

# Monthly Performance Report

October 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 Lynn M. Ayers at 9:09 am, Nov 25, 2019*

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Release Approval

Date

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**CH2MHILL**  
**Plateau Remediation Company**  
*a Jacobs company*



L. Ty Blackford  
President and  
Chief Executive Officer

# Monthly Performance Report

U.S. Department of Energy Contract  
DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

October 2019  
CHPRC-2019-10, Revision 0

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## EXECUTIVE SUMMARY

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

- Waste and Fuels Management Project:** A contract was awarded for the Capsule Storage Area construction at the W-135 Management of the Cesium and Strontium Capsules Project. A request for proposal was issued for utility work around the Waste Encapsulation Storage Facility (WESF) truck port. The team at WESF completed decontamination efforts in the canyon and hoisting, rigging, and loading of the shadow shield and other large items from the canyon into roll-on/roll-off containers for disposal. At T Plant, workers replaced cover blocks on Cell 13L and performed the safety significant design feature in-service inspection for the cover block vent path. At the Central Waste Complex, roof repairs were completed on 2403WC, and shipment 000NR1 for the U.S. Navy reactor compartment was received into Trench 94. Crews at the Canister Storage Building completed maintenance activities on the multi-canister overpack handling machine (MHM), including the five-year inspection on the reeling drum and the annual inspection on the wire rope. Closeout of work documents have been completed, and the MHM has been returned to service.
- Soil and Groundwater Remediation Project:** The 100-NR-2 Remedial Investigation Feasibility Study (RI/FS), Draft B was finalized and transmitted to the U.S. Department of Energy (DOE), Richland Operations Office (RL), culminating five years of collaboration with RL and the regulatory agencies to create appropriate remedial alternatives, including a technical impracticability (TI) waiver for strontium, the first of its kind in the DOE complex. The 200-ZP-1 Optimization Plan was initiated, which suspended biological treatment of nitrates and commenced system cleanout and layup. These activities are the first steps toward the five- to seven-year study to increase carbon tetrachloride plume treatment to decrease lifecycle cost of remediation. Field and design activities enabled the expansion of facility treatment capacity from a flowrate of 2,500 gallons per minute (gpm) to 3,750 gpm.
- Plutonium Finishing Plant (PFP) Closure Project:** The PFP Closure Project team completed demolition and debris disposition of the second floor and duct level of the 234-5Z Building zone 4 as well as core stability zones 4.2 and 4.3. Only the southwest second floor and duct level remain for lower-risk demolition. Workers completed core drill testing on a mock-up of the Plutonium Reclamation Facility slab in preparation for development of the slab core drilling and soil sampling work package, which will be used in slab characterization activities after slab-on-grade is achieved. Eighty-nine containers of lower-risk demolition debris were shipped to the Environmental Restoration Disposal Facility for permanent disposal.
- K Basins Operations (KBO):** A subcontract was awarded to support soil remediation work in fiscal year (FY) 2020, and preparation for training and mobilization began. After additional completion of sampling of the 166KE Fuel Storage Bunker, it is anticipated that pumping for disposal of the remaining oily water from the bunker will resume in November. Remaining design work was completed for the 105KE Interim Safe Storage Structure, with final design approvals expected in November. In the 105KW Basin, crews began clearing a footprint to install equipment that will segregate high dose debris over the next three to four months. Work also continued to stage and obtain dose rates of debris items in the basin to support creation of



Workers practice use of equipment at MASF to prepare for the next phase of cleanup at K West Basin.

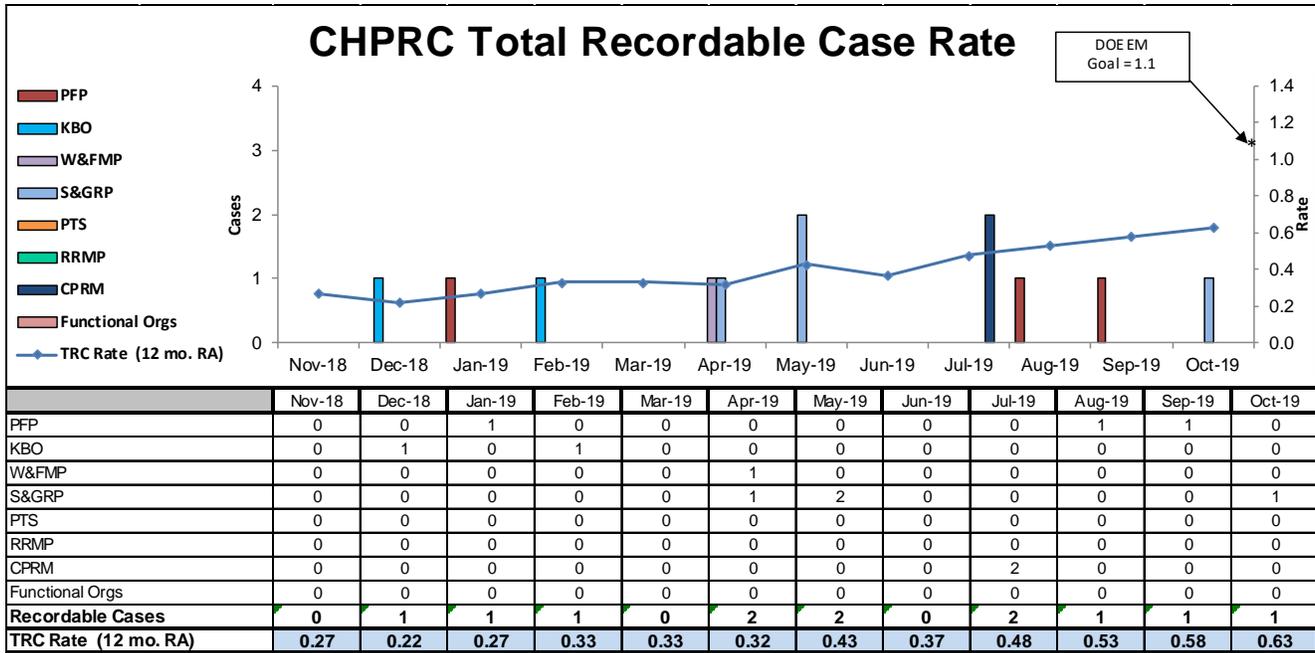
an overall debris map; this work will also continue for about three to four months. Initial operator training on the garnet filter media removal system was completed at the Maintenance and Storage Facility (MASF). Construction crews will train on the system in November prior to packaging the system for transport and installation in the 105KW Basin. At MASF, the crew continued developing tools required to size reduce and disposition high dose debris, inspect the settler tubes, inspect the north loadout pit, and support current operations and upcoming construction activities in the 105KW Basin.

- **River Risk Management Project (RRMP):** In support of 300-296 Waste Site remediation, 324 Building facility preparations included grouting the final remote excavator arm through support assembly and installing the in-cell filter on the snorkel in C Cell. Crews also installed the anemometer on south airlock supply inlet, completed truck lock leveling in support of waste box loadout, removed an eight-foot split plug, and installed a new shield plug supporting the floor saw utilities installation. Crews installed seven north shoring piles outside the 324 Building to support future soil stabilization injection grouting under the east wall of B Cell, where 11 of 21 piles are installed. Structural modifications in the 324 Building basement continued with the completion of the third pilot hole and initiation of drilling at the fourth location. B Cell cleanout continued with size reduction and waste bin loadout of B Cell debris. The sixth 9×5×5 waste box was filled with three bins of B Cell debris. At the Integrated Disposal Facility (IDF), the earthworks subcontract was awarded, and the subcontractor mobilized and initiated site clearing and grading work.
- **Central Plateau Risk Management (CPRM) Project:** Crews abated more than 1,700 feet of steam line asbestos along 4th and 7th Avenues in the 200 East Area and returned to the 200 West Area to process steam line piping and stanchions. At the Reduction and Oxidation Facility (REDOX), personnel completed the non-destructive assay (NDA) of the sample gallery product transfer line and completed five additional medium hazard mechanical isolations to support the cold-and-dark process. Crews completed demolition of both the 224-T Transuranic Waste Storage and Assay Facility tent and the MO710 mobile trailer. Crews also applied clean overburden to a number of troublesome Waste Information Data System sites in the 200 East Area. Personnel initiated work planning for the new FY2020 scope, including 224-B demolition preparation and Plutonium Uranium Extraction Plant (PUREX) North.

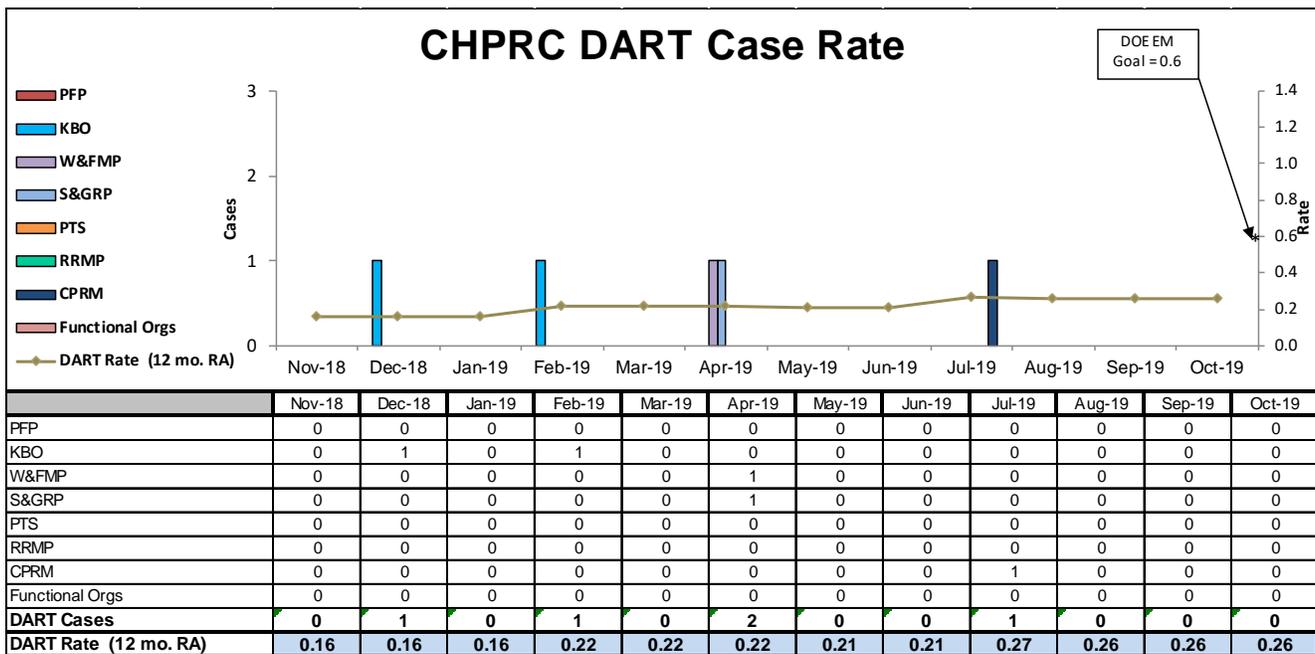
- The President’s Zero Accident Council meeting for October was hosted by the RRMP. The two main ideas were as follows:
  - o Halloween safety – take it home.
  - o Hanford Fire Department and fire safety.
- Four “Thinking Target Zero” bulletins were published to convey multiple important occupational, safety, health, and environmental messages:
  - o Energy conservation.
  - o Winter preparation.
  - o Voluntary Protection Program self-assessment.
  - o Time to “fall back”.
- “Weekly Safety Tailgate” briefing packages communicated relevant topics and safety information to the workforce.
  - o Four lessons learned:
    - OPEXShare: 2019-KBO-0007, “Failure to Control All Energy Sources During Work Leads to Potential Hazardous Energy Exposure”.
    - OPEXShare: 2019-NV-NNSS-712, “Nonconformance to Specification Led to Missed Milestone” (offsite).
    - OPEXShare: 28282-USDOL USDAL – MSHA, “Electrical Safety Alert – Don’t Rush. Lockout/Tagout. Control Hazards.” (offsite)
    - OPEXShare: 2019-WFMP-0007, “An Assumption is Not a Sure Bet – Forklift Tines Bent After Insufficient Hazard Evaluation”.
  - o Injuries.
  - o Weekly ethics moments.
  - o Vehicle events.
  - o Elk near Route 4 South.
  - o Endorsed vehicle policy.
  - o Industrial hygiene.
  - o Winter safety campaign.
  - o Hard hats in cold weather.
  - o Updated event report forms.
  - o General Industrial Hazards Analysis and Craft Specific Hazards Analysis annual review.
  - o Safe use of space heaters.
  - o Remember to Radiological Access Control RAC out!
  - o Office safety and security.

## TARGET ZERO PERFORMANCE

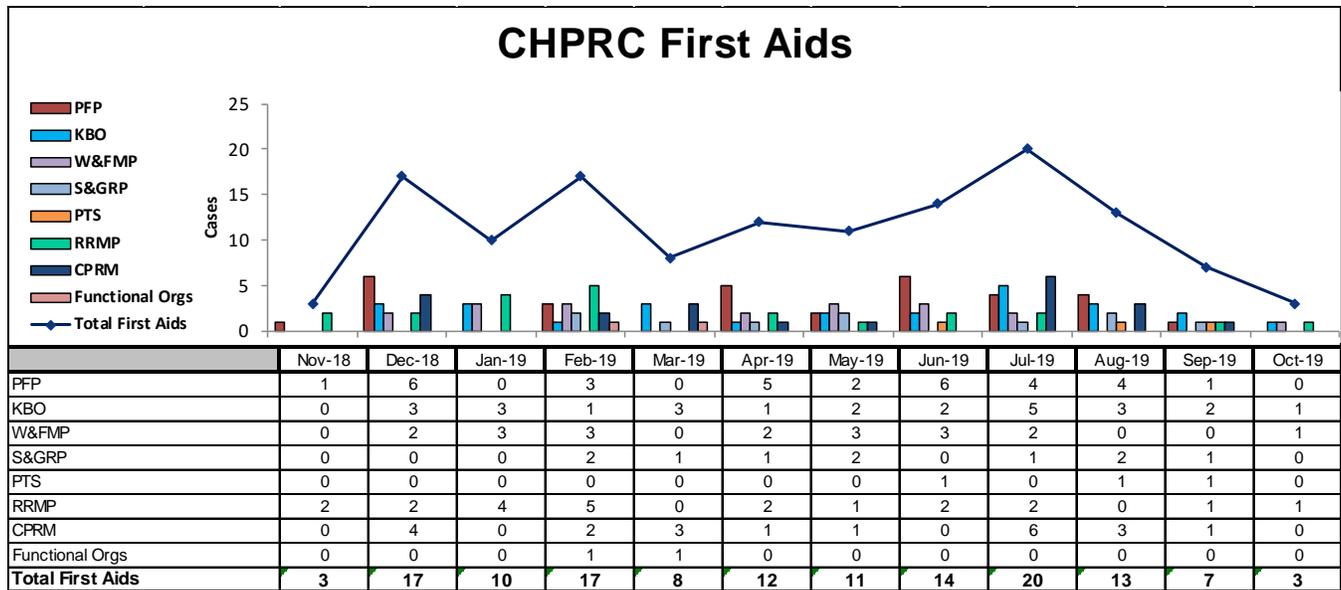
CHPRC continued focusing on integrating and implementing safety programs in all program and project areas.



Total Recordable Injury Case (TRC) Rate: The 12-month rolling average TRC rate of 0.63 is based on a total of 12 Recordable injuries. October had one reported recordable case.



Days Away, Restricted or Transferred (DART) Workdays Case Rate: The 12-month rolling average DART rate of 0.26 is based on a total of five days away cases. October had no reported DART cases.



First Aid Case Summary: CHPRC reported three first aid cases in October. The contributors were three sprains/strains/pains injuries.

## KEY ACCOMPLISHMENTS

### Projects

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

### Project Services and Support

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

## MAJOR ISSUES

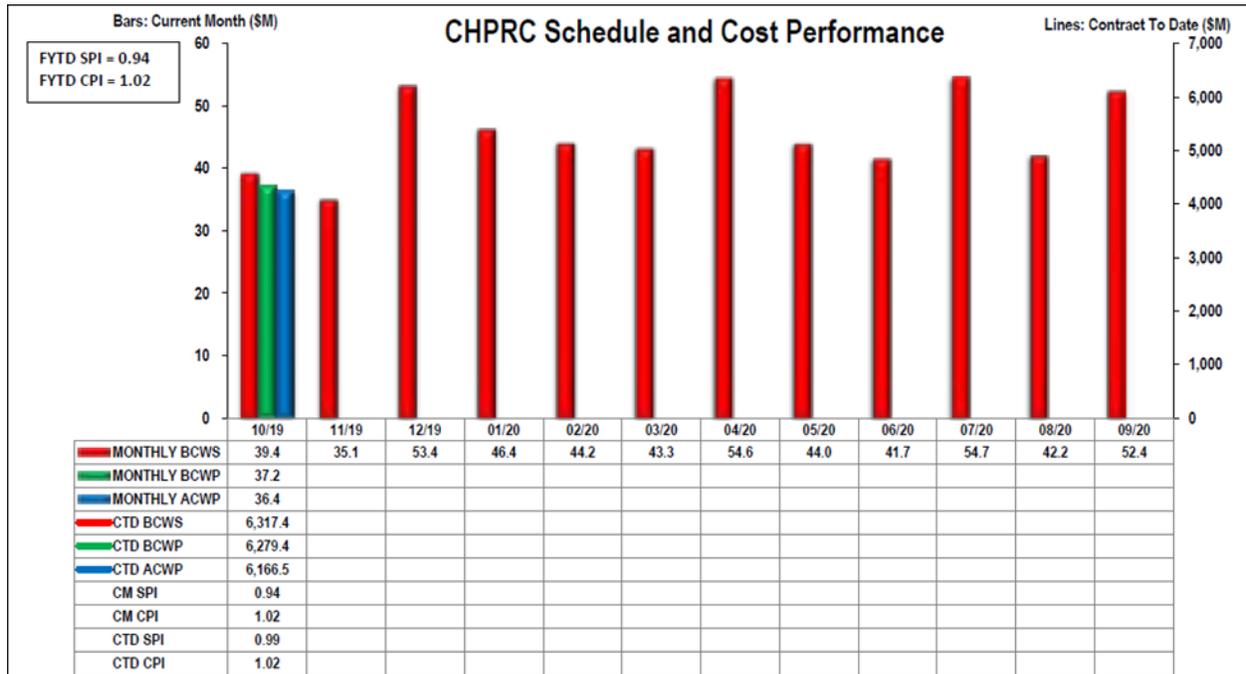
### Projects

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

### Project Services and Support

- No major issues to report for current month.

## EARNED VALUE MANAGEMENT



	Current Period					Contract to Date					Contract Period		
	Budgeted Cost		Actual Cost	Variance		Budgeted Cost		Actual Cost	Variance		BAC	EAC	Variance
	BCWS	BCWP	ACWP	Schedule	Cost	BCWS	BCWP	ACWP	Schedule	Cost			
RL-0011 - Nuclear Materials Stab & Disp PFP	1.58	5.01	4.67	3.42	0.34	1,123.56	1,113.65	1,209.21	(9.91)	(95.56)	1,143.56	1,235.60	(92.03)
RL-0012 - SNF Stabilization & Disposition	0.08	0.08	0.02	-	0.06	759.44	759.44	729.88	(0.00)	29.55	759.59	730.08	29.51
RL-0013 - Solid Waste Stab & Disposition	14.59	11.86	10.72	(2.73)	1.14	1,492.05	1,486.94	1,402.68	(5.11)	84.26	1,678.94	1,589.90	89.04
RL-0030 - Soil & Water Rem-Grndwtr/Vadose	7.98	7.74	6.27	(0.24)	1.47	1,641.74	1,637.72	1,589.72	(4.02)	48.00	1,765.97	1,711.40	54.57
RL-0040 - Nuc Fac D&D - Remainder	5.07	4.42	4.02	(0.66)	0.39	569.29	564.19	544.51	(5.10)	19.68	625.80	606.95	18.85
RL-0041 - Nuc Fac D&D - RC Closure Project	9.85	7.87	10.49	(1.97)	(2.61)	702.37	688.47	666.46	(13.90)	22.01	822.50	799.68	22.82
RL-0042 - Nuc Fac D&D - FFTF Project	0.22	0.22	0.18	-	0.05	28.95	28.95	24.03	0.00	4.92	33.02	28.44	4.59
<b>Total</b>	<b>39.4</b>	<b>37.2</b>	<b>36.4</b>	<b>(2.2)</b>	<b>0.8</b>	<b>6,317.4</b>	<b>6,279.4</b>	<b>6,166.5</b>	<b>(38.0)</b>	<b>112.9</b>	<b>6,829.4</b>	<b>6,702.0</b>	<b>127.4</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 within budget. Currently, a variance at completion of \$127.4 million is projected, with an additional \$48.4 million of management reserve (MR), for a total positive variance of \$175.7 million. For October, the project was 5.5 percent behind schedule and 2.2 percent under planned cost. Contract to date, the project was 0.6 percent behind schedule and 1.8 percent under planned cost.

The current month (CM) cost variance is within thresholds.

The CM negative schedule variance is primarily driven by work at the RRMP's 324 Facility to prepare it for remediation of the 300-296 waste site. Structural modifications, equipment procurement and installations were delayed by the continuing impacts of unanticipated latent beta contamination and the failure of the A/D crane. Adding to the negative schedule variance was the delay of offsite waste shipments for repackaging into Waste Isolation Pilot Plant (WIPP)-compliant solid waste boxes due to high winds and treatment times. Other contributors to the negative schedule variance included the management-directed work stand down at REDOX due to concerned stakeholders and the later than planned mobilization of the IDF earthworks subcontractor.

## FUNDING ANALYSIS

### Fiscal Year (FY) 2020 Funds vs. Fiscal Year Spend Forecast (\$M)

PBS	Project	FY2020		Variance
		Projected Funding	Spending Forecast	
<b>Estimate at Complete</b>				
<b>RL-0011</b>	Nuclear Materials Stabilization and Disposition	29.5	31.1	(1.5)
<b>RL-0012</b>	Spent Nuclear Fuel Stabilization and Disposition	0.6	0.2	0.3
<b>RL-0013</b>	Waste and Fuels Management Project	211.3	206.4	4.8
<b>RL-0013</b>	Management of Cesium and Strontium Capsules	14.3	0.7	13.6
<b>RL-0030</b>	Soil, Groundwater and Vadose Zone Remediation	132.1	132.1	0.0
<b>RL-0040</b>	Nuclear Facility D&D, Remainder of Hanford	67.1	67.1	0.0
<b>RL-0041</b>	Nuclear Facility D&D, River Corridor	143.0	143.0	0.0
<b>RL-0042</b>	Fast Flux Test Facility Closure	4.8	3.7	1.1
<b>Total Estimate at Complete</b>		<b>602.5</b>	<b>584.3</b>	<b>18.3</b>

### Funds/Variance Analysis

FY2020 expected funding of \$602.5 million includes \$88.5 million of carryover funding and an expected new budget authority of \$514 million. The spending forecast is based on the final FY2020 performance measurement baseline (PMB) annual update submitted to RL September 11, 2019, with updates through October.

