Mechanical A (RMA) process line demolition will begin after a second management assessment is completed, and concurrence granted by RL to resume higher-risk demolition activities. Working in parallel with RMA and RMC will be the completion of the 234-5Z basement demolition and removal of HA-46. This leads to CD-4 declaration and confirmation of the completion worksheet. The CD-4 closeout completion milestone is scheduled for November 11, 2019.

## SCHEDULE MARGIN/MANAGEMENT RESERVE

Reference: Appendix C.1 Formats 1, 2, 3, and 5 for specific schedule margin/management reserve utilization for this CAP.

## CRITICAL DECISION MILESTONE STATUS

Number	Title	* Due Date	**Forecast Date	Status/ Comment
CAP.1	Removal of 174 gloveboxes from 234-5Z	11/30/2017	11/11/2019	The CAP 1 project forecasted completion date is November 11, 2019.

\*Due date reflects CD-4 due date with DOE contingency.

\*\*Forecast Date reflects CD-4 due date without DOE contingency.

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Nothing to report at this time.

## DOE ACTIONS / DECISIONS

Working with RL on CD-4 closure actions. CD-4 closure date of November 30, 2017, was not met.

# Appendix C.1

## RL-0011.C1 – PFP D&D

### (Removal of 174 Gloveboxes from 234-5Z)

## Contract Performance Reports

Format 1 - Work Breakdown Structure

Format 2 - Organizational Categories

Format 3 - Baseline

Format 4 - Staffing

Format 5 - Explanation and Problem Analysis

**CH2MHILL**  
Plateau Remediation Company



J. L. Casper  
Vice President for  
Plutonium Finishing Plant  
Closure Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC07-08RL14788  
Deliverable C.3.1.3.1 - 1

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT  
FORMAT 1 - WORK BREAKDOWN STRUCTURE**

DOLLARS IN Thousands of \$

FORM APPROVED  
OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>															
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME RL_0011_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2019 / 03 / 25															
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 04 / 21															
		c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> X YES (YYYYMMDD) 2009 / 09 / 18															
<b>5. CONTRACT DATA</b>																					
a. QUANTITY 1	b. NEGOTIATED COST 330,987	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK 0	d. TARGET PROFIT/FEE 9,878	e. TARGET PRICE 340,865	f. ESTIMATED PRICE 344,856	g. CONTRACT CEILING 340,865	h. ESTIMATED CONTRACT CEILING 344,856	i. DATE OF OTB/OTS (YYYYMMDD)													
<b>6. ESTIMATED COST AT COMPLETION</b>				<b>7. AUTHORIZED CONTRACTOR REPRESENTATIVE</b>																	
MANAGEMENT ESTIMATE AT COMPLETION (1)		CONTRACT BUDGET BASE (2)		VARIANCE (3)		a. NAME (Last, First, Middle Initial) Underwood, Teresa		b. TITLE Prime Contract Compliance Manager													
a. BEST CASE 332,585						c. SIGNATURE		d. DATE SIGNED (YYYYMMDD)													
b. WORST CASE 334,991																					
c. MOST LIKELY 334,978		330,987		-3,991																	
<b>8. PERFORMANCE DATA</b>																					
CAPN.PBS Control Account.PARS 2 WBS (2)		CURRENT PERIOD				CUMULATIVE TO DATE				REPROGRAMMING ADJUSTMENTS			AT COMPLETION								
ITEM (1)	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (9)	VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)					
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)											
RL-0011 Nuclear Mat Stab & Disp PFP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
RL_0011_C1.02 Maintain Safe & Compliant PFP	0	0	0	0	0	235,514	235,495	259,792	-19	-24,296	0	0	0	235,514	259,798	-24,283					
RL_0011_C1.05 Disposition PFP Facility	0	0	0	0	0	11,990	11,990	12,477	0	-487	0	0	0	11,990	12,477	-487					
RL_0011_C1.06 Project Management & Support	0	0	0	0	0	7,221	7,221	7,731	0	-510	0	0	0	7,221	7,731	-510					
RL_0011_C1.90 Usage Based Services Distributions -PBS RL-11	0	0	0	0	0	19,399	19,399	19,253	0	147	0	0	0	19,399	19,253	147					
RL_0011_C1.98 Ramp-up and transition	0	0	0	0	0	41,028	41,028	33,328	0	7,700	0	0	0	41,028	33,328	7,700					
RL_0011_C1.99 PBS RL-11 UBS, G-n-A, Direct Distrib	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
c. GENERAL AND ADMINISTRATIVE								0	0	0	0	0	0	0	0	0					
d. UNDISTRIBUTED BUDGET								0	0	0	0	0	0	0	0	0					
e. SUBTOTAL								0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	315,152	332,585	-17,433
f. MANAGEMENT RESERVE								0	0	0	0	0	0	0	0	0	0	0	0	0	0
g. TOTAL								0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	317,545		
<b>9. RECONCILIATION TO CONTRACT BUDGET BASELINE</b>																					
a. VARIANCE ADJUSTMENT																					
b. TOTAL CONTRACT VARIANCE																					
										-19	-17,446			317,545	332,585	-15,040					

