

Monthly Performance Report

November 2018

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

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

CH2MHILL
Plateau Remediation Company

P.O. Box 1600
Richland, Washington 99352

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APPROVED
By Janis D. Aardal at 3:59 pm, Dec 18, 2018

Release Approval

Date

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CH2MHILL
Plateau Remediation Company



L. Ty Blackford
President and Chief
Executive Officer

Monthly Performance Report

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

November 2018
CHPRC-2018-11, Revision 0

CONTENTS

EXECUTIVE SUMMARY.....2

TARGET ZERO PERFORMANCE4

KEY ACCOMPLISHMENTS5

MAJOR ISSUES.....5

EARNED VALUE MANAGEMENT6

FUNDING ANALYSIS8

BASELINE CHANGE REQUESTS9

SELF-PERFORMED WORK.....11

GOVERNMENT FURNISHED SERVICES AND INFORMATION.....12

DOE ACTIONS / DECISIONS12

PROJECT BASELINE SUMMARY SECTIONS

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

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

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

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

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

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

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

APPENDICES

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

EXECUTIVE SUMMARY

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

- Waste and Fuels Management Project (W&FMP):** Workers completed yearly mechanical maintenance on the T Plant crane. The project issued a Request for Proposal on November 12, 2018, for design of the Cesium/Strontium Capsule Dry Storage mockup. The mockup will simulate G Cell, the canyon and truck port for capsule transfer. Work continues on the final design. Engineers entered G Cell to obtain detailed measurements in support of the G Cell design modifications.
- Soil and Groundwater Remediation Project (S&GRP):** The project team completed drilling at well 199-K-235, reaching a total depth of 125 feet, and began construction activities. Workers initiated pumping at Modular Storage Units to move up to 500,000 gallons of water to the 200W Pump and Treat (P&T) Facility for treatment. They also performed stainless steel piping conversion of the feed discharge system at the 100 Area P&T Facilities.
- Plutonium Finishing Plant (PFP) Closure Project:** The team completed setting up a mock-up for practicing the higher-risk work of loading out the Plutonium Reclamation Facility rubble. They also completed the installation of steel plates to a newly elevated waste loadout area to improve stability of the waste cans placed for loading in the waste loadout area. Workers continued size-reducing waste on the northeast and southeast corners of the Main Processing Facility (234-5Z) and shipped for disposal low-level waste packaged prior to the December 2017 contamination event, and held at the PFP site.
- K Basins Operations (KBO):** The fifth sludge transport and storage container (STSC) was placed in T Plant for interim safe storage. Sludge retrieval and transfer to STSC 6 was completed and forecasted to be shipped to T Plant on November 26, 2018. Workers continued Waste Site 100-K-47:1 excavation and loadout, and Waste Site 116-KE-2 radioactive crib removal planning. Operators continued high-dose material collection in K West Basin Center Bay. Crews began revegetation activities at the former 618-10 Burial Ground Project site by preparing the land for planting native shrubs and seeds to return the area to its natural state.
- River Risk Management Project (RRMP):** Workers at the 324 Building installed the first remote excavator arm inside the 324 Building's B Cell. Outside the building, crews completed testing the micropiles to demonstrate that the building's foundation will be supported during waste remediation activities in B Cell.
- Central Plateau Risk Management Project (CPRM):** Soil sampling began at various locations on the Research Technology Laboratory (RTL) site. During the second week of November, crews at Plutonium Uranium Extraction Plant (PUREX) completed scheduled maintenance on the grout placement system and resumed grout placement in PUREX Tunnel 2 on November 8, 2018. The team placed 1,712 truckloads, or approximately 16,991 cubic yards (42 percent of the estimated quantity for completion) of grout through November 25, 2018.

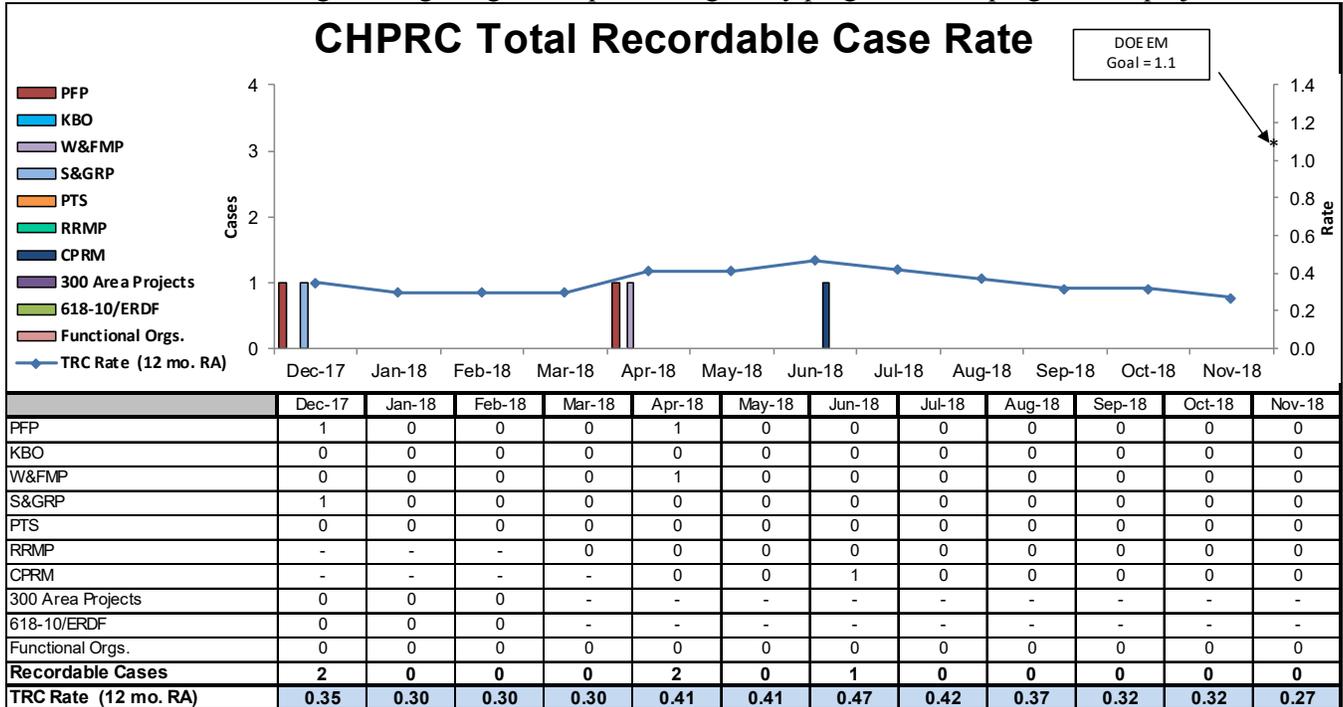


The fifth sludge storage container arrived at T Plant for safe storage in November and used an innovative sludge layering technique to maximize the amount of sludge able to be stored in the container.

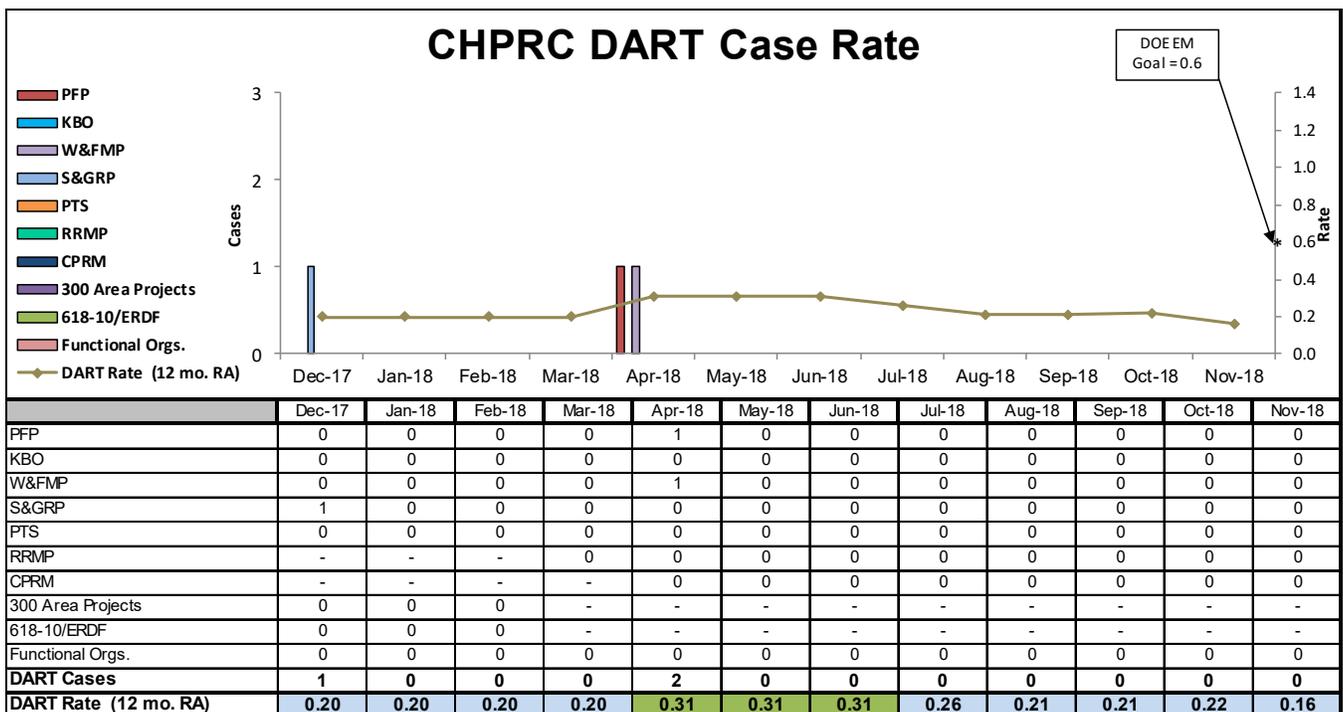
- The President’s Zero Accident Council (PZAC) meeting for November was hosted by Safety, Health, Security & Quality (SHS&Q). The three main ideas were:
 - o Rules are for a reason.
 - o Don’t feud; remember, we’re family.
 - o Resolving conflicts.
- Four “*Thinking Target Zero*” (TTZ) bulletins were published to convey important occupational, safety, health, and environmental messages:
 - o Holiday Health.
 - o America Recycles.
 - o Winter Travel.
 - o Voluntary Protection Program (VPP) Safety Improvement Plan (SIP) Goals.
- *Weekly Safety Tailgate* briefing packages communicated relevant topics and safety information to the workforce:
 - o Three Lessons Learned:
 - Inadequate Implementation of Freeze Protection Strategies resulted in Sprinkler Activation (offsite).
 - Just in Time Report – Failures of Lapel Samplers from SKC Model XR5000 (CHPRC).
 - Subcontract Employee Engaged Fall Protection (INL).
 - o Injuries.
 - o Weekly Ethics Moments.
 - o Vehicle events.
 - o Winter health.
 - o Hard Hat Recycling.
 - o PZAC Fire Safety Q&A.
 - o Vehicle incident trends.
 - o Stay alert for Deer & Elk.
 - o Holiday cooking safety.
 - o New! Winter Poster.
 - o Winter travel reminder.
 - o OPEXShare – Best Practice.

TARGET ZERO PERFORMANCE

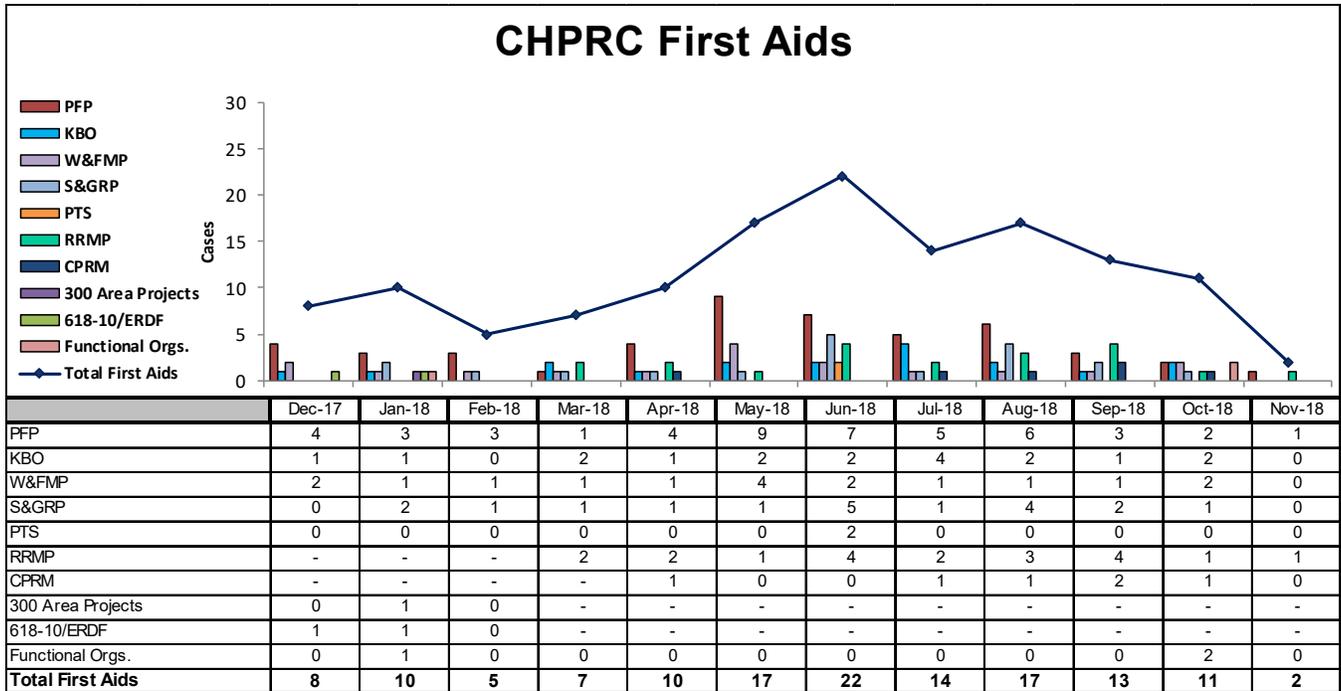
CHPRC continued focusing on integrating and implementing safety programs in all program and project areas.



Total Recordable Injury Case (TRC) Rate: The 12-month rolling average TRC rate of 0.27 is based on a total of five Recordable injuries. November had no reported Recordable cases.



Days Away, Restricted or Transferred (DART) Workdays Case Rate: The 12-month rolling average DART rate of 0.16 is based upon a total of three Days Away cases. November had no reported DART cases.



First Aid Case Summary: CHPRC reported two first aid cases in November. The contributors were one sprain/strain/pain and one abrasion/bruise/contusion injury. In addition, two self-treat cases were reported in November.

KEY ACCOMPLISHMENTS

Projects

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

Project Services and Support

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

MAJOR ISSUES

Projects

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

Project Services and Support

Issue:

On December 18, 2017, the U.S. Department of Energy (DOE) published in the Federal Register (82 FR 59947) an update to Title 10, Code of Federal Regulations, Part 851, “Worker Safety and Health” (10 CFR 851). The update incorporated the current consensus safety and health standards with an effective date of January 17, 2018, with compliance required starting January 17, 2019.

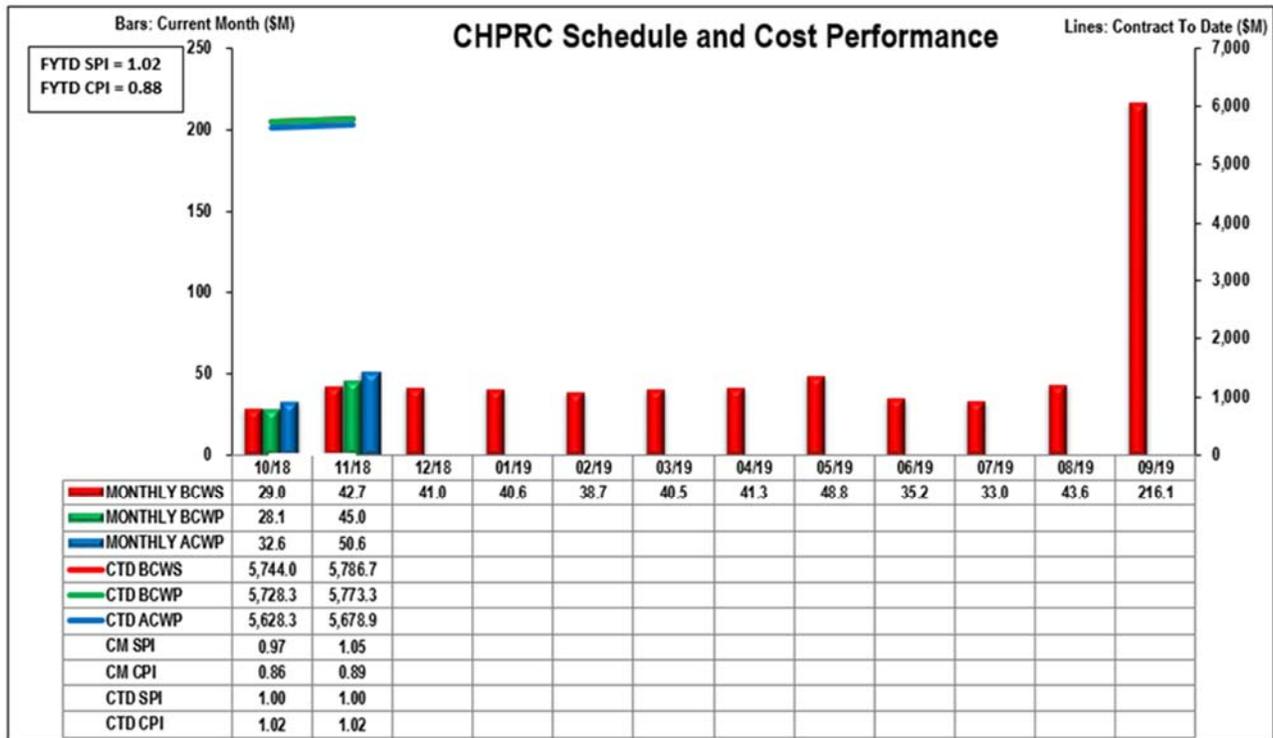
Corrective Action:

Proceed with implementation of the technical amendment to 10 CFR 851; however, compliance by the directed deadline of January 17, 2019, is unachievable.

Status:

Engineering is evaluating impacts and requisite effort to obtain compliance.

EARNED VALUE MANAGEMENT



*September includes \$175.4 million of budgeted cost of work scheduled (BCWS) in undistributed budget.

	\$M					\$M					\$M		
	Current Period			Contract to Date		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	1.4	1.7	6.6	0.3	(4.9)	992.9	980.3	1150.9	(12.6)	(170.6)	1,006.0	1,213.1	(207.1)
RL-0012 - SNF Stabilization & Disposition	1.6	1.5	1.5	(0.0)	0.1	746.8	746.4	716.6	(0.4)	29.8	762.0	731.2	30.8
RL-0013 - Solid Waste Stab & Disposition	13.5	13.6	12.8	0.0	0.8	1366.3	1365.6	1269.8	(0.7)	95.8	1,562.0	1,462.8	99.2
RL-0030 - Soil & Water Rem-Grndwtr/Vadose	9.6	9.7	9.7	0.1	(0.0)	1542.7	1542.5	1489.9	(0.2)	52.6	1,713.2	1,660.8	52.4
RL-0040 - Nuc Fac D&D - Remainder	4.9	8.0	7.9	3.1	0.1	500.0	505.1	480.5	5.1	24.6	575.8	554.2	21.6
RL-0041 - Nuc Fac D&D - RC Closure Project	11.6	10.4	12.0	(1.2)	(1.6)	611.3	606.6	548.9	(4.7)	57.8	718.3	662.9	55.4
RL-0042 - Nuc Fac D&D - FFTF Project	0.2	0.2	0.2	0.0	(0.0)	26.7	26.7	22.3	(0.0)	4.5	28.2	24.2	4.0
Total	42.7	45.0	50.6	2.3	(5.5)	5,786.7	5,773.3	5,678.9	(13.5)	94.4	6,365.5	6,309.3	56.3

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

*Per e-mail direction received December 6, 2017, from the RL Contracting Officer, CHPRC is authorized to incorporate the value of proposed changes into the baseline, as well as remove work that is not authorized from our execution plan. When a contract alignment settlement is reached, baseline change requests (BCRs) will be processed to align the performance measurement baseline (PMB) with the settlement values.

Performance Summary

CHPRC continues to track completion of the contract scope within budget and is currently projecting a variance at completion (VAC) of \$56.3 million, with \$63.3 million of management reserve (MR), for a total positive variance of \$119.6 million. For November, the project was 5.3 percent ahead of schedule and 12.3 percent over planned cost. Contract to date (CTD); the project was 0.2 percent behind schedule and 1.6 percent under planned cost.

The current month (CM) positive schedule variance is primarily due to project breakdown structure (PBS) RL-0040 PUREX Tunnel 2 stabilization activities. Grout placement started three months ahead of schedule due to receiving Temporary Authorization earlier than planned. In addition, 200W steam line removal crossovers experienced significant schedule recovery in which 10 out of the 12 total locations have been removed.

The positive schedule variance is partially offset by PBS RL-0041 delays in 324 Building Disposition Project procurements caused by a change in the project's execution strategy, as well as delays in cleanup of the REDOX North Sample Gallery due to the discovery of materials found during the canyon investigative entries in PBS RL-0040.

The CM negative cost variance is primarily due to PBS RL-0011 implementation of process improvements associated with waste loadout and contamination control including unplanned installation of steel plates in the Environmental Restoration Disposal Facility (ERDF) container loadout area and additional water suppression upgrades. Planning and mockups of higher-risk work is adding to the project costs. Additionally, the project is experiencing unplanned costs to support implementation of schedule efficiencies and a learning curve associated with revised project requirements.

PBS RL-0041 is also contributing to the negative cost variance primarily due to additional subcontractor costs at the 324 Building Disposition Project in support of work scope that has pushed into fiscal year (FY) 2019 from FY2018, such as the 324 Building design for structural modifications.

FUNDING ANALYSIS

FY2019 Funds vs. Fiscal Year Spend Forecast

(\$M)

PBS	Project	FY2019		Variance
		Projected Funding	Spending Forecast	
Estimate at Complete				
RL-0011	Nuclear Materials Stabilization and Disposition	70.0	62.9	7.1
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	20.1	18.1	2.0
RL-0012	15-D-401 Sludge Retrieval Project	11.3	0.0	11.3
RL-0013	Waste and Fuels Management Project	173.5	158.5	15.0
RL-0013	Management of Cesium and Strontium Capsules	6.6	3.6	3.0
RL-0030	Soil, Groundwater and Vadose Zone Remediation	132.9	124.4	8.5
RL-0040	Nuclear Facility D&D, Remainder of Hanford	97.4	69.2	28.2
RL-0041	Nuclear Facility D&D, River Corridor	132.7	120.0	12.7
RL-0042	Fast Flux Test Facility Closure	4.3	2.5	1.8
Total Estimate at Complete		649.0	559.2	89.8
Scope Pending Change Management				
RL-0030	Soil, Groundwater and Vadose Zone Remediation	0.0	4.7	(4.7)
RL-0040	Nuclear Facility D&D, Remainder of Hanford	0.0	4.0	(4.0)
Total Incremental Work Scope		0.0	8.7	(8.7)
Total Fiscal Year Spend Forecast				
RL-0011	Nuclear Materials Stabilization and Disposition	70.0	62.9	7.1
RL-0012	Spent Nuclear Fuel Stabilization and Disposition	20.1	18.1	2.0
RL-0012	15-D-401 Sludge Retrieval Project	11.3	0.0	11.3
RL-0013	Waste and Fuels Management Project	173.5	158.5	15.0
RL-0013	Management of Cesium and Strontium Capsules	6.6	3.6	3.0
RL-0030	Soil, Groundwater and Vadose Zone Remediation	132.9	129.1	3.8
RL-0040	Nuclear Facility D&D, Remainder of Hanford	97.4	73.2	24.2
RL-0041	Nuclear Facility D&D, River Corridor	132.7	120.0	12.7
RL-0042	Fast Flux Test Facility Closure	4.3	2.5	1.8
Total		649.0	567.9	81.1

Funds/Variance Analysis

For November, there was no change to FY2019 projected funding of \$649 million. The spending forecast increased \$13 million from last month, which includes \$10 million for RL-0011 impacts from labor asset management program (LAMP) actions and productivity challenges; \$4 million for RL-0040 increase to PUREX and REDOX; and \$3 million for RL-0041, 324 Building Structural Modifications; primarily offset by a decrease of \$6 million in RL-0013 for corrections and adjustment to subcontracts.