## BASELINE CHANGE REQUESTS

In October, CHPRC approved and implemented three baseline change requests (BCRs) into the PMB budget. One of the three BCRs impacted the PMB. Each change request is identified in the tables below:

Change Request #	Title	PBS	Summary of Change
BCR-011C-20-001R0	<i>Implement FY2020 Realized Labor Hours Calendar</i>	RL-0011	This BCR implemented the CHPRC FY2020 labor hours realization calendar into the FY2020 PFP CAP 2 PMB. This BCR did not change the PMB value.
BCR-PRC-20-001R0	<i>Implementation of FY2020 Performance Measure Baseline</i>	RL-0011 RL-0012 RL-0013 RL-0030 RL-0040 RL-0041 RL-0042	This BCR implemented the CHPRC FY2020 PMB, consistent with RL's authorization. This BCR implemented work scope associated with DOE-RL Integrated Priority List numbers 1-24. This BCR increased the PMB by \$534,569.7K
BCRA-PRC-20-002R0	<i>HPIC Updates October 2019</i>	RL-0012 RL-0013 RL-0030 RL-0040 RL-0041 RL-0042	This BCR incorporated October FY2020 Hanford Programs Integrated Control Module (HPIC) updates. This BCR did not change the PMB value.

The allocated (distributed) budget increased \$534,569.7K in October.

### Undistributed Budget (UB) Activity

BCR Number	Title	PBS	Fiscal Year	UB
N/A	N/A	N/A	2020	\$0

There was no change to UB in October.

### Management Reserve (MR) Activity

BCR Number	Title	PBS	Fiscal Year	MR
N/A	N/A	N/A	2020	\$0

There was no change to MR in October.

### Fee Activity

BCR Number	Title	PBS	Fiscal Year	Fee
N/A	N/A	N/A	2020	\$0

There was no change to fee in October.

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 fiscal year. The PMB values of change requests are summarized by fiscal year in the following tables (dollars in thousands).

**October 2019 Summary of Changes (\$M)**

	FY 2009-2013	FY2014	FY2015	FY2016	FY2017	FY2018	FYs 2014-2018	FY2019	FY2020	Contract Period Total	Total PMB
<b>September 2019 Estimate</b>											
PMB	3,391.5	391.7	471.3	504.8	485.0	470.6	2,323.5	563.1	16.8	6,294.8	6,294.8
MR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	48.4	48.4
Fee	155.5	14.3	14.5	27.8	10.6	18.9	86.1	36.5	0.0	278.1	278.1
<b>Total</b>	<b>3,547.0</b>	<b>406.0</b>	<b>485.8</b>	<b>532.6</b>	<b>495.6</b>	<b>489.5</b>	<b>2,409.6</b>	<b>599.5</b>	<b>65.2</b>	<b>6,621.3</b>	<b>6,621.3</b>
<b>October 2019 Change</b>											
<b>PMB</b>											
Change to PMB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	534.6	534.6	534.6
<b>MR</b>											
Change to MR	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Change</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>534.6</b>	<b>534.6</b>	<b>534.6</b>
<b>October 2019 Estimate</b>											
PMB	3,391.5	391.7	471.3	504.8	485.0	470.6	2,323.5	563.1	551.4	6,829.4	6,829.4
MR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	48.4	48.4
Fee	155.5	14.3	14.5	27.8	10.6	18.9	86.1	36.5	0.0	278.1	278.1
<b>Total</b>	<b>3,547.0</b>	<b>406.0</b>	<b>485.8</b>	<b>532.6</b>	<b>495.6</b>	<b>489.5</b>	<b>2,409.6</b>	<b>599.5</b>	<b>599.7</b>	<b>7,155.8</b>	<b>7,155.8</b>

**Changes to/Utilization of Management Reserve in October 2019 (\$M)**

	FY2009-2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2014-2018	FY2019	FY2020
<b>September 2019 MR Totals</b>									
RL-0011	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
RL-0012	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2
RL-0013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
RL-0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5
RL-0040	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
RL-0041	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8
RL-0042	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>48.4</b>
<b>October 2019 MR Changes/Utilization</b>									
RL-0011	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RL-0012	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RL-0013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RL-0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RL-0040	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RL-0041	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RL-0042	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>October 2019 MR Totals</b>									
RL-0011	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
RL-0012	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2
RL-0013	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
RL-0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5
RL-0040	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8
RL-0041	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8
RL-0042	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>48.4</b>

## SELF-PERFORMED WORK

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

Contract-to-Date Actual Awards & Mods 10/1/2008 - 10/27/2019					
Reporting Category					
	\$ Value	%	Goal %		
SB	\$1,665.66	56.30%	49.3%	PRC clause H.20b small business requirement ≥ 17% of CHPRC Contract Price performed by SB.	
SDB	\$306.54	10.36%	8.2%		
SWOB	\$303.03	10.24%	7.5%	CHPRC Contract Value:	\$6,596.68
HUB	\$96.07	3.25%	2.2%	SB actual:	\$1,665.66
VOSB	\$254.86	8.61%	3.5%	SB Performed %:	25.25%
SDVO	\$162.84	5.50%	1.3%	PRC clause H.20a max self performed requirement ≤ 65% of Contract Price Self Performed	
NAB	\$89.82	3.04%	N/A		
Large	\$790.74	26.73%	N/A	CHPRC Contract Value:	\$6,596.68
GOVT	\$5.34	0.18%	N/A	CHPRC Self Performed:	\$3,927.81
GOVT CONT	\$483.22	16.33%	N/A	CHPRC Self Performed %:	59.54%
EDUCATION	\$0.17	0.01%	N/A		
NONPROFIT_	\$4.40	0.15%	N/A		
FOREIGN	\$9.07	0.31%	N/A		
<b>Total</b>	<b>\$2,958.59</b>	<b>100.00%</b>	<b>N/A</b>		

Notes:

1. Since the contract award in October 2008, CHPRC has subcontracted more than \$2.9 billion in goods and services, with more than 56 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 are 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
J.12/C.2.2, C.2.3	<p>PBS-11, <i>Plutonium Finishing Plant Closure Project</i></p> <p>PBS-13, <i>Solid and Liquid Waste Treatment and Disposal</i></p>	<p>Offsite Transportation of Radioactive Material: RL provides equipment and government drivers to transport transuranic (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, <i>Radioactive Material Transportation Practices Manual for Use with DOE O 460.2A</i>. RL arranges for Commercial Motor Vehicle Safety Alliance Level VI Vehicle Inspections and verifies that the government drivers meet the applicable U.S. 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.</p>	Ongoing.
J.12/C.2.3.6	PBS-13, <i>Transuranic Waste Certification</i>	<p>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-Headquarters on a complex-wide priority. Cost for shipment of TRU waste offsite is borne by the Carlsbad Field Office.</p>	No WIPP shipments are planned within the remaining contract period of performance.

## DOE ACTIONS/DECISIONS

Refer to Sections A through G and 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**  
*a Jacobs company*



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

October 2019  
CHPRC-2019-10, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

In October, the Plutonium Finishing Plant (PFP) Closure Project team continued lower-risk work, completing demolition and debris disposition of the second floor and duct level of the 234-5Z Building zone 4 as well as core stability zones (CSZs) 4.2 and 4.3. Only the southwest second floor and duct level remains of lower-risk demolition. The PFP team completed core drill testing on a mock-up of the Plutonium Reclamation Facility slab in preparation for development of the slab core drilling and soil sampling work package, which will be used in slab characterization activities after slab-on-grade is complete. Eighty-nine containers of lower-risk demolition debris were shipped to the Environmental Restoration Disposal Facility (ERDF) for permanent disposal.

### 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 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	623 m <sup>3</sup>	21,589 m <sup>3</sup>

### EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
20-EMS-PFP-OBJI-P1	Complete CERCLA removal action at the PFP Complex	Performs actions for final PFP turnover to surveillance and maintenance	7/30/2020	0%

## 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	3	N/A
First Aid Cases	0	32	N/A
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### RL-0011 Accomplishments:

- Completed demolition and debris loadout of second floor and duct level of the 234-5Z Building zone 4 as well as CSZs 4.2 and 4.3.
- Crews trained with the Hanford Fire Department to learn about specialized firefighting gear and practice doffing techniques to ensure that the gear is safely removed when firefighters exit the high contamination area. The training sessions benefit both teams' knowledge and understanding of the equipment and procedures.
- Shipped 89 containers of low-level demolition debris to ERDF.

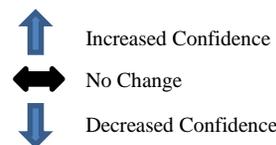
## MAJOR ISSUES

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.



	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> The key risks for RL-0011 have been updated based on the results from the FY2020 risk analysis. As a result, newly identified key risks have been added to the spotlight chart for reporting.													
<b>Realized Risks</b> (Risks that are currently impacting project cost/schedule)													
No realized risks identified in <b>October</b> .													
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed.)													
No critical risks identified in <b>October</b> .													
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)													
<b>PFP-P-002:</b> “Unavailable Resources”	The project lacks adequate resource coverage (Radiological Control Technicians [RCTs] and Deactivation and Decommission workers) to complete work package development and fieldwork activities.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$3M, 120 days	<span style="color: green; font-size: 1.5em;">●</span>	<span style="font-size: 1.5em;">↔</span>	<b>Risk Trigger:</b> Due to more stringent work controls, key resources are insufficient to complete work activities as planned.  <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <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>Review RCT and D&amp;D headcount changes weekly to ensure adequate resource profiles.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> This risk was identified as a key risk in FY2020. The project continues to review staffing levels on a weekly basis to reduce the probability of this risk occurring.	Mitigation Action(s)	FC Date	%	Review RCT and D&D headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A			
Mitigation Action(s)	FC Date	%											
Review RCT and D&D headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A											
<b>PFP-P-014:</b> “Bump and Roll, LAMP, or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity”	PFP Hanford Atomic Metal Trades Council (HAMTC) labor resources are not available or are unqualified due to the bump and roll, LAMP (Labor Assets Management Program), or other job postings.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0, 96 days	<span style="color: green; font-size: 1.5em;">●</span>	<span style="font-size: 1.5em;">↔</span>	<b>Risk Trigger:</b> Other projects and/or contractors on the Hanford Site request bargaining unit employees. The PFP workforce is affected through loss of employees or is required to train new employees to backfill HAMTC resources affected by the bump and roll, LAMP, or taking a position with a different contractor or project.  <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <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>Communicate with other entities to reduce impact of bump and roll process.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Review RCT and D&amp;D headcount changes weekly to ensure adequate resource profiles.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> This risk was identified as a key risk in FY2020. The project continues to review staffing levels on a weekly basis to reduce the probability of this risk occurring.	Mitigation Action(s)	FC Date	%	Communicate with other entities to reduce impact of bump and roll process.	Ongoing	N/A	Review RCT and D&D headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A
Mitigation Action(s)	FC Date	%											
Communicate with other entities to reduce impact of bump and roll process.	Ongoing	N/A											
Review RCT and D&D headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A											
<b>FY2020 Key Risks</b>													
<b>PFP-P3-003:</b> “Weather Impacts During 234-5Z Demolition”	Inclement weather, including moderate winds, low or high temperatures, above average snowfall, or thunderstorms, will result in in-scope unplanned work and schedule impacts to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$0, 8 days	<span style="color: green; font-size: 1.5em;">●</span>	<span style="font-size: 1.5em;">↔</span>	<b>Risk Trigger:</b> High winds and cold weather may impact the project in the fall/winter seasons. Average winds above 15 mph shut down demolition activities, and average winds above 30 mph require additional surveys. Cold weather prevents the foggers from operating and therefore shuts down fieldwork activities.  <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <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>Develop winter preparedness plan</td> <td>Complete</td> <td>100</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> <b>No major changes in October.</b> A winter preparedness plan was developed for PFP to mitigate impacts from cold weather. There were no additional substantial actions identified during the preparation of the preparedness plan. The project has purchased and installed heated fixative tanks to ensure that a ready supply of fixative is always available in the demolition zone.	Mitigation Action(s)	FC Date	%	Develop winter preparedness plan	Complete	100			
Mitigation Action(s)	FC Date	%											
Develop winter preparedness plan	Complete	100											

Unmitigated Risk Impacts	Assessment		Comments															
	Month	Trend																
<b>RL-0011/WBS-011.OA</b>																		
<p>PF-P4-002: "Weather Impacts During 236-Z Demolition"</p> <p>Inclement weather, including moderate winds, low or high temperatures, above average snowfall, or 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> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$0, 28 days</p>	●	↔	<p><b>Risk Trigger:</b> High winds and cold weather may impact the project in the fall and winter seasons. Average winds above 15 mph shut down demolition activities, and average winds above 30 mph require additional surveys. Cold weather prevents the foggers from operating and therefore shuts down fieldwork activities.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Develop winter preparedness plan.</td> <td>Complete</td> <td>100</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> This risk was identified as key risk for FY2020. A winter preparedness plan was developed for PFP to mitigate impacts from cold weather. There were no additional substantial actions identified during preparation of the plan. Heated fixative tanks have been purchased and installed to ensure that a ready supply of fixative is always available in the demolition zone.</p>	Mitigation Action(s)	FC Date	%	Develop winter preparedness plan.	Complete	100									
Mitigation Action(s)	FC Date	%																
Develop winter preparedness plan.	Complete	100																
<p>PF-P-004: "Stop Work From Concerned Workers"</p> <p>Concerned workers implement 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.</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, 52 days</p>	●	↔	<p><b>Risk Trigger:</b> During 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>Provide 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 October. Increased communication and worker involvement to avoid confusion and concern to minimize stop works have continued; stop works may impact the project schedule going forward.</p>	Mitigation Action(s)	FC Date	%	Update communications as positions change.	Ongoing	N/A	Provide 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																
Provide 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																
<b>Unassigned Risks (Pending ownership of identified threats/opportunities)</b>																		
No unassigned risks identified in October.																		

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

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	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	1.6	5.0	4.7	3.4	216.5%	0.3	6.8%

Numbers are rounded to the nearest \$0.1 million.

### CM Schedule Variance: (+\$3.4M/+216.5%)

The favorable schedule variance is primarily due to performance being taken on work that was scheduled to be completed in March 2019. The PFP Closure Project team continued lower-risk work, completing demolition and debris disposition of the 2nd floor and duct level of the 234-5Z Building zone 4 as well as CSZs 4.2 and 4.3. The project re-baseline was formulated in June 2018, with projected completion of lower-risk demolition in March 2019. However, the project was impacted by weather, demolition and decontamination Labor Asset Management Program movement, deliberate speed, and stop works, pushing completion of lower-risk into fiscal month November 2019.

### CM Cost Variance: (+\$0.3M/+6.8%)

The CM cost variance is within threshold.

## 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	1,123.6	1,113.6	1,209.2	(9.9)	-0.9%	(95.6)	-8.6%	1,143.6	1,235.6	26.4	(92.0)

Numbers are rounded to the nearest \$0.1 million

### CTD Schedule Variance: (-\$9.9M/-0.9%)

The CTD schedule variance is within threshold.

### CTD Cost Variance: (-\$95.6M/-8.6%)

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

Contributors to the negative cost variance include resumption actions associated with the December 2017 contamination event encompassing fixative applications, performing radiological surveys, revising radiological postings, infrastructure modifications, and stabilization activities. Reassignment of CH2M HILL Plateau Remediation Company (CHPRC) personnel to support the radiological control area and programmatic assessments also contributed to the variance.

After resumption activities were completed, a deliberate and series approach has resulted in slower progress on demolition, size reduction, and waste loadout. Process improvements, planning, and training activities to replenish D&D and RCT staffing support have additionally increased costs.

The negative cost variance was partially offset by the use of fewer breathing air suits (three per day versus five) and fewer hoses than originally planned for 242-Z entries. These reductions were the result of fewer fieldwork team members required to perform hands-on work in 242-Z due to the confined space.

In addition, recognized efficiencies contributed to the negative variance offset, including crews completing process vacuum removal in 291-Z with reduced effort; characterization results indicating lower levels of hold-up, allowing for accelerated piping removal; isolations performed more efficiently by disconnecting the main electrical power from outside the 291-Z Facility versus individual isolations from within; hazardous material removal, stabilization, and decontamination more resourceful than anticipated (i.e., powerful fans used with vertical fixative flow up the stack); and additional efficiencies associated with 242-Z, 291-Z, and 234-5ZA demolition.

### Variance at Completion (VAC): (-\$92.0M/-8.0%)

The unfavorable VAC reflects extended hotel load and field resource costs due to delays in demolition-ready and demolition activities as well as resumption actions associated with the December 2017 contamination event encompassing fixative applications, performing radiological surveys, and 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.

Overtime used to ready the 234-5Z Facility for demolition by September 2017 and unplanned work on the HDPE water loop also contributed to the unfavorable variance, which was partially offset by recognized efficiencies due to characterization data in 234-5Z, allowing piping and ducting to be left in place for demolition.

In February 2019, BCR-011C-18-005R2, PFP CAP 2 Project Completion was issued to implement the U.S. Department of Energy (DOE), Richland Operations Office (RL)-approved revised scope, cost, and schedule baseline for RL-0011.C2 project completion. The BCR set the remaining historical BCWS equal to the BCWP as of June 24, 2018, consistent with DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, and the RL approving authorities' determination to establish a new performance baseline as documented in 18-AMRP-0062, *Performance Baseline Deviation Notification of Plutonium Finishing Plant (PFP) Demolition Project – RL-0011.C2*, dated February 27, 2018.

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

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

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2020		Variance
	Projected Funding	Spending Forecast	
Spending Forecast	29.5	31.1	(1.5)
RL-0011 - Total	29.5	31.1	(1.5)

Numbers are rounded to the nearest \$0.1 million

### Funds/Variance Analysis

Projected funding in FY2020 of \$29.5 million consists entirely of FY2019 carryover funds. The spend forecast reflects the continuation of demolition activities to achieve slab-on-grade and uses the final FY2020 performance measurement baseline annual report submitted to RL September 11, 2019, with updates through October.

### Critical Path Analysis

The PFP critical path schedule begins with completion of 234-5Z low-risk demolition and the associated formal post-job and lessons learned, followed by activities to begin for remote mechanical C and A process line demolition and debris disposition, as well as loadout of glovebox HA-46. The 236-Z Canyon demolition will also resume with completion anticipated by March 3, 2020, meeting the requirements for the *Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)* Milestone M-083-00A, "Plutonium Finishing Plant (PFP) Facility Transition and Selected Disposition Activities." Demolition completion will be followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities completing by May 26, 2020, a three-week slip from the May 6, 2019, forecast completion date reported last month.

## MILESTONE STATUS

The following table is a one-year look ahead to 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	“Plutonium Finishing Plant (PFP) Facility Transition and Selected Disposition Activities”	9/30/2017		3/3/2020	The project realized a three-week slip to the February 12, 2020 forecast date reported in September 2019 due to modifying the sequencing of final phase demolition and debris loadout.

## 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, acts as signatory on the shipping papers, and ensures compliance with DOE Manual 460.2-1A, <i>Radioactive Material Transportation Practices Manual for Use with DOE O 460.2A</i> . RL arranges for Commercial Motor Vehicle Safety Alliance Level VI vehicle inspections and verifies that the government drivers meet the applicable U.S. 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 the approval of ancillary facility status change forms are complete to date. Upcoming DOE approval for the completion of 234-5Z will initiate a new facility status change form.

# Section B

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

**CH2MHILL**  
**Plateau Remediation Company**  
*a Jacobs company*



R. M. Geimer  
Vice President for  
K Basin Operations

October 2019  
CHPRC-2019-10, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

**K Basins Operations:** Sludge removal from the 105K West basin was completed in fiscal year (FY) 2019. Activities are in progress to closeout project breakdown structure (PBS) RL-0012. Documentation for completion of the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) Milestone M-016-176 is in process and the final letter to the U.S. Department of Energy (DOE), Richland Operations Office (RL) is expected to be submitted in November.

## 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	0	16	N/A
Near Misses	0	1	N/A

## KEY ACCOMPLISHMENTS

Documentation for completion of Tri-Party Agreement milestone M-016-176 was drafted.

## MAJOR ISSUES

None currently identified.

## RISK MANAGEMENT STATUS

None currently identified.

## 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	0.1	0.1	0.0	0.0	0.0%	0.1	74.0%

Numbers are rounded to the nearest \$0.1 million.

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

Variance is within threshold.

#### CM Cost Performance (+\$0.1M/+74.0%)

Variance is within threshold.

## 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	759.4	759.4	729.9	0.0	0.0%	29.6	3.9%	759.6	730.1	0.2	29.5

Numbers are rounded to the nearest \$0.1 million.

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

The variance is within reporting thresholds.

#### CTD Cost Performance (+\$29.6M/+3.9%)

The variance is within reporting thresholds.

#### Variance at Completion (+\$29.5M/+3.9%)

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	FY2020		Variance
	Projected Funding	Spending Forecast	
Expense – Spending Forecast	0.6	0.2	0.3
Incremental Scope Pending Change Management	0.0	0.0	0.0
<b>RL-0012 – Total</b>	0.6	0.2	0.3

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis

FY2020 funding for PBS RL-0012 is \$0.6 million. The projected funding includes carryover from FY2019 and new budget authority. FY2020 funding aligns with the DOE-RL Integrated Priority List.

### Critical Path Analysis

All project scope is complete with the exception of close-out related activities. The project is on schedule to complete Tri-Party Agreement Milestone M-016-176 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	Forecast Date	Status/Comment
M-016-176	Complete sludge removal	12/31/2019	10/31/2019	All fieldwork is complete. Documentation of the Tri-Party Agreement completion has been drafted.

## 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**  
*a Jacobs company*



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

October 2019  
CHPRC-2019-10, 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

In the October reporting period (October 1 to October 27, 2019), the Waste and Fuels Management Project (W&FMP) maintained facilities in a safe and compliant condition. The River Risk Management Project continued to operate the Environmental Restoration Disposal Facility (ERDF) in a safe and compliant condition.

The following items were accomplished this month:

- At the Waste Encapsulation Storage Facility (WESF), the W-135 Management of the Cesium (Cs) and Strontium (Sr) Capsules (MCSC) Project awarded a contract for construction of the Capsule Storage Area (CSA) and issued a request for proposal for utility work around the WESF truck port. Painting efforts continue in the canyon with 80 percent completed. The WESF crew completed decontamination efforts in the canyon and completed hoisting, rigging, and loading of the shadow shield and other large items from the canyon into roll-on/roll-off containers for disposal. At T Plant, the crew replaced cover blocks on Cell 13L, performed the safety significant design feature in-service inspection for the cover block vent path, and completed the removal of scaffolding in ACT 1.
- At the Central Waste Complex (CWC), roof repairs were completed on 2403WC and shipment 000NR1 for the navy reactor compartment was received into Trench 94.
- At the IDF, the earthworks subcontractor for construction of IDF infrastructure mobilized, and construction was initiated.

## EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
20-EMS-WFMP-OBJ1-P1	Complete installation of Maintenance and Storage Facility Integrated Testing Mockup and demobilization	Erect mockup structure and demobilization.	9/30/2020	0%
20-EMS-WFMP-OBJ2-P1	Receive three garnet filter shipments at T Plant.	T Plant Complex to receive three garnet filter shipments.	9/30/2020	0%
20-EMS-WFMP-OBJ3-P1	Repackage 400m <sup>3</sup> of transuranic (TRU)/ transuranic mixed (TRUM) waste in preparation for certification/shipment to the Waste Isolation Pilot Plant (WIPP).	Complete repackaging 400 m <sup>3</sup> of TRU/TRUM waste.	9/30/2020	0%
20-EMS-RRMP-OBJ1-P1	Track maintenance/recycling activities at ERDF (e.g., used oil recycling, tires, batteries, and product drums, etc.).	On a quarterly basis, track the maintenance recycling activities of the ERDF subcontractor and the CH2M HILL Plateau Remediation Company (CHPRC) Transportation organization.	9/30/2020	0%

## TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1*	N/A *1 DART, PTS in support of RL-0013.
Total Recordable Injuries	0	1	N/A
First Aid Cases	2	27	10/3/2019 – Employee had back soreness from sitting in an uncomfortable truck seat for four hours. Employee was evaluated at HPM Corporation (HPMC), provided a cold pack, and released back to work without restrictions. (25384)  10/21/2019 – Employee stepped back onto uneven surface causing a sprain in right ankle. X-ray was performed at HPM Corporation. (25397)
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### Waste and Fuels Management Project

#### 13.01 Project Management

- WESF Permit Application: The training and contingency plan was transmitted to the Washington State Department of Ecology (Ecology) on October 15, 2019, for informal review.

#### 13.02 Capsule Storage and Disposition

- Completed two operational drills at WESF.
- Completed decontamination efforts in the canyon and completed hoisting, rigging, and loading of the shadow shield and other large items from the canyon into roll-on/roll-off containers for disposal.
- Completed 26 preventative maintenance (PM) packages.

#### 13.03 Canister Storage Building (CSB)

- Completed one operational drill at CSB.
- Completed 21 PM packages.

#### 13.06 Transuranic (TRU) Repackaging

- Two waste storage container were removed from the Outside Storage Areas A/B in support of the fiscal year (FY) 2021 TPA Milestone M-091-52 commitment. This activity increased the total number of waste storage containers removed to 15 of 20.

#### 13.07 Waste Receiving and Processing

- Completed 149 surveillances and six PM packages.

#### 13.08 T Plant

- Completed replacement of cover blocks on Cell 13L.
- Completed 487 surveillances and 24 PM packages.
- Initiated development of the T Plant spalling repair scope of work for contractor bids.

**13.09 CWC and Low-Level Burial Ground**

- Completed 2403WC roof repairs.
- Initiated roof repairs at 2403-WD.
- Shipped one 1800TL and one Super 7A from CWC to Perma-Fix Northwest (PFNW) in two shipments.
- Shipped four drums from CWC to ERDF in one shipment.
- Completed 256 surveillances and 27 PM packages.

**13.15 TRU Disposition**

- For the TRU Program, initiated development of the first two of ten enhancements of acceptable knowledge waste streams efforts planned for FY2020.

**13.16 Offsite Spent Nuclear Fuel Disposition**

- Maintained coordination of offsite spent nuclear fuel disposition.

**13.21 Mixed Waste Disposal Trenches**

- Completed U.S. Navy reactor compartment shipment into Trench 94.
- Completed 169 surveillances.
- Received 11 boxes and one drum from PFNW into Mixed Waste Trench (MWT) 31 in three shipments.

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

With the support of Project Technical Services, the following progress was made:

- Awarded the CSA construction contract.
- Issued the Request for Proposal (RFP) for subcontractor bids for WESF truck port utilities relocation.
- Awarded the subcontract for the procurement of one each additional two- and four-wide trailers.
- Completed the installation of temporary power to existing mobile offices.

**River Risk Management Project****13.10 Environmental Restoration Disposal Facility (ERDF)**

- Received 3,113 tons of waste for disposal in October.
- Received 127 shipments (1,644 tons) of Plutonium Finishing Plant (PFP) waste using the enhanced radiological controls during disposal operations.

**13.12 Integrated Disposal Facility (IDF)**

- Care and Custody
  - Completed October monthly inspections.
  - Completed annual pump performance tests.
  - Completed four significant storm event inspections.
- IDF Operational Readiness
  - With the support of Project Technical Services, the following progress was made on installation of IDF infrastructure:
    - Mobilized the contractor, and initiated site clearing grubbing and grading activities.
    - Completed installation of construction support trailer MO-1108.
    - Received contractor bids for the balance of plant scope of work. Subcontract award is scheduled for November 17, 2019.
    - Drafted the RFP for the supply and construction of the leachate tank domes.
- *Resource Conservation and Recovery Act of 1976 (RCRA) Permit Modifications*
  - Finalized the RCRA Permit Addenda: Addendum A, Part A; Addendum B, Waste Analysis Plan; Addendum D, Groundwater Monitoring Plan; Addendum E, Security; Addendum F, Preparedness and Prevention; Addendum G, Training; Addendum H, Closure Plan; and Addendum K,

- Post-Closure, based on resolution of comments received from Ecology. Completed review/comment resolution responses for each addendum to document the resolution.
- Continued resolution of Ecology comments on the draft RCRA Permit Addendum C, Process Information, and Addendum I, Inspection.
  - Continued reviewing the RCRA permit conditions for IDF to ensure that they are consistent with the IDF addenda.

## MAJOR ISSUES

### 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 WIPP in Carlsbad, New Mexico. The configuration would also mitigate or 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 long-term storage (i.e., protecting boxes with tarps or protective shoring; over-packing drums). Streamlined and consolidated container management procedures. RL authorized additional FY2019 TRU commercial repackaging, allowing shipments to PFNW for repackaging to continue throughout the year.

### Issue

CHPRC submitted CHPRC-1901804, *Preliminary Documented Safety Analysis for the Capsule Storage Area*, to RL for review on May 13, 2019, and planned to receive approval 120 days later on September 12, 2019. Due to the extent and complexity of DOE-Headquarters (HQ) comments, approval of the preliminary documented safety analysis (PDSA) did not occur on September 12, 2019, and that delay impacts initiation of CSA procurement/construction and Cask Storage System (CSS) procurement/fabrication.

### Corrective Action

An early procurement request has been initiated to request RL approval to commence CSA procurement/construction and CSS procurement/fabrication prior to RL approval of the PDSA. CHPRC personnel continue to work with RL personnel to resolve outstanding comments.

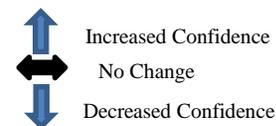
### Status

CHPRC submitted an early procurement request to RL for review/approval on October 21, 2019. RL review and approval will allow CHPRC to proceed with CSA procurement/construction and place CSS procurement/fabrication on a schedule that prevents a negative impact to project critical path. Formal approval of the early procurement request is forecast to occur in November 2019. CHPRC and RL personnel continue working to resolve outstanding PDSA comments.

## 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-0013/WBS-013</b>													
<b>Explanation of major changes to the project monthly spotlight chart:</b> The key risks for RL-0013 have been updated based on the results from the FY2020 risk analysis. As a result, newly identified key risks have been added to the spotlight chart for reporting.													
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>													
13-RCRA-REV9-001: "RL-13 - Additional Dangerous Waste Management Units (DWMUs)"	Unplanned DWMUs are added to the scope requiring additional document support, impacting the project in both cost and schedule.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very likely (>90%) <b>Worst Case Impacts:</b> \$0, 48 days	<span style="color: red;">●</span>	↔	<b>Risk Event:</b> Ecology provided technical comments on the permit addendum, expanding the number of DWMUs.  <table border="1" style="width: 100%;"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Conduct weekly meetings with Ecology and RL.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No significant changes in <b>October</b> . Impacts associated with realization of this risk are ongoing; as such, this risk will continue to be reported for visibility until it no longer poses a threat to the project.	Risk Recovery Action(s)	FC Date	%	Conduct weekly meetings with Ecology and RL.	Ongoing	N/A			
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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 issue requires that the project take recovery actions that result in schedule impacts.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very likely (>90%) <b>Worst Case Impacts:</b> \$0, 96 days	<span style="color: red;">●</span>	↔	<b>Risk Event:</b> Ecology's review time is impacting the Permit Management Schedule.  <table border="1" style="width: 100%;"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Conduct routine meetings with Ecology and the contractor to promote communication efforts.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No significant changes in <b>October</b> . Select appropriate staff are prepared to respond to comments when they are received. Impacts associated with realization of this risk are ongoing; as such, this risk will continue to be reported for visibility until it no longer poses a threat to the project.	Risk Recovery Action(s)	FC Date	%	Conduct routine meetings with Ecology and the contractor to promote communication efforts.	Ongoing	N/A			
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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> \$0, 96 days	<span style="color: red;">●</span>	↔	<b>Risk Event:</b> Eight closure plans were formally resubmitted to Ecology in August and November 2018. In January 2019, Ecology provided additional comments changing the closure strategy for several units.  <table border="1" style="width: 100%;"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Use a standardized approach to quickly evaluate and categorize comments for resolution.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Conduct routine meetings to address agency comments and to remain current on the influences from agencies.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No significant changes in <b>October</b> . 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 for visibility until it no longer poses a threat to the project.	Risk Recovery Action(s)	FC Date	%	Use a standardized approach to quickly evaluate and categorize comments for resolution.	Ongoing	N/A	Conduct routine meetings to address agency comments and to remain current on the influences from agencies.	Ongoing	N/A
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<b>RL-0013/WBS-013</b>													
WSD-CSA-015: "Delays in PDSA/FHA Approval by DOE"	<p>Comments on the PDSA received from RL are not able to be resolved within the allotted time frame provided in the baseline schedule or impact design aspects of the CSS, resulting in cost and schedule delays.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Very likely (&gt;90%)</p> <p><b>Worst Case Impact:</b> \$200K, 48 days</p>	●	↔	<p><b>Risk Event:</b> CHPRC received RL comments on the CSA PDSA that requires additional analysis. Depending on the analysis results, the CSS final design may need to be modified. Additionally, delay of the PDSA approval could impact the start of CSA material procurement and construction.</p> <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Develop and submit an early procurement request enabling the W-135 Project to initiate CSA procurement/construction prior to receiving approval of the CSA PDSA.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Continue working with DOE-HQ to resolve the comments that may prevent RL approval of the CSA PDSA.</td> <td>1/22/20</td> <td>75</td> </tr> </tbody> </table> <p><b>Risk Assessment Action:</b> Due to outstanding comments on the CSA PDSA, RL was unable to approve this document by the scheduled date of September 12, 2019. The RL federal project director and the CHPRC PM agreed that submitting an early procurement request was appropriate and would minimize negative impact to the W-135 project baseline. In addition, the RL and CHPRC W-135 Team are aggressively working to resolve outstanding CSA PDSA comments. <b>The forecast date for resolution of DOE-HQ comments slipped 3 weeks from last month to January 22, 2020. Resolution of DOE-HQ comments by January 22, 2020 is anticipated to lead to RL issuing a safety evaluation report (SER) approving the CSA PDSA currently forecast for April 2020.</b></p>	Risk Recovery Action(s)	FC Date	%	Develop and submit an early procurement request enabling the W-135 Project to initiate CSA procurement/construction prior to receiving approval of the CSA PDSA.	Complete	100	Continue working with DOE-HQ to resolve the comments that may prevent RL approval of the CSA PDSA.	1/22/20	75
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Continue working with DOE-HQ to resolve the comments that may prevent RL approval of the CSA PDSA.	1/22/20	75											
WSD-CSS-009: "PDSA Comments Result in Schedule Delays"	<p>PDSA comments received from RL are not able to be resolved within the allotted time frame provided in the baseline schedule, resulting in schedule delays.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Very Likely (&gt;90%)</p> <p><b>Worst Case Impacts:</b> \$1.7M, 192 days</p>	●	↔	<p><b>Risk Event:</b> CHPRC received DOE comments on the CSA PDSA that requires additional analysis of the CSS final design. Depending on the analysis results, the CSS final design may need to be modified. Additionally, delay of the PDSA approval could impact the start of CSS procurement/fabrication.</p> <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Develop and submit an early procurement request enabling the W-135 Project to initiate CSS procurement/fabrication prior to receiving approval of the CSA PDSA.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Continue working with DOE-HQ to resolve the comments that may prevent RL approval of the CSA PDSA</td> <td>1/22/20</td> <td>75</td> </tr> </tbody> </table> <p><b>Risk Assessment Action:</b> Due to outstanding comments on the CSA PDSA, RL was unable to approve this document by the scheduled date of September 12, 2019. The RL federal project director and the CHPRC PM agreed that submitting an early procurement request was appropriate and would minimize negative impact to the W-135 project baseline. In addition, the RL and CHPRC W-135 Team are aggressively working to resolve outstanding CSA PDSA comments that will lead to RL issuing a safety evaluation report (SER) approving the CSA PDSA in April 2020</p>	Risk Recovery Action(s)	FC Date	%	Develop and submit an early procurement request enabling the W-135 Project to initiate CSS procurement/fabrication prior to receiving approval of the CSA PDSA.	Complete	100	Continue working with DOE-HQ to resolve the comments that may prevent RL approval of the CSA PDSA	1/22/20	75
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<b>Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)</b>													
WSD-097: "Major Equipment Failure – T Plant"	<p>T Plant suffers a major equipment failure (crane, primary power supply, etc.), resulting in cost impacts 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> \$3M, 96 days</p>	●	↔	<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 contract.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Implement aggressive CM/PM program.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> This risk was identified as a critical risk for FY2020. No significant changes in October. The project has commenced mitigating strategies (i.e., aggressive surveillance and maintenance activities) to help reduce this risk. The canyon crane is currently operational, and spare parts have been procured for most critical spares.</p>	Mitigation Action(s)	FC Date	%	Implement aggressive CM/PM program.	Ongoing	N/A			
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<b>RL-0013/WBS-013</b>																
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)																
<p><b>WSD-CSS-006:</b> “Fabrication of the Equipment from the Contractor”</p>	<p>Fabrication of critical items for the long-term storage of the Cs and Sr capsules does not go exactly as planned, resulting in design changes and rework.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$5M, 64 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> Fabrication of required equipment and items does not go according to schedule, requires re-design, or requires additional components that will affect the project’s cost and schedule baseline.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>The scope of each task will be reviewed prior to initiation to ensure that the contractor is aligned for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor’s location for in-person interface meetings.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> There is no change in October. This risk was identified as a key risk in FY2020. Procurement of transfer (including universal capsule sleeves) and ancillary equipment is forecast to commence in December 2019 following RL approval of consent packages and an Early Procurement Request (CHPRC-1904278).</p>	Mitigation Action(s)	FC Date	%	The scope of each task will be reviewed prior to initiation to ensure that the contractor is aligned for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor’s location for in-person interface meetings.	Ongoing	N/A						
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<b>FY2020 Key Risks</b>																
<p><b>WSD-086:</b> “W&amp;FM Industrial Accident or Contamination”</p>	<p>An industrial accident or contamination event requires corrective actions.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$3 million, 0 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> An industrial accident or contamination event requires corrective actions, resulting in cost impacts.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Adhere to CHPRC procedures, safety programs, and training programs are designed to minimize the potential of worker injury.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> This risk was identified as a key project risk for FY2020. The project continued to follow CHPRC procedures and safety programs to minimize any industrial accidents or contamination events.</p>	Mitigation Action(s)	FC Date	%	Adhere to CHPRC procedures, safety programs, and training programs are designed to minimize the potential of worker injury.	Ongoing	N/A						
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Adhere to CHPRC procedures, safety programs, and training programs are designed to minimize the potential of worker injury.	Ongoing	N/A														
<p><b>WSD-125:</b> “Multi-Year Pause in Waste Processing Results in Unexpected Container Integrity Issues”</p>	<p>A pause in waste processing results in an unexpected container degradation within SWOC (excluding TRU retrieval activities) and requires additional resources to respond.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$3 million, 0 days</p>	●	↑	<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> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in October. This risk was identified as a key project risk for FY2020. Surveillances continued to be performed for the project to identify container and container cover abnormalities. 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
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<p><b>WSD-136:</b> “CWC/Waste Receiving and Processing (WRAP) Components Fail”</p>	<p>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.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$2M, 0 days</p>	●	↔	<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>Conduct floor repairs as necessary.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Conducting doorframe replacements and electrical equipment repairs as necessary.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Design roof replacement &amp; preparation process pad.</td> <td>09/30/20</td> <td>5</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in October. This risk was identified as a key project risk for FY2020. The WRAP roof was analyzed for structural integrity following water intrusion. There was insufficient basis for the roof’s integrity, which will lead to an eventual roof replacement planned for FY2020-2021, pending weather conditions. The MDSA container stacking requirements are complete. Maintenance work at CWC will be scheduled based on facility work priorities. Additional fire alarm control unit spare parts were obtained from the deactivation of 2727W.</p>	Mitigation Action(s)	FC Date	%	Conduct floor repairs as necessary.	Ongoing	N/A	Conducting doorframe replacements and electrical equipment repairs as necessary.	Ongoing	N/A	Design roof replacement & preparation process pad.	09/30/20	5
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		Month	Trend										
<b>RL-0013/WBS-013</b>													
<p><b>WSD-140:</b> “As-Found-Unknown Conditions - W&amp;FMP Facilities”</p>	<p>Unknowns, as found or emergent conditions impact the operability of one or more W&amp;FMP facilities, requiring recovery actions that result in in-scope unplanned work.</p> <p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Very Likely (&gt;90%) <b>Worst Case Impacts:</b> \$2M, 0 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> Unknowns, as found or emergent conditions impact the operability of one or more W&amp;FMP facilities, requiring recovery actions that result in in-scope unplanned work.</p> <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> This risk was identified as a key project risk for FY2020. This risk is an accepted risk, as the project cannot mitigate for unknown conditions.</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											
<p><b>WSD-144:</b> “Changes to Ecology Strategy”</p>	<p>Ecology issues a permit that is significantly different than planned scope, resulting in both cost and schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$10M, 192 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> Ecology issues a permit that does not line up with CHPRC’s plans. DOE does not appeal the permit, causing CHPRC to have to incorporate all permit requirements.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Continuous communication and routine meetings to address agency comments.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Periodic meetings with DOE to discuss the impacts of Ecology decisions.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> This risk was identified as a key project risk for FY2020. WFM personnel continue to meet routinely with Ecology to resolve comments on Permit Addenda and preclude issuance of a draft permit different in scope than anticipated.</p>	Mitigation Action(s)	FC Date	%	Continuous communication and routine meetings to address agency comments.	Ongoing	N/A	Periodic meetings with DOE to discuss the impacts of Ecology decisions.	Ongoing	N/A
Mitigation Action(s)	FC Date	%											
Continuous communication and routine meetings to address agency comments.	Ongoing	N/A											
Periodic meetings with DOE to discuss the impacts of Ecology decisions.	Ongoing	N/A											
<p><b>WSD-CSA-006:</b> “Ecology Temporary Authorization contingent on 90% Design for CSA RCRA Permit Application”</p>	<p>As a pre-condition to approve the temporary authorization (TA) for CSA construction, Ecology will require that the CSA 90 percent detailed design package be incorporated into the CSA RCRA permit application (to issue for public comment), thereby delaying the TA and impacting the CSA construction schedule.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Low (10% to 25%) <b>Worst Case Impacts:</b> \$0, 96 days</p>	●	↔	<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" style="width: 100%;"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Continued communication with Ecology to facilitate the early approval of the TA.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> No significant changes in October. 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, primarily associated with the need for additional design information. CHPRC and RL submitted supplemental design information for the WESF modifications and CSA to RL in May 2018. Ecology has determined that the permit application is now complete. Ecology is reviewing the 90 percent design package that was submitted on May 2, 2019. Ecology has tentatively approved the comment responses, and CHPRC anticipates that additional design detail will not be needed to support Ecology issuance of the draft permit for public comment currently scheduled for mid-November 2019; as such, the probability has been decreased to “low.” This risk has been identified as a key risk for FY2020.</p>	Mitigation Action(s)	FC Date	%	Continued communication with Ecology to facilitate the early approval of the TA.	Ongoing	N/A			
Mitigation Action(s)	FC Date	%											
Continued communication with Ecology to facilitate the early approval of the TA.	Ongoing	N/A											
<p><b>WSD-CSA-013:</b> “CSA Site Location Found to Have Extensive Contamination”</p>	<p>The CSA location is found to have volumes of contaminated soil or volumes of unfavorable (e.g., loose) soils exceeding those provided for in the project baseline.</p> <p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$100K, 48 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> Significant volumes of contaminated or otherwise unsuitable soils are discovered during CSA construction that cause delays and costs, resulting in the required excavation of additional soil and potentially causing the contamination of leased equipment.</p> <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> This risk has been identified as a key project risk for FY2020. This risk has been accepted. The project has taken great precaution to plan the location of the CSA away from any potential contamination. In the unlikely event that contamination is detected within the CSA site location, project costs and schedule delay will be accepted, and shipping the contaminated soil to ERDF for disposal will proceed.</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											

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 WESF crane is put back into limited usage for the W-130 Project; however, the crane is found to be unserviceable 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%)</p> <p><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>Install rail brackets for canyon crane</td> <td>03/31/20</td> <td>5</td> </tr> <tr> <td>Perform preventive/corrective maintenance procedures on the crane to facilitate reliability</td> <td>08/31/20</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> No significant changes in October. This risk has been identified as a key risk for FY2020. Facility personnel will replace rail brackets and complete crane PMs in FY2020. Critical spares will be evaluated and procured prior to the end of FY2021.</p>	Mitigation Action(s)	FC Date	%	Install rail brackets for canyon crane	03/31/20	5	Perform preventive/corrective maintenance procedures on the crane to facilitate reliability	08/31/20	0	Procure critical spares	9/30/21	0
Mitigation Action(s)	FC Date	%														
Install rail brackets for canyon crane	03/31/20	5														
Perform preventive/corrective maintenance procedures on the crane to facilitate reliability	08/31/20	0														
Procure critical spares	9/30/21	0														
WSD-IDF-11: "Discovery of Unplanned Site Conditions"	<p>Unexpected site conditions are encountered during soil excavation activities resulting in recovery actions.</p> <p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Low (10% to 24%)</p> <p><b>Worst Case Impacts:</b> \$240K, 16 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> During excavation activities within the established WIDS site the project encounters unplanned contamination, debris, legacy waste (drums), or utilities.</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> This risk has been identified as a key project risk for FY2020. Although this risk is accepted, the project performed detailed reviews of existing drawings, performed site walk downs, and continuous site radiological surveys throughout excavation efforts. There is a low probability of unplanned contamination and/or culturally sensitive issues, and project cost and schedule delays are accepted.</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														
<b>Unassigned Risks</b> (Pending ownership of identified risks/opportunities)																
No unassigned risks identified in October.																

## 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	14.6	11.9	10.7	(2.7)	-18.7%	1.1	9.6%

Numbers are rounded to the nearest \$0.1 million.

#### CM Schedule Performance (-\$2.7M/-18.7%)

The CM negative schedule variance is a result of the following:

- Large box commercial TRUM repack and PFP TRU commercial repack had processing delays at the offsite processing facility. In addition, a shipment was delayed due to high winds.
- WRAP roof design statement of work has been delayed while a technical evaluation is completed, and request for information from roof industry experts is obtained to get sufficient feedback regarding options for roof replacement.
- Lack of subcontractor availability caused a delay with the removal and refurbishment of the WESF G Cell windows.
- IDF earthwork development field mobilization date was later than planned. The field mobilization date was negotiated via the contract award after the budget planning.