\*CPR Format 1 displays fully burdened dollars which includes indirect G&A that is distributed to each Project

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT  
FORMAT 2 - ORGANIZATIONAL CATEGORIES**

DOLLARS IN Thousands of \$

FORM APPROVED  
OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME RL_0011_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2019 / 03 / 25	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 04 / 21	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> X <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group  ITEM (1)	CURRENT PERIOD						CUMULATIVE TO DATE						REPROGRAMMING			AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (9)	VARIANCE		ADJUSTMENTS			BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)		
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)					
35 - Business Services	0	0	0	0	0	60,427	60,427	52,580	0	7,847	0	0	0	60,427	52,580	7,847		
3B - PFP Closure Project	0	0	0	0	0	254,725	254,706	279,999	-19	-25,293	0	0	0	254,725	280,005	-25,280		
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
c. GENERAL AND ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
d. UNDISTRIBUTED BUDGET														0	0	0		
e. SUBTOTAL (Performance Measurement Baseline)	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	315,152	332,585	-17,433		
f. MANAGEMENT RESERVE														2,393				
g. TOTAL	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	317,545				

CLASSIFICATION (When Filled In)



**CONTRACT PERFORMANCE REPORT  
FORMAT 4 - STAFFING**

Dollars in: FTE

FORM APPROVED  
OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME RL_0011_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2019 / 03 / 25	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 04 / 21	
		c. TYPE CPAF	d. SHARE RATIO	c. EVMS ACCEPTANCE <input type="checkbox"/> NO <input checked="" type="checkbox"/> X <input type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

5. PERFORMANCE DATA															
WBS.Resp Org Group  ORGANIZATIONAL CATEGORY (1)	ACTUAL CURRENT PERIOD (2)	ACTUAL END OF CURRENT PERIOD (Cumulative) (3)	FORECAST (Non-Cumulative)											AT COMPLETION (15)	
			SIX MONTH FORECAST BY MONTH (Enter names of months)						ENTER SPECIFIED PERIODS						
			+1 MAY 2019 (4)	+2 JUN 2019 (5)	+3 JUL 2019 (6)	+4 AUG 2019 (7)	+5 SEPT 2019 (8)	+6 OCT 2019 (9)	NOV 2019 (10)	DEC 2019 (11)	JAN 2020 (12)	ATCOMPLETE (13)	(14)		
35 - Business Services	0	17	0	0	0	0	0	0	0	0	0	0	0	0	17
3B - PFP Closure Project	0	15441	0	0	0	0	0	0	0	0	0	0	0	0	15442
<b>g. TOTAL DIRECT</b>	0	15458	0	0	0	0	0	0	0	0	0	0	0	0	15459

CLASSIFICATION (When Filled In)

CONTRACT PERFORMANCE REPORT

FORMAT 5 - Explanations and Problem Analysis

FORM APPROVED

OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>			<b>4. REPORT PERIOD</b>		
<b>a. NAME</b> CH2M HILL Plateau Remediation Company		<b>a. NAME</b> Plateau Remediation Contract		<b>a. NAME</b> MPB - RL_0011_C1 - PFP D&D (ARRA/Base)			<b>a. FROM (YYYYMMDD)</b> 2019/03/25		
<b>b. LOCATION (Address and ZIP Code)</b> Richland, WA		<b>b. NUMBER</b> RL14788		<b>b. PHASE</b>			<b>b. TO (YYYYMMDD)</b> 2019/04/21		
<b>c. TYPE</b> CPAF		<b>d. SHARE RATIO</b>		<b>c. EVMS ACCEPTANCE</b> No X Yes (YYYYMMDD) 2009 / 09 / 18					

**Direct Projects**

5. Evaluation	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Current:	0	0	0	0	0	0	0	0	0
Cumulative:	315,152	315,133	332,579	-19	0.0%	-17,446	-5.5%	1.00	0.95
	<b>BAC</b>	<b>EAC</b>	<b>VAC in \$</b>	<b>VAC in %</b>	<b>TCPI to BAC</b>	<b>TCPI to EAC</b>			
At Complete:	315,152	332,585	-17,433	-5.5%	0	3.19			

**Explanation of Variance/Description of Problem:**

Current Period:  
 Schedule Variance: The schedule variance is within threshold.  
 Cost Variance: The current month cost variance is within threshold.