BASELINE CHANGE REQUESTS

In November 2018, CHPRC approved and implemented five Baseline Change Requests (BCRs) into the PMB budget. The BCRs did not impact the PMB. Each change request is identified in the table below:

Change Request #	Title	PBS	Summary of Change
BCR-000-19-004R0	<i>Revise WBS 000.17.04.01.01 LOE Resource Profiles</i>	000	This BCR revised work breakdown structure (WBS) 000.17.04.01.01 level of effort (LOE) resource profiles. This BCR did not change the PMB value.
BCR-030-19-003R0	<i>Revise RL-0030 030.04.01.01 WBS Dictionary and BOE</i>	RL-0030	This BCR modified the 030.04.01.01 WBS dictionary to reference the correct work package and the 030.04.01.01.01 basis of estimate (BOE) to align with the revised WBS element number. This BCR did not change the PMB value.
BCR-030-19-004R0	<i>Revise WBS 030.03.10.01.02 LOE Resource Profile Dates</i>	RL-0030	This BCR modified the WBS dictionary to add clarifying detail for the scope planned to be performed in this control account. This BCR did not change the PMB value.
BCR-040-19-001R0	<i>Re-plan REDOX Air Mover Procurement as CENRTC</i>	RL-0040	This BCR moved budget and modified the schedule to align to the new work package. This BCR did not change the PMB value.
BCRA-PRC-19-006R0	<i>HPIC Updates November 2018</i>	RL-0011, RL-0013, RL-0030, RL-0040, RL-0041	This BCR incorporated November FY2019 Hanford Programs Integrated Control Module (HPIC) updates. This BCR did not change the PMB value.

There was no change to allocated (distributed) budget in November.

Undistributed Budget Activity

BCR Number	Title	PBS	Fiscal Year	UB
N/A	N/A	N/A	2019	N/A

There was no change to undistributed budget in November.

Management Reserve Activity

BCR Number	Title	PBS	Fiscal Year	MR
N/A	N/A	N/A	2019	N/A

There was no change to MR in November.

Fee Activity

BCR Number	Title	PBS	Fiscal Year	Fee
N/A	N/A	N/A	2019	N/A

There was no change to fee during November.

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

November 2018 Summary of Changes

	FY 2009-2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY: 2014-2018	FY2019	Contract Period Total	Total PMB
October 2018 Estimate										
PMB	3,391,477	391,653	471,323	504,826	485,028	470,649	2,323,478	650,577	6,365,532	6,365,532
MR	0	0	0	0	0	0	0	63,278	63,278	63,278
Fee	155,504	14,325	14,501	27,804	10,612	18,860	86,101	0	241,605	241,605
Total	3,546,981	405,978	485,824	532,630	495,639	489,509	2,409,579	713,855	6,670,415	6,670,415
November 2018 Change										
PMB										
Change to PMB	0	0	0	0	0	0	0	0	0	0
MR										
Change to MR	0	0	0	0	0	0	0	0	0	0
Fee										
Change to Fee	0	0	0	0	0	0	0	0	0	0
Total Change	0	0	0	0	0	0	0	0	0	0
November 2018 Estimate										
PMB	3,391,477	391,653	471,323	504,826	485,028	470,649	2,323,478	650,577	6,365,532	6,365,532
MR	0	0	0	0	0	0	0	63,278	63,278	63,278
Fee	155,504	14,325	14,501	27,804	10,612	18,860	86,101	0	241,605	241,605
Total	3,546,981	405,978	485,824	532,630	495,639	489,509	2,409,579	713,855	6,670,415	6,670,415

Changes to/Utilization of Management Reserve in November 2018

	FY2009-2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2014-2018	FY2019	Total
October 2018 MR Totals									
RL-0011	0	0	0	0	0	0	0	5,828	5,828
RL-0012	0	0	0	0	0	0	0	8,163	8,163
RL-0013	0	0	0	0	0	0	0	6,185	6,185
RL-0030	0	0	0	0	0	0	0	17,863	17,863
RL-0040	0	0	0	0	0	0	0	8,700	8,700
RL-0041	0	0	0	0	0	0	0	16,350	16,350
RL-0042	0	0	0	0	0	0	0	189	189
Total	0	0	0	0	0	0	0	63,278	63,278
November 2018 MR Changes/Utilization									
RL-0011	0	0	0	0	0	0	0	0	0
RL-0012	0	0	0	0	0	0	0	0	0
RL-0013	0	0	0	0	0	0	0	0	0
RL-0030	0	0	0	0	0	0	0	0	0
RL-0040	0	0	0	0	0	0	0	0	0
RL-0041	0	0	0	0	0	0	0	0	0
RL-0042	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0
November 2018 MR Totals									
RL-0011	0	0	0	0	0	0	0	5,828	5,828
RL-0012	0	0	0	0	0	0	0	8,163	8,163
RL-0013	0	0	0	0	0	0	0	6,185	6,185
RL-0030	0	0	0	0	0	0	0	17,863	17,863
RL-0040	0	0	0	0	0	0	0	8,700	8,700
RL-0041	0	0	0	0	0	0	0	16,350	16,350
RL-0042	0	0	0	0	0	0	0	189	189
Total	0	0	0	0	0	0	0	63,278	63,278

SELF-PERFORMED WORK

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

Contract-to-Date Actual Awards & Mods (\$M) 10/1/2008 - 11/30/2018					
Reporting Category					
	\$ Value	%	Goal %		
SB	\$1,576.7	55.90%	49.3%	PRC clause H.20b small business requirement	
SDB	\$282.5	10.01%	8.2%	≥ 17% of CHPRC Contract Price performed by SB.	
SWOB	\$294.7	10.45%	7.5%	CHPRC Contract Value:	\$5,824.8
HUB	\$90.6	3.21%	2.2%	SB actual:	\$1,576.7
VOSB	\$243.2	8.62%	3.5%	SB Performed %:	27.07%
SDVO	\$153.9	5.46%	1.3%	PRC clause H.20a max self performed requirement	
NAB	\$75.6	2.68%	N/A	≤ 65% of Contract Price Self Performed	
Large	\$741.4	26.29%	N/A	CHPRC Contract Value:	\$5,824.8
UNK	\$2.2	0.08%	N/A	CHPRC Self Performed:	\$3,235.3
GOVT	\$4.9	0.17%	N/A	CHPRC Self Performed %:	55.54%
GOVT CONT	\$482.9	17.12%	N/A		
EDUCATION	\$0.1	0.00%	N/A		
NONPROFIT_	\$4.1	0.14%	N/A		
FOREIGN	\$8.2	0.29%	N/A		
Total	\$2,820.4	100.00%	N/A		

Notes:

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

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Contract Section	Project	GFS/I	Status
CONTRACT			
J.12/C.2.2, C.2.3	<p>PBS-11, Plutonium Finishing Plant Closure Project</p> <p>PBS-13, Solid and Liquid Waste Treatment and Disposal</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 (PFNW) locations. RL is the authorized shipper and acts as signatory on the shipping papers and ensures DOE Manual 460.2-1 is complied with. RL arranges for Commercial Motor Vehicle Safety Alliance (CVSA) Level VI Vehicle Inspections and verifies that the government drivers meet the applicable Department of Transportation (DOT) Federal Motor Carrier Safety Regulations (49 CFR 382 and 383). RL also inspects the load securement to ensure compliance with DOT regulations and/or Transportation Safety Document (TSD) requirements.</p>	Ongoing
J.12/C.2.3.6	PBS-13, Transuranic Waste Certification	<p>Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico: Provides shipping resources and manages the schedule for transportation of these containers to WIPP. The schedule is variable and the number of shipments is controlled by DOE-HQ on a complex-wide priority. Cost for shipment of TRU waste offsite is borne by the Carlsbad Field Office.</p>	No WIPP shipments are planned within the remaining contract period of performance.

DOE ACTIONS/DECISIONS

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

Section A

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

CH2MHILL
Plateau Remediation Company



K. A. Wooley
Vice President for
Plutonium Finishing Plant
Closure Project

November 2018
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PROJECT SUMMARY

Loadout of existing 234-5Z Building debris continued throughout November, approximately 15 percent of the existing debris pile has been shipped to the Environmental Restoration Disposal Facility (ERDF) for disposal. The higher-risk demolition scheduled to begin in May 2019 is currently being planned, and preparations for a second management assessment are in progress.

Key Metrics

<i>Key Performance Indicators</i>	<i>Current Month</i>	<i>Contract To Date</i>
COMPLETE Glovebox/Hood Removed or Dispositioned in Place	0	232 gloveboxes/hoods
COMPLETE KPP Rooms/Areas Ready for Demo	0	72 rooms/areas
COMPLETE Asbestos/Asbestos Containing Material (ACM) Removed	0	35,827
COMPLETE Process Vacuum Piping Dispositioned	0	7,231 feet
COMPLETE Process Transfer Line Dispositioned	0	1,525 feet
COMPLETE Pencil Tank Units Removed (Shipped)	0	196 pencil tank units
COMPLETE Buildings Ready for Demo	0	68 structures
Buildings Demolished or Removed	0	63 structures
Non-radioactive Waste Shipped	0	89.8 m ³
Transuranic/Transuranic Mixed (TRU/TRU-M) Shipped	0	5,014 m ³
LLW/MLLW Shipped	328 m ³	16,957 m ³

EMS Objectives and Target Status (Draft)

Objective #	Objective	Target	Due Date	Status
19-EMS-PFP-OBJ1-P1	Resource conservation, alternative energy sources	Use of solar powered lighting. Monitor energy savings and implementation.	9/30/2019	10%

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	1	N/A

	Current Month	Rolling 12 Month	Comment
First Aid Cases	1	48	11/9/2018 - Employees were in the process of blowing down a handheld waterline (fire hose) in preparation for lower overnight and weekend temperatures. The hose was controlled by an employee standing on the end of the hose as air was applied to the line. The addition of air to the line caused the line to kick away from the employee standing on the end of the line. As the line whipped, it struck another employee on their left hand. The employee was taken to HPM Corporation and released back to work without restrictions. (25008)
Near Misses	0	0	N/A

KEY ACCOMPLISHMENTS

RL-0011 Accomplishments:

- Loaded and shipped existing 234-5Z rubble debris. Approximately 15 percent of existing debris has been shipped in total.
- Implemented process improvements for ERDF waste disposition. Steel plates procured in October have been positioned under the waste containers to expedite the process of loading and unloading containers and to accelerate the process of cleaning up any spills. Liquids have been directed towards the berm to manage excess water.

MAJOR ISSUES

Issue:

During November, the Plutonium Finishing Plant (PFP) project realized a loss of 10 Decontamination and Decommissioning (D&D) workers due to hiring by Washington River Protection Solutions, LLC (WRPS), another Hanford contractor. Ten more D&D workers are scheduled to leave in January. It is anticipated that this loss in trained and qualified workers will cause a 10-week schedule impact to the PFP project.

Corrective Action:

Work with Labor Relations and Human Resources to fill needed positions.

Status:

In response to this loss of staff, PFP has hired an additional 25 D&D workers who are expected to begin training on December 3, 2018.

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																
RL-0011/WBS-011.OA																			
Explanation of major changes to the project monthly stoplight chart: No major changes to the stoplight chart in November.																			
Realized Risks (Risks that are currently impacting project cost/schedule)																			
PFP-P-014: Bump and Roll, Labor Assets Management Program (LAMP), or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity	Plutonium Finishing Plant (PFP) Hanford Atomic Metal Trades Council (HAMTC) labor resources are unavailable or unqualified due to the bump and roll, LAMP, or other job postings, resulting in schedule impacts to the project. Risk Handling Strategy: Control Probability: Likely (75% to 90%) Worst Case Impacts: \$0, 64 days	●	↓	Risk Event: Twenty-five D&D workers have been hired to other projects on the Hanford Site and will be leaving PFP. The process to hire and train new D&D workers has been initiated. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Risk recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Hire and train additional D&D workers as needed to perform demolition work at PFP.</td> <td>1/17/19</td> <td>10%</td> </tr> </tbody> </table> Risk Action Assessment: No major changes in November. Offers have been made to new D&D workers and training will begin training on December 3, 2018.	Risk recovery action(s)	FC Date	%	Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A	Hire and train additional D&D workers as needed to perform demolition work at PFP.	1/17/19	10%						
Risk recovery action(s)	FC Date	%																	
Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A																	
Hire and train additional D&D workers as needed to perform demolition work at PFP.	1/17/19	10%																	
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																			
No critical risks in November.																			
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)																			
No high risk threat value risks in November.																			
FY2019 Risk Triggers (Risk could be realized in FY2019)																			
PFP-P-004: Stop Work From Concerned Workers	Concerned workers result in a stop work to address off-normal or safety issues. The work cannot be restarted until the implementation of corrective actions is completed, resulting in schedule impacts to the project. Risk Handling Strategy: Accept Probability: Very Likely (>90%) Worst Case Impacts: \$0, 52 days	●	↔	Risk Event: During resumption of PFP demolition activities, an increase in stop works could result in delays. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">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> Mitigation Assessment: No major changes in November. Increased communication and worker involvement has been implemented to avoid confusion and concern in an effort to minimize stop works.	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																	
PFP-P-007: Demolition Equipment Reliability and Modification	Ineffective demolition equipment attachments, mechanical failures, or contamination of clean equipment, impact the demolition of PFP. Equipment modification, leasing, or replacement will be required, resulting in cost and schedule impacts. Risk Handling Strategy: Control Probability: Low (10% to 25%) Worst Case Impacts: \$1M, 48 days	●	↔	Risk Trigger: Equipment failures result in delays to fieldwork. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Repurpose other owned equipment on-site.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Develop and maintain min/max inventory of spares.</td> <td>Complete</td> <td>100%</td> </tr> <tr> <td>Perform planned preventative maintenance on equipment.</td> <td>2/28/19</td> <td>80%</td> </tr> </tbody> </table> Mitigation Assessment: No major changes in November. All mitigations have been sufficient to maintain equipment in working condition.	Mitigation action(s)	FC Date	%	Repurpose other owned equipment on-site.	Ongoing	N/A	Develop and maintain min/max inventory of spares.	Complete	100%	Perform planned preventative maintenance on equipment.	2/28/19	80%			
Mitigation action(s)	FC Date	%																	
Repurpose other owned equipment on-site.	Ongoing	N/A																	
Develop and maintain min/max inventory of spares.	Complete	100%																	
Perform planned preventative maintenance on equipment.	2/28/19	80%																	
PFP-P5-006: Additional Soil Removal is Required	Prior to the placement of the cover cap, the additional soil added for contamination control is required to be dispositioned, resulting in cost and schedule delays to the project. Risk Handling Strategy: Control	●	↔	Risk Trigger: Additional soil, above planned value, is required to be removed due to contamination or regulatory concerns.															

Probability: Low (10% to 25%) Worst Case Impacts: \$0, 54 days			Mitigation action(s)		FC Date	%
			Engage early with RL to identify a path forward associated with the additional soil.		11/9/18	75%
			Replan the schedule as needed to incorporate plan prior to critical decision-2/3 rebaselining efforts.		12/3/18	50%
Mitigation Assessment: No major changes in November . Continued communication with RL on required soil removal. No additional soil above planned quantity is required at this time.						
Unassigned Risks (Pending ownership of identified risks/opportunities)						
No unassigned risks identified in November .						

PROJECT BASELINE PERFORMANCE

Current Month

(\$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	1.4	1.7	6.6	0.3	25.2%	(4.9)	-291.3%

Numbers are rounded to the nearest \$0.1 million.

CM Schedule Variance: (+\$0.3M/+25.2%)

The CM schedule variance is within threshold.

CM Cost Variance: (-\$4.9M/-291.3%)

The current month negative cost variance is due to the implementation of process improvements associated with waste loadout and contamination control. Unplanned installation of steel plates in the ERDF container loadout area and additional water suppression upgrades contributed to the cost variance. Planning and mockups of higher-risk work is adding to the project costs. Additionally, cost variances are contributed by unplanned costs to support implementation of schedule efficiency and a learning curve associated with revised project requirements.

Contract-to-Date

(\$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	992.9	980.3	1,150.9	(12.6)	-1.3%	(170.6)	-17.4%	1,006.0	1,213.1	62.2	(207.1)

Numbers are rounded to the nearest \$0.1 million

Contract-to-Date (CTD) Schedule Variance: (-\$12.6M/-1.3%)

The CTD schedule variance is within threshold.

CTD Cost Variance: (-\$170.6M/-17.4%)

The negative CTD cost variance is primarily a result of unplanned costs to support implementation of schedule efficiency initiatives at PFP (i.e., foaming, Perma-Fix Northwest [PFNW] size reduction

support, implementation of the PremAire Breathing System); increased training costs of additional Health Physics Technicians (HPT) and D&D workers assigned to PFP; additional resources to recover schedule for asbestos removal activities and to support the unplanned asbestos identified for removal (about 10,000 feet); unplanned shipping materials (waste shipping containers TL-1800s, SLB2s, IP-1 bags, etc.) required to support waste loadout activities for transuranic (TRU) waste disposition efforts; and unplanned work to reconfigure the high-density polyethylene (HDPE) water loop to support the new radiological boundaries also contributed to this variance.

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

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

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

Implementation of a baseline change request was processed in September 2017 to draw down RL contingency to recover cost impacts to the project breakdown structure (PBS) RL-0011 C.2 Project associated with realized RL risks, which also partially offset the variance. Areas impacted were associated with weather delays, stop works, Plutonium Reclamation Facility contamination events, and Mission Support Alliance (MSA) resources retained to prevent bump and roll impacts. Recognition of efficiencies associated with demolition of 242-Z, 291-Z, and 234-5ZA are also contributing to the offset of the negative variance.

Variance at Completion: (-\$207.1M/-20.6%)

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

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

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

After a stop work was called due to the December 2017 contamination event, the Estimate at Completion (EAC) and VAC was adjusted to reflect the projected date to reach slab-on-grade in September 2019. The EAC is reflective of resumption activities, impacts of craft personnel LAMPing to WRPS, and revised demolition approach implementation.

The VAC does not include the revised demolition approach pending Independent Cost Estimate/External Cost Review (ICE/ECR).

Contract Performance Report Formats are provided in Appendix A.

FUNDS vs. SPEND FORECAST (\$M)

WBS 011/RL-0011 Nuclear Matl Stab & Disp PFP	FY2019		
	Projected Funding	Spending Forecast	Variance
Spending Forecast	70.0	62.9	7.1
RL-0011 - Total	70.0	62.9	7.1

Numbers are rounded to the nearest \$0.1 million

Funds/Variance Analysis

Fiscal year 2019 expected required funding for PBS RL-0011 is \$62.9 million to allow for continuation of demolition activities to achieve slab-on-grade. Increased EAC is reflective of schedule impacts due to the activities to replenish D&D staffing support. Projected funding is \$70.0 million.

Critical Path Schedule

The PFP Critical Path Schedule begins with debris disposition of the 234-5Z rubble piles starting with the frontside waste. Once the waste debris is loaded out, demolition will resume on the remaining sections of Zones 2 and 7, with the exception of the drain line. Remote Mechanical C process line demolition, Remote Mechanical A process line demolition, and loadout of glovebox HA-46, in parallel with completion of the basement of 234-5Z demolition, will begin after a second management assessment and concurrence is obtained to resume high-risk demo from RL. The 234-5Z demolition is projected to complete July 11, 2019. The 236-Z Canyon demolition will then resume with completion scheduled for September 11, 2019, meeting the requirements for the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-083-00A – PFP Facility Transition and Selection Disposition Activities. Completion of demolition is followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities completing in December 2019.

MILESTONE STATUS

Tri-Party Agreement milestones represent significant events in project execution. RL Enforceable Agreement milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The following table is a one-year look-ahead of commitments and Tri-Party Agreement-enforceable milestones.

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-083-00A	PFP Facility Transition and Selection Disposition Activities	9/30/2017		9/11/2019	There has been additional schedule loss of 79 days since October. This was a result of incorporation of further revisions to the revised demo approach responding to the contamination event that occurred in December 2017 and the realized risk of bump and roll, LAMP, or other contractor hiring of bargaining unit employees affecting productivity of debris disposition.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

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

DOE ACTIONS / DECISIONS

None at this time.

Section B

Spent Nuclear Fuel Stabilization and Disposition (RL-0012)

CH2MHILL
Plateau Remediation Company



R. M. Geimer
Vice President for
K Basin Operations

November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

The fifth Sludge Transport & Storage Container (STSC) was disconnected and prepped for shipment on October 31, 2018, and placed in interim storage at T Plant on November 2, 2018. The sixth STSC was disconnected and prepped for shipment on November 16, 2018, and forecasted to be placed in interim storage at T Plant on November 28, 2018.

EMS OBJECTIVES AND TARGET STATUS

None currently identified.

TARGET ZERO PERFORMANCE

(Reported on a calendar month basis)

	CM Quantity	Rolling 12 Month	Comment
Dart Injuries	0	0	N/A
Recordable Injuries	0	0	N/A
First Aids	0	16	N/A
Near Misses	0	1	N/A

KEY ACCOMPLISHMENTS

100K Operations

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

KW Basin Sludge Removal

- The 100K Operations support team performed preventive maintenance and calibrations on both Engineered Container Retrieval and Transfer System (ECRTS) components and annex utility system components.
- Shipped the fifth STSC to T Plant for interim storage.
- Completed filling the sixth STSC with sludge retrieved from engineered containers 230 and 250.

MAJOR ISSUES

Issue:

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

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

Corrective Action:

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

Status:

100K engineering personnel believe the average archived sample density established in PNNL-27704 for sludge material removed from each of the ECs is likely a more accurate representation of existing EC sludge density (rather than the density values produced 24 hours after sample settling). Applying the more conservative settled density values indicates that the existing material will require between 24 to 26 STSCs, rather than the 22 STSCs currently planned in the baseline.

Issue:

Attrition of qualified personnel. Since the initiation of sludge removal activities in June 2018, there has been greater than 25 percent attrition of nuclear chemical operators (NCOs) and radiation control technicians (RCTs) that have either left the organization or taken leave via short-term disability. The loss of qualified personnel may potentially impact achieving sludge removal schedule goals.

Corrective Action:

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

Status:

Although there are currently sufficient NCOs/RCTs to support dayshift 105KW Basin and ECRTS operations, the attrition over the last five months has been significant. Additional RCTs and NCOs have been hired and are in the training/qualification process. While several exempt employees have left the project in the last four months, replacements were more quickly deployable. The estimated completion date is early calendar year 2019.