#### CM Cost Performance (+\$1.1M/+9.6%)

The CM cost variance is a result of the following:

- ERDF Transportation staffing levels were lower than planned due to one LAMP and PTX/PTB taken due to less tons received. Also contributing was a credit in materials due to a delay in an invoice payment on a purchase order.
- The level of CHPRC construction support needed during the CSA construction contract proposal review and award process was less than planned.

## 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	1,492.0	1,486.9	1,402.7	(5.1)	-0.3%	84.3	5.7%	1,678.9	1,589.9	187.2	89.0

Numbers are rounded to the nearest \$0.1 million.

### CTD Schedule Performance (-\$5.1M/-0.3%)

The CTD schedule variance is within threshold.

### CTD Cost Performance (+\$84.3/+5.7%)

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 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 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 the Solid Waste Inventory Tracking System (SWITS).

### Variance at Completion (+\$89.0M/+5.3%)

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 using 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	FY2020		Variance
	Projected Funding	Spending Forecast	
Waste Stabilization and Disposition	211.3	206.4	4.8
Management of Cesium and Strontium Capsules (Line Item)	14.3	0.7	13.6
Incremental Scope Pending Change Management	0.0	0.0	0.0
RL-0013 – Total	225.6	207.1	18.4

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis

The current FY2020 projected funding level of \$225.5 million is based on our final FY2020 project management baseline (PMB) annual update submitted to RL in September, with updates through October. Line Item funding is based upon FY2019 carryover and FY2020 new funding. The spending forecast of \$207.2 million reflects scope planned in the final FY2020 PMB annual update submitted to RL September 11, 2019, with updates through October.

### Critical Path Analysis

Critical path analysis will be provided upon request.

## MILESTONE STATUS

The following table is a one-year look ahead of PBS RL-0013 Tri-Party Agreement-enforceable milestones, non-enforceable target due dates, and commitments.

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	6/30/2019		TBD	In abeyance
M-091-03N	TPA M-091-03N Submit Revision of TRUM Waste and Mixed Low-level Waste Preventative Maintenance Procedure to Ecology	6/30/2020		6/30/2020	On schedule
M-091-44T	Submit Change Request to Establish Schedule for Achieving Offsite Shipment of All TRUM Waste	9/30/2020		9/30/2020	On Schedule
M-091-49A	Submit a Change Request to Establish a Schedule for Achieving the Retrieval of RSW	9/30/2020		9/30/2020	On Schedule

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

Contract Section	Project	GFS/I	Status
J.12/C.2.2, C.2.3	PBS-RL-0011, <i>Plutonium Finishing Plant Closure Project</i>  PBS-RL-0013, <i>Solid and Liquid Waste Treatment and Disposal</i>	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, acts as signatory on the shipping papers, and ensures compliance with DOE Manual 460.2-1, <i>Radioactive Material Transportation Practices Manual for Use with DOE O 460.2A</i> . RL arranges for Commercial Motor Vehicle Safety Alliance Level VI vehicle inspections and verifies that the government drivers meet the applicable U.S. 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 treatment, storage, and disposal requirements.	Ongoing
J.12/C.2.3.6	PBS-RL-0013, <i>Transuranic Waste Certification</i>	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
CSA CD2/3 – RL: Review/Approve PDSA (1 <sup>st</sup> FY)	5/16/2019(A)	4/06/2020
RL Review IDF FHC	7/19/2019(A)	12/10/2019
RL Final IDF FHC Review and SER Prep	12/11/2019	1/29/2020
RL Review WESF Documented Safety Analysis/Technical Safety Requirement and Issue SER	12/18/2019	4/15/2020
Initiate RL Review of CD-2/CD-3 Documentation	4/17/2020	6/6/2020

# Section D

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

**CH2MHILL**  
**Plateau Remediation Company**  
*a Jacobs company*



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

M. A. Wright  
Vice President for  
Project Technical  
Services

October 2019  
CHPRC-2019-10, 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

In October, Pump and Treat (P&T) operations continued 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 during this month 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	26.7	26.7	1.9	1.9						
HX P&T	22.0	22.0	3.2	3.2						
KR-4 P&T	9.5	9.5	0.1	0.1						
KW P&T	12.7	12.7	2.0	2.0						
KX P&T	39.8	39.8	2.4	2.4						
200 West P&T	93.2	93.2	2.0	2.0	152.0	152.0	1.29×10 <sup>11</sup>	1.29×10 <sup>11</sup>	8.6	8.6
<b>Combined</b>	<b>203.9</b>	<b>203.9</b>	<b>11.6</b>	<b>11.6</b>	<b>152.0</b>	<b>152.0</b>	<b>1.29×10<sup>11</sup></b>	<b>1.29×10<sup>11</sup></b>	<b>8.6</b>	<b>8.6</b>
<b>FY2020 Gold Metric</b>	--	<b>2,200.0</b>	--	<b>80.0</b>	--	<b>1,450.0</b>	--	<b>N/A</b>	--	<b>90.0</b>

Well Drilling Completion by Area*	Fiscal Year (FY) 2020 Planned	Current Calendar Month	FY2020 Cumulative
100-KR-4	4	0	0
100-HR-3	10	0	0
200-BP-5	2	0	0
200-UP-1	0	0	0
200-ZP-1	10	0	0
M-24 Milestone	5	0	0
100-F/IU	2	0	0
<b>Total Wells</b>	<b>33</b>	<b>0</b>	<b>0</b>
<b>Site Wide Boreholes</b>	<b>3</b>	<b>0</b>	<b>0</b>

\*Well drilling "completion" indicates achieving all drilling activities (drill, construct, develop, and complete).

## EMS Objectives and Target Status

Objective Action Plan #	Objective	Due Date	Status
20-SGRP-OBJ-1-PLAN-1	With the suspension of biological treatment, carbon tetrachloride concentrations will be monitored in the air emissions for measuring granulated activated carbon loading and meeting regulatory limits.	7/30/2020	25%
20-SGRP-OBJ-2-PLAN-1	The number and types of spills at from the Soil and Groundwater Remediation Project (S&GRP) will be tracked, the workforce will be briefed on spill prevention, and if needed, a plan for reducing spills will be created.	9/30/2020	4%
20-SGRP-OBJ-3-PLAN-1	S&GRP operates six P&T facilities that remove contaminants from groundwater at the Hanford Site. The goal is treating/remediating 2.2 billion total gallons of groundwater.	9/30/2020	8%
20-SGRP-OBJ-4-PLAN-1	Utilization of the new Centralized Groundwater CERCLA Waste Storage Area will lead to simplification of waste management and reduction in greenhouse gas emissions from operations vehicles.	9/30/2020	0%

## 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	1	4	10/31/19 – While assigned to put together a 30 hp pump and motor, the employee was removing the “foot” check valve with a chisel and hammer. The hammer glanced off the chisel and hit the employee’s middle finger, smashing it between the hammer and pump. The employee was wearing leather work gloves, which was the proper personal protective equipment for this work evolution. Upon removing the glove, the worker realized the finger was bleeding and red/swollen. Employee was treated at HPM Corporation. (25405)
First Aid Cases	0	10	N/A
Near-Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### River Corridor

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

- Completed the draft report that summarizes the results from the pre- and post-injection soil samples testing (sequential extraction, column leach, 1,000-hour batch leach, and surface coating evaluation) performed for Stage B Uranium Sequestration activities. This information is being used to evaluate the effectiveness of the remediation performed at the end of FY2018.

#### 100-BC-5 OU

- U.S. Department of Energy (DOE), Richland Operations Office (RL) initiated the 30-day public comment period for the Proposed Plan on October 7, 2019. The public comment period was extended on October 21, 2019, and is now scheduled to finish on December 9, 2019.

#### 100-HR-3 OU

- The small-scale pumping test of the Ringold Formation upper mud aquifer was completed on October 14, 2019. The results from this test will help update the hydrologic parameters necessary for the groundwater flow-and-transport model.

#### 100-KR-4 OU

- Support was provided to RL and the U.S. Environmental Protection Agency (EPA) at the River and Plateau Committee meeting on the 100K Technical Impracticability (TI) Waiver. This effort consisted of a presentation providing the rationale for the proposed TI waiver to address Strontium-90 contaminated groundwater in the 100K Remedial Investigation/Feasibility Study (RI/FS).
- The 100K West soil flushing infiltration gallery was restarted on September 17, 2019. As of October 31, 2019, just over 6.2 million gallons of water have been flushed through.

**100-NR-2 OU**

- Delivered the RI/FS Report, Draft B, to RL for transmittal to the Washington State Department of Ecology (Ecology) and EPA for review.
- Initiated respirometer sampling of the UPR-100-N-17 in-situ bioventing site under low river conditions. This sampling is used to determine the respirometer rate of the in-situ microorganisms as a measure of the remediation effectiveness.

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

- Resolved regulator comments on the DOE/RL-2018-30, *200-BP-5/PO-1 Feasibility Study*, Revision 0, on October 17, 2019. The document is currently being finalized and will be transmitted to RL in November.

**200-WA-1 OU**

- Completed mobilization and construction activities for the electro resistivity tomography (ERT) survey to be performed at the 216-U-1/2 and 216-U-16 waste sites on October 23, 2019. The initial data collection for the ERT survey was performed on October 25, 2019.

**200-ZP-1 OU**

- Submitted the DOE/RL-2019-23, *200-ZP-1 Operable Unit Ringold Formation Unit A Characterization Sampling and Analysis Plan*, Draft A, to RL, which was then provided to EPA for review on October 22, 2019.
- Issued the DOE/RL-2019-38, *200-ZP-1 Operable Unit Optimization Study Plan*, Revision 0, to RL on October 15, 2019.

**Central Plateau Closure Plans**

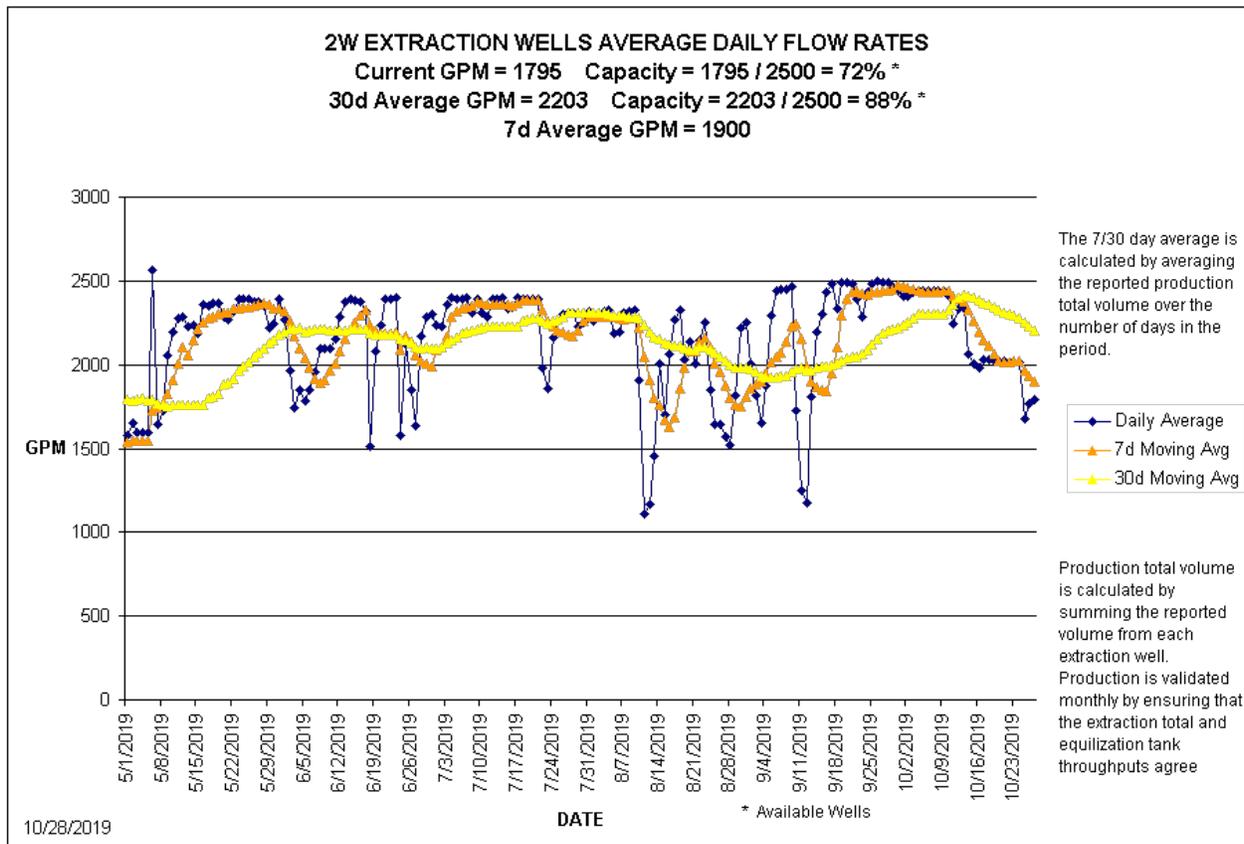
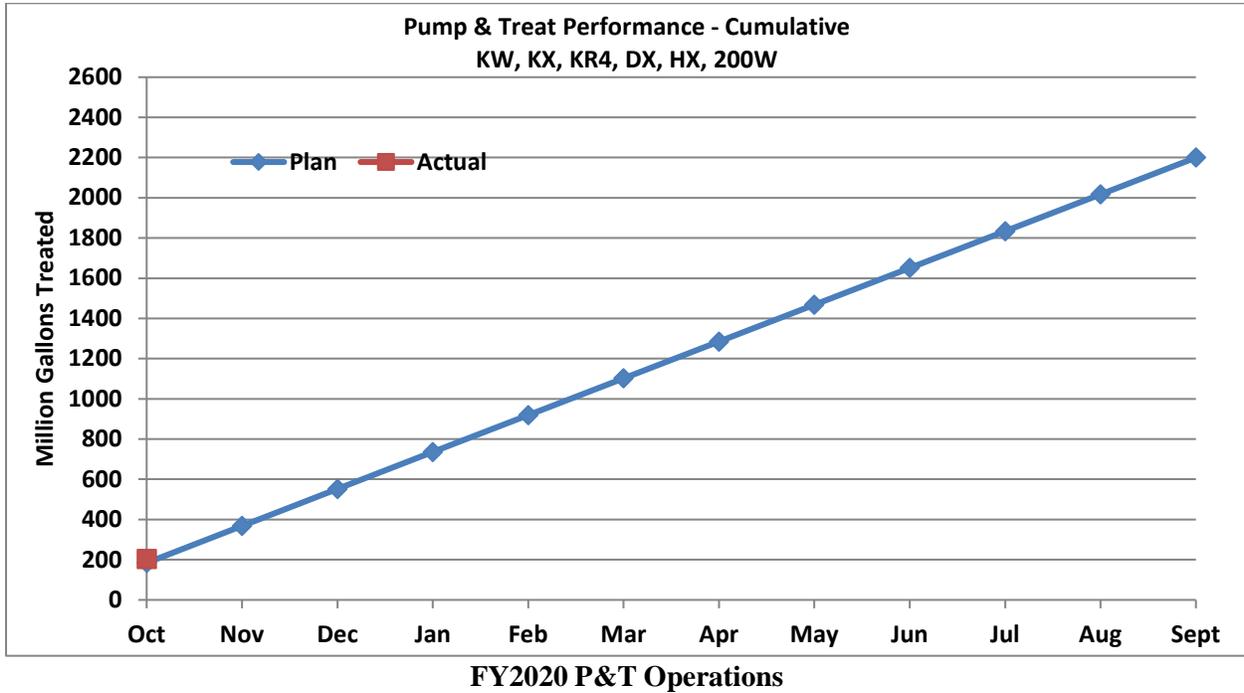
- Provided technical support to RL for the resolution of waste code and regulated constituents issues associated with 216-S-10 and 216-B-63 closure plans, and resolution of pipeline issues associated with the 216-B-3 closure plan. Proposed changes to the closure plans were provided to RL on October 23, 2019.

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

- Operated the 200 West P&T at an average of 2,089 gallons per minute (gpm) in October 2019.

**100 Area P&Ts**

- Operated the DX P&T at 598 gpm, below the facility capacity of 775 gpm.
- Operated the KR-4 P&T at 212 gpm, below the facility capacity of 330 gpm. Completed adjustable frequency drive replacement and testing for the facility booster pumps.
- Operated the KW P&T at 284 gpm, below the facility capacity of 330 gpm. Continued operation of the soil infiltration gallery.
- Operated the KX P&T at 891 gpm, below the facility capacity of 900 gpm.
- Operated the HX P&T at 494 gpm, below the facility capacity of 900 gpm.



## MAJOR ISSUES

No major issues 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	Unmitigated Risk Impacts	Assessment		Comments						
		Month	Trend							
<b>RL-0030/WBS-030</b>										
<b>Explanation of major changes to the project monthly spotlight chart:</b>										
Risks SGW-ZP1-03 and SGW-170 have been added to the FY2020 Key Risk sections, based on the FY2020 Annual Update Risk Analysis results.										
<b>Realized Risks</b> (Risks that are currently impacting project cost/schedule)										
No Realized Risks identified in <b>October</b> .										
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)										
No Critical Risk identified in <b>October</b> .										
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)										
No High Risks identified in <b>October</b> .										
<b>FY2020 Key Risks</b>										
SGW-ZP1-03: Air Stripper Phase 1 Installation Design Maturity	Air Stripper Phase 1 installation final design is more complex than planned, resulting in increased project cost.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Medium (26% to 74%) Worst Case Impacts: \$3,500K, 0 days	<span style="color: yellow; font-size: 20px;">●</span>	<span style="color: black; font-size: 20px;">↔</span>	<b>Risk Event:</b> Phase 1 installation design matures and the project experiences in-scope, unplanned work resulting in significant cost growth in FY2020.  <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <thead> <tr> <th style="width: 80%;">Mitigation Action(s)</th> <th style="width: 10%;">FC Date</th> <th style="width: 10%;">%</th> </tr> </thead> <tbody> <tr> <td colspan="3">None identified at this time.</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> Phase 1 installation design is currently in development. Mitigation actions will be reviewed as the design becomes more definitive.	Mitigation Action(s)	FC Date	%	None identified at this time.		
Mitigation Action(s)	FC Date	%								
None identified at this time.										
SGW-170: Lack of Qualified Drilling Contractors	Availability of qualified drilling bidders to perform the FY2020 drilling scope becomes hindered, resulting in cost and schedule impacts.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Medium (26% to 74%) Worst Case Impacts: \$3,019.4K, 0 days	<span style="color: yellow; font-size: 20px;">●</span>	<span style="color: black; font-size: 20px;">↔</span>	<b>Risk Event:</b> Due to many drilling contractors exiting the nuclear environmental remediation business, qualified contractors are difficult to find, resulting in higher subcontracting cost.  <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <thead> <tr> <th style="width: 80%;">Mitigation Action(s)</th> <th style="width: 10%;">FC Date</th> <th style="width: 10%;">%</th> </tr> </thead> <tbody> <tr> <td colspan="3">None identified at this time.</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> Proposals are being reviewed to determine whether a more comprehensive approach can be taken to reduce bids; however, mitigation actions may not exist for this risk.	Mitigation Action(s)	FC Date	%	None identified at this time.		
Mitigation Action(s)	FC Date	%								
None identified at this time.										
<b>Unassigned Risks</b> (Pending ownership of identified risks/opportunities)										
No unassigned risks identified in <b>October</b> .										

## 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	8.0	7.7	6.3	(0.2)	-3%	1.5	19%

Numbers are rounded to the nearest \$0.1 million.

#### CM Schedule Performance (-\$0.2M/-3.0%)

The current period schedule variance is within reporting threshold.

#### CM Cost Performance (+\$1.5M/+19.0%)

Primary drivers to the current period positive cost variance include the following:

- The October 1, 2019, suspension of biological treatment of nitrate at the 200 West P&T reduced chemical costs and other operations and maintenance expenses.
- O&M of the 100 Area P&T facilities did not experience the planned volume of corrective maintenance activities, and labor resources have been reduced due to attrition.
- Preparatory work completed in FY2019 allowed efficient performance of the ERT surveys at 200-WA-1 and initial design activities for the 200-BP-5 ion exchange train..
- Fewer usage-based training classes were attended than were planned in October.
- Remnants of contract Mod 707 generated positive cost performance for activities completed in prior periods.

## 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	1,641.7	1,637.7	1,589.7	(4.0)	-0.2%	48.0	2.9%	1,766.0	1,711.4	121.7	54.6

Numbers are rounded to the nearest \$0.1 million.

#### CTD Schedule Performance (-\$4.0M/-0.2%)

The CTD negative schedule variance is within reporting thresholds.

#### CTD Cost Performance (+\$48.0M/+2.9%)

The CTD positive cost variance is within reporting thresholds.

#### Variance at Completion (+\$54.6M/+3.1%)

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	FY2020		Variance
	Projected Funding	Spending Forecast	
Spending Forecast	132.1	132.1	0.0
Incremental Scope Change Pending Change Management	0.0	0.0	0.0
RL-0030 - Total	132.1	132.1	0.0

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis

The FY2020 projected funding of \$132.1 million aligns with the FY2020 report submitted to RL September 11, 2019, with updates through October as reflected in the spending forecast. The spend forecast value includes cost and fee.

### Critical Path Analysis

Critical path analysis will be provided upon request.

## MILESTONE STATUS

The following table is a one-year look ahead of PBS RL-0030, *Hanford Facility Agreement and Consent Order* (Tri-Party Agreement)-enforceable milestones, non-enforceable target due dates, and commitments for CHPRC.

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-93C	Initiate Characterization Field Work for 200-SW-2 Operable Unit Landfills	9/30/2018		To be determined (TBD)	In dispute resolution
M-015-98	Complete Remedial Investigation of U Plant Related Waste Sites located in 200-WA-1	6/30/2019		TBD	In dispute resolution
M-085-70	Submit to Ecology a Remedial Investigation/Feasibility Study Work Package for 200-CB-1	9/30/2019		TBD	In dispute resolution
M-015-99	Complete Remedial Investigation of Plutonium Finishing Plant (PFP) Related Waste Sites Located in 200-WA-1	12/31/2019		TBD	In dispute resolution
M-024-58M	Initiate Discussions of Well Commitments	6/01/2020		6/01/2020	On schedule
M-024-71-T01	Conclude Discussions of Well Commitments Initiated under M-024-58	8/01/2020		7/30/2020	On schedule
M-085-80	Submit Remedial Investigation/Feasibility Study Work Plan for 200-CP-1 to Ecology	9/30/2020		TBD	At risk

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

None currently identified.

### DOE ACTIONS/DECISIONS\*

Description	CHPRC Delivery Date	Expected RL Due Date
RL Transmit 200-DV-1 Treatability Test Evaluation Report, Revision 0 to Ecology (DOE/RL-2017-58)	10/01/2019(A)	11/07/2019
RL Review 200-UP-1 Remedial Design/Remedial Action Work Plan, Rev II Decisional Draft	10/01/2019(A)	10/30/2019
RL Review 100-KR-4 RI, Draft Revision 0	11/25/2019	12/04/2019
RL Review 100-NR Biovent Characterization Revised Final Cultural Resource Review	11/25/2019	12/10/2019
RL Transmit 200-ZP-1 Operations and Maintenance Plan, Draft A to EPA for Review	12/11/2019	12/24/2019

\*This table identifies key DOE actions/decisions only.