Cumulative To Date:  
 Schedule Variance: Within Threshold  
 Cost Variance: Within Threshold

**Impact:**

Impact: The RL-011.C1 Plutonium Finishing Plant (PFP) project baseline completion date is November 19, 2016. The current schedule reflects a completion date of November 11, 2019.

Cost Impact: Cost variance is not considered recoverable as there is only a small amount of scope remaining to complete the Key Performance Parameters (KPP).

**Corrective Action:**

None at this time

**Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):**

- Schedule Margin Analysis: There is no schedule margin associated with the RL-011.C1 capital asset account.
- IMS Data dictionary Changes: None in the month of April.
- Forecast Schedule with No Baseline: None in the month of April.
- UB Balance: None in the month of April.
- Negative Actual Cost of Work Performed (ACWP): None in the month of April.
- Earned Actual Cost (EAC) Analysis: Best Case = \$332,585; Most Likely = \$334,978; Worst Case = \$334,991. The Best Case EAC is the EAC reported this month, which assumes all efficiencies gained contract-to-date will remain at completion with no use of management reserve. The Most Likely EAC is the EAC reported this month plus the to-go (available) management reserve, which assumes all efficiencies gained contract-to-date will remain at completion but all available management reserve is used (e.g., all identified risks realized). The Worst Case EAC is the ACWP plus the ETC or Budgeted Cost of Work Remaining if greater plus the to-go (available) management reserve, which assumes all efficiencies gained contract-to-date will be eroded at completion and all available management reserve is used (e.g., all identified risks realized), plus the scope identified in the Trend Log that is not in the EAC. The Best/Worst and Most Likely EAC values are documented in the Format 1 Report.
- Negative Cost Variance (CV) > Variance at Completion (VAC): Scope to perform size reduction efforts on the high gram glovebox removal efforts was estimated to be completed in a much shorter time frame with much fewer resources than originally planned causing the large cost variance. The EAC is reflective of the current approach to perform the remaining work scope.
- Management Reserve Transactions: None in the month of April.
- Freeze Period Changes: None in the month of April.
- Retroactive Changes: None in the month of April.
- Earned Value Types Changes: None in the month of April.

Prepared by: Jessica Mares

5/15/2019

Approved by:

Date:

# Appendix C.2

## Capital Asset Project

### RL-0011.C2 - Demolition of PFP Facilities



J. L. Casper  
Vice President for  
Plutonium Finishing Plant  
Closure Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

Loadout of existing 234-5Z Facility debris completed in April, with the last containers of existing debris shipped to the Environmental Restoration Disposal Facility (ERDF) for disposal on April 4, 2019. Resumption of low-risk demolition began April 11, 2019, starting with the 234-5Z vault. The Plutonium Finishing Plant Project (PFP) completed final preparations for the CH2M HILL Plateau Remediation Company (CHPRC) Management Assessment (MA) for the project's readiness to re-start higher-risk demolition forecasted to begin in July 2019. The readiness MA will occur in the April 22, 2019, through May 2, 2019, and will include several PFP employee interviews, observation of an emergency drill and waste-loading exercises, review of hundreds of documents, and evaluation of implemented controls, among other activities.

<i>Key Metrics</i>	<i>Current Month Plan</i>	<i>Current Month Actuals</i>	<i>Cumulative Plan</i>	<i>Cumulative Actuals</i>
<b>COMPLETE</b> Cold and Dark/Demo Ready activities for 234-5Z	-	-	1	1
<b>COMPLETE</b> Cold and Dark/Demo Ready activities for 236-Z	-	-	1	1
<b>COMPLETE</b> Cold and Dark/Demo Ready activities for 242-Z	-	-	1	1
<b>COMPLETE</b> Cold and Dark/Demo Ready activities for 291-Z	-	-	1	1
Complete Cold and Dark/Demo Ready activities for the Plutonium Finishing Plant (PFP) Ancillary Facilities	-	-	15	14
Complete Demolition of 234-5Z	-	-	1	-
Complete Demolition of 236-Z	-	-	1	-
<b>COMPLETE</b> Demolition of 242-Z	-	-	1	1
<b>COMPLETE</b> Demolition of 291-Z	-	-	1	1
Complete Demolition of PFP Ancillary Facilities	-	-	15	14
Turnover Facility to Long Term Surveillance & Maintenance	-	-	-	-

## KEY ACCOMPLISHMENTS

### RL-0011\_C2 Accomplishments:

- Shipped thirty containers of demolition debris to ERDF, completing load out of existing 234-5Z debris.
- Conducted post-job and lessons learned briefings following the completion of debris load out activities, for application to low risk demolition activities work packages.
- Performed final preparations for the CHPRC MA of the readiness to restart the higher-risk demolition, which will include removal of the A and C lines and the Plutonium Reclamation Facility rubble.
- Continued holding briefings for neighboring projects and teams on plans to resume lower-risk demolition activities. Feedback has been positive on performance and status.
- Removed four high-efficiency particulate air filters from the ion exchange exhauster units. The ion exchange exhauster units will be used in high-risk demolition activities.