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-0012/WBS-012																			
Explanation of major changes to the project monthly stoplight chart: Risk STP-151, <i>Leak Tightness of Sludge Transportation System Casks</i> , was closed and removed from the stoplight chart as a realized risk.																			
Realized Risks (Risks that are currently impacting project cost/schedule)																			
STP-152: Attrition, Acquisition, & Retention of Qualified Employees	Improving job markets/funding uncertainties or site wide priorities results in competition for key resources, resulting in schedule delays to the project. In addition, higher-than-anticipated attrition impacts project baseline costs. Risk Handling Strategy: Control Probability: Medium (26% to 74%) Worst Case Impacts: \$500K, 36 days	●	↔	Risk Triggers: Due to the current job market, K Basin Operations (KBO) personnel have elected to leave the project to pursue other opportunities. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #e0e0e0;"> <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>Monitor employee job satisfaction to evaluate/maintain morale.</td> <td>Ongoing</td> <td>TBD</td> </tr> <tr> <td>Actively pursue filling open positions and train/qualify personnel.</td> <td>12/31/18</td> <td>--</td> </tr> <tr> <td>Establish enhanced work schedule.</td> <td>02/03/19</td> <td>25</td> </tr> </tbody> </table> Mitigation Assessment: Attrition of qualified personnel continued in November . Since the initiation of sludge removal activities in June 2018, there has been >25 percent attrition of qualified NCOs and RCTs. The loss of qualified personnel has negatively impacted achieving sludge removal schedule goals. Both operations and radiation protection management are aggressively backfilling open positions. Although training and qualification takes longer than desired, both organizations are expecting to have fully trained and qualified staff to support an enhanced work shift by January 2, 2019.	Mitigation action(s)	FC Date	%	Monitor employee job satisfaction to evaluate/maintain morale.	Ongoing	TBD	Actively pursue filling open positions and train/qualify personnel.	12/31/18	--	Establish enhanced work schedule.	02/03/19	25			
Mitigation action(s)	FC Date	%																	
Monitor employee job satisfaction to evaluate/maintain morale.	Ongoing	TBD																	
Actively pursue filling open positions and train/qualify personnel.	12/31/18	--																	
Establish enhanced work schedule.	02/03/19	25																	
STP-153: Sludge Engineered Container End Point Criteria	ECF-100KR2-12-0040 Calculation for 105-KW Substructure Demolition Rubble ERDF Compliance specifies the volume of residual sludge that is acceptable to leave in ECs following sludge removal operations. It is possible that the end point criteria cannot be achieved without extensive cost and schedule implications. Risk Handling Strategy: Control Probability: Medium (26% to 74%) Worst Case Impacts: \$200K, 64 days	●	↔	Risk Triggers: During execution of the sludge removal campaign, personnel have come to understand that standard methods of sludge removal are not able to efficiently achieve EC Sludge End Point Criteria. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr style="background-color: #e0e0e0;"> <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>Perform periodic video camera inspections throughout sludge removal campaign to plan retrieval strategies.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Develop and submit DSA/TSR revisions that facilitate layering KW sludge (SCS-CON-210/220) with KE Sludge (SCS-CON-240/250/260).</td> <td>12/31/18</td> <td>80</td> </tr> <tr> <td>Remove EC-210 lid to facilitate characterization and sampling.</td> <td>12/31/18</td> <td>80</td> </tr> <tr> <td>Consider sampling heels in engineered containers to facilitate achieving end-point criteria using more accurate source term.</td> <td>6/30/19</td> <td>5</td> </tr> </tbody> </table> Mitigation Assessment: No significant change in November. A work package was developed to remove EC-210 lid to facilitate characterization and/or sampling of heel. This information may result in accepting greater quantities of EC sludge than previously estimated. In parallel, engineering and nuclear safety personnel are preparing a safety documentation revision that will facilitate layering EC-210/220 sludge with KE sludge.	Mitigation action(s)	FC Date	%	Perform periodic video camera inspections throughout sludge removal campaign to plan retrieval strategies.	Ongoing	N/A	Develop and submit DSA/TSR revisions that facilitate layering KW sludge (SCS-CON-210/220) with KE Sludge (SCS-CON-240/250/260).	12/31/18	80	Remove EC-210 lid to facilitate characterization and sampling.	12/31/18	80	Consider sampling heels in engineered containers to facilitate achieving end-point criteria using more accurate source term.	6/30/19	5
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Unmitigated Risk Impacts	Assessment		Comments																		
	Month	Trend																			
RL-0012/WBS-012																					
<p>STP-156: Sludge Removal Campaign Impacted by Variations in Engineered Container Sludge Density/Volume</p>	<p>The actual mass of sludge stored in the 105KW Basin engineered containers is not consistent with the mass assumed in the SRP Technical Basis, resulting in cost and schedule delays.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%)</p> <p>Worst Case Impacts: \$1,600K, 48 days</p>		<p>Risk Triggers: The actual sludge mass in the ECs (mass = density x volume = $\rho * V$) is greater than the mass currently projected in source documents, resulting in the need for additional STSCs to remove and store the remaining sludge.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Complete visual inspections of sludge stored in engineered containers SCS-CON-210/220/230 (at a minimum) to assess volume information specified in technical basis documents.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Evaluate and implement feasible opportunities to more efficiently disposition remaining engineered container sludge.</td> <td>2/03/19</td> <td>10</td> </tr> <tr> <td>Complete sludge removal from EC-250, which will facilitate establishment of KE Basin Sludge density.</td> <td>3/15/19</td> <td>15</td> </tr> <tr> <td>Revisit Sludge Removal Project Basis Document HNF-SD-SNF-TI-015 R28, Spent Nuclear Fuel Project Technical Databook, Volume 2, Sludge, and HNF-41051 R13, STP Container and Settler Sludge Process Description and Material Balance based upon PNNL-27769, STP K Basin Sludge Sample Archive Status FY2018.</td> <td>3/29/19</td> <td>--</td> </tr> <tr> <td>Issue Final Sludge Density Evaluation, establishing total number of STSC necessary to complete sludge removal.</td> <td>3/29/19</td> <td>5</td> </tr> </tbody> </table> <p>Mitigation Assessment: Engineering personnel are reviewing SRP basis documents to determine how the baseline project assumptions were impacted by sludge density assumptions. After the final review of the documents and completion of visual inspections of sludge currently stored in ECs SCS-CON-210/220/230, the project will provide an initial evaluation/recommendation to more efficiently disposition the remaining sludge. The final evaluation will occur upon completion of sludge removal from EC-250, forecast for early March 2019.</p>	Mitigation action(s)	FC Date	%	Complete visual inspections of sludge stored in engineered containers SCS-CON-210/220/230 (at a minimum) to assess volume information specified in technical basis documents.	Complete	100	Evaluate and implement feasible opportunities to more efficiently disposition remaining engineered container sludge.	2/03/19	10	Complete sludge removal from EC-250, which will facilitate establishment of KE Basin Sludge density.	3/15/19	15	Revisit Sludge Removal Project Basis Document HNF-SD-SNF-TI-015 R28, Spent Nuclear Fuel Project Technical Databook, Volume 2, Sludge, and HNF-41051 R13, STP Container and Settler Sludge Process Description and Material Balance based upon PNNL-27769, STP K Basin Sludge Sample Archive Status FY2018.	3/29/19	--	Issue Final Sludge Density Evaluation, establishing total number of STSC necessary to complete sludge removal.	3/29/19	5
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Issue Final Sludge Density Evaluation, establishing total number of STSC necessary to complete sludge removal.	3/29/19	5																			
<p>STP-156-C: Sludge Removal Campaign Extended Due to Discovery of High Dose Material</p>	<p>Additional high-dose “sludge-like” material is discovered on the 105KW Basin floor during 100K Closure Project characterization activities that is best dispositioned with the engineered container sludge waste stream. Adding this additional sludge material to the SRP campaign negatively impacts existing SRP cost and/or the schedule baseline.</p> <p>Risk Handling Strategy: Accept</p> <p>Probability: Very Likely (>90%)</p> <p>Worst Case Impacts: \$500K, 24 days</p>		<p>Risk Triggers: Additional sludge may be discovered that must be put into engineered containers and processed with the balance of the EC sludge as 100K Closure Project personnel conduct characterization efforts in the 105KW Basin</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Continue to monitor conditions identified by the baseline characterization efforts.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Collect and quantify the volume and weight of the high-dose material in the 105 KW Basin.</td> <td>12/31/18</td> <td>50</td> </tr> <tr> <td>Update Sludge Campaign Documentation to disposition recently discovered high-dose material.</td> <td>1/31/19</td> <td>5</td> </tr> </tbody> </table> <p>Mitigation Assessment: During November, 100K Closure personnel collected and containerized (double barrel fuel canister) high-density material that will likely have to be placed into EC-230. Material will be placed into EC-230 and removed from the 105KW Basin via STSCs.</p>	Mitigation action(s)	FC Date	%	Continue to monitor conditions identified by the baseline characterization efforts.	Ongoing	N/A	Collect and quantify the volume and weight of the high-dose material in the 105 KW Basin.	12/31/18	50	Update Sludge Campaign Documentation to disposition recently discovered high-dose material.	1/31/19	5						
Mitigation action(s)	FC Date	%																			
Continue to monitor conditions identified by the baseline characterization efforts.	Ongoing	N/A																			
Collect and quantify the volume and weight of the high-dose material in the 105 KW Basin.	12/31/18	50																			
Update Sludge Campaign Documentation to disposition recently discovered high-dose material.	1/31/19	5																			
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																					
No critical risks identified in November.																					
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)																					
No high threat value risks identified in November.																					
FY2019 Risk Triggers (Risk could be realized in FY2019)																					
<p>STP-073-C: Processing Efficiency - Retrieval & Shipping</p>	<p>The realized processing efficiency associated with sludge retrieval and shipping operations does not match the baseline plan.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%)</p> <p>Worst Case Impacts: \$0K, 54 days</p>		<p>Risk Triggers: Actual processing efficiency associated with sludge retrieval and shipping operations does not match baseline assumptions. This risk will continue in fiscal year (FY) 2019 during operations campaign.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Establish a production control center to facilitate maximum efficiency integrating SRP operations and maintenance activities.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Review operations and maintenance activities required to produce each sludge STSC and establish a “typical” schedule integrating all activities in the most efficient sequence possible.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Revise plan to establish the appropriate campaign schedule.</td> <td>12/31/18</td> <td>90</td> </tr> </tbody> </table>	Mitigation action(s)	FC Date	%	Establish a production control center to facilitate maximum efficiency integrating SRP operations and maintenance activities.	Complete	100	Review operations and maintenance activities required to produce each sludge STSC and establish a “typical” schedule integrating all activities in the most efficient sequence possible.	Complete	100	Revise plan to establish the appropriate campaign schedule.	12/31/18	90						
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Unmitigated Risk Impacts	Assessment		Comments																		
	Month	Trend																			
RL-0012/WBS-012																					
			<p>Mitigation Assessment: No major changes in November. Project personnel completed a revised plan to establish the appropriate campaign schedule, taking into account ion exchange module (IXM) change outs and performance of preventive maintenance activities. The revised plan has been provided to RL via the FY2019 Post Contract Baseline submittal, and RL is currently reviewing this plan.</p>																		
<p>STP-108: STP Annex Equipment and ECRS/Ancillary System Reliability</p> <p>Required corrective maintenance on the STP Annex and the ECRS equipment is higher than planned due to one-of-a-kind system design or sludge characteristics, resulting in cost and schedule impacts.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Low (10% to 25%)</p> <p>Worst Case Impacts: \$400K, 66 days</p>	●	↑	<p>Risk Triggers: Required corrective maintenance on the SRP and ancillary equipment is higher than planned.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Conduct full-scale testing at the Maintenance and Storage Facility (MASF) to determine baseline for CM and PM program.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>The project will provide spare parts for critical or long-lead components.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Develop PM activities prior to construction completion to optimize maintenance costs.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Perform reliability, availability, and maintainability (RAM) analysis.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Modifications to the skimmer pump and IXM pump to accommodate an alternative IXM water source.</td> <td>12/31/18</td> <td>25</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. Due to IXM system challenges (potential unavailability), an alternate water supply modification has been generated and hardware procured. Plans are to install this modification in the future to mitigate unavailability of IXM system impact on sludge removal.</p>	Mitigation action(s)	FC Date	%	Conduct full-scale testing at the Maintenance and Storage Facility (MASF) to determine baseline for CM and PM program.	Complete	100	The project will provide spare parts for critical or long-lead components.	Complete	100	Develop PM activities prior to construction completion to optimize maintenance costs.	Complete	100	Perform reliability, availability, and maintainability (RAM) analysis.	Complete	100	Modifications to the skimmer pump and IXM pump to accommodate an alternative IXM water source.	12/31/18	25
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Unassigned Risks (Pending ownership of identified threats/opportunities)																					
No unassigned risks identified in November .																					

PROJECT BASELINE PERFORMANCE

Current Month

(\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
Total	1.6	1.5	1.5	-0.1	-2.0%	0.1	5.3%

Numbers are rounded to the nearest \$0.1 million

CM Schedule Performance (-\$0.1M/-2.0%)

The variance is within reporting thresholds.

CM Cost Performance (+\$0.1M/+5.3%)

The variance is within reporting thresholds.

Contract-to-Date (\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Estimate to Complete (ETC)	Variance at Completion (VAC)
Total	746.8	746.4	716.6	(0.4)	-0.1%	29.8	4.0%	762.0	731.2	14.6	30.8

Numbers are rounded to the nearest \$0.1 million

CTD Schedule Performance (-\$0.4M/-0.1%)

The variance is within reporting thresholds.

CTD Cost Performance (+\$29.8M/+4.0%)

The variance is within reporting thresholds.

Variance at Completion (+\$30.8M/+4.0%)

The variance is within reporting thresholds.

Contract Performance Report Formats are provided in Appendix A.

FUNDS vs. SPEND FORECAST (\$M)

RL-0012 Spent Nuclear Fuel Stabilization and Disposition	FY2019		Variance
	Projected Funding	Spending Forecast	
Expense – Spending Forecast	20.1	18.1	2.0
Incremental Scope Pending Change Management	0.0	0.0	0.0
Expense – Subtotal	20.1	18.1	2.0
Line Item (LI)	11.3	0.0	11.3
Incremental Scope Pending Change Management	0.0	0.0	0.0
LI – Subtotal	11.3	0.0	11.3
RL-0012 – Total	31.4	18.1	13.3

Numbers are rounded to the nearest \$0.1 million.

Funds/Variance Analysis

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

Critical Path Schedule

The project critical path schedule runs through completion of retrieval operations, including the filling of STSCs with sludge, transporting to T Plant, and placement in T Plant cell. The project is on schedule to

complete Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestone M-016-176, Complete Sludge Removal from 105KW Fuels Storage Basin, ahead of the December 31, 2019 due date.

MILESTONE STATUS

Tri-Party Agreement milestones represent significant events in project execution. RL Enforceable Agreement (EA) milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events.

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-016-176	Complete Sludge Removal	12/31/2019		9/30/2019	On Schedule

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

DOE ACTIONS / DECISIONS

None currently identified.

Section C

Solid Waste Stabilization and Disposition (RL-0013)

CH2MHILL
Plateau Remediation Company



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

November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

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

M. A. Wright
Vice President for Project
Technical Services

PROJECT SUMMARY

During the November reporting period, October 22 – November 25, 2018, Waste and Fuels Management Project (W&FMP) maintained facilities in a safe and compliant condition. The River Risk Management Project operated the Environmental Restoration Disposal Facility (ERDF) and continued document preparation for the Integrated Disposal Facility (IDF) permits.

This month:

- The Cask Storage System (CSS) final design review kickoff meeting was held November 14, 2018. The Waste Encapsulation and Storage Facility (WESF) Modifications Preliminary Design Review comments have been dispositioned by the subcontractor and returned to CHPRC. The revised Preliminary Design Report is forecasted to complete November 27, 2018. Engineers entered G Cell to obtain detailed measurements in support of the G Cell design modifications. The Request for Proposal (RFP) for design of the Maintenance and Storage Facility (MASF) Mockup Facility was issued November 12, 2018.
- At T Plant, the sludge receipt team received the fifth shipment of sludge from the 100K West Reactor Basin to T Plant. The sixth sludge shipment is forecasted for receipt on November 26, 2018.
- At the Canister Storage Building (CSB), multi-canister overpack (MCO) sampling evolutions, using the MCO Sampling Simulator, started in preparation for proficiency demonstrations planned for March 2019.

EMS Objectives and Target Status (Draft)

Objective #	Objective	Target	Due Date	Status
19-EMS-WFMP-OBJ1-P1	Receive 10 STSC sludge shipments at T Plant.	T Plant Complex will receive 10 Sludge Transport & Storage Container (STSC) sludge shipments.	9/30/2019	30%
19-EMS-WFMP-OBJ2-P1	Complete and issue the Preoperational Environmental Survey for the Capsule Storage Area (CSA)	Perform sampling and analysis, if needed, as determined by DOE to support the preparation and issuance of the Preoperational Environmental Survey for the CSA. Complete and issue the preoperational Environmental Survey report for the CSA	9/30/2019	50%
19-EMS-WFMP-OBJ3-P1	Complete the CSB Programmable Logic Controller (PLC) Upgrade Project to better avoid exceedance of the air operating permit limits.	Complete PLC Upgrade Project fieldwork. Complete the PLC Upgrade Project test report and final documentation.	9/30/2019	50%
19-ERDF-OBJ1-P1	Track maintenance recycling activities at ERDF.	Monitor and evaluate ERDF maintenance recycling activities for compliance with CHPRC procedures and complete annual review of recycling activities.	9/30/2019	17%

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	1	N/A
First Aid Cases	0	17	N/A
Near Misses	0	0	N/A

KEY ACCOMPLISHMENTS

Waste and Fuels Management Project

13.01 Project Management

- o Consent Agreement/Final Order (CAFO) closure plans: The 277-T Outside Storage Area, 221-T Railroad Cut, 221-T R5 Waste Storage Area, and 221-T Sand Filter Pad were certified and transmitted to RL on October 29, 2018, for transmittal to Ecology.

13.02 Capsule Storage & Disposition

- o Completed initial installation of a K-3 ventilation system remote shutdown in the Operations Gallery.
- o Conducted two operational drills at WESF.
- o Completed installation of replacement heat pump for the canyon egress tent. The new heat pump will provide tent heating as well as cooling.
- o Performed periodic inspection, testing, and maintenance (ITM), including canyon entries for wire rope, sheave, and hook inspections on a 15-ton crane, third party elevator inspection/certifications; 225BE shower replacements and upgrades; TK-210 instrument calibrations; and continuous air monitor (CAM) functional testing & calibrations.
- o Completed 43 preventive maintenance (PM) packages.

13.03 Canister Storage Building (CSB)

- o Performed periodic inspections, tests, and PM items, including pressure and temperature monitoring of MCO H-176, air handler six in place high-efficiency particulate air (HEPA) filter test and inspection, MCO handling machine (MHM) tube and grapple inspection, and cold weather protection inspections.
- o Initiated MCO sampling evolutions using the MCO sampling simulator in preparation for proficiency demonstrations planned for March.
- o Obtained work document approvals for installation/testing of new ventilation control programmable logic controller (PLC). New components will be installed and tested in early December.
- o Completed 38 PM packages.

13.06 Transuranic (TRU) Repackaging

- o Completed and returned fiscal year to date (FYTD) – 37.7 cubic meters of transuranic mixed (TRUM) waste.

- o Fiscal Year (FY) 2022 Commitment M-91-52-T03: Initiated Mission Needs Statement (Critical Decision-0) as a deliverable to RL by January 30, 2019.
- 13.07 Waste Receiving and Processing (WRAP)**
 - o Completed scheduled operations, Radcon, and safety inspections, including 4M AHU 203-AH-11-201A/B inspection.
 - o Completed the removal and disposition of the nine bagless transfer drums (drums were over-packed).
 - o Completed 240 surveillances and 17 PM packages.
- 13.08 T Plant**
 - o Completed replacement of the obsolete variable frequency drive for Exhaust Fan 4 and successfully completed the fan 24hour run in.
 - o Completed 540 surveillances and 25 PM packages.
- Sludge Receipt**
 - o Received the fifth sludge transport and storage container (STSC) (W-420), which was weighed and placed in cell 15L for interim storage.
- 13.09 Central Waste Complex (CWC) and Low-Level Burial Ground (LLBG)**
 - o Completed aerosol testing of caisson HEPA filters MFP-3 and MFP-4.
 - o Completed 291 surveillances and 20 PM packages.
 - o Shipped four 1800TL from CWC to Perma-Fix Northwest (PFNW) in two shipments.
 - o Received seven standard waste boxes (SWBs) from PFNW to CWC in two shipments.
- 13.15 TRU Disposition**
 - o Continuing enhancement of acceptable knowledge of the TRU waste streams RL325-01 and RLWAR-03.
 - o Continue development of the 2018 Container Specific Inventory report.
- 13.16 Offsite Spent Nuclear Fuel Disposition**
 - o Maintained coordination of offsite spent nuclear fuel disposition.
- 13.21 Mixed Waste Disposal Trenches (MWT)**
 - o Completed 135 surveillances.
 - o Received six boxes from PFNW into MWT 31 in two shipments.
- 13.24 Management of Cesium and Strontium Capsules Project**
 - o The WESF Modifications Preliminary Design Review (PDR) comments have been dispositioned and returned to CHPRC. The revised PDR is forecasted to complete November 27, 2018. Work continues on the final design.
 - o Engineers entered G Cell to obtain detailed measurements in support of the G Cell design modifications.
 - o The RFP for design of the MASF Mockup Facility was issued November 12, 2018.
- 13.25 Capsules Interim Storage Operations**
 - o The CSS final design review kickoff meeting was held November 14, 2018.

River Risk Management Project

13.10 Environmental Restoration Disposal Facility

- o Received 22,677 tons in November.
- o Received 32,443 tons FYTD.
- o Received 56 shipments (614 tons) of Plutonium Finishing Plant (PFP) waste and used the new enhanced radiological controls during disposal operations.

13.12 Integrated Disposal Facility (IDF)

- o Care & Custody
 - Completed November monthly inspections and one storm event inspection.
 - Worked with planners and PM coordinators to get IDF instructions into the Job Control System (JCS) and PRC Procedure System (PPS).

- o IDF Operational Readiness
 - Initiated work on the process information, training, and inspection addenda to support IDF Resource Conservation and Recovery Act of 1976 (RCRA) permit modifications.
 - Continued work on the Part A, security, closure plan, and waste acceptance plan addenda to support IDF RCRA permit modifications.
 - Completed 30 percent design for the facility modifications and site infrastructure.
 - Continued work on the IDF performance assessment documents to address DOE Low-Level Waste Disposal Facility Federal Review Group (LFRG) review comments.
 - Continued preparation of the IDF waste acceptance criteria and Waste Analysis Plan.
 - Continued work with Mission Support Alliance, LLC (MSA) to add additional property (the triangle area near the IDF entrance) for the IDF waste receiving infrastructure.
 - Continued interface with MSA site services (electrical, sewer, raw water, and potable water) to support IDF operations.
 - Continued the evaluation to re-categorize the IDF hazard categorization.

Project Technical Services Support

- Issued request for proposal on contractor bids – proposals due December 13, 2018, for NR-1 Reactor surface preparation.

MAJOR ISSUES

Issue:

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

Corrective Action:

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

Status:

The permit application was formally submitted to Ecology on November 21, 2017, with the 30 percent design information as agreed in the Permitting Plan. Ecology's completeness review for the WESF permit modification request was received on February 5, 2018. Ecology's completeness review for the Capsule Interim Storage (CIS) permit application was received on February 13, 2018. Ecology concluded that the permit applications were incomplete. Additional information to address the completeness review was transmitted to Ecology on May 8, 2018. Specific comments on the process information permit addendum have not yet been received from Ecology. Ecology has announced that CIS process information comments are scheduled to be provided in December 2018.

Issue:

Ecology issued findings in inspection reports for the LLBG Trenches 31-34 and CWC regarding major risk labeling. The findings direct RL and CHPRC to label the containers with the major risks of the dangerous waste contents. CHPRC uses the U.S. Department of Transportation (DOT) hazard class labeling system (which includes the use of radiological labels) to comply with the regulatory requirement.

Corrective Action:

Work with RL to obtain agreement from Ecology that CHPRC may use the DOT hazard class labeling system, as this complies with the regulatory requirement for a "system" in use that performs the function in accordance with local, state, or federal regulations.

Status:

CHPRC and RL met with Ecology inspectors regarding this item, and the parties agreed to elevate the issue to management for resolution. Ecology is working through the rule-making process to incorporate these requirements into the regulations but continues to identify this issue in recent inspections. The project continues to await direction from RL.

Issue:

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

Corrective Action:

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

Status:

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

Issue:

TK-100 is a collection tank located underground to the south of the 225B Building and collects miscellaneous contaminated or potentially contaminated waste liquids. TK-100 has an approximate capacity of 4,000 gallons. The current volume of TK-100 is approximately 3,200 gallons. Recent sampling of TK-100 indicated a cesium (Cs)-137 sample result higher than the acceptance criteria at the Effluent Treatment Facility (ETF). As a result, disposal of the tank contents via the normal route to the ETF via tanker truck may not be possible.

Corrective Action:

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

Status:

Discussions have been in progress with Washington River Protection Solutions LLC (WRPS) ETF personnel regarding options for acceptance of the tank liquid contents. Additionally, an analysis is in progress to determine additional options for disposal of the TK-100 contents. Planning efforts are underway to use an ion-exchange module (IXM) to reduce the Cs-137 inventory, thereby allowing shipment of the liquid to the ETF.

Issue:

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

Corrective Action:

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

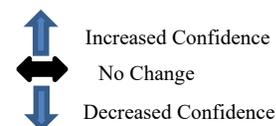
Status:

Analysis of the Hastelloy emissivity has been completed resulting in one additional Sr cask. Analysis for increasing the Cs thermal storage margin will be initiated at the completion of the final design.

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																			
RL-0013/WBS-013																						
Explanation of major changes to the project monthly stoplight chart: Per review with the project, risk WSD-W135-16, <i>Content and Approval of Critical Decision Packages</i> , was removed from the stoplight chart, as it was closed and merged with WSD-W135-05, Requirement Changes and Additions for Extend Cs/Sr Capsule Storage. Risk WSD-019, <i>MLLW & TRU Treatment Impacts</i> , was removed from the stoplight chart, as it no longer carries a critical threat value.																						
Realized Risks (Risks that are currently impacting project cost/schedule)																						
WSD-CSA-007: Delays in CSS Design Impact PDSA	The final development of the Preliminary Documented Safety Analysis (PDSA) is impacted due to delays in completing the CSS final design, resulting in schedule impacts to the CSA construction and CSS fabrication. Risk Handling Strategy: Control Probability: Medium (26% to 74%) Worst Case Impacts: \$0K, 96 days			Risk Event: The CSS final design was delayed due to late identification of the need for additional shielding in the cask design due to the unique nature of the capsules. The final design was revised to reflect a more conservative assumption for Hastelloy emissivity for the strontium capsules. Accident analysis needed to support development of the PDSA cannot be completed until the final design is complete. The PDSA development cannot complete until CSS design is complete. <table border="1"> <thead> <tr> <th>Risk Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>CHPRC has provided draft PDSA for review and comment to internal reviewers and DOE to allow early feedback and comment incorporation.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>CHPRC is working with the CSS design contractor to prioritize accident analysis needed for the PDSA development.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Complete shielding design and accompanying analysis for final design.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Review CSS final design and incorporate into PDSA.</td> <td>2/18/19</td> <td>10%</td> </tr> <tr> <td>Submit PDSA to DOE for approval.</td> <td>5/24/19</td> <td>-</td> </tr> </tbody> </table> Risk Action Assessment: No significant changes in November. The CSS final design was submitted by the design contractor to CHPRC. CHPRC review of the final design is in progress. CHPRC final design includes revision to the Hastelloy emissivity value for strontium capsules.	Risk Recovery Action(s)	FC Date	%	CHPRC has provided draft PDSA for review and comment to internal reviewers and DOE to allow early feedback and comment incorporation.	Complete	100	CHPRC is working with the CSS design contractor to prioritize accident analysis needed for the PDSA development.	Complete	100	Complete shielding design and accompanying analysis for final design.	Complete	100	Review CSS final design and incorporate into PDSA.	2/18/19	10%	Submit PDSA to DOE for approval.	5/24/19	-
Risk Recovery Action(s)	FC Date	%																				
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Review CSS final design and incorporate into PDSA.	2/18/19	10%																				
Submit PDSA to DOE for approval.	5/24/19	-																				
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																						
No critical risks identified in November.																						