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

**CH2MHILL**  
Plateau Remediation Company

*a Jacobs company*



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

October 2019  
CHPRC-2019-10, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

In October, Central Plateau Risk Management (CPRM) deactivation, decontamination, decommissioning, and demolition (D4) crews abated nearly than 1,600 feet of steam line asbestos insulation along 4th and 7th Avenues in the 200 East Area and returned to 200 West to process steam line piping and stanchions. At the Reduction and Oxidation Facility (REDOX), workers completed the non-destructive assay (NDA) of the sample gallery product transfer line and completed five additional medium hazard mechanical isolations to support the cold-and-dark process. Teams completed demolition of both the 224-T Transuranic Waste Storage and Assay Facility (TRUSF) tent and MO-710 mobile trailer, and applied clean overburden to a number of troublesome Waste Information Data System (WIDS) sites in 200 East. Personnel initiated work planning for new fiscal year (FY) 2020 scope, including 224-B demolition preparation and Plutonium Uranium Extraction Plant (PUREX) north.

### EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
20-EMS-CPRM-OBJ-P1	Improve compliance, Environmental Management System (EMS) awareness and employee involvement	Present or facilitate a discussion of EMS topics to personnel on a minimum of four different occasions in FY2020, and recruit personnel (other than environmental) to participate in at least two compliance review/programmatic walk downs.	9/30/2020	0%

### TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	Current Month	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	N/A
Total Recordable Injuries	0	2	N/A
First Aid Cases	0	21	N/A
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### CPRM Surveillance and Maintenance

- Performed walk down and updated the work package supporting the relocation of CONEX boxes CC2E0027 and CC2E0028 from Waste Encapsulation and Storage Facility to the east side of B-Plant.
- Held planning meeting with the Gable Pond stabilization subcontractor.
- Completed removal of legacy containment tent in a radioactive material area at 224-T.
- Completed installation of REDOX stack sampler callout system and performed annual fan preventative maintenance.

### REDOX Canyon Risk Mitigation

- Developed initial site layout plan for infrastructure upgrades at REDOX to facilitate future work crew requirements.
- Procured shower trailer for placement near MO-2191 north of REDOX.
- Staged and grounded additional light plants at REDOX to address deficient lighting conditions.
- Developed statement of work (SOW) and placed request for proposal to procure a subcontractor to open a portion of the North Sample Gallery wall to facilitate future waste loadouts.
- Developed SOW for a delivery road and a concrete slab for future delivery of the temporary exhaust system at REDOX.
- Received and reviewed 30 percent design report from subcontractor for the temporary exhaust system.
- Continued development of transuranic waste procedures, implementation plan for the Documented Safety Analysis at REDOX, and continued development of the Criticality Safety Evaluation Report.

### 224-B Demo Prep

- Initiated preparation of the temporary lighting and biological hazard cleanup work packages with the anticipation of releasing both packages in November.
- Initiated perimeter ground scans for 224-B to identify any belowgrade utilities to support the cold-and-dark process.
- Completed scoping walk downs of the facility with subject matter experts.
- Completed down posting of the facility from a beryllium controlled area.

### 276-BA Closure

- Received all soil sample analysis results with silver being above closure performance standards.
- Met with the Washington State Department of Ecology (Ecology) to discuss path forward and determined if samples should be sent for re-analysis at another lab to test for silver levels.

### PUREX North

- Completed mechanical and electrical isolation walk downs to support the development of isolation indexes to prepare for PUREX North facilities demolitions.
- Completed ground scans of 2701-AB to support isolation development.
- Initiated procurement of two additional double-wide mobile offices intended to house fieldwork crews currently located in the 100K Area to support future fieldwork at PUREX North. Trailers will be installed on the 275-EA slab.

### Steam Line Removal

- Abated 1,700 linear feet of the asbestos insulation steam line for 200 East.

- Completed 95 percent of the processing waste concrete from 200 East Area Integrated Disposal Facility (IDF) steam line expansion loop stanchion removal.
- Abated the remaining 440 linear feet of asbestos insulation (out of 1,810 linear feet) for the steam line run west of IDF to the 200 East powerhouse pad.

## MAJOR ISSUES

### Issue

On January 11, 2018, the Ecology Nuclear Waste Program performed a Dangerous Waste Compliance Inspection at B Plant. During review of the “2017 B Plant Complex Annual Surveillance Issue List,” Ecology noted two items in the B Plant 221-B “Issue” column: “[w]hite residue on the floor (not new)” and “[e]xpansion joint crack, white residue on floor.” As a result of these observations, Ecology requested that designation results of the white residue on the floor of the Canyon Building, 221-B pipe, and operating gallery be submitted within 90 days of receipt of the compliance report.

### Corrective Action

U.S. Department of Energy (DOE), Richland Operations Office (RL) and CH2M HILL Plateau Remediation Company (CHPRC) with legal representation met to establish a path forward as follows:

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

### Status

Continued efforts on environmental documentation, currently focused on dispositioning public comments on the draft Engineering Evaluation/Cost Analysis (EE/CA) document. Additionally, RL has notified Ecology that white powders will be cleaned up within 45 days of approving the action memorandum rather than tying the activity to a fiscal year.

### Issue

Management directed a work stand-down at REDOX on October 2, 2019, to address a variety of issues, including step-off pad upgrades, temporary lighting, and lack of ventilation throughout the facility. This management-directed work stand down was intended to obtain feedback from REDOX personnel on recommendations to improve the infrastructure at REDOX to support future work scope and minimize the risk of potential issues that REDOX has experienced previously.

### Corrective Action

On October 3, 2019, REDOX and CPRM management held a meeting with REDOX personnel to identify all issues and concerns that workers experience while performing risk mitigation activities at REDOX. From this meeting, a list of actions was developed and assigned to functional managers. A phased

approached was established to address the issues identified and captured as actions and further categorized into two phases. Phase one consists of improving infrastructure that would better facilitate entries into radiologically posted areas into REDOX and reviewing all governing documentation (i.e., work packages, radiological work permits, etc.) for adequacy. Phase two addresses the working conditions on the interior of REDOX in radiologically posted areas, including ways to improve ventilation and temporary power needs in the areas where risk mitigation activities are being performed. The list of actions are updated weekly and posted in a location that is easily accessible to all REDOX personnel.

### **Status**

With engagement from REDOX personnel, REDOX management identified a path of improving the infrastructure at REDOX, which includes moving the step-off pad outside the facility. Procurement activities are underway to improve the step-off pad. REDOX management and personnel are performing work package reviews and procedure reviews to address the future work scope. Lighting issues have been identified and addressed on the exterior of REDOX.

### **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 conditions 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 to comply with current NFPA standards.

### **Status**

Due to the management-directed work stand down at REDOX, the final action associated with this recovery is on hold until non-regulatory activities are resumed in REDOX.

### **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 that there is 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 is being performed as part of determining remediation path alternatives to water intrusion.

### **Status**

A draft structural integrity analysis indicates that a 24-foot heavy equipment standoff is required that will complicate the effort to seal the filter housing. The project continues to track the water level in a catch tank; current water level tracks are consistent with rainfall. Physical surveillance of the entry was performed in August 2019 to identify conditions of tank level visually. The pumping of the tank to mitigate the current water level previously reported as planned in September 2019 was delayed due to reprioritizing resources towards REDOX in support of the sodium-hydroxide draining and combustible loadout from the canyon. The tank pumping is now forecast to be completed in November.

## RISK MANAGEMENT STATUS

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

- Opportunity 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-0040/WBS-040</b>																
<b>Explanation of major changes to the project monthly spotlight chart:</b> The key risks for RL-0040 have been updated based on FY2020 risk analysis results; consequently, newly identified key risks have been added to the spotlight chart for reporting. Risk REDOX-09, "Concerned Citizen," was added to the spotlight chart as a realized risk.																
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>																
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> \$0, 32 days			<b>Risk Event:</b> Leaking roofs have allowed water to accumulate in limited access areas of the facility. Due to electrical concerns, REDOX personnel have been unable to access the west end of the North Sample Gallery.  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Risk Recovery Action(s)</th> <th style="text-align: center;">FC Date</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Evaluate means to identify and sample liquids discovered after inclement weather.</td> <td style="text-align: center;">December 2019</td> <td style="text-align: center;">50</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> No major changes in <b>October</b> . Work packages are being modified, and hazard identifications are being worked to address the water issue. The project workers continue to repair minor roof defects. The new leak discovered in August continues to be evaluated to identify a path forward. Work crews are developing an appropriate response <b>via a formal procedure</b> for any discovery of liquids in REDOX after inclement weather.	Risk Recovery Action(s)	FC Date	%	Evaluate means to identify and sample liquids discovered after inclement weather.	December 2019	50						
Risk Recovery Action(s)	FC Date	%														
Evaluate means to identify and sample liquids discovered after inclement weather.	December 2019	50														
REDOX-09: "Concerned Citizen"	Delays caused by public concern (i.e., stakeholders, other Hanford Site workers, and concerned citizens) impact the project schedule and technical approach, resulting in recovery actions and causing unplanned, in-scope work.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0, 16 days			<b>Risk Event:</b> A concerned citizen called a stop work, which caused delays and unplanned work necessary to address the required action.  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Risk Recovery Action(s)</th> <th style="text-align: center;">FC Date</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Develop site layout plan for infrastructure upgrades</td> <td style="text-align: center;">November 2019</td> <td style="text-align: center;">50</td> </tr> <tr> <td>Create and implement a phased approach to address identified concerns</td> <td style="text-align: center;">June 2020</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Upgrade temporary power/lighting and localized ventilation</td> <td style="text-align: center;">June 2020</td> <td style="text-align: center;">0</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> This risk was realized in October 2019. A detailed corrective action list was created with REDOX personnel input. A phased approached schedule was developed and implemented to address infrastructure upgrades necessary to support future work demands. Actions items have been assigned to the appropriate responsible manager, and REDOX management is interfacing with personnel for weekly updates on corrective actions.	Risk Recovery Action(s)	FC Date	%	Develop site layout plan for infrastructure upgrades	November 2019	50	Create and implement a phased approach to address identified concerns	June 2020	10	Upgrade temporary power/lighting and localized ventilation	June 2020	0
Risk Recovery Action(s)	FC Date	%														
Develop site layout plan for infrastructure upgrades	November 2019	50														
Create and implement a phased approach to address identified concerns	June 2020	10														
Upgrade temporary power/lighting and localized ventilation	June 2020	0														
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 days			<b>Risk Event:</b> During deactivation and decommissioning activities, there is an unexpected discovery of hazardous material.  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Risk Recovery Action(s)</th> <th style="text-align: center;">FC Date</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Perform investigative entries into silo, North Sample Gallery, and canyon.</td> <td style="text-align: center;">9/30/2019</td> <td style="text-align: center;">100</td> </tr> <tr> <td>Characterization in progress.</td> <td style="text-align: center;">Ongoing</td> <td style="text-align: center;">N/A</td> </tr> </tbody> </table> <b>Risk Action Assessment:</b> Work crews have completed NDA surveys and ultrasonic testing of the L16-H4 process line in REDOX to gain insight into the hazards associated with draining and removing the process line. <b>Due to completed risk recovery actions, it was determined that this issue is no longer a realized risk to the project. It will be removed from the spotlight chart prior to November reporting and monitored internally.</b>	Risk Recovery Action(s)	FC Date	%	Perform investigative entries into silo, North Sample Gallery, and canyon.	9/30/2019	100	Characterization in progress.	Ongoing	N/A			
Risk Recovery Action(s)	FC Date	%														
Perform investigative entries into silo, North Sample Gallery, and canyon.	9/30/2019	100														
Characterization in progress.	Ongoing	N/A														

Risk Title	Unmitigated Risk Impacts	Assessment		Comments									
		Month	Trend										
<b>RL-0040/WBS-040</b>													
<p>REDOX-16: "Facility Integrity"</p> <p>Problems with aging building systems and components (such as roofing and overall structure) result in inoperability or require unscheduled maintenance or outages that impact planned decontamination and decommissioning activities, resulting in schedule delays and cost impacts.</p> <p><b>Risk Handling Strategy:</b> Transfer</p> <p><b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$0, 0 days</p>		●	↓	<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>August 2020</td> <td>40</td> </tr> <tr> <td>Repair minor roof defects.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Risk Action Assessment:</b> 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. Electrical cold-and-dark activities have slowed, with electrical engineers and electricians unable to access specific locations of REDOX to continue building the electrical isolation index. The substation request for proposal has been issued and is expected to close on October 17, 2019. Once proposals are reviewed, there will be a better understanding of the forecasted cold-and-dark completion date. The project workers continue to perform cold-and-dark activities to shut off building power. Minor repairs to leaking parts of the roof can significantly reduce water intrusion, and the project workers will continue to repair minor roof defects. <b>This risk was realized again in October 2019.</b></p>	Risk Recovery Action(s)	FC Date	%	Perform cold-and-dark activities to shut off building power.	August 2020	40	Repair minor roof defects.	Ongoing	N/A
Risk Recovery Action(s)	FC Date	%											
Perform cold-and-dark activities to shut off building power.	August 2020	40											
Repair minor roof defects.	Ongoing	N/A											
<b>Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed.)</b>													
<p>REDOX-05: "Collapse of Sand Filter"</p> <p>Due to the close proximity of equipment in operation (cranes, forklifts used for waste loadout and steam lines and steam line stanchion removal activities) and building age and structural integrity, a collapse of a REDOX ventilation system sand filter is experienced, resulting in cost and schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Very low (&lt;10%) <b>Worst Case Impacts:</b> \$260K, 48 days</p>		●	↔	<p><b>Risk Triggers:</b> Due to the close proximity of equipment in operation (cranes, forklifts used for waste loadout, and steam line stanchion removal activities) and building age and structural integrity, a collapse of a REDOX ventilation system sand filter is experienced.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Establish sand filter access boundary.</td> <td>August 2020</td> <td>50</td> </tr> <tr> <td>Implement communication plan between other Hanford contractors (OHCs) and other CHPRC projects.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> <b>No major changes in October.</b> Current work scope has not yet impacted this potential risk. Based on the contractor schedule, new temporary exhausters for REDOX are not expected to arrive until May 2020. In turn, this delay pushed the FC dates for mitigation actions to establish the sand filter access boundary seven months from the September 2019 FC date reported in August. Based on this information, the current plan would move any excavation work near the sand filters to spring 2020.</p>	Mitigation Action(s)	FC Date	%	Establish sand filter access boundary.	August 2020	50	Implement communication plan between other Hanford contractors (OHCs) and other CHPRC projects.	Ongoing	N/A
Mitigation Action(s)	FC Date	%											
Establish sand filter access boundary.	August 2020	50											
Implement communication plan between other Hanford contractors (OHCs) and other CHPRC projects.	Ongoing	N/A											
<b>High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)</b>													
No high risk threat value risks identified in <b>October</b> .													
<b>FY2020 Key Risks</b>													
<p>BOS-003: "Facility Integrity"</p> <p>Problems with aging building, systems, or components (e.g., roofing and structures, etc.) result in inoperability or recovery actions, causing unplanned, in-scope work (e.g., unscheduled maintenance and outages).</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$5.5M, 0 days</p>		●	↔	<p><b>Risk Triggers:</b> The project experiences problems with aging building systems and components (e.g., cribs, roofing and structures, etc.) during routine surveillance and maintenance activities. Scheduled maintenance activities must then be performed in addition to unplanned recovery actions.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform lifecycle evaluations of critical structures, systems, and components.</td> <td>12/31/2019</td> <td>45</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> This risk was identified as a key project risk for FY2020. CPRM is working with TerraGraphics to complete an aging structures and inactive waste site analysis. The remaining structures requested for evaluation (242-T and 231-Z) and analysis for the inactive waste sites is expected to follow with a completion at the end of December. Routine surveillance and maintenance activities continue to be performed to mitigate risk.</p>	Mitigation Action(s)	FC Date	%	Perform lifecycle evaluations of critical structures, systems, and components.	12/31/2019	45			
Mitigation Action(s)	FC Date	%											
Perform lifecycle evaluations of critical structures, systems, and components.	12/31/2019	45											
<b>Unassigned Risks (Pending ownership of identified risks/opportunities)</b>													
No unassigned risks identified in <b>October</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	5.1	4.4	4.0	(0.6)	(12.9%)	0.4	8.9%

Numbers are rounded to the nearest \$0.1 million.

**CM Schedule Performance: (-\$0.6M/-12.9%)**

The CM negative schedule variance is mainly attributed to the REDOX management work stand down due to concerned stakeholders that resulted in a required action plan in order to return to work. Once all actions are completed, previously planned work will continue. In addition, PUREX North procurements of personal protective equipment and other materials needed for the demolition of PUREX North facilities were delayed to allow for further planning and review of the revised work approach.

**CM Cost Performance: (+\$0.4M/+8.9%)**

The current month cost variance is within reporting thresholds.

## 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	569.3	564.2	544.5	(5.1)	(0.9%)	19.7	3.5%	625.8	606.9	62.4	18.9

Numbers are rounded to the nearest \$0.1 million.

**CTD Schedule Performance: (-\$5.1M/-0.9%)**

The CTD schedule variance is within reporting thresholds.

**CTD Cost Performance: (+\$19.7M/+3.5%)**

The CTD cost variance is within reporting thresholds.

**Variance at Completion (+\$18.9M/+3.0%)**

The 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	FY2020		Variance
	Projected Funding	Spending Forecast	
RL-0040 Spending Forecast	67.1	67.1	0.0
Incremental Scope Pending Change Management	0.0	0.0	0.0
RL-0040 – Total	67.1	67.1	0.0

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis

FY2020 expected funding of \$67.1 million includes \$7.4 million of carryover funding and an expected new budget authority of \$60.0 million. The spending forecast is based on the final FY2020 PMB annual update submitted to RL on September 11, 2019, with updates through October.

### Critical Path Analysis

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-016-256	Complete Removal of All Waste Sites for FY2019 as updated or modified in M-16-17-01.	9/30/2019		TBD	In dispute resolution. In negotiation with RL to adjust schedule.

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

None currently identified.

## DOE ACTIONS/DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
Regulator Review 224-B (B Plant) Sampling Analysis Plan (SAP) (2017-33)	10/21/2019(A)	12/26/2019
Regulator Review 224-B (B Plant) Removal Action Work Plan (RAWP) (2017-34)	8/16/2017(A)	12/26/2019
202-A PUREX Draft B EE/CA (2016-15) Document Approval Complete	12/11/2017(A)	10/15/2019(A)
RL and Ecology Review PUREX N Closure Plan (2015-72)	07/18/2019(A)	01/06/2020
Regulator Review Tier 2 PUREX RAWP (2016-47)	07/23/2019(A)	12/17/2019
RL Review Tier 2 PUREX SAP (2016-46)	06/10/2019(A)	11/18/2019
Regulator Review B Plant EE/CA (2017-34)	10/02/2019(A)	12/10/2019
RL Review PUREX Action Memorandum (2016-53)	11/06/2019	12/03/2019

# Section F

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

**CH2MHILL**  
**Plateau Remediation Company**  
*a Jacobs company*



R. M. Geimer  
Vice President for  
K Basin Operations

October 2019  
CHPRC-2019-10, 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):**

A subcontract was awarded to support soil remediation work in fiscal year (FY) 2020, after which training and mobilization commenced. Additional sampling of the 166KE Fuel Storage Bunker was completed to determine the disposal path for the remaining oily water; it is anticipated that pumping will resume in November. Remaining design work was completed for the 105KE Interim Safe Storage Structure, with final approvals of the design expected in early November. In the 105KW Basin, crews began clearing a footprint to allow for the installation of equipment required to segregate high dose debris. This work is anticipated to continue over the next three to four months. Work also continued on staging and obtaining dose rates of debris items in the basin to support creation of an overall debris map; this work is also anticipated to continue over the next three to four months. Initial operator training on the garnet filter media removal system (GFMRS) was completed at the Maintenance and Storage Facility (MASF). Construction crews will train on the system in early November prior to packaging the system for transport and installation in the 105KW Basin. At MASF, the crew continued to develop tools required to size reduce and disposition high dose debris, inspect the settler tubes, inspect the north load out pit, and support current operations and upcoming construction activities in the 105KW Basin.

### **River Risk Management Project (RRMP):**

In support of 300-296 Waste Site remediation, 324 Building facility preparations included grouting the final remote excavator arms (REA) through support assembly (TSA), installing the in-cell filter on the snorkel in C Cell, installing the anemometer on South Airlock supply inlet, completing truck lock leveling in support of waste box loadout, removing an eight-foot split plug, and installing a new shield plug supporting the floor saw utilities installation. Crews continued installing the north shoring piles (11 of 21 are complete) outside of the 324 Building to support future soil stabilization injection grouting under the east wall of B Cell. Structural modifications in the 324 Building basement continued with the completion of the third pilot hole and commenced drilling at the fourth pilot hole location. B Cell cleanout continued with the size reduction and waste bin loadout of B Cell debris. The sixth 9×5×5 waste box was filled with three bins of B Cell debris.

## EMS Objectives and Target Status

Objective #	Objective	Target	Due Date	Status
20-EMS-KBO-OB1-P1	Evaluation of upcoming 100K work activities, which involve water discharge to the ground at 100K.	Evaluate upcoming work from the Hanford Fire Department, 100K D&D, and soil remediation activities at the 100K Area to ensure the water discharge to ground requirements found in DOE/RL-97-67, <i>Pollution Prevention and Best Management Practices Plan for State Waste Discharge Permits ST 4508, ST 4509, and ST 4510</i> , and 100K-STD-OP-52370, <i>Discharges to Ground</i> , are followed.	9/30/2020	0%
20-EMS-KBO-OB2-P1	Improve compliance/pollution and spill prevention.	Evaluate the status of spill prevention, use of secondary containment, universal waste and other recycling compliance, and waste reduction opportunities for compliance with CH2M HILL Plateau Remediation Company (CHPRC) procedures.	9/30/2020	0%

## 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	1	24	Employee sprained right shoulder when vehicle struck elk. Employee evaluated at HPM Corporation and was released back to work with restrictions. (25389)
Near Misses	0	0	N/A

## KEY ACCOMPLISHMENTS

### 100K Basin Operations

- 100K Closure Project:
  - 100K Demolition
    - Additional sampling of the 166KE Fuel Storage Bunker was completed in support of determining the disposal path for remaining oily water. It is anticipated that pumping the remaining oily water from the bunker will resume in November
  - 100 K West Basin Deactivation
    - Started campaign to remove small and large items from the west and center bays.

- Evaluated multiple non-destructive analysis technologies to support characterization of the settler tubes and transfer cask assembly (TCA)-1.
- Performed initial operator training on MASF mockups for sand filter sampling and pole tool removal.
- Initial operator training on the GFMRS was completed at MASF during October.
- Started receiving and processing of GFMRS installation contractor submittals and development of GFMRS installation work package.
- o 100K Remaining Wastes Sites
  - Completed verification soil sampling at the 100-K-99 waste site, and began the Remaining Sites Verification Package closure documentation.
- o 105K East Reactor Interim Safe Storage Structure (ISS)
  - Remaining design work was completed for the 105KE ISS. Final approvals of the design are expected in early November.