## MAJOR ISSUES

None currently identified.

## RISK MANAGEMENT STATUS

**Unassigned Risk**  
**Risk Passed**  
**New Risk**  
**Change**

-  Opportunity currently realized, or mitigation efforts are currently working toward, or after risk trigger with no foreseeable impacts.
-  Mitigation efforts are currently working toward risk trigger with the possibility of actions not in place prior to risk occurrence. Recovery actions may be needed.
-  Risk currently realized, or risk mitigation efforts are past risk trigger date with foreseeable impacts. Recovery actions needed.

-  Increased Confidence
-  No Change
-  Decreased Confidence

Unmitigated Risk Impacts	Assessment		Comments															
	Month	Trend																
<b>RL-0011/WBS-011.OA</b>																		
<b>Explanation of major changes to the project monthly spotlight chart:</b> Risks PFP-P2-002, <i>Weather Impacts During 235-Z Debris Disposition</i> , and PFP-P-014, <i>Bump and Roll, Labor Assets Management Program (LAMP), or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity</i> , were moved from the Realized Risk section to the FY2019 Risk Trigger section, based on no experienced impacts in April.																		
<b>Realized Risks</b> (Risks that are currently impacting project cost/schedule)																		
No realized risks identified in April.																		
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																		
No critical risks identified in April.																		
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)																		
No high threat value risks identified in April.																		
<b>FY2019 Risk Triggers</b> (Risk could be realized in FY2019)																		
PFP-P-004: Stop Work From Concerned Workers	Concerned workers result in a stop work to address off-normal or safety issues. The work cannot be restarted until the implementation of corrective actions is completed, resulting in schedule impacts to the project.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$0, 52 days																	
<p><b>Risk Trigger:</b> During resumption of PFP demolition activities, an increase in stop works could result in delays.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Update communications as positions change.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Proved new maps, with entry/exit instructions when boundaries are revised.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Encourage additional worker involvement</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Increase frequency of post-job reviews.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. Though increased communication and worker involvement to avoid confusion and concern in an effort to minimize stop works has continued; stop works may impact the project schedule going forward. A <b>Baseline Change Request (BCR)</b> was implemented in April to account for the impacts of stop work delays from July 2018 to November 2018.</p>				Mitigation action(s)	FC Date	%	Update communications as positions change.	Ongoing	N/A	Proved new maps, with entry/exit instructions when boundaries are revised.	Ongoing	N/A	Encourage additional worker involvement	Ongoing	N/A	Increase frequency of post-job reviews.	Ongoing	N/A
Mitigation action(s)	FC Date	%																
Update communications as positions change.	Ongoing	N/A																
Proved new maps, with entry/exit instructions when boundaries are revised.	Ongoing	N/A																
Encourage additional worker involvement	Ongoing	N/A																
Increase frequency of post-job reviews.	Ongoing	N/A																
PFP-P5-006: Additional Soil Removal is Required	Prior to the placement of the cover cap, the additional soil added for contamination control is required to be dispositioned, resulting in cost and schedule delays to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$0, 54 days																	
<p><b>Risk Trigger:</b> Additional soil, above planned value, is required to be removed due to contamination or regulatory concerns.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Engage early with RL to identify a path forward associated with the additional soil.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Collect and provide radiological mapping data to RL.</td> <td>TBD</td> <td>TBD</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No major changes in April. There has been continued communication with RL on required soil removal. No additional soil above planned quantity is required at this time. RL has requested radiological data to help them determine no additional soil disposition than planned is required.</p>				Mitigation action(s)	FC Date	%	Engage early with RL to identify a path forward associated with the additional soil.	Complete	100	Collect and provide radiological mapping data to RL.	TBD	TBD						
Mitigation action(s)	FC Date	%																
Engage early with RL to identify a path forward associated with the additional soil.	Complete	100																
Collect and provide radiological mapping data to RL.	TBD	TBD																