High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)

<p>WSD-013B: TRU Waste Volumes or Characteristics - Processing</p>	<p>TRU waste not identified in records or higher-than-planned volumes due to inaccurate records or unexpected soil contamination impacts TRU processing. This waste is derived from retrieval of waste, non-compliant newly generated waste received from generators, TRU waste that is determined to be low-level and requires further treatment, or more waste is generated than in the plan, resulting in unplanned in-scope cost impacts.</p> <p>Risk Handling Strategy: Accept</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$2 million, 0 day</p>			<p>Risk Trigger Metric: A significant volume of newly generated waste is received or nonconforming waste results in the need for new capabilities.</p> <table border="1" data-bbox="899 310 1572 359"> <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>Mitigation Assessment: No significant changes in November. The destruction of two drums with oil from large box shipment TC158 was not performed at the offsite processing facility due to backlog. An exception to 0063 is being requested and a waste profile is being approved to temporarily store the waste at CWC until the offsite facility is ready to treat the waste.</p>	Mitigation Action(s)	FC Date	%	None identified at this time.	N/A	N/A												
Mitigation Action(s)	FC Date	%																				
None identified at this time.	N/A	N/A																				
<p>WSD-097: Major Equipment Failure – T Plant</p>	<p>T Plant suffers a major equipment failure (crane, primary power supply, etc.), resulting in cost impacts and schedule delays.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Low (10% to 25%) Worst Case Impacts: \$3 million, 96 days</p>			<p>Risk Trigger Metric: During planned facility operation activities, a suspected system component is discovered that requires attention or an unexpected malfunction results in this risk being realized. This risk will continue throughout the CHPRC (September 30, 2019) contract.</p> <table border="1" data-bbox="899 772 1572 835"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Identify and procure critical spare parts for the T Plant crane.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Implement aggressive CM/PM program.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p>Mitigation Assessment: The project has put into place mitigating strategies (i.e., aggressive surveillance and maintenance [S&M] activities) to help reduce this risk. Mechanical maintenance on the canyon crane was completed in November. The annual electrical crane maintenance, including the camera cable, is currently forecasted in January. The canyon crane is currently operational; however, an adequate spare parts inventory is needed. The project identified spare parts for the canyon crane and continues procuring critical spares. The project has received mechanical brake, motor parts, electrical parts, and spare parts.</p>	Mitigation Action(s)	FC Date	%	Identify and procure critical spare parts for the T Plant crane.	Ongoing	N/A	Implement aggressive CM/PM program.	Ongoing	N/A									
Mitigation Action(s)	FC Date	%																				
Identify and procure critical spare parts for the T Plant crane.	Ongoing	N/A																				
Implement aggressive CM/PM program.	Ongoing	N/A																				
<p>WSD-136: CWC/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>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$2 million, 0 days</p>			<p>Risk Trigger Metric: Maintenance activities at CWC increase due to aging facilities.</p> <table border="1" data-bbox="899 1178 1572 1373"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Floor repairs, Master Documented Safety Analysis (MDSA) container stacking requirements, replacement of exhaust fans.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Obtain spare parts for the fire alarm control units (FACU) via deactivation of old FACUs.</td> <td>4/2019</td> <td>N/A</td> </tr> <tr> <td>Conduct fieldwork for 2727W deactivation.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Conduct fieldwork for MO433 deactivation.</td> <td>4/2019</td> <td>10</td> </tr> <tr> <td>Conducting doorframe replacements and electrical equipment repairs as necessary.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p>Mitigation Assessment: No significant changes in November. The WRAP roof was analyzed for structural integrity following water intrusion. There was insufficient basis for the roof's integrity, which may lead to an eventual roof replacement. The MDSA container stacking requirements are complete. Maintenance work at CWC will be scheduled based on facility work priorities. The WRAP Facility experienced failure of the majority of the breakers earlier in FY2018 and repaired Motor Control Centers. A sinkhole in the WRAP parking lot was repaired in April 2018. Repair to the line and fire hydrant causing the sinkhole were completed in October 2017. Additional FACU spare parts are being obtained through the deactivation of MO433, for which the FMP is complete.</p>	Mitigation Action(s)	FC Date	%	Floor repairs, Master Documented Safety Analysis (MDSA) container stacking requirements, replacement of exhaust fans.	Ongoing	N/A	Obtain spare parts for the fire alarm control units (FACU) via deactivation of old FACUs.	4/2019	N/A	Conduct fieldwork for 2727W deactivation.	Complete	100	Conduct fieldwork for MO433 deactivation.	4/2019	10	Conducting doorframe replacements and electrical equipment repairs as necessary.	Ongoing	N/A
Mitigation Action(s)	FC Date	%																				
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Conduct fieldwork for MO433 deactivation.	4/2019	10																				
Conducting doorframe replacements and electrical equipment repairs as necessary.	Ongoing	N/A																				

<p>WSD-CSA-006: Ecology Temporary Authorization contingent on 90% Design for CSA RCRA Permit Application</p>	<p>The Washington State Department of Ecology (Ecology) will, as a pre-condition to approve the temporary authorization (TA) for CSA construction, require that the CSA 90 percent detailed design package to be incorporated into the CSA RCRA Permit Application (to issue for public comment), thereby delaying the TA and impacting the CSA construction schedule.</p> <p>Risk Handling Strategy: Accept</p> <p>Probability: Very Likely (>90%) Worst Case Impacts: \$0, 96 days</p>			<p>Risk Trigger Metric: 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" data-bbox="889 296 1575 342"> <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>Mitigation Assessment: No significant changes in November. CHPRC continues to have regular interfaces with Ecology to discuss the issue and are evaluating options should the 90 percent design be required. The permit application was formally submitted to Ecology on November 21, 2017, with the 30 percent design information. The project received a determination of incompleteness on February 13, 2018. The determination of incompleteness is primarily associated with the need for additional design information. CHPRC submitted supplemental design information for the WESF Mods and CSA to RL in May to support Ecology's completeness determination. RL has transmitted this information to Ecology. Ecology is currently reviewing the design information. The project anticipates that a temporary authorization will be necessary if the permitting process is not timely.</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>FY2019 Risk Triggers (Risk could be realized in FY2019)</p>																						
<p>WSD-125: 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 Solid Waste Operations Complex (SWOC) (excluding TRU retrieval activities) and requires additional resources to respond.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$3 million, 0 day</p>			<p>Risk Trigger Metric: Degraded containers are discovered in CWC.</p> <table border="1" data-bbox="889 825 1575 1037"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform daily/weekly waste container surveillances to identify container abnormalities.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Manage a "watch list" of waste containers that have shown signs of degradation or are associated with degraded containers.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Process waste packages at a rate funded by RL.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Procuring stainless steel 85-gallon overpacks for alternative storage of containers that show signs of degradation.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>FY2019 overpacks planned: 200</td> <td>9/2019</td> <td>0</td> </tr> </tbody> </table> <p>Mitigation Assessment: No significant changes in November. The project continued to perform container surveillances in November to identify container and container cover abnormalities. Twenty-five drums were placed in overpacks in FY2018, in addition to 24 containers in 2404WC with signs of exterior corrosion, which were placed in stainless steel overpacks on October 18, 2017. Furthermore, the overpack of storage box 75DMA16F3 was completed. RL authorized additional FY2019 TRU commercial repacking, allowing shipments to PFNW for repackaging to continue. The remaining containers will continue to require surveillance and enhanced monitoring.</p>	Mitigation Action(s)	FC Date	%	Perform daily/weekly waste container surveillances to identify container abnormalities.	Ongoing	N/A	Manage a "watch list" of waste containers that have shown signs of degradation or are associated with degraded containers.	Ongoing	N/A	Process waste packages at a rate funded by RL.	Ongoing	N/A	Procuring stainless steel 85-gallon overpacks for alternative storage of containers that show signs of degradation.	Complete	100	FY2019 overpacks planned: 200	9/2019	0
Mitigation Action(s)	FC Date	%																				
Perform daily/weekly waste container surveillances to identify container abnormalities.	Ongoing	N/A																				
Manage a "watch list" of waste containers that have shown signs of degradation or are associated with degraded containers.	Ongoing	N/A																				
Process waste packages at a rate funded by RL.	Ongoing	N/A																				
Procuring stainless steel 85-gallon overpacks for alternative storage of containers that show signs of degradation.	Complete	100																				
FY2019 overpacks planned: 200	9/2019	0																				
<p>WSD-W135-19: Unexpected Contamination is Found in the WESF Facility</p>	<p>More contamination is found at WESF resulting in the need to clean it up to reduce worker exposure or requiring more worker protection.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Likely (75% to 90%) Worst Case Impacts: \$2,000K, 32 days</p>			<p>Risk Trigger Metric: During WESF preparations for equipment installation in the G Cell, the canyon, or the truck port, contamination is found that requires decontamination. During equipment installation, contamination is encountered that requires cleanup (e.g. anchoring of equipment inside WESF causes release of contamination).</p> <table border="1" data-bbox="889 1451 1575 1562"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Hire additional supervisor and rad workers to remain in compliance with stringent rad controls.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Implement lessons learned.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Continuously utilize respiratory protection.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p>Mitigation Assessment: No significant changes in November. The project began waste preparations for removal from the canyon and no excessive contamination has been discovered thus far.</p>	Mitigation Action(s)	FC Date	%	Hire additional supervisor and rad workers to remain in compliance with stringent rad controls.	Ongoing	N/A	Implement lessons learned.	Ongoing	N/A	Continuously utilize respiratory protection.	Ongoing	N/A						
Mitigation Action(s)	FC Date	%																				
Hire additional supervisor and rad workers to remain in compliance with stringent rad controls.	Ongoing	N/A																				
Implement lessons learned.	Ongoing	N/A																				
Continuously utilize respiratory protection.	Ongoing	N/A																				

<p>WSD-W135-31: Canyon Crane non-functional/not Serviceable</p>	<p>The existing WESF crane was put back into limited usage for the W-130 Project; however, the crane is found to be unserviceable, cannot be repaired for use, or fails during the W-135 operational activities.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$300K, 96 days</p>			<p>Risk Trigger Metric: The canyon crane fails during use or cannot be returned to service after maintenance.</p> <table border="1" data-bbox="889 268 1575 426"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform preventative/corrective maintenance procedures (i.e. replacement of the wire rope and hook) on the crane early to identify corrective maintenance issues.</td> <td>9/30/19</td> <td>40</td> </tr> <tr> <td>Procure new crane hook and block.</td> <td>9/30/18</td> <td>100</td> </tr> <tr> <td>Refurbish current crane block.</td> <td>9/30/20</td> <td>0</td> </tr> <tr> <td>Procure critical spares.</td> <td>9/30/21</td> <td>0</td> </tr> </tbody> </table> <p>Mitigation Assessment: No significant changes in November. Refurbishment of the crane is in process. If full refurbishment is unsuccessful, replacement of the canyon crane as a like-for-like is not possible, as the original crane manufacturer is no longer in business. A similar replacement hook and block have been procured.</p>	Mitigation Action(s)	FC Date	%	Perform preventative/corrective maintenance procedures (i.e. replacement of the wire rope and hook) on the crane early to identify corrective maintenance issues.	9/30/19	40	Procure new crane hook and block.	9/30/18	100	Refurbish current crane block.	9/30/20	0	Procure critical spares.	9/30/21	0
Mitigation Action(s)	FC Date	%																	
Perform preventative/corrective maintenance procedures (i.e. replacement of the wire rope and hook) on the crane early to identify corrective maintenance issues.	9/30/19	40																	
Procure new crane hook and block.	9/30/18	100																	
Refurbish current crane block.	9/30/20	0																	
Procure critical spares.	9/30/21	0																	
<p>WSD-CSS-002: CSS Subcontractor Change Orders & Claims</p>	<p>The CSS construction contractor submits excessive change orders and claims, resulting in schedule delays and increased subcontractor cost.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$2,900K, 24 days</p>			<p>Risk Trigger Metric: The CSS construction contractor will fabricate CSS equipment under a fixed price contract. If changes to the design are found to be necessary during fabrication, change orders may be submitted by the fabricator.</p> <table border="1" data-bbox="889 711 1575 909"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Bid award will be based on best value approach to allow selection of the best qualified contractor. Contractor selection will be handled by formal evaluation processes to ensure scope is understood and estimated correctly.</td> <td>Complete</td> <td>100</td> </tr> <tr> <td>Scope of each task will be reviewed prior to initiation to ensure contractor is in alignment for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor's location for face-to-face interface meetings.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p>Mitigation Assessment: No significant changes in November. Fabrication of CSS equipment is not planned until FY2020 and the final design review is scheduled to occur in fiscal month November.</p>	Mitigation Action(s)	FC Date	%	Bid award will be based on best value approach to allow selection of the best qualified contractor. Contractor selection will be handled by formal evaluation processes to ensure scope is understood and estimated correctly.	Complete	100	Scope of each task will be reviewed prior to initiation to ensure contractor is in alignment for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor's location for face-to-face interface meetings.	Ongoing	N/A						
Mitigation Action(s)	FC Date	%																	
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Scope of each task will be reviewed prior to initiation to ensure contractor is in alignment for the upcoming work. Contractor oversight is accomplished via weekly interface meetings and trips to the contractor's location for face-to-face interface meetings.	Ongoing	N/A																	
<p>WSD-CSS-011: Greater than Expected Comments on CSS Design are Received</p>	<p>The CSS design receives more comments than originally expected, resulting in schedule delays.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$600K, 48 days</p>			<p>Risk Trigger Metric: CSS final design review comment resolution exceeds the time planned due to volume or difficulty in comments.</p> <table border="1" data-bbox="889 1125 1575 1234"> <thead> <tr> <th>Mitigation Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>CHPRC will provide recommendations for comment resolution, minimizing the effort to respond.</td> <td>4/30/19</td> <td>0</td> </tr> <tr> <td>CHPRC will work closely with NAC during comment resolution to ensure all comments are understood.</td> <td>4/30/19</td> <td>0</td> </tr> </tbody> </table> <p>Mitigation Assessment: The CSS final design review is in progress. Comments will be reviewed prior to transmittal to the design contractor for duplications, editorial comments, and comments, which must be answered internally to minimize effort to respond.</p>	Mitigation Action(s)	FC Date	%	CHPRC will provide recommendations for comment resolution, minimizing the effort to respond.	4/30/19	0	CHPRC will work closely with NAC during comment resolution to ensure all comments are understood.	4/30/19	0						
Mitigation Action(s)	FC Date	%																	
CHPRC will provide recommendations for comment resolution, minimizing the effort to respond.	4/30/19	0																	
CHPRC will work closely with NAC during comment resolution to ensure all comments are understood.	4/30/19	0																	
<p>Unassigned Risks (Pending ownership of identified risks/opportunities)</p>																			
<p>No unassigned risks identified in November.</p>																			

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	13.5	13.6	12.8	24.1	0.2%	812.4	6.0%

Numbers are rounded to the nearest \$0.1 million

CM Schedule Performance (+24.1M/+0.2%)

The CM schedule variance is within threshold.

CM Cost Performance (+812.4M/+6.0%)

The CM positive cost variance is primarily associated with negotiating a new contract for the Commercial Repackaging vendor for FY2019 and the new pricing went into effect during the month; the CSS final design cost by the sub-contractor is significantly lower than budgeted. At the time the baseline was approved, these activities were planned based on FY2018 actuals. The contractor has been able to utilize labor efficiencies to complete their scope. Offsetting the favorable variance is WESF Mods design, which has an unfavorable cost variance this month due to a greater effort than planned by the contractor to advance the design and WESF PM labor costs exceeding the plan. Delays with the CSS-related design input has caused an inefficient design process and some rework. Additionally, ERDF received a substantial credit in the current period from disposing of other Hanford contractor (OHC) waste, which offset the negative variances.

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	1,366.3	1,365.6	1,269.8	(0.7)	-0.1%	95.8	7.0%	1,562.0	1,462.8	192.9	99.2

Numbers are rounded to the nearest \$0.1 million

CTD Schedule Performance (-\$0.7M/-0.1%)

The CTD schedule variance is within threshold.

CTD Cost Performance (+\$95.8M/+7.0%)

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 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 SWOC; reducing dedicated resources for the Corrective Action System (CAS) and using project-wide support; optimizing maintenance scheduling and execution reducing operations field work supervision; increasing emphasis on managing planned absence coverage within existing resources; simplifying and optimizing acquisition and procurement management within W&FMP; and eliminating the separate waste forecast system by integrating forecasting as part of the baseline process and the Solid Waste Inventory Tracking System (SWITS). The cost variance is also partially due to significant credits from the transportation and disposal of other Hanford contractor waste at ERDF.

Variance at Completion (+\$99.2M/+6.4%)

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

Contract Performance Report Formats are provided in Appendix A

FUNDS vs. SPEND FORECAST (\$M)

WBS 013/RL-0013	FY2019		Variance
	Projected Funding	Spending Forecast	
Waste Stabilization & Disposition	173.5	158.5	15.0
Management of Cesium and Strontium Capsules (Line Item)	6.6	3.6	3.0
Incremental Scope Pending Change Management	0.0	0.0	0.0
RL-0013 – Total	180.1	162.1	18.0

Numbers are rounded to the nearest \$0.1 million.

Funds/Variance Analysis

The FY2019 projected funding level for project baseline summary (PBS) RL-0013 of \$180.1 million is based on the RL integrated priority list (IPL). The \$18 million variance primarily reflects work scope included in the IPL that is pending authorization.

Critical Path Schedule

Critical Path Analysis will be provided upon request.

MILESTONE STATUS

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestones represent significant events in project execution. RL enforceable agreement milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The following table is a one-year look ahead of commitments and Tri-Party Agreement enforceable milestones and non-enforceable target due dates.

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	12/31/2018		12/19/2018	On schedule
C-026-07M	Submit Tritium Treatment Technology Developments to Ecology and EPA	3/31/2019		2/14/2019	On schedule
M-026-07D	Evaluation of Tritium Treatment Technology to EPA and Ecology	3/31/2019		2/14/2019	On schedule
M-091-03M	Submit Revision of TRUM Waste and MLLW PMP to Ecology	6/30/2019		6/30/2019	On schedule
M-091-52-T01B	Remove 10 Additional Mixed Waste Containers from Outside Storage Area A and/or B	11/30/2019		1/17/2019	On schedule
M-091-52-T01C	Remove an Additional 20 Mixed Waste Containers from OSA A and/or B	11/30/2020		9/5/2019	On schedule

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Contract Section	Project	GFS/I	Status
CONTRACT			
J.12/C.2.2, C.2.3	PBS-RL-0011, Plutonium Finishing Plant Closure Project PBS-RL-0013, Solid and Liquid Waste Treatment and Disposal	Offsite Transportation of Radioactive Material: RL provides equipment and government drivers to transport TRU materials outbound/inbound between the Hanford Site and Northwest locations. RL is the authorized shipper and acts as signatory on the shipping papers, and ensures compliance with DOE Manual 460.2-1. RL arranges for Commercial Motor Vehicle Safety Alliance (CVSA) level VI vehicle inspections and verifies that the government drivers meet the applicable DOT Federal Motor Carrier Safety Regulations (49 CFR 382 and 383). RL also inspects the load securement to ensure compliance with DOT regulations and/or treatment, storage, and disposal (TSD) requirements.	Ongoing
J.12/C.2.3.6	PBS-RL-0013, Transuranic Waste Certification	WIPP provides shipping resources and manages the schedule for transportation of these containers to WIPP. The schedule is variable, and the number of shipments is controlled by DOE-HQ on a complex-wide priority. Cost for shipment of TRU waste offsite is borne by the Carlsbad Field Office.	No WIPP shipments are planned within the remaining contract period of performance.

DOE ACTIONS / DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
CSB – Obtain RL DSA Approval	1/31/2018 (A)	12/30/2018
Retrieve RSW EE/CA for CH & RH – RL Complete Review of Draft Document	1/9/2019	2/7/2019
CSS Final Design – RL Direction to Implement Impacts of Operating Margin increases per RL: 18-AMRP-0151	3/27/2019	4/14/2019
CSA CD2/3 – RL: Review/Approve PDSA (1 st FY)	5/9/2019	7/22//2019

Section D

Soil and Groundwater Remediation Project (RL-0030)

CH2MHILL
Plateau Remediation Company



J. D. Rendall
Vice President and
Project Manager for
Soil and Groundwater
Remediation Project

M. A. Wright
Vice President for
Project Technical
Services

November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

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

PROJECT SUMMARY

Pump and Treat (P&T) Operations continued making progress on the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) remedial process documentation for the River Corridor and Central Plateau. Groundwater treatment completed in November 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	27.1	55.2	3.1	6						
HX P&T	23.8	49	2.3	4.6						
KR-4 P&T	10.8	21.8	0.1	0.2						
KW P&T	11.9	25	0.5	1.1						
KX P&T	38.8	74.3	2.2	4.4						
200 West P&T	90.5	180.0	8.6	17.6	169	344.0	.3x10 ¹²	.38x10 ¹²	4.2	9.6
Combined	202.9	405.3	16.8	34	169	344.0	3x10¹²	.38x10¹²	4.2	9.6
FY2019 KPG	--	1,800.0	--	N/A	--	N/A	--	N/A	--	N/A

Well Drilling by Area	FY2019 Planned	Current Month	FY2019 Cumulative
100-KR-4	2	0	0
100-HR-3	9	0	0
200-BP-5	4	0	0
200-UP-1	3	0	0
200-ZP-1	5	0	0
M-24 Milestone	5	0	0
100-F/IU	6	0	0
Total Wells	34	0	0
Site Wide Boreholes	9	0	0

EMS Objectives and Target Status (Draft)

Objective Action Plan #	Objective	Due Date	Status
19-EMS-SGRP-OBJ1-P1	Reduce adverse environmental impact to health and the environment by monitoring and confirming low-carbon tetrachloride emissions at the 200 West Pump and Treat Facility. Evaluate treated off-gas analytical results from compliance sampling and process sampling each quarter.	7/31/2019	25%
19-EMS-SGRP-OBJ2-P1	Installation and testing of a high-density polyethylene (HDPE) pipeline between Modular Storage Units (MSU) and the 200 West Pump and Treat. Objective will eliminate the need to truck the MSU water to the pump and treat (P&T) and thereby reduce greenhouse gas emissions and other waste production from vehicle use.	12/31/2018	100%

Objective Action Plan #	Objective	Due Date	Status
19-EMS-SGRP-OBJ3-P1	Use of electronically completed Groundwater Sampling Reports (GSR) in FLEDGE 3.0. This will lead to a reduction in paper use and waste through completion and record storage of GSRs electronically.	9/30/2019	90%

TARGET ZERO PERFORMANCE

(Reported on a calendar month basis)

	CM Quantity	Rolling 12 Month	Comment
Days Away, Restricted or Transferred	0	1	NA
Total Recordable Injuries	0	0	NA
First Aid Cases	0	*19	* 1 First Aid case, PTS in support of RL-0030.
Near-Misses	0	0	NA

KEY ACCOMPLISHMENTS

Strategic Integration

- The fourth workshop to discuss development of the cumulative impact evaluation (CIE) approach was held with participants from CHPRC, DOE Richland Operations Office (RL), DOE Office of River Protection (ORP), U.S. Environmental Protection Agency (EPA) and Ecology on November 13, 2018. Workshop four focused on the saturated zone (groundwater) models and reporting elements. The CIE will provide a dynamic set of tools to enable the evaluation of cumulative impacts to groundwater from potential sources, including existing groundwater contamination. With an objective to be modular, maintainable, flexible, and efficient, it is envisioned that the tools will support evaluation of alternative remediation and closure decisions for source areas and groundwater across the Central Plateau. With the four planned workshops complete, CIE development activities will transition to drafting the approach document chapters.
- CHPRC is coordinating with Mission Support Alliance, LLC (MSA) to purchase and install a new computing system in 2019 to support modeling activities, including the CIE. The order for the new system has been placed, with hardware scheduled to be received in December 2018 and January 2019. The new computing system will replace the aging existing (Tellus) system.

River Corridor

300-FF-5 OU

- Completed the required weekly groundwater monitoring at the Stage B Sequestration site on October 25, 2018, and initiated monthly groundwater monitoring on November 18, 2018.
- Initiated demobilization of the 300-FF-5 Stage B sequestration project site on November 5, 2018.

- Initiated the initial modeling transport calibrations and data interpretation for the Stage B modeling.
- Completed preparation of the draft Stage B Uranium Sequestration Installation Report on November 15, 2018.

100-BC-5

- Submitted the revised Draft Revision 0 Proposed Plan (PP) to RL on October 23, 2018. RL forwarded to EPA for review on October 24, 2018.
- Submitted the revised Draft Revision 0 Remedial Investigation/Feasibility Study (RI/FS) Chapter 10 on November 7, 2018. RL forwarded to EPA for review on November 14, 2018.

100-HR-3 OU

- Conducted kickoff meeting for the 100-HR-3 drilling campaign on November 26, 2018.

100-KR-4

- Issued the Revision 0 Soil Flushing Treatability Sampling and Analysis Plan (SAP) on November 6, 2018.
- Completed drilling at well 199-K-235 on November 8, 2018, reaching a total depth of 125 feet. Initiated drilling at well 199-K-236 on October 29, 2018. This is the last well to be drilled for the KW soil flushing treatability test.
- Initiated revision to the 100-K draft Technical Impracticability (TI) Waiver document based on EPA comment received November 5, 2018.

100-NR-2 OU

- Submitted the Decisional Draft B RI/FS to RL for review on November 5, 2018.

Central Plateau**200-UP-1 OU**

- Received regulatory approval of two Tri-Party Agreement change notices (TPA-CN-0826 for the UP-1 drilling SAP and TPA-CN-0829 for the UP-1 WMP) on November 16, 2018. These Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) change notices enable the planned fiscal year (FY) 2019 well drilling.