### **RRMP, 324 Building Disposition Project**

The procurement and fabrication of the following equipment continued:

- Cell dams for 324 Building.
- B Cell 10T Crane.
- Universal cutting tool.
- Water delivery system for the airlock.
- Concrete box for soil waste bins.
- Waste box shielding, waste bins, and waste containers for 324 Building.
- Modified shielded lids and frames.
- Self-leveling lifting device.
- Midsize lift fixture.
- Miscellaneous:
  - Repaired three steam leaks in EP 901 North and South coils.
  - Installed anemometer on South Airlock supply inlet.
  - Completed monthly crane preventive maintenance.
  - Installed lockout/tagout on D Cell interference.
  - Completed A/D Crane Hazard Review Board.
- Facility Preparations:
  - Completed installation of the in-cell filter on the snorkel in C Cell.
  - Completed installation of the northeast TSA.
  - Completed truck lock welding.
  - Readied the sprinkler heads in the truck lock for replacement.
  - Removed eight-foot split plug and installed shield plug supporting the floor saw utilities installation.
  - Completed grouting of cubicles on first floor and initiated grouting of second floor in A-Gallery.
- Structural Modifications:
  - Completed drilling and grouting 11 of 21 pile locations for the north temporary shoring site in support of future soil stabilization installation.
  - Completed the third pilot hole in Room 18.
  - o Competed drill rig maintenance and mobilization to final pilot hole location in Room 18.
    - Moved soil loaded roll-on/roll-off cans to the container transfer area.
    - Regraded excavation and entrance ramp.
  - o Cell Cleanout:
    - Received shielded cradle supporting 324 Building waste loadout.
    - Initiated truck lock floor leveling with placement of grout.
    - Completed truck lock grouting.

- Filled sixth 9×5×5 box with three bins of B Cell debris.
- Loaded debris from A Cell into 9×5×5 box.
- Grouted new shielding in Container Technologies Industries waste boxes.
- o Mockup:
  - Performed monthly preventive maintenance on mockup crane.
- o Tours:
  - Hosted the Secretary of Energy Rick Perry, Senator Mark Walden (Oregon), Congressman Dan Newhouse, and other distinguished guests from U.S. Department of Energy (DOE) and Jacobs. Visitors observed and interacted with 22 science, technology, engineering, and math (STEM) students and educators from Chiawana High School, who were provided hands-on opportunities to operate mockup equipment.
  - Toured the Oregon Department of Ecology.
  - Provided a tour for the Jacobs Corporation Dounreay Site Remediation Limited (DSRL) team.

### **Project Technical Support**

- o Training and Procedures:
  - Worked with facility management to validate and update training templates for 324 Building Project operations personnel. The new templates display training needs for personnel and simplify template assignments based on position, reduce redundancy, and ensure that workers are assigned proper and complete training for their role.

## **MAJOR ISSUES**

### **Issue**

The 100K Closure Project is ready to award the vertical pipe casing (VPC) fabrication contract as authorized in the revised FY2019 Plan. DOE, Richland Operations Office (RL) has an informal hold on the contract.

### **Corrective Action**

A briefing was delivered to the RL assistant manager for River and Plateau, director for Project and Facilities Division (PFD) in July, regarding the efficacy of using the VPC system through execution of the 100K West Basin deactivation and demolition strategy as presented in the FY2020 Performance Measurement Baseline (PMB) annual update.

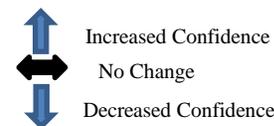
### **Status**

The RL PFD director approved the fabrication of the debris washing station for the VPC system. In October, the project was still awaiting authorization to proceed with fabrication of the VPCs. Authorization to proceed is expected in November.

## 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-0041/WBS-041</b>																									
<p><b>Explanation of major changes to the project monthly spotlight chart:</b> Risk RCC-300-296-08, "300-296 Failure of Cell Shield Door," was moved from the <i>Realized Risk</i> sections and captured under the <i>High Threat Risk Value</i> section. Mitigation actions for risk RCC-300-296-07, "300-296 Failure of a REC Cranes (B Cell, A Cell, A/D &amp; Airlock, and/or CHA Cranes)" have been updated to include newly identified mitigation actions. Risk RCC-300-296-06, "300-296 Remote Equipment Failure During Operations," was added to the FY2020 Key Risks section based on the FY2020 Risk Analysis results.</p>																									
<b>Realized Risks (Risks that are currently impacting project cost/schedule)</b>																									
RCC-300-296-30, "300-296 Design Changes Result in Increased Subcontractor Change Order(s)/ Claims"	<p>Due to the uncertainty and evolution of developments, design changes may be required upon completion of all design phases.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Very likely (&gt;90%)</p> <p><b>Worst Case Impacts:</b> \$3,318K, 136 days</p>	<span style="color: red;">●</span>	↔	<p><b>Risk Event:</b> The verification of the final structural modification design has been delayed due to realization of other risks (see Recovery Assessment, below) while performing soil verification and pilot holing, requiring additional design effort from the design subcontractor.</p> <table border="1" style="width: 100%;"> <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 percent to 60 percent (VE2810).</td> <td>8/15/2018</td> <td>100</td> </tr> <tr> <td>Perform micropile demonstration and verification to support structural modification design (VS1220A).</td> <td>1/24/2019</td> <td>100</td> </tr> <tr> <td>Structural modifications design micropile comment resolution (VS1220C).</td> <td>5/13/2019</td> <td>100</td> </tr> <tr> <td>Perform pilot holing for structural mods (VS5010).</td> <td>9/7/2019</td> <td>100</td> </tr> <tr> <td>Perform Pit 6 soil verification testing/geotech (VS1220B).</td> <td>8/21/2019</td> <td>100</td> </tr> <tr> <td>Contractor prepare and submit structural modification design (VN1220).</td> <td>11/7/2019</td> <td>94</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, "300-296 Elevated Contamination Encountered While Performing Structural Modifications," and RCC-300-296-01, "Latent Conditions Impact Facility Modifications." The realization of these risks halted fieldwork activities that were supporting completion of the final design. Corresponding actions that addressed radiological control measures for the pilot hole work scope were completed to support the final design. The contractor's design is anticipated to be completed in the upcoming period.</p>	Recovery Action(s)	FC Date	%	Contractor prepare and submit structure modification design - 30 percent to 60 percent (VE2810).	8/15/2018	100	Perform micropile demonstration and verification to support structural modification design (VS1220A).	1/24/2019	100	Structural modifications design micropile comment resolution (VS1220C).	5/13/2019	100	Perform pilot holing for structural mods (VS5010).	9/7/2019	100	Perform Pit 6 soil verification testing/geotech (VS1220B).	8/21/2019	100	Contractor prepare and submit structural modification design (VN1220).	11/7/2019	94
Recovery Action(s)	FC Date	%																							
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Contractor prepare and submit structural modification design (VN1220).	11/7/2019	94																							
RCC-300-296-07, "300-296 Failure of a REC Cranes (B Cell, A Cell, A/D & Airlock, and/or CHA Cranes)"	<p>Major crane repair must be performed during operations. This in-scope, unplanned work results in cost and schedule impacts to the project.</p> <p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Likely (75% to 90%)</p> <p><b>Worst Case Impacts:</b> \$1,561K, 208 days</p>	<span style="color: red;">●</span>	↔	<p><b>Risk Trigger Metric:</b> In August, the Radiochemical Engineering Cells (REC) A/D Crane failed during operations.</p> <table border="1" style="width: 100%;"> <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 Building</td> <td>6/20/2019</td> <td>100</td> </tr> <tr> <td>Perform A/D Crane Survey/Investigation</td> <td>10/29/2019</td> <td>5</td> </tr> <tr> <td>Procure/Fabricate A/D Crane Parts</td> <td>11/7/2019</td> <td>0</td> </tr> <tr> <td>Perform A/D Crane Repair</td> <td>11/12/2019</td> <td>0</td> </tr> </tbody> </table> <p><b>Recovery Assessment:</b> A/D Crane surveys will be performed in the upcoming period. It is anticipated that decontamination of the A/D Crane will be necessary prior to performing repairs. Procurement and fabrication of decontamination equipment has been initiated to decrease further impacts to the project.</p>	Mitigation Action(s)	FC Date	%	Determine B Cell replacement crane options	3/19/2019	100	Award contract – B Cell 10T crane – 324 Building	6/20/2019	100	Perform A/D Crane Survey/Investigation	10/29/2019	5	Procure/Fabricate A/D Crane Parts	11/7/2019	0	Perform A/D Crane Repair	11/12/2019	0			
Mitigation Action(s)	FC Date	%																							
Determine B Cell replacement crane options	3/19/2019	100																							
Award contract – B Cell 10T crane – 324 Building	6/20/2019	100																							
Perform A/D Crane Survey/Investigation	10/29/2019	5																							
Procure/Fabricate A/D Crane Parts	11/7/2019	0																							
Perform A/D Crane Repair	11/12/2019	0																							
<b>Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed.)</b>																									
No critical risks identified in October.																									

Risk Title	Unmitigated Risk Impacts	Assessment		Comments												
		Month	Trend													
<b>RL-0041/WBS-041</b>																
<b>High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)</b>																
RCC-300-296-31, "300-296 Elevated Contamination Encountered While Performing Structural Modifications"	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 result in contamination levels that are much higher or deeper than assumed or the material encountered is different than anticipated, an alternative approach will require the development and/or fabrication of additional equipment for contamination mitigation and control. These impacts will limit progress on alternate fieldwork activities.  <b>Risk Handling Strategy:</b> Accept  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$3,318K, 256 days	●	↔	<b>Risk Event:</b> Unexpected contamination found while performing structural modification activities. <table border="1" style="width: 100%;"><thead><tr><th>Mitigation Action(s)</th><th>FC Date</th><th>%</th></tr></thead><tbody><tr><td>Perform continuous surveying and monitoring</td><td>Ongoing</td><td>N/A</td></tr></tbody></table> <b>Mitigation Assessment:</b> As low as reasonably achievable (ALARA) review evaluations for process improvements were completed in May; however, fieldwork was placed on hold as radiological controls and surveys were being enhanced to verify personnel exiting controlled areas. Corresponding actions to address radiological control measures for pilot hole work scope were completed, and fieldwork has resumed. <b>However, due to previously encountered contamination continues to hinder pilot hole work scope. Increased personal protective equipment and additional control measures have greater reduced production rates than planned.</b>	Mitigation Action(s)	FC Date	%	Perform continuous surveying and monitoring	Ongoing	N/A						
Mitigation Action(s)	FC Date	%														
Perform continuous surveying and monitoring	Ongoing	N/A														
RCC-300-296-36, "Contamination Experienced During Radiochemical Engineering Cells (REC) Cell Operations"	During REC cell cleanout (e.g., soil/debris removal, waste handling, and facility modifications), the CHA, truck lock, or other support area becomes contaminated or background dose is elevated to a level that operations cannot continue as currently planned. Significant cost and schedule impacts are incurred.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Very Likely (>90%) <b>Worst Case Impacts:</b> \$225K, 70 days	●	↔	<b>Risk Event:</b> Background radiation levels impact the use of personal contamination monitors in the Shielded Materials Facility during waste box loadout to a level that operations cannot continue as currently planned, requiring fabrication of additional shielding and structures. Significant cost and schedule impacts are incurred. <table border="1" style="width: 100%;"><thead><tr><th>Mitigation Action(s)</th><th>FC Date</th><th>%</th></tr></thead><tbody><tr><td>Perform CHA floor scabbling and apply epoxy floor coating</td><td>7/17/2019</td><td>100</td></tr><tr><td>Floor scabbling, when necessary</td><td>Ongoing</td><td>N/A</td></tr><tr><td>Floor coating applications, where necessary</td><td>Ongoing</td><td>N/A</td></tr></tbody></table> <b>Mitigation Assessment:</b> <b>No changes in October.</b> CHA floor scabbling and floor coating applications were performed in July and will reduce the likelihood for lengthy decontamination efforts and/or spread. Due to the uniqueness involved with this particular work scope, the probability and consequence levels remain the same. However, these mitigation efforts will reduce the cost and schedule consequences, as applicable.	Mitigation Action(s)	FC Date	%	Perform CHA floor scabbling and apply epoxy floor coating	7/17/2019	100	Floor scabbling, when necessary	Ongoing	N/A	Floor coating applications, where necessary	Ongoing	N/A
Mitigation Action(s)	FC Date	%														
Perform CHA floor scabbling and apply epoxy floor coating	7/17/2019	100														
Floor scabbling, when necessary	Ongoing	N/A														
Floor coating applications, where necessary	Ongoing	N/A														
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	●	↔	<b>Risk Trigger Metric:</b> In September, during operations of cleanout activities, the A Cell Crane Door latch mechanism failed, resulting in risk being realized. <table border="1" style="width: 100%;"><thead><tr><th>Mitigation Action(s)</th><th>FC Date</th><th>%</th></tr></thead><tbody><tr><td>Preventive maintenance activities are being conducted</td><td>Ongoing</td><td>N/A</td></tr><tr><td>Perform A Cell shield door survey and repairs</td><td>9/6/2019</td><td>100</td></tr></tbody></table> <b>Recovery Assessment:</b> Following troubleshooting, repairs on the A Cell Shield door were completed. To maintain REC shield door operability, engineering evaluations were conducted, resulting in the implementation of monthly performance measures and the procurement of spare parts. These mitigation efforts will reduce the likelihood of cost and schedule consequences, as applicable.	Mitigation Action(s)	FC Date	%	Preventive maintenance activities are being conducted	Ongoing	N/A	Perform A Cell shield door survey and repairs	9/6/2019	100			
Mitigation Action(s)	FC Date	%														
Preventive maintenance activities are being conducted	Ongoing	N/A														
Perform A Cell shield door survey and repairs	9/6/2019	100														
<b>FY2020 Key Risks</b>																
RCC-300-296-01, "300-296 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, 128 days	●	↔	<b>Risk Trigger Metric:</b> Based on a similar event experienced March 28, unexpected beta-gamma contamination was detected while performing clearance surveys at the 324 Building step-off pad. Sampling determined it to be beta contamination (suspected strontium-90) without a corresponding gamma component, resulting in project impacts. <table border="1" style="width: 100%;"><thead><tr><th>Mitigation Action(s)</th><th>FC Date</th><th>%</th></tr></thead><tbody><tr><td>Perform continuous surveying and monitoring</td><td>Ongoing</td><td>N/A</td></tr></tbody></table> <b>Mitigation 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. Based on the historical discovery of an elevated latent contamination level (NOC, CHPRC-1801178), this risk will be monitored continuously as routine preventive maintenance activities are in place to reduce the likelihood of occurrence.	Mitigation Action(s)	FC Date	%	Perform continuous surveying and monitoring	Ongoing	N/A						
Mitigation Action(s)	FC Date	%														
Perform continuous surveying and monitoring	Ongoing	N/A														

Risk Title	Unmitigated Risk Impacts	Assessment		Comments															
		Month	Trend																
<b>RL-0041/WBS-041</b>																			
RCC-300-296-15, "300-296 Cell Sealing, Micropile Installation, Interference Removal, Core Drilling and Soil Stabilization Takes Longer Than Planned"	<p>Unexpected field conditions are 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.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Medium (26% to 74%)</p> <p><b>Worst Case Impacts:</b> \$3,317.6K, 96 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> The project experiences unexpected field conditions outside their control, impacting cell sealing, micropile installation, interference removal, core drilling, and soil stabilization 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>Mobilize and train second soil stabilization crew</td> <td>1/13/2020</td> <td>25</td> </tr> <tr> <td>Perform pilot hole drilling to aid as a mitigation action for micropile installation.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Mitigation efforts have reduced the probability of risk occurrence from likely to medium. However, due to the uniqueness involved with work scope, there is potential for unexpected delays and additional pilot hole drilling efforts.</p>	Mitigation Action(s)	FC Date	%	Mobilize and train second soil stabilization crew	1/13/2020	25	Perform pilot hole drilling to aid as a mitigation action for micropile installation.	Ongoing	N/A						
Mitigation Action(s)	FC Date	%																	
Mobilize and train second soil stabilization crew	1/13/2020	25																	
Perform pilot hole drilling to aid as a mitigation action for micropile installation.	Ongoing	N/A																	
RCC-300-296-06, "300-296 Remote Equipment Failure During Operations"	<p>Failures of the following procured equipment, including the floor saw, MSMs used in REC Cells, REAs, REA through supports, cell mams, transfer mechanism, and cameras and lights.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Low (10% to 25%)</p> <p><b>Worst Case Impacts:</b> \$1,336K, 90 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> Failure of remote equipment will result in schedule delays due to equipment replacement and repairs as a result of radiation damage to other equipment installed in the REC Cells. These factors may shorten the operational life of equipment and result in replacing damaged equipment and/or components.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Procure MSM manipulators and storage carts</td> <td>12/19/2019</td> <td>85</td> </tr> <tr> <td>Procure universal cutting tool</td> <td>8/20/2020</td> <td>5</td> </tr> <tr> <td>Develop extensive systems repair and maint. protocol</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Evaluate and procure critical spare parts</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Potential impacts continue to be monitored and assessed for mitigation as project evolutions continue. Estimate to complete (ETC) is updated monthly to reflect potential impacts of risk being realized.</p>	Mitigation Action(s)	FC Date	%	Procure MSM manipulators and storage carts	12/19/2019	85	Procure universal cutting tool	8/20/2020	5	Develop extensive systems repair and maint. protocol	Ongoing	N/A	Evaluate and procure critical spare parts	Ongoing	N/A
Mitigation Action(s)	FC Date	%																	
Procure MSM manipulators and storage carts	12/19/2019	85																	
Procure universal cutting tool	8/20/2020	5																	
Develop extensive systems repair and maint. protocol	Ongoing	N/A																	
Evaluate and procure critical spare parts	Ongoing	N/A																	
RCC-300-296-33, "Increased Rad Exposure to Workers"	<p>High dose in the airlock causes excessive radiation exposure to personnel, resulting in in-scope unplanned work impacts of cost and/or schedule.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Low (10% to 25%)</p> <p><b>Worst Case Impacts:</b> \$240K, 36 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> During REC entries, background and present dose could cause workers to reach allowable dose limits sooner than anticipated, resulting in cost and schedule impacts.</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform continuous surveying and monitoring</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Continue use of increased shielding and ALARA controls</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Mitigation efforts have reduced the probability of risk occurrence to low. Procurement of specialized waste containers, shield lids, and decontamination efforts has significantly minimized dose potential; however, the uniqueness of work scope provides the potential for unexpected delays and/or cost impacts.</p>	Mitigation Action(s)	FC Date	%	Perform continuous surveying and monitoring	Ongoing	N/A	Continue use of increased shielding and ALARA controls	Ongoing	N/A						
Mitigation Action(s)	FC Date	%																	
Perform continuous surveying and monitoring	Ongoing	N/A																	
Continue use of increased shielding and ALARA controls	Ongoing	N/A																	
RCC-300-296-03, "300-296 Mockup Testing and Qualification of Remote Equipment/ Process Identifies Major Modification Requirements"	<p>Issues such as equipment interferences, differing as-found conditions than planned, equipment reliability, etc., arise prior to or during mockup testing, leading to re-design of equipment and 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> \$658.5K, 64 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> During vendor factory acceptance test and/or mockup, testing, issues and conditions were identified with mockup equipment, resulting in additional re-design, materials, and/or fabrication efforts greater than planned. Remote equipment procurements that have resulted in cost and/or schedule impacts include the remote excavation arm (REA) system components (through supports and dummy post assemblies), transfer mechanism (electrical components), and floor saw (gear mechanism).</p> <table border="1"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Install radiological assay system and perform construction acceptance test 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>100</td> </tr> <tr> <td>Conduct proficiency training at the mockup (VN1700)</td> <td>4/23/2020</td> <td>77</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> 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 and reflect further impacts of risk being realized.</p>	Mitigation Action(s)	FC Date	%	Install radiological assay system and perform construction acceptance test at mockup	3/14/2019	100	Install floor saw and support system at mockup (VN1020)	4/23/2019	100	Conduct proficiency training at the mockup (VN1700)	4/23/2020	77			
Mitigation Action(s)	FC Date	%																	
Install radiological assay system and perform construction acceptance test at mockup	3/14/2019	100																	
Install floor saw and support system at mockup (VN1020)	4/23/2019	100																	
Conduct proficiency training at the mockup (VN1700)	4/23/2020	77																	

Risk Title	Unmitigated Risk Impacts	Assessment		Comments						
		Month	Trend							
<b>RL-0041/WBS-041</b>										
100K-SR-05, "Unexpected Site Conditions"	<p>Unexpected site conditions are encountered during soil excavation activities, resulting in recovery actions, causing unplanned, and project in-scope work and schedule delays.</p> <p><b>Risk Handling Strategy:</b> Accept</p> <p><b>Probability:</b> Likely (75% to 90%)</p> <p><b>Worst Case Impacts:</b> \$760K, 32 days</p>	●	↔	<p><b>Risk Trigger Metric:</b> During soil excavation activities, different site conditions including underground utilities (i.e., wiring, fiber cable, pipes, asbestos, etc.), unknown construction material, and greater than expected quantities of contamination could be encountered, resulting in increased volume of remediated soil. In addition, the overburden soil planned for backfill contains contaminants, resulting in the need to create a new clean-fill pit.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>None identified at this time (risk is accepted)</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> Although this risk is accepted, the project performs</p>	Mitigation Action(s)	FC Date	%	None identified at this time (risk is accepted)	N/A	N/A
Mitigation Action(s)	FC Date	%								
None identified at this time (risk is accepted)	N/A	N/A								
<b>Unassigned Risks</b> (Pending ownership of identified risks/opportunities)										
No unassigned risks identified in <span style="color: red;">October</span> .										

## 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	9.8	7.9	10.5	(1.9)	-20.0%	(2.6)	-33.2%

Numbers are rounded to the nearest \$0.1 million.

### CM Schedule Performance (-\$1.9M/-20.0%)

The CM schedule variance for RRMP is primarily due to delays in progressing with fabrication of the B Cell crane (cable reel) and universal cutting tool procurements. In addition, 324 Building equipment installation activities related to the radiological assay system and shielded probe collimator have been delayed as resources are being prioritized to support B Cell debris removal and A/D Crane investigations. In addition, 100K is behind schedule due to impacts from the delay in RL authorization of the fabrication of the VPCs.

### CM Cost Performance (-\$2.6M/-33.2%)

The unfavorable variance for RRMP was primarily related to latent beta contamination issues that continue to hinder the pilot hole installation work within Room 18 of the 324 Building. Productivity is low, while costs remain the same. In addition, the associated apportioned activity for 324 Building structural modification operations support is still required. 100K operations incurred a negative cost variance due to additional sampling and testing required due to consistency of oily water found in the tanks at 166KE and final accruals for change orders associated with the prior soil remediation contractor.

## 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	702.4	688.5	666.5	(13.9)	-2.0%	22.0	3.2%	822.5	799.7	133.2	22.8

Numbers are rounded to the nearest \$0.1 million.

### CTD Schedule Performance (-\$13.9M/-2.0%)

The CTD schedule variance is within reporting thresholds.