Unmitigated Risk Impacts	Assessment		Comments												
	Month	Trend													
<b>RL-0011/WBS-011.OA</b>															
<p><b>PFP-P2-002:</b> Weather Impacts During 235-Z Debris Disposition</p> <p>Increment weather, including moderate winds, low or high temperatures, and thunderstorms will result in in-scope unplanned work and schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Very Likely (&gt;90%) <b>Worst Case Impacts:</b> \$0, 8 days</p>	●	↔	<p><b>Risk Event:</b> In February, there were a significant number of work delays, early releases, and cancellations due to adverse weather conditions on the Hanford Site and surrounding communities, where non-essential personnel were directed not to report to work</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Plan for 80% total operation efficiency</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. Work crews normally supporting demolition and demolition support activities had been reassigned to snow removal and weather mitigation activities. Demolition preparation activities resumed in March after conditions improved. A BCR was implemented in April to account for the impacts of weather delays on the project schedule. This risk will be removed from the stoplight prior to May reporting, but will continue to be monitored throughout the remainder of the risk life cycle.</p>	Risk Recovery action(s)	FC Date	%	Plan for 80% total operation efficiency	Ongoing	N/A						
Risk Recovery action(s)	FC Date	%													
Plan for 80% total operation efficiency	Ongoing	N/A													
<p><b>PFP-P-014:</b> Bump and Roll, Labor Assets Management Program (LAMP), or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity</p> <p>Plutonium Finishing Plant (PFP) Hanford Atomic Metal Trades Council (HAMTC) labor resources are unavailable or unqualified due to the bump and roll, LAMP, or other job postings, resulting in schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0, 128 days</p>	●	↔	<p><b>Risk Triggers:</b> Thirty Decontamination &amp; Decommissioning (D&amp;D) workers have been hired by other projects on the Hanford Site and have left PFP. The process to hire and train new D&amp;D workers has been initiated.</p> <table border="1"> <thead> <tr> <th>Risk Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Hire and train additional D&amp;D workers as needed to perform demolition work at PFP. (Group 1)</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Hire and train additional D&amp;D workers as needed to perform demolition work at PFP. (Group 2)</td> <td>3/28/19</td> <td>100</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> No major changes in April. The first group of 31 new D&amp;D workers completed training/field mentoring activities January 24, 2019. The second group of 10 new D&amp;D workers started training January 28, 2019, and completed field mentoring activities in March. An additional week is needed to complete training/mentoring due to weather delays in February and March. A BCR was implemented in April to account for the impacts of weather delays on the project schedule. This risk will be removed from the stoplight prior to May reporting, but will continue to be monitored throughout the remainder of the risk life cycle.</p>	Risk Recovery action(s)	FC Date	%	Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A	Hire and train additional D&D workers as needed to perform demolition work at PFP. (Group 1)	Complete	100	Hire and train additional D&D workers as needed to perform demolition work at PFP. (Group 2)	3/28/19	100
Risk Recovery action(s)	FC Date	%													
Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A													
Hire and train additional D&D workers as needed to perform demolition work at PFP. (Group 1)	Complete	100													
Hire and train additional D&D workers as needed to perform demolition work at PFP. (Group 2)	3/28/19	100													
<b>Unassigned Risks</b> (Pending ownership of identified threats/opportunities)															
No unassigned risks identified in April.															

### CRITICAL PATH SCHEDULE

The PFP Critical Path Schedule begins with completion of the Zone 2 vault, followed by demolition on the remaining sections of Zones 2 and 7, with the exception of the drain line. Remote Mechanical C process line demolition, Remote Mechanical A process line demolition, loadout of glovebox HA-46, in parallel with completion of the 234-5Z basement demolition will begin after a second MA, and concurrence is obtained to resume high-risk demo from RL. The 234-5Z demolition is projected to complete August 26, 2019. The 236-Z Canyon demolition will then resume with completion scheduled for October 24, 2019, meeting the requirements for the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) *Milestone M-083-00A – PFP Facility Transition and Selection Disposition Activities*. Completion of demolition is followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities completing in early February 2020.

## SCHEDULE MARGIN/MANAGEMENT RESERVE

Reference Appendix C.2 Formats 1, 2, 3, and, 5 for specific schedule margin/management reserve utilization for this CAP.

## CRITICAL DECISION MILESTONE STATUS

Number	Title	* Due Date	**Forecast Date	Status/ Comment
RL-011.C2	Completion of Demolition of all PFP Facilities.	7/31/2020	1/14/2020	Loadout of the existing debris pile completed in April, and demolition started on the vault. Completion of demolition of all PFP facilities remained at January 14, 2020.

\*Due date reflects CD-4 due date with DOE contingency.

\*\*Forecast date reflects CD-4 completion date (does not include contingency).

## GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None to report at this time.

## DOE ACTIONS / DECISIONS

Working with RL on CD-4 closure actions.