200-BP-5/200-PO-1 OUs

- Incorporated resolution of RL's comments into the Draft A 200-BP-5/200-PO-1 FS, which is on schedule to be transmitted to RL in mid-December.
- Received regulatory approval of the Revision 0 200-BP-5 Drilling SAP on November 20, 2018.

200-ZP-1 OU

- Briefed RL on November 15, 2018, on the data quality objective (DQO)/SAP for the Ringold A characterization.
- Briefed EPA on the 200 West P&T third quarter calendar year (CY) 2018 performance on November 19, 2018. Highlights include:
 - Averaged throughput of 1,865 gallons per minute (gpm).
 - Treated over 247 million gallons of water.
 - Effluent continues to be at or below cleanup levels.

200-EA-1

- Continued making progress on completion of the RI/FS work plan and SAP:
 - Resolved 26 of the 30 Ecology comments.
 - Resolved all EPA comments.

- Supported RL on preparation of the Interagency Management Integration Team (IAMIT) agreement form for calculation of the Upper Confidence Limit (UCL) using the pro-UCL software. RL, EPA, and Ecology signed the pro-UCL IAMIT agreement form on November 15, 2018.
- Supported RL during negotiations with Ecology on the two remaining issues that deal with infiltration rates and polychlorinated biphenyls/congener samples.

Central Plateau Closure Plans

- Resolved RL and Ecology comments on the 216-A-37-1 Crib closure plan on November 15, 2018.

Project Technical Services Accomplishments

- Training and Procedures published five project-specific Field Work Supervisor (FWS) qualification cards to complement the new FWS core course number 604241.
- Project Delivery
 - Completed BP5 (YE32) 4-inch high-density polyethylene (HDPE) bonding and flushing, completed road crossing work and commenced install of mechanical and electrical racks.
 - Completed demobilization and equipment removal from the 300-FF5 site, provided river pumps and de-energized power from site.

Modular Storage Units (MSUs)

- Briefed EPA on November 5, 2018, on the results of the MSU Optimization Pilot Test results. Received concurrence from EPA to treat as much water as possible in the next transfer of approximately 375,000 gallons of water from MSU number 3 and to extend the optimization pilot test into CY2019 due to freezing pipelines.

200 West P&T

- Operated the 200 West P&T at an average of 2,094 gpm in November.
 - Completed conversion of Injection Transfer Building (ITB) 2, main line A piping to stainless steel.
 - Completed modification of ITB 1 chlorine injection system to supply chlorine disinfection to all injection well piping serviced by ITB 1.
 - Completed extension and tie-in of the cross-site transfer line to the modutanks and commenced decanting from the modutanks to the 200W P&T.

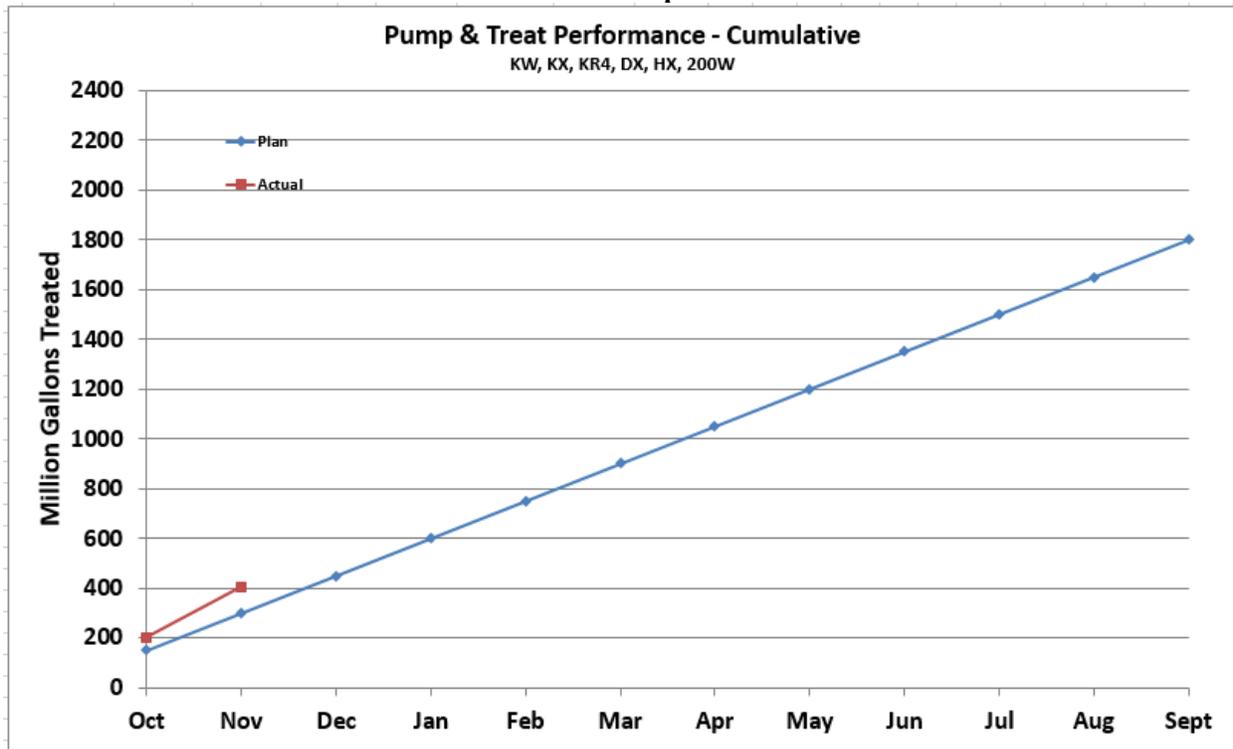
100 Area P&Ts

- Operated the DX P&T at 628 gpm, below the facility capacity of 775 gpm.
- Operated the KR-4 P&T at 249 gpm, below the facility capacity of 330 gpm.
- Operated the KW P&T at 275 gpm, below the facility capacity of 330 gpm.
 - Completed stainless steel piping conversion of feed pump discharge header.
- Operated the KX P&T at 898 gpm, below the facility capacity of 900 gpm.
- Operated the HX P&T at 550 gpm, below the facility capacity of 900 gpm.

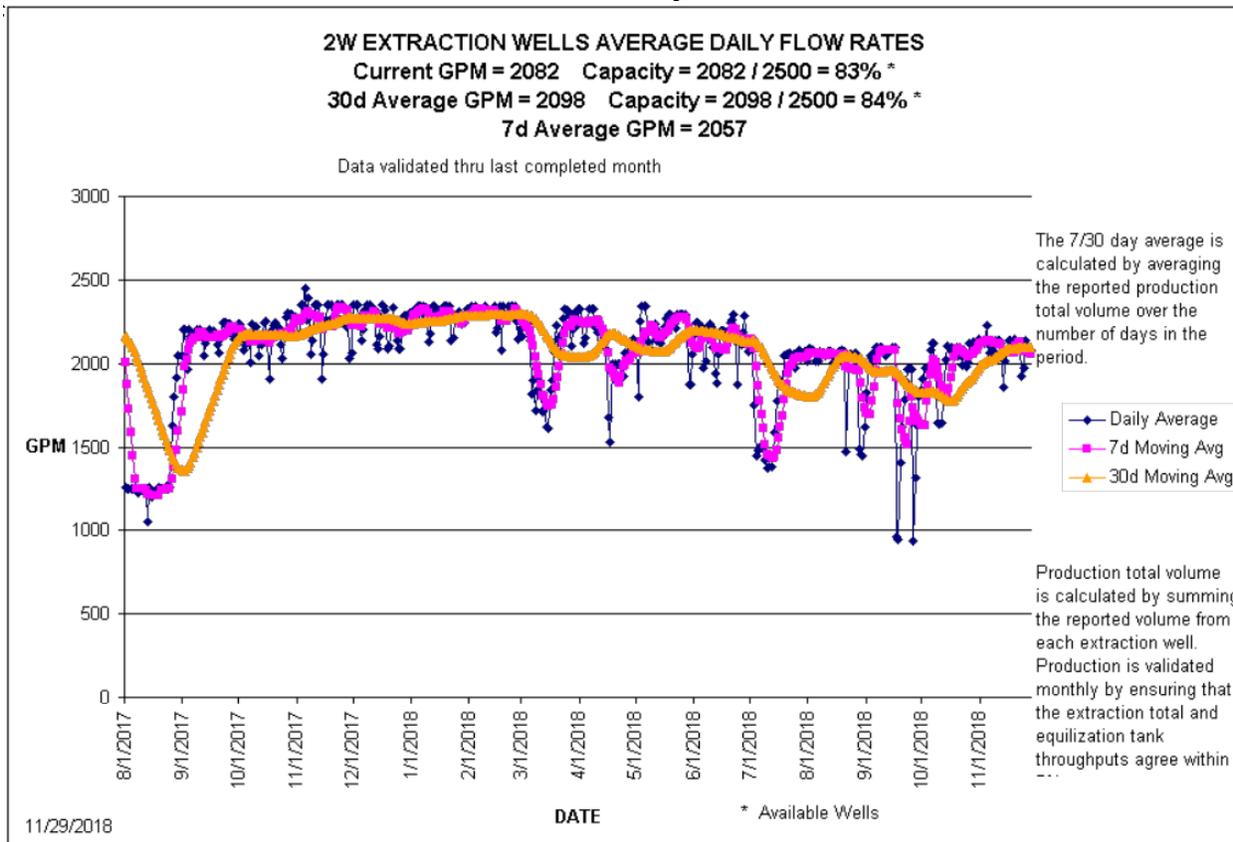
Groundwater P&T Facilities

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

FY2019 P&T Operations



200 West P&T Operations



MAJOR ISSUES

Issue:

Experiencing delays from the Yakama Nation (YN) in the approval of the 100-BC-5 RI/FS. The following chapters were provided to the YN:

- Ecological Risk Assessment (Chapter 7) provided in April 2018.
- Revised cultural resources information (Chapters 3 and 9) provided on October 17, 2018.

YN has requested more time to provide comments on these chapters.

Corrective Action:

Establish a deadline for receipt of YN comments. Establish a policy on how to deal with YN comments on this and future decision documents.

Status:

The deadline for YN comments on the cultural resources information (Chapters 3 and 9) was extended to December 10, 2018. A deadline has not been established for comments on the ecological risk assessment (Chapter 7).

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							
RL-0030/WBS-030										
Explanation of major changes to the project monthly spotlight chart: No major changes in November.										
Realized Risks (Risks that are currently impacting project cost/schedule)										
No realized risks identified in November.										
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)										
No critical risks identified in November.										
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)										
SGW-ZP1-02: ZP1 - Well Re-Alignment Design Differs from Planning Assumptions	The final design for a given well realignment or connection exceeds the planning assumptions, resulting in cost impacts. Risk Handling Strategy: Accept Probability: Very Likely (>90%) Worst Case Impacts: \$1,512K, 16 days			Risk Trigger Metric: Planning assumption quantities are exceeded or design maturity changes material type, requiring additional material and labor to complete the scope. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #e0e0e0;"> <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> Mitigation Assessment: Although the risk is accepted, the project will work diligently to see design solutions that are the most cost effective.	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								
FY2019 Risk Triggers (Risk could be realized in FY2019)										
No FY19 risk triggers identified in November.										
Unassigned Risks (Pending ownership of identified risks/opportunities)										
No unassigned risks identified in November.										

PROJECT BASELINE PERFORMANCE

Current Month

(\$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	9.6	9.7	9.7	0.1	1.1%	(0.0)	-0.0%

Numbers are rounded to the nearest \$0.1 million.

CM Schedule Performance (+\$0.1M/+1.1%)

The current period positive schedule variance is within reporting thresholds.

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

The current period cost variance is within reporting thresholds.

Contract-to-Date

(\$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	1,542.7	1,542.5	1,489.9	(0.2)	-0.0%	52.6	3.4%	1,713.2	1,660.8	170.9	52.4

Numbers are rounded to the nearest \$0.1 million.

CTD Schedule Performance (-\$0.2M/-0.0%)

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

CTD Cost Performance (+\$52.6M/+3.4%)

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

Variance at Completion (+\$52.4M/+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	FY2018		Variance
	Projected Funding	Spending Forecast	
Spending Forecast	132.9	124.4	8.5
Incremental Scope Pending Change Management	0.0	4.7	(4.7)
RL-0030 –Total	132.9	129.1	3.8

Numbers are rounded to the nearest \$0.1 million

Funds/Variance Analysis

The FY2019 projected funding for project breakdown structure (PBS) RL-0030 is \$132.9 million. The fiscal year spending forecast of \$129.1 million includes actions anticipated to achieve funding targets. FY2019 funding aligns with the RL Integrated Priority List (IPL). The variance primarily reflects the work scope included in the IPL that is pending authorization.

Critical Path Schedule

Critical path analysis will be provided upon request.

MILESTONE STATUS

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

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
Milestones on Schedule					
M-015-21A	Submit 200 BP-5 & 200 PO-1 OU FS Report and PP(s) to Ecology	3/31/2019		3/8/2019	On Schedule
M-024-58L	Initiate Discussions of Well Commitments	6/1/2019		6/1/2019	On Schedule
M-024-70-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	8/1/2019		8/1/2019	On Schedule
Milestones at Risk					
M-015-93C	Initiate Characterization Field Work for 200-SW-2 Operable Unit Landfills	9/30/2018		TBD	Dispute resolution initiated on July 9, 2018 (18-AMRP-0135).

Number	Title	Due Date	Actual Date	Forecast Date	Status/ Comment
M-015-98	Complete Remedial Investigation of U Plant Related Waste Sites Located in 200-WA-1	6/30/2019		TBD	At Risk. Work not funded in FY2019.
M-085-70	Submit to Ecology a Remedial Investigation/Feasibility Study WP for 200-CB-1	9/30/2019		TBD	At Risk. Work not funded in FY2019.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

DOE ACTIONS / DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
RL Review Decisional Draft B Revision 1 200-ZP-1 RD/RAWP	9/19/2018 (A)	12/5/2018
RL Review 200-ZP-1 PMP Draft B Rev 1	9/20/2018 (A)	12/13/2018
RL Review Decisional Draft B Revision 1 200-ZP-1 O&M Plan	9/25/2018 (A)	12/13/2018
RL Review 100-NR-2 Decisional Draft B Remedial Investigation/Feasibility Study	9/27/2018 (A)	12/4/2018
RL Review of 100-KR-4 RI Decisional Draft B	10/1/2018 (A)	12/6/2018
RL Provide Comments on the 200-UP-1 RD-RAWP Rev 1	11/1/2018 (A)	11/30/2018
RL Provide Comments on the 200-UP-1 PMP Rev 1	11/1/2018 (A)	11/30/2018
RL Review of 100-NR-2 RI/FS Decisional Draft B	11/05/2018 (A)	12/04/18
RL Review and Signature of 200-BP-5 RA SAP	11/7/2018 (A)	12/1/2018
RL Review of 100-BC-5 Chapter 3 and 9 RI/FS NHPA Comments	11/20/2018 (A)	12/19/2018
RL Transmit 200-EA-1 RI/FS WP Revision 0 to Regulators	11/27/2018	12/4/2018
RL Transmit Draft A IROD to Regulators	11/30/2018	12/1/2018
RL Deliver 200-BP-5 Draft A FS to Regulators	11/30/2018	12/2/2018
RL Transmit Draft IDF Engineering Evaluation Report to Ecology for Review	12/2/2018	12/3/2018
RL Approve the 100-BC-5 RI/FS	12/3/2018	1/23/2019
RL Approve 200-EA-1 RI/FS WP	12/4/2018	9/3/2019
RL Submit 200-BP-5 RA SAP to Regulators	12/6/2018	12/19/2018
RL Review 300-FF-5 Stage B Uranium Sequestration System Installation Report (USSIR) Draft Document	12/7/2018	12/14/2018
RL Review of 100-KR-4 RD/RAWP Revision	12/7/2018	1/5/2019
RL Provide Concurrence of DV-1 Decision Draft TTER Comments	12/10/2018	12/13/2018
RL Concurrent Review of Internal Draft SST WMA-C EER	12/11/2018	12/17/2018
RL Transmit Draft A 100-HR-3 RD/RAWP to Regulator for Review	12/14/2018	12/28/2018

Description	CHPRC Delivery Date	Expected RL Due Date
RL Review and provide signature on 200-BP-5 Central Plateau Tracer Study (CPTS)-SAP	12/15/2018	1/15/2019
RL to transmit Draft IDF Engineering Evaluation Report to Ecology for review	12/18/2019	12/18/2019
RL Review of 200-BP-5 Draft IROD-PP	12/20/2018	1/3/2019
RL/EPA Confirm Changes to the 100-K TI Evaluation Doc	12/26/2018	1/15/2019
RL Certify New Information & Submit to Ecology 200 East Closure Plan	12/27/2019	12/29/2019
RL Transmit 200 EA-1-RI/FS WP to Regulators	1/02/2019	01/09/2019
RL Review of internal Draft 216-A-37-1 Crib (SVT)	1/7/2019	1/11/2019
RL Approve the 200-EA-1-RI/FS Rev 0	1/10/2019	02/10/2019
RL Transmit Draft A TTER to Regulators	1/11/2019	1/24/2019
RL Review of 100-KR-4 Explanation of Significant Difference (ESD)	1/14/2019	2/19/2019
RL Submit SST WMAA-AX Engineering Evaluation Report to Ecology	1/16/2019	1/16/2019
RL Submit SST WMA-C Engineering Evaluation Report to Ecology	1/29/2019	1/29/2019
RL Submit Revision 0 100-BC-5 RI/FS Report to Regulators	1/30/2019	2/13/2019
RL Review of 100- KR-4 Revised Primary Drilling SAP	2/1/2019	3/2/201
RL Review of 100- HR-3 Revised Primary Drilling SAP	2/1/2019	3/2/201
RL to Issue 100-BC-5 Proposed Plan for Public Review	2/5/2019	2/11/2019
RL Submit Revision 0 100-BC-5 Proposed Plan to Regulators	2/5/2019	2/19/2019
RL Review 100-KR-4 Proposed Plan Decisional Draft	2/12/2019	3/13/2019
RL Transmit 200-UP-1 Draft A PMP Rev 1	2/21/2019	3/6/2019
RL Submit 216-B-3 Pond Engineering Evaluation Report to Ecology	2/21/2019	2/21/2019

Section E

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

CH2MHILL
Plateau Remediation Company



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

November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

M. A. Wright
Vice President for
Project Technical
Services

PROJECT SUMMARY

Grout placement continued in Tunnel 2 at the Plutonium Uranium Extraction Plant (PUREX) in November and is approximately 42 percent complete. Steam line crossover abatement continued in the 200 West Area. The project team completed the work package for characterization in 242-B/BL. Reduction and Oxidation Plant (REDOX) canyon entries continued in order to assess the existing canyon site conditions, while work package development commenced for cleanout of combustible materials.

EMS Objectives and Target Status (Draft)

Objective #	Objective	Target	Due Date	Status
19-EMS-CPRM-OBJ-P1	Increase EMS awareness	Present or facilitate a discussion of Environmental Management System (EMS) topics to personnel on a minimum of four different occasions in fiscal year (FY) 2019 and recruit personnel (other than environmental) to participate in at least two compliance review/programmatic walk downs.	9/30/2019	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	1	N/A
First Aid Cases	0	7	N/A
Near Misses	0	0	N/A

KEY ACCOMPLISHMENTS

RL-0040 Accomplishments

Central Plateau Risk Management Project Surveillance and Maintenance (CPRM S&M)

- Completed the 200 East Area Tri-Annual Waste Information Data System (WIDS) Sites surveillances (third of three) slightly ahead of schedule.
- Installation of the mobile office trailer (MO-6114) in the 200 East Area is near completion.
- Initiated planning efforts for the new PUREX office and shower trailers installation.

B Plant Pre-filter and HEPA Filter Change-out

- Performed B Plant ACT-001 pre-filter recovery.

PUREX Tunnel 2 Stabilization Project**Project Technical Services (PTS) Support**

- Continued grout placement at PUREX Tunnel 2. As of November 20, 2018, approximately 16,991 cubic yards of grout was placed.
- Performed maintenance on the grout conveyance system at approximately 10,000 cubic yards placed, including hose replacement and ball valve replacement (isolation point) on the conveyance booms.
- Grouting activities are being performed on a five day, 10-hour work schedule to mitigate potential winter weather related impacts.

REDOX Canyon Risk Mitigation

- Completed installation of tent and protective awning for removal of coating on northwest outer North Sample Gallery access door.
- Approved work package to allow performance of routine craft work in high contamination areas (HCA) and released seven partial tasks to enable field crews to get back into these areas of the building.
- Completed installation of temporary generator to supply power for temporary lights and power into the REDOX silo and the tent for reactivation of the northwest sample gallery egress door.
- Completed radio checking with Mission Support Alliance (MSA) within REDOX to finalize hardware requirements for ensuring uninterrupted radio communications.
- Completed installation of electrical power to the climate-controlled connex boxes located north of MO-409 and commenced setup of RADCON, industrial hygiene, mask station, and non-destructive assay (NDA).
- Completed repair of loading dock safety chain barrier and cleanout of debris and incorrect signage near rail cut roll-up door.
- Completed walk downs and estimate revision to include fill for haul road across REDOX in support of waste reduction efforts.
- Commenced power installation for climate controlled connex boxes north of MO-409.
- Completed installation of beryllium-controlled facility signs at all personnel entry points and removed beryllium contaminated area signs that were misplaced.
- Completed removal of debris and exterior re-signage.
- Completed electrical walk down for future trailer installation north of the REDOX fence line.
- Commenced work scoping to remove interior walls.
- Completed first west canyon entry onto the process tank cover blocks.
- Commenced penetrations from outside of the building in order to attach temporary generator for silo lighting.
- Released parts order for installation of security partition in climate controlled connex for safeguard/NDA sources.
- Approved excavation permit for installation of generator on the northwest side of REDOX.
- Completed initial entry through the west canyon entrance to ensure passageway is well understood.
- Installed light tower for parking lot at MO-409.
- Smoke checked backside silo doors and cycled co-located airspace doors in preparation for future silo sixth- and seventh-floor entries.

Steam Line Removal

- Completed crossover removals in five locations within the 200 West Area.

242 B&BL Demo

- Completed characterization and bio-cleanup work package.

MAJOR ISSUES

Issue

During the past 12 months, the rate of radiological and foreign material buildup on both pre and primary filter media at B Plant has exceeded historical trends. In the past year, the ventilation pre-filters have been replaced three times, as opposed to previous years with replacements only every 18 to 24 months. Additionally, debris collected on filter media indicate corrosion upstream of the filters.

Corrective Action

Perform B Plant Canyon entries to investigate elevated radiological dose rates.

Status

Received metals analysis from 222-S Laboratory. Engineering is currently evaluating this data for fractional constituency. Awaiting non-metals sample analysis results from 222-S Laboratory. Completed replacement of the B Plant pre-filters in November 2018. Preliminary buildup on pre-filters following adjustments indicate improved performance.

Issue

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

Corrective Action

RL and CHPRC, with legal representation, have met to establish a path forward.

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

Status

CHPRC is developing the directed estimate to clean up the white powder in PUREX. In addition, a waste designation was provided to RL for the B Plant white residues.

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) throughout the canyon was discovered.

Corrective Action

Fire Protection Engineering (FPE) will evaluate as-found condition against National Fire Protection Association (NFPA) requirements for combustible material loading.

Status

Six entries into the REDOX Canyon have been performed and more hazardous combustible material has been discovered. Waste loadout has been initiated and work package for sampling of liquid hazardous material is complete. Developing cost and schedule addendum to the FY2019 change proposal.

Issue

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

Corrective Action

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

Status

Structural integrity analysis on going, continuing to track water level in catch tank (current water level tracking consistently with rainfall).

Issue

During November, the project realized a loss of all but three Decontamination & Decommissioning (D&D) workers due to hiring by Washington River Protection Solutions (WRPS), another Hanford contractor. Additional losses are expected in FY2019 based on WRPS staffing projections for Nuclear Chemical Operators (NCO) positions.

Corrective Action

In response to the loss of staff, seventeen D&D workers are being hired and will begin training on December 3, 2018.