### CTD Cost Performance (+\$22.0M/+3.2%)

The CTD cost variance is within reporting thresholds.

### Variance at Completion (+\$22.8M/+2.8%)

The 100K Closure positive variance at completion (VAC) is primarily due to labor; fewer resources have been supporting the level of effort program management and required usage-based services support was less than planned. Some resources were diverted to other priority work scope, and some resource sharing has occurred. Additionally, completing the Confirmatory Sampling – No Action waste sites early and under budget contributed to the forecast VAC.

Offsetting the positive 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 site testing demonstrations, all of which have contributed to the increased EAC. In addition, latent beta contamination issues continue to hinder work within the 324 Building and effect the subsequent follow on fieldwork for performing structural modifications.

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

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

WBS 041/RL-0041 Nuclear Facility D&D – River Corridor	FY2020		Variance
	Projected Funding	Spending Forecast	
RL-0041 Spending Forecast	143.0	143.0	0.0
Incremental Scope Change Pending Change Management	0.0	0.0	0.0
RL-0041 – Total	143.0	143.0	0.0

Numbers are rounded to the nearest \$0.1 million.

### Funds/Variance Analysis

The FY2020 projected funding for PBS RL-0041 is \$143.0 million. The projected funding includes carryover from FY2019 and new budget authority. FY2020 funding aligns with the DOE-RL Integrated Priority List.

**Critical Path Analysis**

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	Forecast Date	Status/ Comment
M-016-178	Initiate Deactivation of 105-KW Fuel Storage Basin	12/31/2019	11/21/2019	On schedule

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

None currently identified.

**DOE ACTIONS/DECISIONS**

Description	CHPRC Delivery Date	Expected RL Due Date
RL Prepare Documented Safety Analysis (DSA)/Technical Safety Requirement (TSR) Revision Safety Evaluation Report (SER)	5/17/2019(A)	8/28/2019(A)
Safety Review Board Review SER for DSA/TSR Revision	8/29/2019(A)	9/9/2019(A)
RL Issue SER for 324 Building DSA/TSR	9/10/2019(A)	10/31/2019
RL Review Draft Emergency Planning Hazards Assessment (EPA)	5/17/2019(A)	11/3/2019
RL Approval EPA Final	11/19/2019	12/3/2019
DOE Independent Design Review – Issue for Construction Structural Modification	11/08/2019	11/28/2019
DOE Authorization to Proceed on VPC Fabrication – 105-KW Basin*	6/13/2019	10/15/2019

\*CHPRC has been awaiting RL authorization to fabricate the VPCs to support deactivation activities at the 105KW Basin. Since authorization was not received by October 15, 2019, the fabrication of the VPCs and associated installation are now on the critical path to deactivation.

# Section G

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

**CH2MHILL**  
**Plateau Remediation Company**  
*a Jacobs company*



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

October 2019  
CHPRC-2019-10, 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

- Management issued a partial release of the P-16 variable frequency drive installation work package change notice to begin preparation activities in 480-D Building.
- Mobilized work crews to 480-D Building and started removing equipment and materials to support final installation of the P-16 variable frequency drive and electrical equipment.
- Finalized the P-16 variable frequency drive installation acceptance test plan and routed for approval.

## MAJOR ISSUES

### Issue

Initiated development of an engineering change request (ECR) to replace the aging diesel engine fire pump P-28; however, work was stopped 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 is replacing the diesel fire pump P-61 in the 481-A Building; however, this work would require additional effort to restore power to the building and install additional valves to connect the P-61 replacement to the area-wide water.

**Status**

Efforts to address the aging diesel engine fire pump P-28 is pending further discussion and direction from the U.S. Department of Energy, Richland Operations Office (RL).

**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	0.2	0.2	0.2	0.0	0.0%	0.0	20.6%

Numbers are rounded to the nearest \$0.1 million.

**CM Schedule Performance: (\$0.0M/0.0%)**

The CM schedule variance is within reporting thresholds.

**CM Cost Performance: (\$0.0M/+20.6%)**

The CM 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	28.9	28.9	24.0	0.0	0.0%	4.9	17.0%	33.0	28.4	4.4	4.6

Numbers are rounded to the nearest \$0.1 million.

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

The CTD schedule variance is within reporting thresholds.

### CTD Cost Performance: (+\$4.9M/+17.0%)

The CTD favorable cost variance is due to reduction in surveillance and maintenance requirements at the FFTF as the facility was deactivated. In addition, the efficient use of resources to support deactivation activities within the project's scope of work contributed to this favorable cost variance.

### Variance at Completion: (+\$4.6M/+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	FY2020		Variance
	Projected Funding	Spending Forecast	
RL-0042 Spending Forecast	4.8	3.7	1.1

Numbers are rounded to the nearest \$0.1 million.

### Funds Analysis

FY2020 projected funding of \$4.8 million includes support from electrical component failures and configuration challenges, interest by regulators requiring additional inspections, and a recent failure of the water system/water piping. The spending forecast is \$3.7 million based on the final FY2020 project management baseline annual update submitted to RL September 11, 2019, with updates through October. The variance of \$1.1 million between FY2020 projected funding and spending forecast is a reflection of unauthorized scope for compliance upgrades that are pending additional planning detail and the approval of direction from RL.

### Critical Path Analysis

Critical path analysis is not applicable to this project. The 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**

*a Jacobs company*



October 2019  
CHPRC-2019-10, 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 / 10 / 01							
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		c. EVMS ACCEPTANCE NO X YES (YYYYMMDD) 2009 / 09 / 18				b. TO (YYYYMMDD) 2019 / 10 / 27							
c. TYPE CPAF		d. SHARE RATIO															
<b>5. CONTRACT DATA</b>																	
a. QUANTITY 1	b. NEGOTIATED COST 6,318,614	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK 559,171	d. TARGET PROFIT/FEE 278,070	e. TARGET PRICE 6,596,684	f. ESTIMATED PRICE 7,028,466	g. CONTRACT CEILING 6,596,684	h. ESTIMATED CONTRACT CEILING 7,028,466	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 6,702,031									c. SIGNATURE			d. DATE SIGNED (YYYYMMDD)					
b. WORST CASE 6,793,390																	
c. MOST LIKELY 6,750,395			6,877,785			127,390											
<b>8. PERFORMANCE DATA</b>																	
CAPN.PBS																	
ITEM (1)	CURRENT PERIOD					CUMULATIVE TO DATE					REPROGRAMMING ADJUSTMENTS			AT COMPLETION			
	BUDGETED COST		ACTUAL COST WORK PERFORMED		VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED		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)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)	
RL-0011 Nuclear Mat Stab & Disp PFP	1,581	5,005	4,666	3,424	339	1,123,558	1,113,649	1,209,207	-9,909	-95,558	0	0	0	1,143,564	1,235,598	-92,034	
RL-0012 SNF Stabilization & Disp	81	81	21	0	60	759,437	759,437	729,884	0	29,553	0	0	0	759,593	730,080	29,513	
RL-0013 Solid Waste Stab & Disp	14,588	11,860	10,722	-2,728	1,138	1,492,049	1,486,939	1,402,680	-5,110	84,259	0	0	0	1,678,939	1,589,897	89,042	
RL-0030 Soil & Water Rem-Grndwtr/Vadose	7,977	7,737	6,269	-240	1,468	1,641,741	1,637,721	1,589,717	-4,020	48,004	0	0	0	1,765,967	1,711,396	54,571	
RL-0040 Nuc Fac D&D - Remainder Hanfrd	5,075	4,419	4,025	-656	394	569,291	564,191	544,514	-5,100	19,677	0	0	0	625,801	606,947	18,854	
RL-0041 Nuc Fac D&D - RC Closure Proj	9,847	7,873	10,485	-1,974	-2,612	702,369	688,468	666,462	-13,901	22,005	0	0	0	822,500	799,677	22,823	
RL-0042 Nuc Fac D&D - FTF Proj	223	223	177	0	46	28,948	28,948	24,032	0	4,916	0	0	0	33,025	28,436	4,589	
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																
e. SUBTOTAL	39,372	37,199	36,365	-2,174	833	6,317,392	6,279,352	6,166,495	-38,040	112,856	0	0	0	6,829,390	6,702,031	127,358	
f. MANAGEMENT RESERVE	48,364																
g. TOTAL	39,372	37,199	36,365	-2,174	833	6,317,392	6,279,352	6,166,495	-38,040	112,856	0	0	0	6,877,754			
<b>9. RECONCILIATION TO CONTRACT BUDGET BASELINE</b>																	
a. VARIANCE ADJUSTMENT																	
b. TOTAL CONTRACT VARIANCE										-38,040	112,856				6,877,754	6,702,031	175,722

\*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 Plateau Remediation Contract			a. FROM (YYYYMMDD)  2019 / 10 / 01		
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE			b. TO (YYYYMMDD)  2019 / 10 / 27		
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	1,231	634	1,006	-597	-372	100,493	98,899	92,208	-1,594	6,691	0	0	0	116,176	108,858	7,318
35 - Business Services	0	0	0	0	0	476,879	476,879	453,595	0	23,284	0	0	0	476,879	453,595	23,284
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	102	102	88	0	14	8,693	8,693	5,669	0	3,025	0	0	0	9,926	6,906	3,020
3B - PFP Closure Project	1,581	5,005	4,666	3,424	339	1,034,918	1,025,009	1,128,142	-9,909	-103,133	0	0	0	1,054,925	1,154,533	-99,609
3C - Waste & Fuels Management Project	10,734	8,635	8,039	-2,099	596	1,318,793	1,314,313	1,233,311	-4,480	81,002	0	0	0	1,458,828	1,374,633	84,195
3D - Soil & Groundwater Remediation	6,720	7,078	5,242	357	1,835	1,439,522	1,437,096	1,389,816	-2,426	47,280	0	0	0	1,547,757	1,494,536	53,221
3G - K Basin Oper & Plateau Remediation Project	4,679	4,091	4,857	-588	-766	1,112,589	1,108,357	1,051,462	-4,232	56,895	0	0	0	1,173,843	1,119,278	54,565
3H - River Risk Management Project	9,052	7,037	8,288	-2,015	-1,250	314,860	304,560	322,917	-10,299	-18,357	0	0	0	420,132	433,790	-13,658
3K - Central Plateau Risk Reduction	5,273	4,617	4,180	-656	437	509,534	504,434	488,883	-5,100	15,552	0	0	0	569,813	555,410	14,403
<b>b. COST OF MONEY</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>c. GENERAL AND ADMINISTRATIVE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>d. UNDISTRIBUTED BUDGET</b>														0	0	0
<b>e. SUBTOTAL (Performance Measurement Baseline)</b>	39,372	37,199	36,365	-2,174	833	6,317,392	6,279,352	6,166,495	-38,040	112,856	0	0	0	6,829,390	6,702,031	127,358
<b>f. MANAGEMENT RESERVE</b>														48,364		
<b>g. TOTAL</b>	39,372	37,199	36,365	-2,174	833	6,317,392	6,279,352	6,166,495	-38,040	112,856	0	0	0	6,877,754		

CONTRACT PERFORMANCE REPORT FORMAT 3 - BASELINE													DOLLARS IN THOUSANDS				Form Approved OMB No. 0704-0188			
1. CONTRACTOR CH2M HILL Plateau Remediation Company			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			4. REPORT PERIOD a. FROM: 2019/10/01 b. TO: 2019/10/27										
5. CONTRACT DATA			a. ORIGINAL NEGOTIATED COST \$4,312,366		b. NEGOTIATED CONTRACT CHANGE \$2,006,247		c. CURRENT NEGOTIATED COST (A + B) \$6,318,614		d. ESTIMATED COST AUTH UNPRICED WORK \$559,171		e. CONTRACT BUDGET BASE (C + D) \$6,877,785		f. TOTAL ALLOCATED BUDGET \$6,877,754		g. DIFFERENCE (E - F) \$31					
h. CONTRACT START DATE 6/19/2008			i. DEFINITIZATION DATE 6/19/2008		j. PLANNED COMPL DATE 9/30/2020		k. CONT COMPLETION DATE 9/30/2020			l. EST COMPLETION DATE 9/30/2020										
6. PERFORMANCE DATA													BUDGETED COST FOR WORK SCHEDULED (NON - CUMULATIVE)							
ITEM (1)		BCWS CUM TO DATE (2)	BCWS FOR REPORT PERIOD (3)	SIX MONTH FORECAST																
				+1 Nov-19 (4)	+2 Dec-19 (5)	+3 Jan-20 (6)	+4 Feb-20 (7)	+5 Mar-20 (8)	+6 Apr-20 (9)	FY09-13 (10)	FY14 (11)	FY15 (12)	FY16 (13)	FY17 (14)	FY18 (15)	FY19 (16)	FY20 (17)	UNDISTRIB BUDGET (18)	TOTAL BUDGET (19)	
a. PM BASELINE (BEGIN OF PERIOD)		6,278,020	578	5,096	3,807	4,775	2,489	55	0	3,391,477	391,653	471,323	504,826	485,028	470,649	563,065	16,800	0	6,294,820	
b. BASELINE CHANGES AUTH DURING REPORT PERIOD																				
BCR-PRC-20-001R0 - Implementation of FY2020 Performance Measurement Baseline																		534,570	0	534,570
BCR-011C-20-001R0 - Implement FY2020 Realized Labor Hours Calendar																		0	0	0
BCRA-PRC-20-002R0, HPIC Updates October FY2020																		0	0	0
c. PM BASELINE (END OF PERIOD)		6,317,392	39,372	35,147	53,359	46,414	44,151	43,312	54,571	3,391,477	391,653	471,323	504,826	485,028	470,649	563,065	551,370	0	6,829,390	
7. MANAGEMENT RESERVE																				48,364
8. TOTAL																				6,877,754

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 / 10 / 01	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 10 / 27	
		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															
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 NOV 2020 (4)	+2 DEC 2020 (5)	+3 JAN 2020 (6)	+4 FEB 2020 (7)	+5 MAR 2020 (8)	+6 APR 2020 (9)	MAY 2020 (10)	JUN 2020 (11)	JUL 2020 (12)	AUG 2020 (13)	ATCOMPLETE (14)		
300 - Office of the President	9	926	6	6	7	7	7	6	6	6	6	6	6	6	997
303 - Internal Audit	5	600	5	4	4	4	4	5	5	5	5	5	5	5	656
304 - General Counsel	4	552	4	4	4	4	4	4	4	4	4	4	4	4	591
31 - Communications	7	1219	8	9	8	8	8	8	8	8	8	8	8	8	1306
32 - Safety Health Security & Quality	64	8519	62	62	62	61	61	61	61	61	61	61	61	61	9194
34 - Env Program & Strategic Plng	41	5843	44	43	44	43	45	49	49	50	49	48	43	6351	
35 - Business Services	54	8126	56	57	59	63	63	63	63	64	64	63	63	8800	
36 - Prime Contract & Proj Integr	38	4416	38	39	40	42	41	41	41	41	41	41	41	4858	
37 - Resource Mgmt & Strategic Intg	40	3353	41	40	43	44	45	45	45	45	45	45	45	3833	
38 - Project Technical Services	36	6452	39	40	40	40	40	40	40	40	40	40	39	6892	
3B - PFP Closure Project	185	53871	183	183	179	196	168	117	13	0	0	0	0	54912	
3C - Waste & Fuels Management Project	385	58589	394	387	393	390	396	397	407	425	421	407	413	63018	
3D - Soil & Groundwater Remediation	252	42932	255	254	268	264	274	288	285	282	273	283	304	45963	
3G - K Basin Oper & Plateau Remediation Project	201	36945	213	211	219	212	224	223	209	225	216	204	356	39456	
3H - River Risk Management Project	221	9075	233	244	241	247	244	232	231	235	232	238	314	11764	
3K - Central Plateau Risk Reduction	222	20166	225	241	251	252	251	257	243	247	247	247	455	23079	
<b>g. TOTAL DIRECT</b>	<b>1767</b>	<b>261582</b>	<b>1806</b>	<b>1824</b>	<b>1860</b>	<b>1876</b>	<b>1875</b>	<b>1836</b>	<b>1709</b>	<b>1737</b>	<b>1710</b>	<b>1700</b>	<b>2156</b>	<b>281671</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		
<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> Plateau Remediation Contract		<b>a. FROM (YYYY/MM/DD)</b>  2019/10/01		
<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>  2019/10/27			
		<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>	39,372	37,199	36,365	(2,174)	-5.5%	833	2.2%	0.94	1.02
<b>Cumulative:</b>	6,317,392	6,279,352	6,166,496	(38,040)	-0.6%	112,856	1.8%	0.99	1.02
	<b>BAC</b>	<b>EAC</b>	<b>VAC in \$</b>	<b>VAC in %</b>	<b>TCPI</b>				
<b>At Complete:</b>	6,829,390	6,702,031	127,358	1.9%	1.03				
<b>Explanation of Variance/Description of Problem:</b>									
<b>Current Period Schedule and Cost Variance:</b> The current month (CM) cost variance is within thresholds.									
The CM negative schedule variance is primarily driven by work at the RRMP's 324 Facility to prepare it for remediation of the 300-296 waste site. Structural modifications, equipment procurement and installations were delayed by the continuing impacts of unanticipated latent beta contamination and the failure of the A/D crane. Adding to the negative schedule variance was the delay of offsite waste shipments for repackaging into Waste Isolation Pilot Plant (WIPP)-compliant solid waste boxes due to high winds and treatment times beyond the plan for high gram loaded waste. Other contributors to the negative schedule variance included the management-directed work standdown at REDOX due to concerned stakeholders and the later than planned mobilization of the IDF earthworks subcontractor.									
<b>Cumulative Schedule Variance:</b> The variance is within reporting thresholds.									
<b>Cumulative Cost Variance:</b> The variance is within reporting thresholds.									
Impact:									
<b>Current Period Schedule:</b> The current month schedule variance is not expected to impact the overall contract schedule.									
<b>Current Period Cost:</b> Cost impacts are being estimated and will be incorporated in the project estimate to complete (ETC).									
<b>Cumulative Schedule:</b> N/A									
<b>Cumulative Cost:</b> N/A									
<b>Corrective Action:</b>									
<b>Current Period Schedule:</b> No corrective actions have been identified.									
<b>Current Period Cost:</b> No corrective actions necessary.									
<b>Cumulative Schedule:</b> N/A									
<b>Cumulative Cost:</b> N/A									
<b>Monthly Summary (to include technical causes of VARs, Impacts, and Corrective Action(s):</b>									
CHPRC continues to track completion of the contract within budget and is currently projecting a variance at completion of \$127.4 million with an additional \$48.4 million of management reserve (MR) for a total positive variance of \$175.7 million. For October, the project was 5.5 percent behind schedule and 2.2 percent under planned cost. Contract to date, the project was 0.6 percent behind schedule and 1.8 percent under planned cost.									
The difference between the Contract Budget Base and the Total Allocated Budget on Format 3 for the month of October changed by \$534.6M due to implementation of BCR-PRC-20-001R0 – Implementation of FY2020 Performance Measurement Baseline, as authorized by Work Authorization Correspondence No. 1904079A, Approval of Fiscal Year 2020 Post Contract Performance Baseline. The remaining \$31K delta is a result of rounding over time for implementation of multiple change order definitizations.									
Three BCRs were implemented in period. They included:									
<ul style="list-style-type: none"> <li>• BCR-011C-20-001R0, Implement FY2020 Realized Labor Hours Calendar</li> <li>• BCR-PRC-20-001R0, Implementation of FY2020 Performance Measurement Baseline</li> <li>• BCRA-PRC-20-002R0 , HPIC Updates October 2019</li> </ul>									
<b>Contractually Required Cost, Schedule, EAC variance, Management Reserve Use</b>									
Variance in Performance BAC and EAC: The variance at complete (VAC) between the BAC and EAC this month is a +\$127.4 million, +1.9% and is within reporting thresholds.									

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

**Format 1 and 3 Contract Data:**

**Contract Price Adjustments**

CPS - In Process		
	Total Authorized Unpriced Work	\$559,171
Approved Adjustments to Contract Price (not reflected in B.4-1 Table)		
	Total Negotiated Cost Changes	-
	<b>Grand Total Adjustments</b>	<b>\$559,171</b>

**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	2020	\$0

There was no change to UB in September.

**Management Reserve Activity**

BCR Number	Title	PBS	Fiscal Year	MR
N/A	N/A	N/A	2020	\$0

The MR increased by \$1,951K in September.

**Fee Activity**

BCR Number	Title	PBS	Fiscal Year	Fee
N/A	N/A	N/A	2020	\$0

There was no change to fee in September.

**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> 11/18/2019	<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

October 2019  
CHPRC-2019-10, 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**

*a Jacobs company*



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

October 2019  
CHPRC-2019-10, 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)

**CH2MHILL**  
Plateau Remediation Company

*a Jacobs company*



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

October 2019  
CHPRC-2019-10, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

Work on removal of the final glovebox from the 234-5Z Building and completion of critical decision (CD) 4, *Approve Project Completion*, is on hold. The remaining glovebox (HA-46) has been staged until the 234-5Z Building is demolished. The total number of gloveboxes removed to date is 173 (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

## 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>October</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>October</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>October</b> .				
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)				
No high risk threats identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in <b>October</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>October</b> .				

## CRITICAL PATH ANALYSIS

The Plutonium Finishing Plant (PFP) critical path schedule begins with completion of 234-5Z lower-risk demolition and the associated formal post-job and lessons learned, followed by activities to begin for remote mechanical C and A process line demolition and debris disposition, as well as loadout of glovebox HA-46. Completion of the removal and disposal of glovebox HA-46 is currently forecast for December 17, 2019, a 12 calendar day delay from the September forecast date, caused by multiple progress delays of the RL-0011.C2 – Demolition of PFP Facilities Project. Removal and disposal of glovebox HA-46 will lead to a CD-4 declaration for the PFP CAP 1 Project.

## 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	July 2020	03/11/2020	The current CAP 1 project forecasted completion date is March 11, 2020, a nine calendar day slip to the forecast completion date reported in September.

\*Due date reflects CD-4 due date with U.S. Department of Energy (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 the U.S. Department of Energy, Richland Operations Office to prepare for CD-4 closure actions.