# Appendix C.2

## RL-0011.C2 - Demolition of PFP Facilities

### Contract Performance Reports

Format 1 - Work Breakdown Structure

Format 2 - Organizational Categories

Format 3 - Baseline

Format 4 - Staffing

Format 5 - Explanation and Problem Analysis

**CH2MHILL**  
Plateau Remediation Company



J. L. Casper  
Vice President for  
Plutonium Finishing Plant  
Closure Project

April 2019  
CHPRC-2019-04, Rev. 0  
Contract DE-AC07-08RL14788  
Deliverable C.3.1.3.1 - 1

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT  
FORMAT 1 - WORK BREAKDOWN STRUCTURE**

DOLLARS IN Thousands of \$

FORM APPROVED  
OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>													
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME RL_0011_C2 PFP Demolition Capital Asset Project		a. FROM (YYYYMMDD)  2019 / 03 / 25													
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD)  2019 / 04 / 21													
		c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> X YES (YYYYMMDD) 2009 / 09 / 18													
<b>5. CONTRACT DATA</b>																			
a. QUANTITY 1	b. NEGOTIATED COST 61,784	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK 49,134	d. TARGET PROFIT/FEE 5,000	e. TARGET PRICE 66,784	f. ESTIMATED PRICE 174,813	g. CONTRACT CEILING 66,784	h. ESTIMATED CONTRACT CEILING 174,813												
<b>6. ESTIMATED COST AT COMPLETION</b>				<b>7. AUTHORIZED CONTRACTOR REPRESENTATIVE</b>															
		MANAGEMENT ESTIMATE AT COMPLETION (1)	CONTRACT BUDGET BASE (2)	VARIANCE (3)	a. NAME (Last, First, Middle Initial) Underwood, Teresa		b. TITLE Prime Contract Compliance Manager												
a. BEST CASE		156,277			c. SIGNATURE		d. DATE SIGNED (YYYYMMDD)												
b. WORST CASE		174,215																	
c. MOST LIKELY		169,813	110,919	-58,894															
<b>8. PERFORMANCE DATA</b>																			
CAPN.PBS Control Account.PARS 2 WBS (2)		CURRENT PERIOD			CUMULATIVE TO DATE			REPROGRAMMING ADJUSTMENTS			AT COMPLETION								
ITEM (1)		BUDGETED COST		ACTUAL		BUDGETED COST		ACTUAL		REPROGRAMMING ADJUSTMENTS		BUDGETED	ESTIMATED	VARIANCE					
		WORK SCHEDULED (2)	WORK PERFORMED (3)	COST WORK PERFORMED (4)	SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)	COST WORK PERFORMED (9)	SCHEDULE (10)	COST (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	(14)	(15)	(16)		
RL-0011 Nuclear Mat Stab & Disp PFP																			
RL_0011_C2.05 Disposition PFP Facility		4,832	21,740	4,581	16,908	17,159	93,202	86,810	121,748	-6,392	-34,938	0	0	0	125,742	156,277	-30,535		
b. COST OF MONEY		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
c. GENERAL AND ADMINISTRATIVE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
d. UNDISTRIBUTED BUDGET															0	0	0		
e. SUBTOTAL		4,832	21,740	4,581	16,908	17,159	93,202	86,810	121,748	-6,392	-34,938	0	0	0	125,742	156,277	-30,535		
f. MANAGEMENT RESERVE															13,535				
g. TOTAL		4,832	21,740	4,581	16,908	17,159	93,202	86,810	121,748	-6,392	-34,938	0	0	0	139,278				
<b>9. RECONCILIATION TO CONTRACT BUDGET BASELINE</b>																			
a. VARIANCE ADJUSTMENT																			
b. TOTAL CONTRACT VARIANCE										-6,392		-34,938		139,278		156,277		-17,000	

**CONTRACT PERFORMANCE REPORT  
FORMAT 2 - ORGANIZATIONAL CATEGORIES**

DOLLARS IN Thousands of \$ OMB No. 0704-0188

FORM APPROVED

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME RL_0011_C2 PFP Demolition Capital Asset Project		a. FROM (YYYYMMDD)  2019 / 03 / 25	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD)  2019 / 04 / 21	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group	CURRENT PERIOD						CUMULATIVE TO DATE					REPROGRAMMING			AT COMPLETION		
	BUDGETED COST		ACTUAL	VARIANCE		BUDGETED COST		ACTUAL	VARIANCE		ADJUSTMENTS			BUDGETED	ESTIMATED	VARIANCE	
	WORK SCHEDULED (2)	WORK PERFORMED (3)	COST WORK PERFORMED (4)	SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)	COST WORK PERFORMED (9)	SCHEDULE (10)	COST (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	(14)	(15)	(16)	
3B - PFP Closure Project	4,832	21,740	4,581	16,908	17,159	93,202	86,810	121,748	-6,392	-34,938	0	0	0	125,742	156,277	-30,535	
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
c. GENERAL AND ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
d. UNDISTRIBUTED BUDGET														0	0	0	
e. SUBTOTAL (Performance Measurement Baseline)	4,832	21,740	4,581	16,908	17,159	93,202	86,810	121,748	-6,392	-34,938	0	0	0	125,742	156,277	-30,535	
f. MANAGEMENT RESERVE														13,535			
g. TOTAL	4,832	21,740	4,581	16,908	17,159	93,202	86,810	121,748	-6,392	-34,938	0	0	0	139,278			

CLASSIFICATION (When Filled In)