Status

On-going

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													
RL-0040/WBS-040																
Explanation of major changes to the project monthly stoplight chart: Risks D4-042, <i>Unexpected Site Conditions - D4</i> , and PRXT-S2-012, <i>Excessive Comments from Regulators</i> , were closed and removed from the stoplight chart. PRXT-S2-001, <i>Unexpected Contamination Event</i> , was moved from the risk trigger section to the realized risk section. Additionally, PRXT-S2-004, <i>Design Maturity</i> , and PRXT-S2-010, <i>Inclement Weather</i> , were added as realized risks in November.																
Realized Risks (Risks that are currently impacting project cost/schedule)																
PRXT-S2-001: Unexpected Contamination Event	During installation of grouting infrastructure, execution of characterization, monitoring, and grouting activities; loss of contamination control will result in in-scope unplanned work, causing cost and schedule impacts to the project. Risk Handling Strategy: Control Probability: Low (10% to 25%) Worst Case Impacts: \$5,708K, 64 day			Risk Event: 1) During the end of shift draining of the booms as a part of the freeze protection, the pump backstroked prior to closure of the valve on the PUREX Tunnel 2 conveyance system. 2) Release of water vapors from PUREX Tunnel 2 at the water door structure was reported, and a take cover was called on October 25, 2018. <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Investigative efforts into risers will be conducted to collect preliminary radiological and IH data which will be used in future planning efforts</td> <td>10/24/18</td> <td>100</td> </tr> <tr> <td>Increased air sampling was conducted for five days after the incident.</td> <td>11/1/18</td> <td>100</td> </tr> </tbody> </table> Risk Action Assessment: 1) A stand down was placed immediately after the incident. A management critique of the process was conducted on October 24, 2018. Grout placement activities were resumed on October 25, 2018. 2) IH and rad sampling was conducted, and the cause of the steam was determined to be water vapors as a result of the grout curing process. No contamination was released. The opening above the water door was patched over the weekend (three days). Total schedule impact was three days. No further mitigation actions were required.	Mitigation action(s)	FC Date	%	Investigative efforts into risers will be conducted to collect preliminary radiological and IH data which will be used in future planning efforts	10/24/18	100	Increased air sampling was conducted for five days after the incident.	11/1/18	100			
Mitigation action(s)	FC Date	%														
Investigative efforts into risers will be conducted to collect preliminary radiological and IH data which will be used in future planning efforts	10/24/18	100														
Increased air sampling was conducted for five days after the incident.	11/1/18	100														
PRXT-S2-004: Design Maturity	Inadequate design results in changes to the construction subcontractors, resulting in cost and schedule impacts. Risk Handling Strategy: Control Probability: Very Low (<10%) Worst Case Impacts: \$0, 16 day			Risk Event: Design assumed the six identified injection points to be sufficient. Due to equipment placement, the grout is not able to flow as anticipated. <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Work 5/10 shift to accelerate schedule</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Use of overtime before and after shift</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Fabricate and install 10 new injection points</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> Risk Action Assessment: The "topping off plan" has required 10 new injection points, which require the contractor to fabricate and install for the last phase of grout placement. Additionally, purchased two PTZ70 (cameras).	Mitigation action(s)	FC Date	%	Work 5/10 shift to accelerate schedule	Ongoing	N/A	Use of overtime before and after shift	Ongoing	N/A	Fabricate and install 10 new injection points	Ongoing	N/A
Mitigation action(s)	FC Date	%														
Work 5/10 shift to accelerate schedule	Ongoing	N/A														
Use of overtime before and after shift	Ongoing	N/A														
Fabricate and install 10 new injection points	Ongoing	N/A														
PRXT-S2-010: Inclement Weather	Inclement weather, including moderate winds, low or high temperatures and thunderstorms will result in in-scope unplanned work and result in schedule impacts to the project. Risk Handling Strategy: Control			Risk Event: The work was assumed to be performed in fall weather conditions. <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Purchase freeze protection equipment</td> <td>October</td> <td>100</td> </tr> <tr> <td>Drain booms after each shift</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Running extension boom heater off shift</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table>	Mitigation action(s)	FC Date	%	Purchase freeze protection equipment	October	100	Drain booms after each shift	Ongoing	N/A	Running extension boom heater off shift	Ongoing	N/A
Mitigation action(s)	FC Date	%														
Purchase freeze protection equipment	October	100														
Drain booms after each shift	Ongoing	N/A														
Running extension boom heater off shift	Ongoing	N/A														

Risk Title	Unmitigated Risk Impacts	Assessment		Comments																		
		Month	Trend																			
RL-0040/WBS-040																						
	<p>Probability: Low (10% to 25%) Worst Case Impacts: \$0, 68 day</p>			<p>Risk Action Assessment: To mitigate potential bad weather, grout placement has been working a 5/10 schedule. Additionally, the project team and grout contractor worked with facility support (rad con) in order to perform startup and shut down sequence of activities as efficiently as possible thus maximizing the grout duration during.</p>																		
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																						
<p>REDOX-05: Collapse of Sand Filter</p>	<p>Due to the close proximity of equipment driving by (cranes, forklifts for waste load-out, steam lines), age, and structural integrity, the project experiences a collapse of a sand filter, resulting in cost and schedule impacts to the project.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Very Low (<10%) Worst Case Impacts: \$260K, 48 day</p>	●	↔	<p>Risk Triggers: Due to the close proximity of equipment driving by (cranes, forklifts for waste load-out, steam lines), age, and structural integrity, the project experiences a collapse of a sand filter.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Establish project boundary.</td> <td>12/2018</td> <td>50%</td> </tr> <tr> <td>Use bracing when digging.</td> <td>Not digging yet</td> <td>0%</td> </tr> <tr> <td>Implement communication plan between other Hanford contractor (OHC) and other CHPRC projects.</td> <td>Ongoing</td> <td>NA</td> </tr> <tr> <td>Engineering to conduct structural integrity and equipment stand-off evaluations.</td> <td>Ongoing</td> <td>NA</td> </tr> <tr> <td>Follow the critical lift process, and hoisting and rigging manual.</td> <td>Ongoing</td> <td>NA</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. The project is working to ensure that the steam line removal efforts consider sand filters while planning. The project has been in communication with the 222-S Labs about future work scope at REDOX. Engineering has also been involved in structural evaluations of the sand filters. These evaluations will be used for establishing an equipment stand-of distances. Additionally, discussions for the initial planning of the critical lift process has started.</p>	Mitigation action(s)	FC Date	%	Establish project boundary.	12/2018	50%	Use bracing when digging.	Not digging yet	0%	Implement communication plan between other Hanford contractor (OHC) and other CHPRC projects.	Ongoing	NA	Engineering to conduct structural integrity and equipment stand-off evaluations.	Ongoing	NA	Follow the critical lift process, and hoisting and rigging manual.	Ongoing	NA
Mitigation action(s)	FC Date	%																				
Establish project boundary.	12/2018	50%																				
Use bracing when digging.	Not digging yet	0%																				
Implement communication plan between other Hanford contractor (OHC) and other CHPRC projects.	Ongoing	NA																				
Engineering to conduct structural integrity and equipment stand-off evaluations.	Ongoing	NA																				
Follow the critical lift process, and hoisting and rigging manual.	Ongoing	NA																				
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)																						
No high risk threat value risks in November .																						
FY2019 Risk Triggers (Risk could be realized in FY2019)																						
<p>PRXT-S2-009: Resources Unavailable</p>	<p>Other higher CHPRC priority work results in reallocation of resources, improving job markets, funding uncertainties, or bump and roll result in competition for key resources. In addition, higher than anticipated attrition impacts project cost.</p> <p>Risk Handling Strategy: Accept</p> <p>Probability: Low (10% to 25%) Worst Case Impacts: \$102K, 64 day</p>	●	↔	<p>Risk Triggers: Due to the current job market, in addition to the need for specialized resources to complete the planned PUREX stabilization activities, qualified and trained resources are needed to support planned activities.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Conduct FTE analysis and identify corrective actions to ensure adequate resource profiles.</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. The project is currently evaluating their need to backfill chronic staff absences, in addition to sequencing activities to allow for shift work.</p>	Mitigation action(s)	FC Date	%	Conduct FTE analysis and identify corrective actions to ensure adequate resource profiles.	Ongoing	N/A												
Mitigation action(s)	FC Date	%																				
Conduct FTE analysis and identify corrective actions to ensure adequate resource profiles.	Ongoing	N/A																				
Unassigned Risks (Pending ownership of identified risks/opportunities)																						
No unassigned risks identified in November .																						

PROJECT BASELINE PERFORMANCE Current Month (\$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	4.9	8.0	7.9	3.1	62.4%	0.1	1.5%

Numbers are rounded to the nearest \$0.1 million

CM Schedule Performance: (+\$3.1M/+62.4%)

The current month (CM) positive schedule variance is mainly attributed to PUREX Tunnel 2 stabilization activities. Grout placement started three months ahead of schedule due to receiving temporary authorization. The baseline reflects a start date of December 3, 2018, following the issuance of the revised Resource Conservation and Recovery Act (RCRA) permit from Ecology. In addition, 200W crossovers experienced significant schedule recovery in which 10 out of the 12 total locations have been removed. The positive variance is partially offset by delays in cleanup of the REDOX North Sample Gallery due to the discovery of materials found during the canyon investigative entries.

CM Cost Performance: (+\$0.1M/+1.5%)

The current month cost variance is within reporting thresholds.

Contract-To-Date (\$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	500.0	505.1	480.5	5.1	1.0%	24.6	4.9%	575.8	554.2	73.7	21.6

Numbers are rounded to the nearest \$0.1 million

Cost to Date (CTD) Schedule Performance: (+\$5.1M/+1.0%)

The CTD schedule variance is within reporting thresholds.

CTD Cost Performance: (+\$24.6M/+4.9%)

The CTD cost variance is within reporting thresholds.

Variance at Completion (+\$21.6M/+3.8%)

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

Contract performance report formats are provided in Appendix A.

FUNDS vs. SPEND FORECAST (\$M)

WBS 040/RL-0040 Nuclear Facility D&D	FY2019		Variance
	Projected Funding	Spending Forecast	
RL-0040 Spending Forecast	97.4	69.2	28.2
Incremental Scope Pending Change Management	0.0	4.0	(4.0)
RL-0040 – Total	97.4	73.2	24.2

Numbers are rounded to the nearest \$0.1 million.

Funds/Variance Analysis

FY2019 funding for project breakdown structure (PBS) RL-0040 is \$97.4 million. FY2019 funding aligns with the RL Integrated Priority List (IPL). The variance primarily reflects the work scope included in the IPL that is pending authorization.

Critical Path Schedule

Critical path analysis can be provided upon request.

MILESTONE STATUS

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestones represent significant events in project execution. RL Enforceable Agreement (EA) milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The following table is a one-year look ahead of commitments and Tri-Party Agreement enforceable milestones and non-enforceable target due dates.

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

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

DOE ACTIONS / DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
224B (B Plant) Removal Action Work Plan (RAWP) (2017-34) to RL for Review	8/16/2017 (A)	9/30/2019
202A (PUREX) Draft B Engineering Evaluation/Cost Analysis (EE/CA) Ecology Review	12/11/2017 (A)	2/28/2019
REDOX RAWP (2017-06) Draft A Environmental Protection Agency (EPA) Review	3/15/2018 (A)	1/30/2019
REDOX SAP (2017-05) Draft C EPA Review	4/11/2018 (A)	1/30/2019
Tier 2 Misc. (B Plant North) Sampling Analysis Plan (SAP) (2017-47) EPA Review	4/17/2018 (A)	2/28/2019
Tier 2 Misc. Fac. (B Plant North) RAWP (2016-50) Ecology Review	5/2/2018 (A)	2/28/2019
REDOX Action Memorandum (AM) (2016-52) Regulator Approve Rev. 0	6/21/2018 (A)	10/31/2018 (A)

Section F

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

CH2MHILL
Plateau Remediation Company



R. M. Geimer
Vice President for
K Basin Operations

November 2018
CHPRC-2018-11, 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

The 100K Closure Project continued remediation of Waste Site 100-K-47:1; continued preparations to return to excavate Waste Site 116-KE-2 radioactive waste crib, pending successful completion of the Hazard Review Board (HRB) planned for December 4, 2018; and continued characterization activities in K West Basin. Workers at the 324 Building installed the first remote excavator arm (REA) inside the 324 Building's B Cell. Outside the building, crews completed testing the micropiles to demonstrate that the building's foundation will be supported during waste remediation activities in B Cell.

EMS Objectives and Target Status (Draft)

Objective #	Objective	Target	Due Date	Status
19-EMS-RRMP-OBJ1-P1	Increase Environmental Management System (EMS) awareness	Present or facilitate a discussion of EMS topics to 324 Building Disposition Project personnel on a minimum of five different occasions in fiscal year (FY) 2019 and recruit personnel from 324 Building Disposition Project organizations (other than environmental) to participate in at least five compliance review/programmatic walk downs.	9/30/2019	10%
19-EMS-KBOPR-OBJ1-P1	Improve compliance/pollution and spill prevention	Monitor and evaluate universal waste (UW) and recycling accumulation areas for compliance with CHPRC procedures. Survey spill prevention measures.	9/30/2019	16%

TARGET ZERO PERFORMANCE

(Reported on a calendar month basis.)

	Current Month	Rolling 12 Months	Comment
Days Away, Restricted or Transferred	0	0	N/A
Total Recordable Injuries	0	0	N/A
First Aid Cases	1	24	11/1/2018 – Employee tripped over an old fence post and fell down, scraping their hand in the process. Employee was taken to HPMC for evaluation and released to work with restrictions to protect the wound from contamination. (25011)
Near Misses	0	2	

KEY ACCOMPLISHMENTS

K Basin Operations

- 100K Closure Project:
 - o 100K Soil Remediation:
 - Prepared the work package for Waste Site 116-KE-2 radioactive crib removal.
 - Continuing excavation and loadout of Waste Site 100-K-47:1 (excavation is approximately 43 percent complete).
 - Completed Waste Site 100-K-13 sample collection and data validation. Began drafting remaining site verification package.
 - Received verification sample results for Waste Site 100-K-99. Direct exposure remedial action goals were exceeded. Planning to conduct additional remediation and resampling.
 - Implemented CHPRC buffer zone standard in the 100K Container Transfer Area.
 - o K West Basin Deactivation:
 - Garnet Filter Media Removal System (GFMRS):
 - Approved the revision of the facility modification package for installation of the GFMRS equipment in K West Basin.
 - Provided the 100K Documented Safety Analysis (DSA) annual update incorporating GFMRS installation activities to RL for approval.
 - Sand Filter Media Removal System (SFMRs):
 - Approved PRC-KC-00009, *Sand Filter Media Retrieval System Design Requirements*. Started design development.
 - K West Basin Below-Water Debris Characterization:
 - Resumed sparging and collecting high-dose material (HDM) in the northwest region of the K West Basin Center Bay and placing the HDM into an empty fuel canister. Completed dose-to-curie modeling of the HDM collected in the fuel canister.
 - HDM was removed from the debris-sorting table.
 - Progressed installing a piping jumper to connect Integrated Water Treatment System Ion Exchange Module (IXM) 1, 2, and 3 to the IXM discharge header. The modification will enable future floor sparging activity to support characterization without shortening Skimmer System IXM-4 in-service time, which will avoid impacts to sludge removal operations.
 - Progressed in the development of the waste characterization report that provides a technical basis for classifying found fuel specimens as remote handled transuranic materials.
 - Maintenance and Storage Facility engineers progressed in the development of the prototype Processing Unit for Found Fuel for specimen conditioning. Engineers will continue to modify the mockup to enhance concept performance and ensure it can perform required functions.
 - The statement of work for fabrication of a Type A HVTAL 9979 packaging for radioactive liquids was provided to CHPRC procurement.
 - Radiological Engineering revisited the as low as reasonably achievable (ALARA) management worksheet supporting settled solids sampling, and revised the time-phased analysis of the sampling activity.
 - Started revision of DOE/RL-2010-52 Remedial Design and Remedial Action Work Plan for the K Basins Interim Remedial Action: 105-K West Basin Deactivation.

- o Ancillary Facility Deactivation and Demolition (D&D):
 - 166KE Fuel Storage Basin/130-KE-2 Waste Site D&D/soil remediation planning continued. Prepared an expression of interest to identify vendors to pump out the oily water from 166KE.
 - Provided U.S. Environmental Protection Agency (EPA) drafts of DOE/RL-2005-26, *RAWP for 100K Reactor and Ancillary Facilities* for review and approval. EPA will forward associated Air Monitoring Plan (AMP) to Department of Health for courtesy review.
- o Remaining Closure Operations - 618-10 complex revegetation:
 - Started revegetation activities at the 618-10 complex, including weed removal and light decompaction of the surface soils.
 - Finalized Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) change notice for interim stabilization barrier installation and sent to RL and EPA for review.

River Risk Management Project

- 324 Building Disposition Project
 - o Equipment Procurement and Fabrication
 - Continued the design and fabrication of the following systems: shielded probe collimator, rad assay, waste box shielding, floor saw, filter frames, cell dams, and water delivery.
 - Completed the factory acceptance test (FAT) for the Heating, ventilation, and air conditioning (HVAC) snorkels.
 - Awarded contract to build four waste containers for shipping 324 Building waste to Environmental Restoration Disposal Facility (ERDF).
 - o Cell Cleanout
 - Completed installation of the airlock tracks in the 324 Building for operation.
 - Completed demolition of the sample loadout room.
 - Repaired the floor from C Cell footing investigation.
 - o Facility Preparations
 - Completed installation of the REA in the southeast corner of B Cell in the 324 Building.
 - Installed the control stations and layout of the wiring in the control trailer.
 - Completed terminations for the lights and camera server.
 - Assembled control workstation for B Gallery in preparation for connection of lights and cameras to the control trailer.
 - o Structural Modifications
 - Completed ultimate and creep testing as well as final ultimate strength testing of micropiles.
 - Continued horizontal drilling, excavations, and chemical grout testing at the Pit 6 soil stabilization demonstration and verification site.
 - o Mockup/Readiness
 - Received RL approval of the startup notification report and the readiness level of review.
 - Demonstrated the 324 Building upper REA installation in full personal protective equipment (PPE).
 - Installed and successfully tested the modified REA recovery latch mechanism, which corrects a deficiency identified during integrated testing.
 - Completed successful testing of the modified bin lifting device, which corrects a deficiency identified during integrated testing.
 - Continued remote equipment operator qualification and proficiency training.
 - Completed equipment familiarization and installation practice for the 324 lights and camera system.
 - Completed REA system final inspections and 324 Building transition documentation.
 - o Tours
 - Lead tours of the mockup facility for the Department of Ecology and Department of Health.

Project Technical Support

- Training and Procedures
 - o Closed a Labor Relations training gap by conducting an Industrial Relations subject matter expert (SME) led session of course number 604241.
 - o Completed processing of eight qualifications for 324 competent persons.
- Operations Program - Emergency Preparedness (EP)
 - o Completed walk down of mobile equipment supporting revegetation for energy isolation.

MAJOR ISSUES

Issue

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

Corrective Action

The project continues to work with labor relations and central radiation protection management to fill needed positions.

Status

Two Radcon engineers/work planners have been hired, and a Radcon first line manager has been transferred to 100K to provide support to 100K Closure.

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										
RL-0041/WBS-041													
Explanation of major changes to the project monthly stoplight chart:													
Risk 100K-KWB-092: <i>KW Basin - Fuel or Residual Material Discovered</i> was added to the stoplight chart, as it was a realized risk. In addition, the recovery actions for risk 100K-KWB-102: <i>KW Basin – Resources Unavailable</i> have been updated to reflect the revised labor staffing plan for key resources at 100K.													
Realized Risks (Risks that are currently impacting project cost/schedule)													
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.			<p>Risk Event: During operation of cleanout activities on June 19, 2018, the A-Cell crane door became restricted from closing, prohibiting airlock entry.</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>Airlock entry recovery from A-Cell crane door malfunction</td> <td>7/10/2018</td> <td>100</td> </tr> <tr> <td>A-Cell crane door malfunction recovery</td> <td>12/19/2018</td> <td>Ongoing</td> </tr> </tbody> </table> <p>Recovery Assessment: No major changes in November. A-Cell crane door became restricted from closing, prohibiting airlock entry. No personnel were affected. Airlock operations were delayed for three weeks while technical response teams deliberated planning actions and evaluations were performed in advance of successfully closing the A-Cell crane door. A-Cell debris cleanout operations will be impacted while the A-Cell crane door is repaired. Recovery continues to progress, as the A-Cell crane door inspection and surveys were performed to support preparation for needed repairs.</p>	Recovery Action(s)	FC Date	%	Airlock entry recovery from A-Cell crane door malfunction	7/10/2018	100	A-Cell crane door malfunction recovery	12/19/2018	Ongoing
Recovery Action(s)	FC Date	%											
Airlock entry recovery from A-Cell crane door malfunction	7/10/2018	100											
A-Cell crane door malfunction recovery	12/19/2018	Ongoing											
	<p>Risk Handling Strategy: Control</p> <p>Probability: Likely (75% to 90%)</p> <p>Worst Case Impacts: \$460K, 96 days</p>												

<p>RCC-300-296-30: 300-296 Design Changes Result in Increased Subcontractor Change Order(s) / Claims</p>	<p>Structural modifications estimate is currently based on the vendor's estimate as of the 30 percent design. The 60 percent design through initiation of 90 percent design and testing of the currently identified 324 Building structural modifications to support design are ongoing. Due to the uncertainty and evolution of developments, design changes may be required upon completion of all design phases.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Very Likely (>90%) Worst Case Impacts: \$3,318K, 136 days</p>			<p>Risk Event: Upon review of the 30 percent design submittal, it was determined that the cell wall loading/limitations were inadequate and required additional clarification.</p> <table border="1" data-bbox="862 296 1563 415"> <thead> <tr> <th>Recovery Action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Contractor prepare and submit structure modification design - 30%-60% (VE2810)</td> <td>8/15/2018</td> <td>100</td> </tr> <tr> <td>Contractor prepare and submit structure modification design (VN1220)</td> <td>1/7/2019</td> <td>37.5</td> </tr> </tbody> </table> <p>Recovery Assessment: No major changes in November. The 30 percent to 60 percent structural modification design was submitted on August 15, 2018. The review process for the 90 percent submittal is ongoing to support development of the final structural modification design. To reduce the potential impacts associated with conflicting drawing information, applicable design efforts were updated to encompass further analysis of cell footings, load limitations, and field demonstrations to ensure safe and successful completion. Additional efforts through progressing on the 90 percent design activities have been incorporated into the field execution schedule, along with the estimate to complete (ETC) to reflect impacts of risk being realized.</p>	Recovery Action(s)	FC Date	%	Contractor prepare and submit structure modification design - 30%-60% (VE2810)	8/15/2018	100	Contractor prepare and submit structure modification design (VN1220)	1/7/2019	37.5
Recovery Action(s)	FC Date	%											
Contractor prepare and submit structure modification design - 30%-60% (VE2810)	8/15/2018	100											
Contractor prepare and submit structure modification design (VN1220)	1/7/2019	37.5											
<p>RCC-300-296-03: Mockup Testing and Qualification of Remote Equipment/ Process Identifies Major Modification Requirements.</p>	<p>Issues such as equipment interferences, differing as-found conditions than planned, equipment reliability, etc., arise prior to/during mockup testing, leading to re-design of equipment and resulting in cost and schedule delays.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$773K, 80 Days</p>			<p>Risk Event: During vendor FAT and/or mockup testing, issues and conditions were identified with mockup equipment, resulting in additional redesign, materials, and/or fabrication efforts greater than planned. Remote equipment procurements that have resulted in cost and/or schedule impacts include the REA system components (through supports and dummy post assemblies) and transfer mechanism (electrical components).</p> <table border="1" data-bbox="862 905 1563 1024"> <thead> <tr> <th>Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform Construction Acceptance Test (CAT) for mockup equipment install - cameras and lighting; REA system with HPUs; transfer mechanism (VE0640)</td> <td>8/23/2018</td> <td>100</td> </tr> <tr> <td>Install floor saw & support system (VN1020)</td> <td>2/20/2019</td> <td>-</td> </tr> </tbody> </table> <p>Recovery Assessment: No major changes in November. Construction Acceptance Testing (CAT) for remotely operated mockup equipment procurements was completed in August. integrated testing of remotely operated equipment at the mockup was completed in September. However, interferences with nearby equipment/tools was discovered, leading to modifications. The remainder of miscellaneous supporting equipment is scheduled to arrive at the mockup over the upcoming periods. Once installed, successful integration with remotely operated equipment, through testing and training at the mockup, will continue with preparations for 324 Building equipment. Impacts continue to be incorporated into the project schedule, along with the ETC, to reflect further impacts of risk being realized.</p>	Recovery action(s)	FC Date	%	Perform Construction Acceptance Test (CAT) for mockup equipment install - cameras and lighting; REA system with HPUs; transfer mechanism (VE0640)	8/23/2018	100	Install floor saw & support system (VN1020)	2/20/2019	-
Recovery action(s)	FC Date	%											
Perform Construction Acceptance Test (CAT) for mockup equipment install - cameras and lighting; REA system with HPUs; transfer mechanism (VE0640)	8/23/2018	100											
Install floor saw & support system (VN1020)	2/20/2019	-											
<p>100K-KWB-102: KW Basin – Resources Unavailable</p>	<p>Other higher CHPRC priority work results in reallocation of key resources (Rad Planners, RCTs, IH, and NCOs), results in cost and schedule delays as projects compete for key CHPRC resources.</p> <p>Risk Handling Strategy: Accept</p> <p>Probability: Low (10% to 25%) Worst Case Impacts: \$15K, 16 Days</p>			<p>Risk Event: 100K Closure Project soil remediation and basin characterization work is experiencing a shortage of radiation control technicians, radiation control engineers, radiation control work planners, and radiation control first line managers.</p> <table border="1" data-bbox="862 1461 1563 1633"> <thead> <tr> <th>Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Radcon and Labor Relations have hired two rad engineers/planners and transferred a radcon first line manager (experienced in soil remediation and D&D) to 100K. Radcon has also staffed up to 37 RCTs and is in the process of hiring an additional 3 RCTs, which will provide sufficient resources to cover 100K Closure, 100K Operations, and 100K MinSafe work.</td> <td>3/15/2019</td> <td>25</td> </tr> </tbody> </table> <p>Recovery Assessment: Due to the successful hiring of key resources, the labor staffing challenges affecting 100K work scope is improving.</p>	Recovery action(s)	FC Date	%	Radcon and Labor Relations have hired two rad engineers/planners and transferred a radcon first line manager (experienced in soil remediation and D&D) to 100K. Radcon has also staffed up to 37 RCTs and is in the process of hiring an additional 3 RCTs, which will provide sufficient resources to cover 100K Closure, 100K Operations, and 100K MinSafe work.	3/15/2019	25			
Recovery action(s)	FC Date	%											
Radcon and Labor Relations have hired two rad engineers/planners and transferred a radcon first line manager (experienced in soil remediation and D&D) to 100K. Radcon has also staffed up to 37 RCTs and is in the process of hiring an additional 3 RCTs, which will provide sufficient resources to cover 100K Closure, 100K Operations, and 100K MinSafe work.	3/15/2019	25											
<p>100K-KWB-092: KW Basin - Fuel or Residual Material Discovered</p>	<p>Unexpected fuel is discovered during KW Basin Closure activities. This will result in increased cost and schedule delays to disposition fuel before the basin is deactivated.</p> <p>Risk Handling Strategy: Accept</p>			<p>Risk Event: Additional fuel specimens were discovered that will require removal, dewatering, and packaging in a Found Fuel Cask (FFC) for shipment to the CSB.</p>									