# 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**

*a Jacobs company*



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

October 2019  
CHPRC-2019-10, Rev. 0  
Contract DE-AC07-08RL14788  
Deliverable C.3.1.3.1 - 1

**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 / 10 / 01	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 10 / 27	
		c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> X YES <input checked="" type="checkbox"/> (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 344,850	g. CONTRACT CEILING 340,865	h. ESTIMATED CONTRACT CEILING 344,850	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		d. DATE SIGNED (YYYYMMDD)
a. BEST CASE	332,579			c. SIGNATURE			
b. WORST CASE	334,991						
c. MOST LIKELY	334,972	330,987	-3,985				

CAPN.PBS Control Account.PARS 2 WBS (2)  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																
RL_0011_C1.02 Maintain Safe & Compliant PFP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RL_0011_C1.05 Disposition PFP Facility	0	0	0	0	0	235,514	235,495	259,792	-19	-24,296	0	0	0	235,514	259,792	-24,277
RL_0011_C1.06 Project Management & Support	0	0	0	0	0	11,990	11,990	12,477	0	-487	0	0	0	11,990	12,477	-487
RL_0011_C1.90 Usage Based Services Distributions -PBS RL-11	0	0	0	0	0	7,221	7,221	7,731	0	-510	0	0	0	7,221	7,731	-510
RL_0011_C1.98 Ramp-up and transition	0	0	0	0	0	19,399	19,399	19,253	0	147	0	0	0	19,399	19,253	147
RL_0011_C1.99 PBS RL-11 UBS, G-n-A, Direct Distrib	0	0	0	0	0	41,028	41,028	33,328	0	7,700	0	0	0	41,028	33,328	7,700
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															
e. SUBTOTAL	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	315,152	332,579	-17,427
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		
<b>9. RECONCILIATION TO CONTRACT BUDGET BASELINE</b>																
a. VARIANCE ADJUSTMENT	0															
b. TOTAL CONTRACT VARIANCE	-19															

\*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 / 10 / 01	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD)  2019 / 10 / 27	
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  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)						
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	279,999	-25,274
<b>b. COST OF MONEY</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>c. GENERAL AND ADMINISTRATIVE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>d. UNDISTRIBUTED BUDGET</b>														0	0	0
<b>e. SUBTOTAL (Performance Measurement Baseline)</b>	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	315,152	332,579	-17,427
<b>f. MANAGEMENT RESERVE</b>														2,393		
<b>g. TOTAL</b>	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													Form Approved				
FORMAT 3 - BASELINE													OMB No. 0704-0188				
DOLLARS IN THOUSANDS																	
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 RL_0011_C1 - PFP D&D (ARRA/Base) a. NAME: Plateau Remediation Contract b. PHASE c. EVMS ACCEPTANCE NO YES X 9/18/2009					4. REPORT PERIOD a. FROM: 2019/10/01 b. TO: 2019/10/27				
5. CONTRACT DATA																	
a. ORIGINAL NEGOTIATED COST \$330,987				b. NEGOTIATED CONTRACT CHANGE \$0		c. CURRENT NEGOTIATED COST (A + B) \$330,987		d. ESTIMATED COST AUTH UNPRICED WORK \$0		e. CONTRACT BUDGET BASE (C + D) \$330,987		f. TOTAL ALLOCATED BUDGET \$317,545		g. DIFFERENCE (E - F) \$13,442			
h. CONTRACT START DATE 6/19/2008				i. DEFINITIZATION DATE 6/19/2008		j. PLANNED COMPL DATE 9/30/2020		k. CONT COMPLETION DATE 9/30/2020			l. EST COMPLETION DATE 9/30/2020						
6. PERFORMANCE DATA													BUDGETED COST FOR WORK SCHEDULED (NON - CUMULATIVE)				
ITEM (1)	BCWS CUM TO DATE (2)	BCWS FOR REPORT PERIOD (3)	SIX MONTH FORECAST						FY09-13 (10)	FY14 (11)	FY15 (12)	FY16 (13)	FY17 (14)	FY18 (15)	FY19 (16)	FY20 (17)	UNDISTRIB BUDGET (18)
			+1 Nov-19 (4)	+2 Dec-19 (5)	+3 Jan-20 (6)	+4 Feb-20 (7)	+5 Mar-20 (8)	+6 Apr-20 (9)									
a. PM BASELINE (BEGIN OF PERIOD)	315,152	0	0	0	0	0	0	0	302,288	4,109	7,749	890	116	0	0	0	0
b. BASELINE CHANGES AUTH DURING REPORT PERIOD None at this time																	0
c. PM BASELINE (END OF PERIOD)	315,152	0	0	0	0	0	0	0	302,288	4,109	7,749	890	116	0	0	0	0
7. MANAGEMENT RESERVE																	
8. TOTAL																	

CONTRACT PERFORMANCE REPORT FORMAT 4 - STAFFING													FORM APPROVED OMB No. 0704-0188		
1. CONTRACTOR			2. CONTRACT				3. PROGRAM				4. REPORT PERIOD		Dollars in: FTE		
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 / 10 / 01		b. TO (YYYYMMDD) 2019 / 10 / 27		
b. LOCATION (Address and ZIP Code) Richland, WA			b. NUMBER RL14788		b. PHASE		c. EVMS ACCEPTANCE <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18								
c. TYPE CPAF			d. SHARE RATIO												
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 NOV 2020 (4)	+2 DEC 2020 (5)	+3 JAN 2020 (6)	+4 FEB 2020 (7)	+5 MAR 2020 (8)	+6 APR 2020 (9)	MAY 2020 (10)	JUN 2020 (11)	JUL 2020 (12)	AUG 2020 (13)	ATCOMPLETE (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	15441
<b>g. TOTAL DIRECT</b>	<b>0</b>	<b>15458</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>0</b>	<b>0</b>	<b>0</b>	<b>15458</b>



# Appendix C.2

## Capital Asset Project

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



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

October 2019  
CHPRC-2019-10, Rev. 0  
Contract DE-AC06-08RL14788  
Deliverable C.3.1.3.1 - 1

## PROJECT SUMMARY

In October, the Plutonium Finishing Plant (PFP) Closure Project team continued lower-risk work, completing demolition and debris disposition of the second floor and duct level of the 234-5Z Building zone 4, as well as core stability zones (CSZs) 4.2 and 4.3. Only the southwest second floor and duct level remain of lower-risk demolition. The team completed core drill testing on a mock-up of the Plutonium Reclamation Facility slab in preparation of the slab core drilling and soil sampling work package, which will be used in slab characterization activities after slab-on-grade is complete. Eighty-nine containers of lower-risk demolition debris were shipped to the Environmental Restoration Disposal Facility (ERDF) for permanent disposal.

<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 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:

- Completed demolition and debris loadout of second floor and duct level of the 234-5Z Building zone 4 as well as CSZs 4.2 and 4.3.
- Crews trained with the Hanford Fire Patrol to learn about specialized firefighting gear and practice doffing techniques to ensure that gear is safely removed when firefighters exit the high contamination area. The training sessions benefit both teams' knowledge and understanding of the equipment and procedures.
- Shipped 89 containers of low-level demolition debris to ERDF.

## 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										
RL-0011/WBS-011.C2													
<b>Explanation of major changes to the project monthly stoplight chart:</b> The key risks for RL-0011 have been updated based on the FY2020 risk analysis; as a result, newly identified key risks have been added to the stoplight chart for reporting.													
<b>Realized Risks</b> (Risks that are currently impacting project cost/schedule)													
No realized risks identified in <b>October</b> .													
<b>Critical Risks</b> (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed.)													
No critical risks identified in <b>October</b> .													
<b>High Risk Threat Value</b> (Recoverable slip to enforceable or incentivized milestone)													
<b>PFP-P-002:</b> “Unavailable Resources”	The project lacks adequate resource coverage (Radiological Control Technicians [RCTs] and Deactivation and Decommissioning workers) to complete work package development and field work activities.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$3M, 120 days	●	↔	<b>Risk Trigger:</b> Due to more stringent work controls, key resources are insufficient to complete work activities as planned.  <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th style="text-align: center;">Mitigation Action(s)</th> <th style="text-align: center;">FC Date</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Review RCT and D&amp;D headcount changes weekly to ensure adequate resource profiles.</td> <td style="text-align: center;">Ongoing</td> <td style="text-align: center;">N/A</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> This risk was identified as a key risk in FY2020. Staffing levels are reviewed weekly to reduce the probability of this risk occurring.	Mitigation Action(s)	FC Date	%	Review RCT and D&D headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A			
Mitigation Action(s)	FC Date	%											
Review RCT and D&D headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A											
<b>PFP-P-014:</b> “Bump and Roll, LAMP, or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity”	PFP Hanford Atomic Metal Trades Council (HAMTC) labor resources are not available or are unqualified due to the bump and roll, LAMP (Labor Assets Management Program), or other job postings.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0, 96 days	●	↔	<b>Risk Trigger:</b> Other projects and/or contractors on the Hanford Site request bargaining unit employees. The PFP workforce is affected through loss of employees or is required to train new employees to backfill HAMTC resources affected by the bump and roll, LAMP, or worker attrition.  <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th style="text-align: center;">Mitigation Action(s)</th> <th style="text-align: center;">FC Date</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Communicate with other entities to reduce impact of bump and roll process.</td> <td style="text-align: center;">Ongoing</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>Review RCT and Deactivation and Decommissioning headcount changes weekly to ensure adequate resource profiles.</td> <td style="text-align: center;">Ongoing</td> <td style="text-align: center;">N/A</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> This risk was identified as a key risk in FY2020. The project continues to review staffing levels weekly to reduce the probability of this risk occurring.	Mitigation Action(s)	FC Date	%	Communicate with other entities to reduce impact of bump and roll process.	Ongoing	N/A	Review RCT and Deactivation and Decommissioning headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A
Mitigation Action(s)	FC Date	%											
Communicate with other entities to reduce impact of bump and roll process.	Ongoing	N/A											
Review RCT and Deactivation and Decommissioning headcount changes weekly to ensure adequate resource profiles.	Ongoing	N/A											
<b>FY2020 Key Risks</b>													
<b>PFP-P3-003:</b> “Weather Impacts During 234-5Z Demolition”	Inclement weather, including moderate winds, low or high temperatures, above average snowfall, or thunderstorms, will result in in-scope unplanned work and schedule impacts to the project.  <b>Risk Handling Strategy:</b> Control  <b>Probability:</b> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$0, 8 days	●	↔	<b>Risk Trigger:</b> High winds and cold weather may impact the project in the fall and winter seasons. Average winds above 15 mph shut down demolition activities, and average winds above 30 mph require additional surveys. Cold weather prevents the foggers from operating and therefore shuts down fieldwork activities.  <table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <thead> <tr> <th style="text-align: center;">Mitigation Action(s)</th> <th style="text-align: center;">FC Date</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td>Develop winter preparedness plan</td> <td style="text-align: center;">Complete</td> <td style="text-align: center;">100</td> </tr> </tbody> </table> <b>Mitigation Assessment:</b> No major changes in October. A winter preparedness plan was developed for PFP to mitigate impacts from cold weather. There were no additional substantial actions identified during the preparation of the preparedness plan. The project has purchased and installed heated fixative tanks to ensure that a ready supply of fixative is always available in the demolition zone.	Mitigation Action(s)	FC Date	%	Develop winter preparedness plan	Complete	100			
Mitigation Action(s)	FC Date	%											
Develop winter preparedness plan	Complete	100											

Unmitigated Risk Impacts	Assessment		Comments															
	Month	Trend																
<b>RL-0011/WBS-011.C2</b>																		
<p>PF-P4-002: "Weather Impacts During 236-Z Demolition"</p> <p>Inclement weather, including moderate winds, low or high temperatures, above average snowfall, or 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> Medium (26% to 74%) <b>Worst Case Impacts:</b> \$0, 28 days</p>	●	↔	<p><b>Risk Trigger:</b> High winds and cold weather may impact the project in the fall and winter seasons. Average winds above 15 mph shut down demolition activities, and average winds above 30 mph require additional surveys. Cold weather prevents the foggers from operating and therefore shuts down field work activities.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Develop winter preparedness plan.</td> <td>Complete</td> <td>100</td> </tr> </tbody> </table> <p><b>Mitigation Assessment:</b> This risk was identified as key risk for FY2020. A winter preparedness plan was developed for PFP to mitigate impacts from cold weather. There were no additional substantial actions identified during preparation of the plan. Heated fixative tanks have been purchased and installed to ensure that a ready supply of fixative is always available in the demolition zone.</p>	Mitigation Action(s)	FC Date	%	Develop winter preparedness plan.	Complete	100									
Mitigation Action(s)	FC Date	%																
Develop winter preparedness plan.	Complete	100																
<p>PF-P-004: "Stop Work From Concerned Workers"</p> <p>Concerned workers implement 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.</p> <p><b>Risk Handling Strategy:</b> Control</p> <p><b>Probability:</b> Likely (75% to 90%) <b>Worst Case Impacts:</b> \$0, 52 days</p>	●	↔	<p><b>Risk Trigger:</b> During PFP demolition activities, an increase in stop works could result in delays.</p> <table border="1" style="width: 100%;"> <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>Provide 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 October. Increased communication and worker involvement to avoid confusion and concern to minimize stop works have continued; stop works may impact the project schedule going forward.</p>	Mitigation Action(s)	FC Date	%	Update communications as positions change.	Ongoing	N/A	Provide 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																
Provide 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																
<b>Unassigned Risks (Pending ownership of identified threats/opportunities)</b>																		
No unassigned risks identified in October.																		

## CRITICAL PATH ANALYSIS

The PFP critical path schedule begins with completion of 234-5Z low-risk demolition and the associated formal post-job and lessons learned, followed by activities to begin for remote mechanical C and A process line demolition and debris disposition as well as loadout of glovebox HA-46. The 236-Z Canyon demolition will also resume with completion anticipated by March 3, 2020, meeting the requirements for the *Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-083-00A, "Plutonium Finishing Plant (PFP) Facility Transition and Selected Disposition Activities."* Demolition completion will be followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities completing by late May 2020, a three-week slip from the forecast early May completion date reported last month.

## SCHEDULE MARGIN/MANAGEMENT RESERVE

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

## 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	05/20/2020	The project realized a three-week slip to the 2/12/2020 forecast date reported in September due to modifying the sequencing of final phase demolition and debris loadout.

\*Due date reflects CD-4 due date with U.S. Department of Energy (DOE) contingency.

†Forecast date reflects CD-4 completion date (does not include DOE 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**

*a Jacobs company*



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

October 2019  
CHPRC-2019-10, 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 / 10 / 01									
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788				b. PHASE				b. TO (YYYYMMDD)  2019 / 10 / 27									
		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 114,414	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK 24,864	d. TARGET PROFIT/FEE 5,000	e. TARGET PRICE 119,414	f. ESTIMATED PRICE 176,263	g. CONTRACT CEILING 119,414	h. ESTIMATED CONTRACT CEILING 176,263	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		170,690			c. SIGNATURE			d. DATE SIGNED (YYYYMMDD)											
b. WORST CASE		177,844																	
c. MOST LIKELY		171,263	139,278	-31,986															
<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		BUDGETED ESTIMATED VARIANCE (14) (15) (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)					
RL-0011 Nuclear Mat Stab & Disp PFP																			
RL_0011_C2.05 Disposition PFP Facility		577	4,001	4,026	3,423	-26	122,482	112,596	149,785	-9,885	-37,189	0	0	0	138,704	170,690	-31,986		
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		577	4,001	4,026	3,423	-26	122,482	112,596	149,785	-9,885	-37,189	0	0	0	138,704	170,690	-31,986		
f. MANAGEMENT RESERVE															573				
g. TOTAL		577	4,001	4,026	3,423	-26	122,482	112,596	149,785	-9,885	-37,189	0	0	0	139,278				
<b>9. RECONCILIATION TO CONTRACT BUDGET BASELINE</b>																			
a. VARIANCE ADJUSTMENT																			
b. TOTAL CONTRACT VARIANCE																	139,278	170,690	-31,413

**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_C2 PFP Demolition Capital Asset Project			a. FROM (YYYYMMDD) 2019 / 10 / 01		
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE			b. TO (YYYYMMDD) 2019 / 10 / 27		
		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  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)								
3B - PFP Closure Project	577	4,001	4,026	3,423	-26	122,482	112,596	149,785	-9,885	-37,189	0	0	0	138,704	170,690	-31,986		
<b>b. COST OF MONEY</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>c. GENERAL AND ADMINISTRATIVE</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<b>d. UNDISTRIBUTED BUDGET</b>																		
<b>e. SUBTOTAL (Performance Measurement Baseline)</b>	577	4,001	4,026	3,423	-26	122,482	112,596	149,785	-9,885	-37,189	0	0	0	138,704	170,690	-31,986		
<b>f. MANAGEMENT RESERVE</b>														573				
<b>g. TOTAL</b>	577	4,001	4,026	3,423	-26	122,482	112,596	149,785	-9,885	-37,189	0	0	0	139,278				

CLASSIFICATION (When Filled In)

CONTRACT PERFORMANCE REPORT FORMAT 3 - BASELINE													DOLLARS IN THOUSANDS		Form Approved OMB No. 0704-0188					
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 RL_0011_C2 PFP Demolition Capital Asset Project a. NAME: Plateau Remediation Contract b. PHASE c. EVMS ACCEPTANCE NO YES X 9/18/2009			4. REPORT PERIOD a. FROM: 2019/10/01 b. TO: 2019/10/27										
5. CONTRACT DATA			a. ORIGINAL NEGOTIATED COST 51,683	b. NEGOTIATED CONTRACT CHANGE \$62,730	c. CURRENT NEGOTIATED COST (A + B) \$114,414	d. ESTIMATED COST AUTH UNPRICED WORK \$24,864	e. CONTRACT BUDGET BASE (C + D) \$139,278	f. TOTAL ALLOCATED BUDGET \$139,278	g. DIFFERENCE (E - F) \$0											
h. CONTRACT START DATE 6/19/2008			i. DEFINITIZATION DATE 6/19/2008		j. PLANNED COMPL DATE 9/30/2020		k. CONT COMPLETION DATE 9/30/2020			l. EST COMPLETION DATE 9/30/2020										
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 Nov-19 (4)	+2 Dec-19 (5)	+3 Jan-20 (6)	+4 Feb-20 (7)	+5 Mar-20 (8)	+6 Apr-20 (9)	FY09-13 (10)	FY14 (11)	FY15 (12)	FY16 (13)	FY17 (14)	FY18 (15)	FY19 (16)	FY20 (17)				
a. PM BASELINE (BEGIN OF PERIOD)	121,904	578	5,096	3,807	4,775	2,489	55	0	0	0	6,090	29,182	19,407	628	66,598	16,800	0	138,704		
b. BASELINE CHANGES AUTH DURING REPORT PERIOD BCR-011C-20-001R0 - Implement FY2020 Realized Labor Hours Calendar																0	0	0		
c. PM BASELINE (END OF PERIOD)	122,482	577	3,814	5,090	4,739	2,526	54	0	0	0	6,090	29,182	19,407	628	66,598	16,800	0	138,704		
7. MANAGEMENT RESERVE																		573		
8. TOTAL																		139,278		

**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 / 10 / 01	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2019 / 10 / 27	
		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															
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 NOV 2020 (4)	+2 DEC 2020 (5)	+3 JAN 2020 (6)	+4 FEB 2020 (7)	+5 MAR 2020 (8)	+6 APR 2020 (9)	MAY 2020 (10)	JUN 2020 (11)	JUL 2020 (12)	AUG 2020 (13)	ATCOMPLETE (14)		
3B - PFP Closure Project	151	4227	144	144	139	156	119	87	2	0	0	0	0	5018	
<b>g. TOTAL DIRECT</b>	<b>151</b>	<b>4227</b>	<b>144</b>	<b>144</b>	<b>139</b>	<b>156</b>	<b>119</b>	<b>87</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5018</b>	

CLASSIFICATION (When Filled In)										
CONTRACT PERFORMANCE REPORT FORMAT 5 - Explanations and Problem Analysis								FORM APPROVED OMB No. 0704-0188		
1. CONTRACTOR		2. CONTRACT		3. PROGRAM			4. REPORT PERIOD			
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) 2019/10/01			
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE			b. TO (YYYYMMDD) 2019/10/27			
		c. TYPE CPAF	d. SHARE RATIO	c. EVMS ACCEPTANCE No      X      Yes      (YYYYMMDD)      2009 / 09 / 18						
<b>Direct Projects</b>										
5. Evaluation		Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Current:		577.4	4,000.7	4,026.2	3,423.3	592.9%	-25.5	-0.6%	6.93	0.99
Cumulative:		122,481.8	112,596.4	149,785.2	-9,885.5	-8.1%	-37,188.9	-33.0%	0.92	0.75
		BAC	EAC	VAC in \$	VAC in %	TCPI to BAC	TCPI to EAC			
At Complete:		138,704.4	170,690.0	-31,985.7	-23.1%	0	1.25			
<p><b>Explanation of Variance/Description of Problem:</b></p> <p>Current Month:            Schedule Variance: The Current Month (CM) favorable schedule variance is primarily due to performance being taken on work that was scheduled to be completed in March 2019. The PFP Closure Project team continued low-risk work, completing demolition and debris disposition of the second floor and duct level of the 234-5Z Building zone 4, as well as core stability zones 4.2 and 4.3. The project re-baseline was formulated in June 2018, with projected completion of low risk demolition in March 2019. However, the project was impacted by weather, D&amp;D Lamps, and stop works, pushing completion of low risk into October 2019.</p> <p>This variance is partially offset by BCWS from BCR-011C-19-005R0, which drew Management Reserve cost and schedule margin to address the impact of high summer temperatures on demolition activities and the implementation of more conservative demolition work controls.</p> <p>Cost Variance: The CM cost variance is within thresholds.</p> <p>Cumulative to Date:            Schedule Variance: The cumulative schedule variance is due to delayed completion of low risk work scope due to implementation of revised controls and a deliberate approach to demolition activities.</p> <p>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, Labounty Shear, additional fixative, etc.) are also contributing to this variance. An adjustment to the General &amp; Administrative (G&amp;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.</p> <p>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.</p>										
<p><b>Impact:</b></p> <p>Schedule Impact: Completion of all demolition activities followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities forecast to occur in May 2020, a three week slip from the forecast completion date reported last month. The TPA Milestone TPA-083-00A, complete PFP facility transition and selected disposition activities of November 30, 2017, was not met.</p> <p>Cost Impact: A negative VAC is reflective of impacts associated with recovery efforts from a contamination event that occurred on December 15, 2017.</p>										
<p><b>Corrective Action:</b></p> <p>Demolition and load out activities are progressing at an effective speed to mitigate potential safety and stop work concerns. The current forecast slab on grade date is March 3, 2020.</p>										
<p><b>Monthly Summary (to include technical causes of VARs, Impacts) and Corrective Action(s):</b></p> <p>There was no change in the difference between the Contract Budget Base and the Total Allocated Budget on Format 3 for the month of October.</p> <p>The following items are addressed, as applicable:</p> <ol style="list-style-type: none"> <li>Schedule Margin Analysis: No draw downs of schedule margin were made in the month of October.</li> <li>Data dictionary Changes: No change in the month of October.</li> <li>Forecast Schedule with No Baseline: No change in the month of October.</li> <li>UB Balance: No change in the month of October.</li> <li>Negative Actual Cost of Work Performed (ACWP): No change in the month of October.</li> <li>Earned Actual Cost (EAC) Analysis: Best Case = \$170,690; Most Likely = \$171,263; Worst Case = \$172,641. The Best Case EAC is the EAC reported this month, which assumes all efficiencies gained contract-to-date will remain at completion with no realization of remaining risks. The Most Likely EAC is the ACWP plus what management believes is the most likely outcome based on a knowledgeable estimate of all authorized work, known risks, unknown risks, and probable future conditions. The Worst Case EAC is the ACWP plus the ETC plus realization of all identified risks, plus the scope identified in the Trend Log. The Best/Worst and Most Likely EAC values are documented in the Format 1 Report.</li> <li>Negative CV &gt; VAC: No change in the month of October.</li> <li>Management Reserve Transactions: No change in the month of October.</li> <li>Freeze Period Changes: No change in the month of October.</li> <li>Retroactive Changes: No change in the month of October.</li> <li>Earned Value Type Changes: No change in the month of October.</li> </ol>										
Prepared by: Jason Knowlton			Date: 11/13/19			Approved by:		Date:		