**CONTRACT PERFORMANCE REPORT  
FORMAT 4 - STAFFING**

Dollars in: FTE

FORM APPROVED  
OMB No. 0704-0188

<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>		<b>3. PROGRAM</b>		<b>4. REPORT PERIOD</b>	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME RL_0011_C2 PFP Demolition Capital Asset Project		a. FROM (YYYYMMDD) 2019 / 03 / 25	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 04 / 21	
		c. TYPE CPAF	d. SHARE RATIO	c. EVMS ACCEPTANCE <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

5. PERFORMANCE DATA		FORECAST (Non-Cumulative)												AT COMPLETION (15)	
WBS.Resp Org Group  ORGANIZATIONAL CATEGORY (1)	ACTUAL CURRENT PERIOD (2)	ACTUAL END OF CURRENT PERIOD (Cumulative) (3)	SIX MONTH FORECAST BY MONTH (Enter names of months)						ENTER SPECIFIED PERIODS						
			+1 MAY 2019 (4)	+2 JUN 2019 (5)	+3 JUL 2019 (6)	+4 AUG 2019 (7)	+5 SEPT 2019 (8)	+6 OCT 2019 (9)	NOV 2019 (10)	DEC 2019 (11)	JAN 2020 (12)	ATCOMPLETE (13)	(14)		
3B - PFP Closure Project	176	3272	166	164	163	162	162	148	98	88	2	0	0	4425	
<b>g. TOTAL DIRECT</b>	<b>176</b>	<b>3272</b>	<b>166</b>	<b>164</b>	<b>163</b>	<b>162</b>	<b>162</b>	<b>148</b>	<b>98</b>	<b>88</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>4425</b>	