	<p>Probability: Low (10% to 25%) Worst Case Impacts: \$2,000K, 96 Days</p>			<table border="1"> <thead> <tr> <th>Recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Pursue formal termination of safeguards of existing and any further discoveries up to 10Kg of material. Safeguards termination enables waste classification as RH-TRU, thereby allowing incorporation of the material into KW sludge waste streams in process of being transferred to T Plant.</td> <td>5/31/2019</td> <td>Ongoing</td> </tr> </tbody> </table> <p>Recovery Assessment: Based on safeguard input, a formal programmatic value determination that the fuel specimen material is of no further value has already been accomplished. This condition improves the likelihood that the request for safeguards termination will be granted. Providing DOE approves the request, fuel specimen disposition activities for fiscal year (FY) 2019 will not be impacted.</p>	Recovery action(s)	FC Date	%	Pursue formal termination of safeguards of existing and any further discoveries up to 10Kg of material. Safeguards termination enables waste classification as RH-TRU, thereby allowing incorporation of the material into KW sludge waste streams in process of being transferred to T Plant.	5/31/2019	Ongoing
Recovery action(s)	FC Date	%								
Pursue formal termination of safeguards of existing and any further discoveries up to 10Kg of material. Safeguards termination enables waste classification as RH-TRU, thereby allowing incorporation of the material into KW sludge waste streams in process of being transferred to T Plant.	5/31/2019	Ongoing								
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)										
No critical risks identified in November .										
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)										
RCC-300-296-07: 300-296 Failure of a REC Cranes (B-Cell, A-Cell, A-D & Airlock, 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>Risk Handling Strategy: Accept</p> <p>Probability: Likely (75% to 90%) Worst Case Impacts: \$1,561K, 208 days</p>	●	↔	<p>Risk Trigger Metric: REC crane failure occurs during operations.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Order and Procure Spare Parts – REC Cranes</td> <td>12/20/2018</td> <td>Ongoing</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. The project experienced loss of the CHA crane in November 2017. Final repairs and load testing for the 30-ton CHA crane were completed and the crane was returned to service in January 2018. The project is in the process of reviewing evaluations and recommendations with manufacturers to assist with determining preventive maintenance, spare parts requirements, and corrective maintenance in the event of necessary repairs. These efforts are expected to reduce the potential for impacts.</p>	Mitigation action(s)	FC Date	%	Order and Procure Spare Parts – REC Cranes	12/20/2018	Ongoing
Mitigation action(s)	FC Date	%								
Order and Procure Spare Parts – REC Cranes	12/20/2018	Ongoing								
RCC-300-296-15: 300-296 Cell sealing, interference removal and/or core drilling takes longer than planned	<p>Unexpected field conditions encountered during interference removal, sealing of cell penetrations, and/or core drilling work scope. The unexpected field conditions subsequently cause in-scope unplanned work and result in schedule impacts to the project.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Very Likely (>90%) Worst Case Impacts: \$145.8K, 90 days</p>	●	↔	<p>Risk Trigger Metric: The project experiences unexpected field conditions outside their control that make cell sealing, interference removal, and core drilling more difficult than planned.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform Core Drilling and Shield Plug Installation (VN1200)</td> <td>4/4/2019</td> <td>Ongoing</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. A majority of core drilling interferences have been identified as the project progresses with drilling necessary at the 324 Building in advance of installation of soil remediation equipment. The remaining core drilling efforts are planned to be completed over the upcoming periods. Due to the uniqueness involved with work scope, there exists the potential for unexpected delays and additional core drilling efforts.</p>	Mitigation action(s)	FC Date	%	Perform Core Drilling and Shield Plug Installation (VN1200)	4/4/2019	Ongoing
Mitigation action(s)	FC Date	%								
Perform Core Drilling and Shield Plug Installation (VN1200)	4/4/2019	Ongoing								
FY2019 Risk Triggers (Risk could be realized in FY2019)										
RCC-300-296-01: Latent Conditions Impact Facility Modification	<p>Latent conditions, poor visibility in REC cells, or drawing omissions, inconsistencies, or errors impact facility modifications (e.g. mechanical, electrical IH/Radcon hazards), resulting in unplanned work and subsequently, cost and schedule impacts.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Medium (26% to 74%) Worst Case Impacts: \$294.5K, 256 days</p>	●	↔	<p>Risk Trigger Metric: Available drawings may not reflect the actual conditions in the 324 Building or REC cells. Debris within the REC cells, as well as poor visibility may prevent the verification of in-cell features for installing penetrations, removing interferences and supporting preparation activities for structural modifications.</p> <table border="1"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Perform routine preventative maintenance activities</td> <td>Ongoing</td> <td>N/A</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. Uncertainties associated with aging 324 Building systems (e.g., stack sampling), sealing penetrations, and electrical outages needed for interference removal, there exists a potential for this risk to be realized. Based on recent discovery of an elevated latent contamination level (NOC, CHPRC-1801178); corrective actions have been implemented along with additional controls. This risk will continuously be monitored as routine preventative maintenance activities are in place to reduce the likelihood of occurrence.</p>	Mitigation action(s)	FC Date	%	Perform routine preventative maintenance activities	Ongoing	N/A
Mitigation action(s)	FC Date	%								
Perform routine preventative maintenance activities	Ongoing	N/A								
Unassigned Risks (Pending ownership of identified risks/opportunities)										
RCC-300-296-04DOE:	A "Force Majeure" incident, such as a seismic event, results in the loss of structural integrity; causing cost and schedule impacts to the project delivery.									

300-296 Seismic Event (Force Majeure)	CHPRC Comment: CHPRC cannot manage the geological seismic movement that may impact the structural integrity of a building. Therefore, this risk is proposed to be transferred to DOE. DOE has “informally” accepted this risk as a transfer risk. A formal letter of acceptance (CHPRC-1705651) was sent to RL on December 12, 2017. Once this risk has been formally accepted, via acknowledgement from the RL Contracting Officer, it will be removed from the stoplight chart.
RCC-300-296-23DOE: 300-296 Large Brush Fire (Force Majeure)	A brush fire ignited on the Hanford Site near the proximity of the 300-296 Waste Site, resulting in cost and schedule delays. CHPRC Comment: This risk was identified as “Force Majeure” and is beyond the capabilities of CHPRC to manage. Therefore, this risk was proposed to be transferred to DOE. DOE has “informally” accepted this risk as a transfer risk. A formal letter of acceptance (CHPRC-1705651) was sent to RL on December 12, 2017. Once this risk has been formally accepted, via acknowledgement from the RL Contracting Officer, it will be removed from the stoplight chart.
RCC-300-296-27: 300-296 Requirement Changes Result in Additional Work/Entry Prerequisite Training	Due to complex-wide or facility specific changes in requirements outside of CHPRC’s ability to manage (e.g. technical documents, procedures, training), project delivery will be impacted in terms of cost and schedule. CHPRC Comment: Changes to DOE orders, federal or state regulations, waste acceptance criteria established by another site contractor, or another DOE site could impact the baseline scope/schedule/cost. Although a contract change is required to incorporate changes to DOE orders, no contract change is required for federal or state regulations or for waste acceptance criteria changes. The potential criteria changes are outside of CHPRC’s ability to manage. Therefore, this risk was proposed to be transferred to DOE. DOE has “informally” accepted this risk as a transfer risk. A formal letter of acceptance (CHPRC-1705651) was sent to RL on December 12, 2017. Once this risk has been formally accepted, via acknowledgement from the RL contracting officer, it will be removed from the stoplight chart.

PROJECT BASELINE PERFORMANCE

Current Month

(\$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	11.6	10.4	12.0	(1.2)	-10.5%	(1.6)	-15.5%

Numbers are rounded to the nearest \$0.1 million

CM Schedule Performance (-\$1.2M/-10.5%)

The current month unfavorable schedule variance is primarily due to delays in 324 Building Disposition Project procurements caused by a change in the project’s execution strategy for cell dam procurements as well as design changes for the B Cell filter frames.

CM Cost Performance (-\$1.6M/-15.5%)

The current month unfavorable cost variance is primarily due to additional subcontractor costs at the 324 Building Disposition Project in support of work scope that has pushed into FY2019 from FY2018, such as the 324 Building design for structural modifications. Because this scope is not in the FY2019 baseline, performance could not be taken in the current period, while actual costs were realized. In addition, the 100K Soil Remediation project incurred a negative cost variance partially due to a late invoice costed in the current month for work performed in September FY2018. Another contributor is change order modifications to the FE&C contract for equipment use and stand-by time incurred in FY2018.

Contract-to-Date (\$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	611.3	606.6	548.9	(4.7)	-0.8%	57.8	9.5%	718.3	662.9	114.0	55.4

Numbers are rounded to the nearest \$0.1 million

Contract-to-Date (CTD) Schedule Performance (-\$4.7M/-0.8%)

The CTD schedule variance is within reporting thresholds.

CTD Cost Performance (+\$57.8M/+9.5%)

The favorable cost variance is primarily due to completing Confirmatory Sampling - No Action (CSNA) waste sites early and under cost. In addition, less demolition was required for the K East Sedimentation Basin and fewer resources are supporting the level of effort (LOE) program management and usage based services scope. Some resources have been diverted to other priority work scope and some resource sharing has occurred. The favorable cost variance was partially offset by the cost overruns in prior years for the utilities project. The 618-10 Burial Ground Complex also realized favorable cost variances with shared resources, lower drum processing costs, and excavation and backfill efficiencies at the 316-4 Waste Site and the 618-10 Burial Ground. These favorable variances are slightly offset by a negative CTD variance caused by challenges at the 324 Building Disposition Project in execution of cell and airlock cleanout, higher-than-planned engineering costs resulting from mockup, 324 structural design changes, and increased expenditures for the design and fabrication of essential procurements.

Variance at Completion (+\$55.4M/+7.7%)

The 100K Closure positive variance at completion (VAC) is primarily due to labor; fewer resources have been supporting the level of effort (LOE) program management and usage based services scope. Some resources have been diverted to other priority work scope, and some resource-sharing has occurred. The remaining VAC is primarily due to the implementation of efficiencies and staffing ramp downs at the 618-10 Burial Ground. Offsetting the positive variance, the 324 Building Disposition Project experienced increased costs associated with airlock cleanout, engineering and design activities, staff ramp up, and equipment procurement activities.

Contract Performance Report Formats are provided in Appendix A.

FUNDS vs. SPEND FORECAST (\$M)

WBS 041/RL-0041 Nuclear Facility D&D – River Corridor	FY2019		Variance
	Projected Funding	Spending Forecast	
Spending Forecast	132.7	120.0	12.7
Incremental Scope Pending Change Management	0.0	0.0	0.0
RL-0041 - Total	132.7	120.0	12.7

Numbers are rounded to the nearest \$0.1 million.

Funds/Variance Analysis:

The FY2019 projected funding for project breakdown structure RL-0041 is \$132.7 million. The projected funding includes carryover from FY2018 and new budget authority. The spending forecast is based on the FY2019 performance measurement baseline annual update submitted to RL with updates through November 2018. FY2019 funding aligns with the RL Integrated Priority List (IPL). The variance primarily reflects the work scope included in the IPL that is pending authorization.

Critical Path Schedule:

Critical Path Analysis can be provided upon request.

MILESTONE STATUS

Tri-Party Agreement milestones represent significant events in project execution. RL Enforceable Agreement (EA) milestones were established to provide high-level visibility to critical deliverables and specific status on the accomplishment of these key events. The following table is a one-year look ahead of commitments and Tri-Party Agreement enforceable milestones and non-enforceable target due dates.

Number	Title	Due Date	Forecasted Date	Status/ Comment
M-016-85A	Complete Remote Excavation of 300-296 Waste Site	9/30/2019	8/17/2020	At risk for meeting due date.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

DOE ACTIONS / DECISIONS

Description	CHPRC Delivery Date	Expected RL Due Date
RL Approve SNR	10/1/2018 (A)	11/1/2018 (A)
RL In-Process Review of 324 DSA/TSR	10/16/2018 (A)	10/29/2018 (A)
RL Perform 60 percent Design Review	10/18/2018 (A)	11/19/2018 (A)
Ecology Receive the Certified CHPRC and RL Information (1301, 1325)	12/4/2018	12/4/2018
RL Certify Information – RL Manager Letter to Ecology (1301 ,1325)	12/4/2018	12/10/2018
Review DSA/TSR Revision	12/4/2018	1/22/2019
Class 1 Prime Modification RL Certification send Class 1 Prime to Ecology for Action to close 1301-N and 1325-N	12/5/2018	12/5/2018
Deliver Attachment(s) and Certification(s) to RL (1301, 1325)	12/6/2018	12/6/2018
RL Review - EPHA Draft	12/28/2018	1/11/2019
RL Authorize SPA SEC for Hot Cell Disposal	1/2/2019	3/1/2019
RL Authorize SPA SEC for Soils – 300-296	1/2/2019	3/1/2019
RL Independent Structural Modification Review	1/3/2019	2/1/2019
Provide Comments on DSA/TSR in RCR	1/23/2019	2/1/2019
RL Approval - EPHA Final	1/29/2019	2/12/2019
Concur on DSA/TSR Revision Comment Resolution	2/7/2019	2/20/2019
Prepare DSA/TSR Revision SER	2/21/2019	2/23/2019
SRB Review SER for DSA/TSR Revision	3/13/2019	3/19/2019
Issue SER for 324 DSA/TSR	3/20/2019	3/26/2019
RL Review WCH-539, Treatment Plan for Macro Encapsulation - 324	3/31/2019	4/29/2019

Section G

Fast Flux Test Facility Closure (RL-0042)

CH2MHILL
Plateau Remediation Company



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

November 2018
CHPRC-2018-11, 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

- Received approvals on an Engineering Change Request (ECR) for disconnecting the P16 pump control circuits, a prerequisite to completing the P-16 pump installation.
- Continued incorporating updates from the approved 400 Area circuit verification ECR into the draft ECR that will be used to support final installation of the P-16 pump.
- Completed B-190 load center inspection and inspected wiring and clean out vault drains in manhole-7 and manhole-8 under an electrical outage. Inspections of the vaults were necessary to determine if wiring needs to be de-energized during future vault entries to support new electrical panel installations.
- Performed a team review of the Acceptance Test Plan to be included with the work package for replacing the C670 fire pump control panel and started incorporating reviewer comments.
- Submitted and received labor board determination on a Plant Forces Work Review for replacing lighting board panels LPN-43 (Building 480A), LPN-18 (Building 480B), and LPN-51 (Building 4842B). Work will be performed by site forces.

MAJOR ISSUES

None currently identified.

RISK MANAGEMENT STATUS

None currently identified.

PROJECT BASELINE PERFORMANCE

Current Month

(\$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)	-3.9%

Numbers are rounded to the nearest \$0.1M

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

The schedule variance is within reporting thresholds.

CM Cost Performance: (-\$0.0M/-3.9%)

The cost variance is within reporting thresholds.

Contract-to-Date

(\$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	26.8	26.7	22.3	(0.0)	-0.0%	4.5	16.8%	28.2	24.2	2.0	4.0

Numbers are rounded to the nearest \$0.1 million

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

The schedule variance is within reporting thresholds.

CTD Cost Performance (+\$4.5M/+16.8%)

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

Variance at Completion (+\$4.0M/+14.1%)

The Variance at Completion reflects efficient use of resources to support deactivation activities.

Contract Performance Report Formats are provided in Appendix A.

FUNDS VS. SPEND FORECAST (\$M)

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

Numbers are rounded to the nearest \$0.1 million

Funds Analysis

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

Critical Path Schedule

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

MILESTONE STATUS

None currently identified.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

None currently identified.

DOE ACTIONS/DECISIONS

None currently identified.

Appendix A

Contract Performance

Reports

Format 1 - Work Breakdown Structure

Format 2 - Organizational Categories

Format 3 - Baseline

Format 4 - Staffing

Format 5 - Explanation and Problem Analysis

CH2MHILL
Plateau Remediation Company



November 2018
CHPRC-2018-11, 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

1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD											
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME Plateau Remediation Contract		a. FROM (YYYYMMDD) 2018 / 10 / 22											
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25											
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO X YES (YYYYMMDD) 2009 / 09 / 18													
5. CONTRACT DATA																	
a. QUANTITY 1	b. NEGOTIATED COST 5,588,957	c. ESTIMATED COST OF AUTHORIZED UNPRICED WORK 832,810	d. TARGET PROFIT/FEE 241,605	e. TARGET PRICE 5,830,563	f. ESTIMATED PRICE 6,614,153	g. CONTRACT CEILING 5,830,563	h. ESTIMATED CONTRACT CEILING 6,614,153										
6. ESTIMATED COST AT COMPLETION				7. AUTHORIZED CONTRACTOR REPRESENTATIVE													
MANAGEMENT ESTIMATE AT COMPLETION (1)		CONTRACT BUDGET BASE (2)		VARIANCE (3)		a. NAME (Last, First, Middle Initial) Underwood, Teresa M											
a. BEST CASE 6,309,269						b. TITLE Prime Contract Compliance Manager											
b. WORST CASE 6,518,799						c. SIGNATURE											
c. MOST LIKELY 6,372,547		6,421,767		49,220		d. DATE SIGNED (YYYYMMDD)											
8. PERFORMANCE DATA																	
CAPN.PBS	CURRENT PERIOD				CUMULATIVE TO DATE				REPROGRAMMING ADJUSTMENTS			AT COMPLETION					
ITEM (1)	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (9)	VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)	
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)							
RL-0011 Nuclear Mat Stab & Disp PFP	1,352	1,693	6,624	341	-4,931	992,877	980,278	1,150,924	-12,599	-170,646	0	0	0	1,001,762	1,208,888	-207,126	
RL-0012 SNF Stabilization & Disp	1,571	1,539	1,459	-32	81	746,761	746,375	716,587	-386	29,788	0	0	0	761,876	731,063	30,813	
RL-0013 Solid Waste Stab & Disp	13,543	13,567	12,755	24	812	1,366,320	1,365,578	1,269,822	-742	95,756	0	0	0	1,498,650	1,399,432	99,218	
RL-0030 Soil & Water Rem-Grndwtr/Vadose	9,562	9,664	9,668	102	-4	1,542,688	1,542,511	1,489,945	-177	52,566	0	0	0	1,645,011	1,592,642	52,369	
RL-0040 Nuc Fac D&D - Remainder Hanfrd	4,913	7,978	7,861	3,065	116	500,032	505,132	480,484	5,101	24,649	0	0	0	555,266	533,655	21,611	
RL-0041 Nuc Fac D&D - RC Closure Proj	11,625	10,409	12,023	-1,216	-1,614	611,299	606,645	548,882	-4,654	57,763	0	0	0	699,413	643,998	55,415	
RL-0042 Nuc Fac D&D - FTF Proj	155	155	161	0	-6	26,747	26,735	22,254	-11	4,481	0	0	0	28,197	24,234	3,964	
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														175,358	175,358	0	
e. SUBTOTAL	42,721	45,005	50,551	2,284	-5,545	5,786,723	5,773,256	5,678,899	-13,468	94,356	0	0	0	6,365,532	6,309,269	56,262	
f. MANAGEMENT RESERVE														63,278			
g. TOTAL	42,721	45,005	50,551	2,284	-5,545	5,786,723	5,773,256	5,678,899	-13,468	94,356	0	0	0	6,428,810			
9. RECONCILIATION TO CONTRACT BUDGET BASELINE																	
a. VARIANCE ADJUSTMENT																	
b. TOTAL CONTRACT VARIANCE															6,428,810	6,309,269	119,540

* Per email direction received December 6, 2017 from the RL Contracting Officer, CHPRC is authorized to incorporate the value of proposed changes into the baseline, as well as remove work that is not authorized from our execution plan. When a contract alignment settlement is reached, baseline change requests (BCRs) will be processed to align the PMB with the settlement values.

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

CLASSIFICATION (When Filled In)

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

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

FORM APPROVED

1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD	
a. NAME CH2M HILL Plateau Remediation Company		a. NAME Plateau Remediation Contract		a. NAME Plateau Remediation Contract		a. FROM (YYYYMMDD) 2018 / 10 / 22	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25	
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	948	988	1,465	40	-476	86,456	86,581	79,791	125	6,790	0	0	0	95,368	88,540	6,828		
35 - Business Services	0	0	0	0	0	477,296	477,296	453,596	0	23,700	0	0	0	477,296	453,596	23,700		
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	147	147	58	0	89	7,942	7,942	4,864	0	3,077	0	0	0	9,314	6,246	3,068		
3B - PFP Closure Project	1,352	1,693	6,624	341	-4,931	904,095	891,496	1,069,860	-12,599	-178,363	0	0	0	912,980	1,127,823	-214,844		
3C - Waste & Fuels Management Project	10,501	10,583	10,023	81	560	1,215,889	1,215,261	1,128,901	-628	86,359	0	0	0	1,319,969	1,230,486	89,483		
3D - Soil & Groundwater Remediation	8,577	8,639	8,191	62	447	1,354,586	1,354,284	1,302,627	-302	51,657	0	0	0	1,447,653	1,396,229	51,424		
3G - K Basin Oper & Plateau Remediation Project	6,376	6,005	6,580	-371	-575	1,048,675	1,047,537	988,982	-1,138	58,555	0	0	0	1,106,917	1,046,801	60,116		
3H - River Risk Management Project	9,790	8,855	9,605	-935	-750	252,385	248,370	226,481	-4,016	21,888	0	0	0	324,935	305,588	19,346		
3K - Central Plateau Risk Reduction	5,031	8,096	8,005	3,065	91	438,289	443,379	423,305	5,089	20,074	0	0	0	494,631	478,110	16,522		
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														175,358	175,358	0		
e. SUBTOTAL (Performance Measurement Baseline)	42,721	45,005	50,551	2,284	-5,545	5,786,723	5,773,256	5,678,899	-13,468	94,356	0	0	0	6,365,532	6,309,269	56,262		
f. MANAGEMENT RESERVE														63,278				
g. TOTAL	42,721	45,005	50,551	2,284	-5,545	5,786,723	5,773,256	5,678,899	-13,468	94,356	0	0	0	6,428,810				

* Per email direction received December 6, 2017 from the RL Contracting Officer, CHPRC is authorized to incorporate the value of proposed changes into the baseline, as well as remove work that is not authorized from our execution plan. When a contract alignment settlement is reached, baseline change requests (BCRs) will be processed to align the PMB with the settlement values.