CLASSIFICATION (When Filled In)																			
CONTRACT PERFORMANCE REPORT																			
FORMAT 5 - Explanations and Problem Analysis																			
FORM APPROVED OMB No. 0704-0188																			
<b>1. CONTRACTOR</b>		<b>2. CONTRACT</b>			<b>3. PROGRAM</b>			<b>4. REPORT PERIOD</b>											
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract			a. NAME RL_0011_C2 PFP Demolition Capital Asset Project			a. FROM (YYYYMMDD) 2019/03/25											
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788			b. PHASE			b. TO (YYYYMMDD) 2019/04/21											
c. TYPE CPAF		d. SHARE RATIO			c. EVMS ACCEPTANCE No X Yes (YYYYMMDD) 2009 / 09 / 18														
<b>Direct Projects</b>																			
<b>5. Evaluation</b>		<b>Budget</b>		<b>Earned</b>		<b>Actuals</b>		<b>SV in \$</b>		<b>SV in %</b>		<b>CV in \$</b>		<b>CV in %</b>		<b>SPI</b>		<b>CPI</b>	
Current:		4,832.3		21,739.9		4,581.2		16,907.6		349.9%		17,158.7		78.9%		4.50		4.75	
Cumulative:		93,202.0		86,810.2		121,747.8		-6,391.8		-6.9%		-34,937.6		-40.2%		0.93		0.71	
		<b>BAC</b>		<b>EAC</b>		<b>VAC in \$</b>		<b>VAC in %</b>		<b>TCPI to BAC</b>		<b>TCPI to EAC</b>							
At Complete:		125,742.1		156,277.0		-30,535.0		-24.3%		9.75		1.13							
<b>Explanation of Variance/Description of Problem:</b>																			
Current Month:																			
Schedule Variance: The Current Month (CM) favorable schedule variance is primarily attributed to the implementation of BCR-PRC-011C-19-002R0 to draw down RL contingency to address impacts to the project breakdown structure (PBS) RL-0011 C.2 Project to complete project performance measurement baseline to address delays in resuming debris disposition and restarting low- and high-risk demolition. The delays due to stop works, the loss of the Decontamination & Decommissioning (D&D) crews to other Hanford contractor hiring actions, and impacts from adverse weather in February and early March, were planned as activities occurring in the future to allow the necessary schedule extension, but were stautused as complete as the risk were experienced.																			
Cost Variance: The CM favorable cost variance is primarily attributed to the implementation of BCR-PRC-011C-19-002R0 to draw down RL contingency to address impacts to the project breakdown structure (PBS) RL-0011 C.2 Project to complete project performance measurement baseline to address delays in resuming debris disposition and restarting low- and high-risk demolition. The delays due to stop works, the loss of the D&D crews to other Hanford contractor hiring actions, and impacts from adverse weather in February and early March, were planned as activities occurring in the future to allow the necessary schedule extension, but were stautused as complete as the risk were experienced.																			
Cumulative to Date:																			
Schedule Variance: The cumulative schedule variance is due to delayed completion of low risk work scope due to implementation of revised approach and a deliberate approach to demolition activities.																			
Cost Variance: The cumulative negative cost variance is associated with MSA resources arriving to support PFP demolition that were planned as P/Q shift support. Additionally, Readiness Assessment activities lagged due to a delay in the start of 236-Z Demolition and increased requirements to show readiness resulting in increased costs due to additional time and effort required from subcontracted and direct labor resources. The apportioned project management activities (i.e. project oversight and planning) and support activities are ongoing, while a delay in the discrete field work is resulting in minimal apportioned BCWP. Demolition mobilization activities took longer than originally assumed because of recommendations made during the readiness assessment and purchasing unplanned PBS fixative to support 236-Z demolition. In addition, significant winter weather impacts (i.e., snow, wind, freezing rain, etc.) have been recognized on the Hanford Site. Site closures, freezing temperatures and significant snowfall that required clearing of the demolition zone rather than performing physical demolition on the facilities while a constant staff provides demolition support services is a contributing factor. Unplanned Management Assessment efforts for the 234-5Z and 291-Z facilities took longer than originally assumed. Impacts associated with the Stop Work that was initiated by the HAMTC union leadership on November 11, 2017 "associated with concerns over events both inside and outside of the facility." The main issue involved employee proximity to radiological boundary areas during demolition. Radiological boundaries were reconfigured and impacted employees were relocated. As the project gets further into the demolition phase of the PRF Canyon, increased utilization of Personnel Protective Equipment to align with the original plan as well as increased material procurements to align with the scope being performed (i.e., P-100 filters, Labouny Shear, additional fixative, etc.) are also contributing to this variance. An adjustment to the General & Administrative (G&A) Rate for FY2017 resulted in a reduction to the Performance Measurement Baseline (PMB) of \$463K. Finally, impacts from a contamination event that occurred on Friday, December 15, 2017, swing shift where RadCon personnel performing routine surveys following the day shift demolition activities discovered low level contamination on a cookie sheet. This led to a wider search, and a "speck" of contamination was smeared from a government vehicle. A CHPRC management stop work on demolition activities was declared and a critique held to discuss the contamination spread, possible causes, and path forward. A root cause analysis was conducted and resumption actions identified.																			
This is partially offset by recognized efficiencies associated with the removal of the 18 sections of the PRF gallery gloveboxes, progress on demolition of 236-Z, demolition of the 2727-Z and 2729-Z facilities, the 242-ZA and 242-Z facilities, the 291-Z facility, 291-Z stack, 234-5ZA, 252-Z1, 2503-Z, 2735Z, 2734ZA, ZB, ZC, ZD, and ZL facilities.																			
<b>Impact:</b>																			
Schedule Impact: Completion of all demolition activities are forecast to occur in October 2019. The TPA Milestone TPA-083-00A, complete PFP facility transition and selected disposition activities of November 30, 2017, was not met.																			
Cost Impact: A negative VAC is reflective of impacts associated with recovery efforts from a contamination event that occurred on December 15, 2017.																			
<b>Corrective Action:</b>																			
NOTE: All corrective actions and resumption pre-start items identified in the management assessment are have been completed, and the DOE has provided concurrence for the resumption of lower-risk work. The Stop Work issued by CHPRC management on demo activities has been lifted and resumption of low risk debris disposition is underway.																			
<b>Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):</b>																			
The following items are addressed, as applicable:																			
1. Schedule Margin Analysis: No change in the month of April																			
2. IMS Data dictionary Changes: No change in the month of April																			
3. Forecast Schedule with No Baseline: No change in the month of April																			
4. UB Balance: No change in the month of April																			
5. Negative Actual Cost of Work Performed (ACWP): No change in the month of April																			
6. Earned Actual Cost (EAC) Analysis: Best Case = \$156,277; Most Likely = \$169,813; Worst Case = \$174,215. The Best Case EAC is the EAC reported this month, which assumes all efficiencies gained contract-to-date will remain at completion with no use of management reserve. The Most Likely EAC is the EAC reported this month plus the to-go (available) management reserve, which assumes all efficiencies gained contract-to-date will remain at completion but all available management reserve is used (e.g., all identified risks realized). The Worst Case EAC is the ACWP plus the ETC or BCWR if greater plus the to-go (available) management reserve, which assumes all efficiencies gained contract-to-date will be eroded at completion and all available management reserve is used (e.g., all identified risks realized), plus the scope identified in the Trend Log that is not in the EAC. The Best/Worst and Most Likely EAC values are documented in the Format 1 Report.																			
7. Negative CV > VAC: No change in the month of April																			
8. Management Reserve Transactions: No change in the month of April																			
9. Freeze Period Changes: No change in the month of April																			
10. Retroactive Changes: No change in the month of April																			
11. Earned Value Type Changes: No change in the month of April																			
Prepared by: Jason Knowlton				Date: 05/20/19				Approved by:		Date:									