CONTRACT PERFORMANCE REPORT FORMAT 3 - BASELINE													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 a. NAME: Plateau Remediation Contract b. PHASE c. EVMS ACCEPTANCE NO YES X 9/18/2009				4. REPORT PERIOD a. FROM: 2018/10/22 b. TO: 2018/11/25						
5. CONTRACT DATA			a. ORIGINAL NEGOTIATED COST 4,312,366	b. NEGOTIATED CONTRACT CHANGE \$1,276,591	c. CURRENT NEGOTIATED COST (A + B) \$5,588,957	d. ESTIMATED COST AUTH UNPRICED WORK \$832,810	e. CONTRACT BUDGET BASE (C + D) \$6,421,767	f. TOTAL ALLOCATED BUDGET \$6,428,809	g. DIFFERENCE (E - F) (\$7,042)									
h. CONTRACT START DATE 6/19/2008			i. DEFINITIZATION DATE 6/19/2008		j. PLANNED COMPL DATE 9/30/2018		k. CONT COMPLETION DATE 9/30/2018			l. EST COMPLETION DATE 9/30/2018								
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 (17)	TOTAL BUDGET (18)
				+1 Dec-18 (4)	+2 Jan-19 (5)	+3 Feb-19 (6)	+4 Mar-19 (7)	+5 Apr-19 (8)	+6 May-19 (9)	FY09-13 (10)	FY14 (11)	FY15 (12)	FY16 (13)	FY17 (14)	FY18 (15)	FY19 (16)		
a. PM BASELINE (BEGIN OF PERIOD)		5,744,002	42,765	41,040	40,609	38,706	40,556	41,342	48,738	3,391,477	391,653	471,323	504,826	485,027	470,649	475,219	175,358	6,365,531
b. BASELINE CHANGES AUTH DURING REPORT PERIOD																		
BCR-030-19-003R0 - Revise RL-0030.030.04.01.01 WBS Dictionary and BOE																0	0	
BCR-030-19-004R0 - Revise WBS 030.03.10.01.02 LOE Resource Profile Dates																0	0	
BCR-040-19-001R0 - Re-plan REDOX Air Mover Procurement as CENRTC																0	0	
BCRA-PRC-19-005R0, HPIC Updates November 2018																0	0	
c. PM BASELINE (END OF PERIOD)		5,786,723	42,721	41,003	40,574	38,671	40,520	41,314	48,786	3,391,477	391,653	471,323	504,826	485,027	470,649	475,219	175,358	6,365,531
7. MANAGEMENT RESERVE																		
																	63,278	
8. TOTAL																		
																	6,428,809	

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT
FORMAT 4 - STAFFING**

Dollars in: FTE

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 Plateau Remediation Contract		a. FROM (YYYYMMDD) 2018 / 10 / 22	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group	ACTUAL CURRENT PERIOD	ACTUAL END OF CURRENT PERIOD (Cumulative)	FORECAST (Non-Cumulative)												AT COMPLETION	
			SIX MONTH FORECAST BY MONTH (Enter names of months)						ENTER SPECIFIED PERIODS							
			+1 DEC 2018	+2 JAN 2019	+3 FEB 2019	+4 MAR 2019	+5 APR 2019	+6 MAY 2019	JUN 2019	JUL 2019	FY19 END	FY20-LC	ATCOMPLETE			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)		
300 - Office of the President	6	820	6	6	6	6	6	6	6	6	6	6	11	0	0	877
303 - Internal Audit	5	541	7	7	7	7	7	7	7	7	7	7	14	0	0	609
304 - General Counsel	3	502	4	4	4	4	4	4	4	4	4	4	9	0	0	545
31 - Communications	8	1,133	8	8	8	8	8	8	8	8	8	8	17	0	0	1,217
32 - Safety Health Security & Quality	55	7,891	63	62	64	62	63	63	63	66	63	126	0	0	0	8,525
34 - Env Program & Strategic Plng	44	5,381	48	45	45	45	45	44	44	44	43	84	0	0	0	5,824
35 - Business Services	52	7,524	58	58	58	58	58	58	58	58	58	115	0	0	0	8,099
36 - Prime Contract & Proj Integr	40	4,008	42	42	41	41	41	41	41	41	41	82	0	0	0	4,419
37 - Resource Mgmt & Strategic Intg	30	2,941	36	39	41	44	44	43	43	43	43	86	0	0	0	3,357
38 - Project Technical Services	35	6,068	33	34	34	35	35	35	35	35	35	71	0	0	0	6,415
3B - PFP Closure Project	185	51,705	201	207	199	193	193	193	193	188	188	378	199	0	0	53,850
3C - Waste & Fuels Management Project	362	54,566	375	382	380	375	383	381	378	371	371	760	2	0	0	58,353
3D - Soil & Groundwater Remediation	261	40,115	271	273	287	290	306	290	289	282	282	507	27	0	0	42,936
3G - K Basin Oper & Plateau Remediation Project	213	34,575	213	214	219	216	225	213	222	229	229	439	1	0	0	36,765
3H - River Risk Management Project	219	6,676	218	214	211	209	209	207	204	207	207	428	85	0	0	8,868
3K - Central Plateau Risk Reduction	173	17,852	194	204	200	198	208	203	182	176	176	350	125	0	0	19,891
g. TOTAL DIRECT	1,693	242,296	1,776	1,798	1,804	1,791	1,835	1,795	1,780	1,762	3,475	438	0	0	0	260,550

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

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

CHPRC continues to track completion of the contract scope within budget and is currently projecting a variance at completion (VAC) of \$56.3 million, with \$63.3 million of management reserve (MR), for a total positive variance of \$119.6 million. For November, the project was 5.3 percent ahead of schedule and 12.3 percent over planned cost. Contract to date (CTD), the project was 0.2 percent behind schedule and 1.6 percent under planned cost.

There was no increase in the difference between the Contract Budget Base and the Total Allocated Budget on Format 3 since last month.

The five BCRs implemented in the period did not impact the PMB.

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

Variance in Performance BAC and EAC: The variance at complete (VAC) between the BAC and EAC this month is a +\$56.3 million, +0.9% and is within reporting thresholds.

Format 1 and 3 Contract Data:

Contract Price Adjustments

CPS - In Process		
	Total Authorized Unpriced Work	\$832,810
Approved Adjustments to Contract Price (not reflected in B.4-1 Table)		
	Total Negotiated Cost Changes	-
Grand Total Adjustments		\$832,810

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

Undistributed Budget Activity

BCR Number	Title	PBS	Fiscal Year	UB
N/A	N/A	N/A	2019	N/A

There was no change to Undistributed Budget in November.

Management Reserve Activity

BCR Number	Title	PBS	Fiscal Year	MR
N/A	N/A	N/A	2019	N/A

There was no change in MR during November.

Fee Activity

BCR Number	Title	PBS	Fiscal Year	Fee
N/A	N/A	N/A	2019	N/A

There was no change to Fee during November.

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.

Prepared by: Project Control Staff	Date: 12/13/2018	Approved by:	Date:
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* Per email direction received December 6, 2017, from the RL Contracting Officer, CHPRC is authorized to incorporate the value of proposed changes into the baseline, as well as remove work that is not authorized from our execution plan. When a contract alignment settlement is reached, BCRs will be processed to align the PMB with the settlement values.

Appendix B

Project Services and Support (WBS 000)



T. L. Vaughn
Vice President for
Safety, Health, Security
and Quality

M. A. Wright
Vice President for
Project Technical
Services

November 2018
CHPRC-2018-11, 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

T. A. Heidelberg
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



November 2018
CHPRC-2018-11, 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



K. A. Wooley
Vice President for
Plutonium Finishing Plant
Closure Project

November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

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

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

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

KEY ACCOMPLISHMENTS

RL-0011_C1 Accomplishments:

- Stabilization and implementation of new demolition requirements are complete and lower-risk demolition on 234-5Z has resumed. After completing lower-risk demolition outside of Remote Mechanical A (RMA), glovebox HA-46 will be removed during higher-risk demolition. The higher-risk demolition, scheduled to begin in May 2019, is currently being planned and preparations for a second management assessment (MA) are being made.

MAJOR ISSUES

Issue:

During November, the Plutonium Finishing Plant (PFP) project realized a loss of 10 Decontamination & Decommissioning (D&D) workers due to hiring by Washington River Protection Solutions (WRPS), another Hanford contractor. Ten more D&D workers are scheduled to leave in January. It is anticipated that this loss in trained and qualified workers will cause a 10-week schedule impact to the PFP project.

Corrective Action:

Work with Labor Relations and Human Resources to fill needed positions.

Status:

In response to this loss of staff, PFP has hired an additional 25 D&D workers who are expected to begin training on December 3, 2018.

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	
RL-0011/WBS-011.05.01.01.06 (CAP.1)				
Explanation of major changes to the project monthly spotlight chart: No major changes to the spotlight chart in November .				
Realized Risks (Risks that are currently impacting project cost/schedule)				
No realized risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in November .				
Critical Risks (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 November .				
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)				
No critical risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in November .				
Unassigned Risks (Pending ownership of identified risks/opportunities)				
No unassigned risks identified for RL-0011/WBS-011.05.01.01.06 (CAP.1) in November .				

CRITICAL PATH SCHEDULE

The Plutonium Finishing Plant (PFP) critical path schedule begins with debris disposition of the 234-5Z rubble piles, starting with the frontside waste. Once the waste debris is loaded out, demolition will resume on the remaining sections of zones 2 and 7, with the exception of the drain line. Remote Mechanical C (RMC) process line and RMA process line demolition will begin after a second MA is completed and concurrence granted by RL to resume higher-risk demolition activities. Working in parallel with RMA and RMC will be the completion of the basement of 234-5Z demolition and removal of HA-46. This leads to CD-4 declaration and confirmation of the completion worksheet. The CD-4 closeout completion milestone is scheduled for September 16, 2019.

SCHEDULE MARGIN/MANAGEMENT RESERVE

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

CRITICAL DECISION MILESTONE STATUS

Number	Title	* Due Date	**Forecast Date	Status/ Comment
CAP.1	Removal of 174 gloveboxes from 234-5Z	11/30/2017	9/16/2019	The finish date for the CAP 1 projects has been pushed out 82 days to September 16, 2019, due to the loss of twenty D&D workers during November. The total gloveboxes removed to date remains at 99 percent complete. Completion of CD-4 closure by November 30, 2017, was not achieved.

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

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

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

Nothing to report at this time.

DOE ACTIONS / DECISIONS

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

Appendix C.1

RL-0011.C1 – PFP D&D

(Removal of 174 Gloveboxes from 234-5Z)

Contract Performance Reports

Format 1 - Work Breakdown Structure

Format 2 - Organizational Categories

Format 3 - Baseline

Format 4 - Staffing

Format 5 - Explanation and Problem Analysis

CH2MHILL
Plateau Remediation Company



November 2018
CHPRC-2018-11, 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

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_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2018 / 10 / 22										
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25										
		c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (YYYYMMDD) 2009 / 09 / 18										
5. CONTRACT DATA																
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 344,864	g. CONTRACT CEILING 340,865	h. ESTIMATED CONTRACT CEILING 344,864									
6. ESTIMATED COST AT COMPLETION				7. AUTHORIZED CONTRACTOR REPRESENTATIVE												
MANAGEMENT ESTIMATE AT COMPLETION (1)		CONTRACT BUDGET BASE (2)		VARIANCE (3)		a. NAME (Last, First, Middle Initial) Underwood, Teresa M										
a. BEST CASE 332,593						b. TITLE Prime Contract Compliance Manager										
b. WORST CASE 334,991		330,987		-3,999		c. SIGNATURE										
c. MOST LIKELY 334,986						d. DATE SIGNED (YYYYMMDD)										
8. PERFORMANCE DATA																
CAPN.PBS Control Account.PARS 2 WBS (2)		CURRENT PERIOD				CUMULATIVE TO DATE				REPROGRAMMING ADJUSTMENTS			AT COMPLETION			
ITEM (1)	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (9)	VARIANCE		COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)						
RL-0011 Nuclear Mat Stab & Disp PFP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RL_0011_C1.02 Maintain Safe & Compliant PFP	0	0	0	0	0	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	259,806	-24,291
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																
e. SUBTOTAL	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	315,152	332,593	-17,441
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		
9. RECONCILIATION TO CONTRACT BUDGET BASELINE																
a. VARIANCE ADJUSTMENT																
b. TOTAL CONTRACT VARIANCE																
										-19	-17,446			317,545	332,593	-15,048

*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

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_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2018 / 10 / 22	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE NO <input type="checkbox"/> X <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group ITEM (1)	CURRENT PERIOD						CUMULATIVE TO DATE						REPROGRAMMING 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)								
35 - Business Services	0	0	0	0	0	60,427	60,427	52,580	0	7,847	0	0	0	60,427	52,580	7,847		
3B - PFP Closure Project	0	0	0	0	0	254,725	254,706	279,999	-19	-25,293	0	0	0	254,725	280,013	-25,288		
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
c. GENERAL AND ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
d. UNDISTRIBUTED BUDGET																		
e. SUBTOTAL (Performance Measurement Baseline)	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	315,152	332,593	-17,441		
f. MANAGEMENT RESERVE														2,393				
g. TOTAL	0	0	0	0	0	315,152	315,133	332,579	-19	-17,446	0	0	0	317,545				

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT
FORMAT 4 - STAFFING**

Dollars in: FTE

FORM APPROVED
OMB No. 0704-0188

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_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2018 / 10 / 22	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25	
		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 DEC 2018 (4)	+2 JAN 2019 (5)	+3 FEB 2019 (6)	+4 MAR 2019 (7)	+5 APR 2019 (8)	+6 MAY 2019 (9)	JUN 2019 (10)	JUL 2019 (11)	FY19 END (12)	FY20-LC (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	15,441	0	0	0	0	0	0	0	0	1	0	0	0	15,442
g. TOTAL DIRECT	0	15,458	0	0	0	0	0	0	0	0	1	0	0	0	15,459

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 MPB - RL_0011_C1 - PFP D&D (ARRA/Base)		a. FROM (YYYYMMDD) 2018/10/22			
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018/11/25			
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE No X Yes		(YYYYMMDD) 2009 / 09 / 18			

Direct Projects

5. Evaluation	Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Current:	0	0	0	0	0	0	0	0	0
Cumulative:	315,152	315,133	332,579	-19	-0.0%	-17,446	-5.5%	1.00	0.95
	BAC	EAC	VAC in \$	VAC in %	TCPI to BAC	TCPI to EAC			
At Complete:	315,152	332,593	-17,441	-5.5%	0	1.37			

Explanation of Variance/Description of Problem:

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

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

Impact:

Impact: The RL-011.C1 project baseline completion date is November 19, 2016. The current schedule now reflects a schedule loss with a new completion date of September 16, 2019. The schedule loss was due to the incorporation of further revisions to the revised demo approach responding to the contamination event that occurred in December 2017 and the realized risk of Bump and Roll, LAMP, or Other Contractor Hiring of Bargaining Unit employees affecting productivity of debris disposition.

The current RL-11 performance schedule indicates that the PFP project will achieve slab-on-grade by September 11, 2019. On Friday, December 15, 2017 swing shift 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 has been conducted and recovery actions and expected completion dates have been identified. Efficiencies have previously been identified in readying the 234-5Z facility for demolition where NDA and characterization data supported leaving more piping and ducting in place for demolition. In addition, efficiencies were recognized in 236-Z (PRF) where work was performed on filter boxes in parallel with the gallery gloveboxes. This allowed for acceleration of the start of 236-Z demolition. This accelerated when additional field team resources were reallocated from 236-Z to 234-5Z to get the facility ready for demolition. This is partially offset by delay in readying the 234-5Z facility for demolition as a result of lack of RCT resources. 234-5Z contains the gloveboxes requiring removal to meet the end state of the KPP and TPA milestone. The regulators were notified in advance that the PFP Project would not meet the re-negotiated TPA milestone M-083-00A due date of 9/30/17 for achieving slab-on-grade. In addition, the December 30, 2017 CD-4 date was not achieved.

Cost Impact: The historical negative cost variance of ~\$17.4M and 5.5%, and CPI of .95 reflect impacts of the safety pauses, stop works, contamination events, and increased complexity of the HA-9A/HC-9B size reduction efforts and preparations and removal of the HA-7A, HC18M and HC-7C and 227S and 227T gloveboxes. This is partially offset by recognized efficiencies in cleaning up the RMA/RMC control rooms after completion of the size reduction efforts of the 9A/9B gloveboxes and removal of the three RADTU and HA-46 gloveboxes by demolishing them with the 234-5Z facility.

Cost variance is not considered recoverable as there is only a small amount of scope remaining to complete the KPP.

Corrective Action:

None at this time

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

- Schedule Margin Analysis: There is no schedule margin associated with the RL-011.C1 capital asset account.
- IMS Data dictionary Changes: None in the month of November.
- Forecast Schedule with No Baseline: None in the month of November.
- UB Balance: None in the month of November.
- Negative ACWP: None in the month of November.
- EAC Analysis: Best Case = \$332,593; Most Likely = \$334,986; Worst Case = \$334,991. 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.
- Negative CV > VAC: Scope to perform size reduction efforts on the high gram glovebox removal efforts was estimated to be completed in a much shorter time frame with much fewer resources than originally planned causing the large Cost Variance. The EAC is reflective of the current approach to perform the remaining work scope.
- MR Transactions: None in the month of November.
- Freeze Period Changes: None in the month of November.
- Retroactive Changes: None in the month of November.
- EVT Changes: None in the month of November.

Prepared by: Cory McCoy

12/10/2018

Approved by:

Date:

Appendix C.2

Capital Asset Project

RL-0011.C2 - Demolition of PFP Facilities



K. A. Wooley
Vice President for
Plutonium Finishing Plant
Closure Project

November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC06-08RL14788
Deliverable C.3.1.3.1 - 1

PROJECT SUMMARY

Loadout of existing 234-5Z Building debris has continued throughout the month and approximately 15 percent of the existing debris pile has been shipped to the Environmental Restoration Disposal Facility (ERDF) for disposal. The higher-risk demolition, currently forecast to begin in May 2019, is being planned and preparations for a second Management Assessment (MA) are being made.

<i>Key Metrics</i>	<i>Current Month Plan</i>	<i>Current Month Actuals</i>	<i>Cumulative Plan</i>	<i>Cumulative Actuals</i>
COMPLETE Cold and Dark/Demo Ready activities for 234-5Z	-	-	1	1
COMPLETE Cold and Dark/Demo Ready activities for 236-Z	-	-	1	1
COMPLETE Cold and Dark/Demo Ready activities for 242-Z	-	-	1	1
COMPLETE Cold and Dark/Demo Ready activities for 291-Z	-	-	1	1
Complete Cold and Dark/Demo Ready activities for PFP Ancillary Facilities	-	-	15	14
Complete Demolition of 234-5Z	-	-	1	-
Complete Demolition of 236-Z	-	-	1	-
COMPLETE Demolition of 242-Z	-	-	1	1
COMPLETE 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:

- Loaded and shipped existing 234-5Z rubble debris. Approximately 15 percent of existing debris has been shipped in total.
- Implemented process improvements for ERDF waste disposition. Steel plates procured in October have been positioned under the waste containers to expedite the process of loading and unloading containers and to accelerate the process of cleaning up any spills. Liquids have been directed toward the berm to manage excess water.

MAJOR ISSUES

Issue:

During November, the Plutonium Finishing Plant (PFP) project realized a loss of 10 Decontamination & Decommissioning (D&D) workers due to hiring by Washington River Protection Solutions, LLC, another Hanford contractor. Ten more D&D workers are scheduled to leave in January. It is anticipated that this loss in trained and qualified workers will cause a 10-week schedule impact to the PFP project.

Corrective Action:

Work with Labor Relations and Human Resources to fill needed positions.

Status:

In response to this loss of staff, PFP has hired an additional 25 D&D workers who are expected to begin training on December 3, 2018.

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																
RL-0011/WBS-011.OA																			
Explanation of major changes to the project monthly stoplight chart: No major changes to the stoplight chart in the month of November.																			
Realized Risks (Risks that are currently impacting project cost/schedule)																			
PFP-P-014: Bump and Roll, Labor Assets Management Program (LAMP), or Other Contractor Hiring of Bargaining Unit Employees Affecting Productivity	Plutonium Finishing Plant (PFP) Hanford Atomic Metal Trades Council (HAMTC) labor resources are unavailable or unqualified due to the bump and roll, LAMP, or other job postings, resulting in schedule impacts to the project. Risk Handling Strategy: Control Probability: Likely (75% to 90%) Worst Case Impacts: \$0, 64 days	●	↓	Risk Event: Twenty-five Decontamination and Decommissioning (D&D) workers have been hired to other projects on the Hanford Site and will be leaving PFP. The process to hire new D&D workers has been initiated. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Risk recovery action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Hire and train additional D&D workers as needed to perform demolition work at PFP.</td> <td>1/29/19</td> <td>10%</td> </tr> </tbody> </table> Risk Action Assessment: No major changes in November . Offers have been made to new D&D workers and training is scheduled to begin December 3, 2018.	Risk recovery action(s)	FC Date	%	Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A	Hire and train additional D&D workers as needed to perform demolition work at PFP.	1/29/19	10%						
Risk recovery action(s)	FC Date	%																	
Communication and coordination with other projects, contractors, and unions to reduce or eliminate the impact of the bump and roll process.	Ongoing	N/A																	
Hire and train additional D&D workers as needed to perform demolition work at PFP.	1/29/19	10%																	
Critical Risks (Severe impact to ultimate goals/objectives. Enforceable or incentivized milestone completion missed)																			
No critical risks in November .																			
High Risk Threat Value (Recoverable slip to enforceable or incentivized milestone)																			
No high risk threat value risks in November .																			
FY2019 Risk Triggers (Risk could be realized in FY2019)																			
PFP-P-004: Stop Work From Concerned Workers	Concerned workers result in a stop work to address off-normal or safety issues. The work cannot be restarted until the implementation of corrective actions is completed, resulting in schedule impacts to the project. Risk Handling Strategy: Accept Probability: Very Likely (>90%) Worst Case Impacts: \$0, 52 days	●	↔	Risk Event: During resumption of PFP demolition activities, an increase in stop works could result in delays. <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>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> Mitigation Assessment: No major changes in November . Increased communication and worker involvement has been implemented to avoid confusion and concern in an effort to minimize stop works.	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																	
PFP-P-007: Demolition Equipment Reliability and Modification	Ineffective demolition equipment attachments, mechanical failures, or contamination of clean equipment, impact the demolition of PFP. Equipment modification, leasing, or replacement will be required resulting in cost and schedule impacts. Risk Handling Strategy: Control Probability: Low (10% to 25%)	●	↔	Risk Trigger: Equipment failures result in delays to fieldwork. <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>Repurpose other owned equipment on-site.</td> <td>Ongoing</td> <td>N/A</td> </tr> <tr> <td>Develop and maintain min/max inventory of spares.</td> <td>Complete</td> <td>100%</td> </tr> <tr> <td>Perform planned preventative maintenance on equipment.</td> <td>2/28/19</td> <td>80%</td> </tr> </tbody> </table> Mitigation Assessment: No major changes in November . All mitigations have been sufficient to maintain equipment in working condition.	Mitigation action(s)	FC Date	%	Repurpose other owned equipment on-site.	Ongoing	N/A	Develop and maintain min/max inventory of spares.	Complete	100%	Perform planned preventative maintenance on equipment.	2/28/19	80%			
Mitigation action(s)	FC Date	%																	
Repurpose other owned equipment on-site.	Ongoing	N/A																	
Develop and maintain min/max inventory of spares.	Complete	100%																	
Perform planned preventative maintenance on equipment.	2/28/19	80%																	

<p>PFPP-006: Additional Soil Removal is Required</p>	<p>Worst Case Impacts: \$1M, 48 days</p> <p>Prior to the placement of the cover cap, the additional soil added for contamination control is required to be dispositioned, resulting in cost and schedule delays to the project.</p> <p>Risk Handling Strategy: Control</p> <p>Probability: Low (10% to 25%) Worst Case Impacts: \$0, 54 days</p>			<p>Risk Trigger: Additional soil, above planned value is required to be removed due to contamination or regulatory concerns.</p> <table border="1" data-bbox="862 302 1555 415"> <thead> <tr> <th>Mitigation action(s)</th> <th>FC Date</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Engage early with RL to identify a path forward associated with the additional soil.</td> <td>11/9/18</td> <td>75%</td> </tr> <tr> <td>Replan the schedule as needed to incorporate plan prior to Critical Decision-2/3 rebaselining efforts.</td> <td>12/3/18</td> <td>50%</td> </tr> </tbody> </table> <p>Mitigation Assessment: No major changes in November. Continued communication with RL on required soil removal. No additional soil above planned quantity is required at this time.</p>	Mitigation action(s)	FC Date	%	Engage early with RL to identify a path forward associated with the additional soil.	11/9/18	75%	Replan the schedule as needed to incorporate plan prior to Critical Decision-2/3 rebaselining efforts.	12/3/18	50%
Mitigation action(s)	FC Date	%											
Engage early with RL to identify a path forward associated with the additional soil.	11/9/18	75%											
Replan the schedule as needed to incorporate plan prior to Critical Decision-2/3 rebaselining efforts.	12/3/18	50%											
<p align="center">Unassigned Risks (Pending ownership of identified risks/opportunities)</p> <p>No unassigned risks identified in November.</p>													

CRITICAL PATH SCHEDULE

The PFP Critical Path schedule begins with the resumption of debris disposition of the 234-5Z rubble piles starting with the frontside waste. Once the waste debris is loaded out, demolition will resume on the remaining sections of Zones two and seven, with the exception of the drain line. Remote Mechanical C process line demolition, Remote Mechanical A process line demolition, and loadout of glovebox HA-46, in parallel with completion of the basement of 234-5Z demolition, will begin after a second MA and concurrence is obtained to resume high-risk demo from RL. The 234-5Z demolition is projected to complete July 11, 2019. The 236-Z canyon demolition will then resume with completion scheduled for September 11, 2019, meeting the requirements for the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-083-00A – PFP Facility Transition and Selection Disposition Activities. Completion of demolition is followed by site stabilization and demobilization, turnover to surveillance and maintenance, and project closeout activities completing in December 2019.

SCHEDULE MARGIN/MANAGEMENT RESERVE

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

CRITICAL DECISION MILESTONE STATUS

Number	Title	* Due Date	**Forecast Date	Status/ Comment
RL-011.C2	Completion of Demolition of all PFP Facilities.	8/31/2018	11/21/19	There has been a schedule loss of 77 days since October. This was a result of incorporation of further revisions to the revised demo approach responding to the contamination event that occurred in December 2017 and the realized risk of bump and roll, LAMP, or other contractor hiring of bargaining unit employees affecting productivity of debris disposition. Loadout of the existing debris continued in Approximately 15 percent of the total debris pile shipped to ERDF for disposal.

*Due date reflects CD-4 due date with DOE contingency.
 **Forecast date reflects CD-4 due date without DOE contingency.

GOVERNMENT FURNISHED SERVICES AND INFORMATION (GFS/I)

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



November 2018
CHPRC-2018-11, Rev. 0
Contract DE-AC07-08RL14788
Deliverable C.3.1.3.1 - 1

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

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

FORM APPROVED

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) 2018 / 10 / 22	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25	
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

WBS.Resp Org Group	CURRENT PERIOD						CUMULATIVE TO DATE					REPROGRAMMING			AT COMPLETION		
	BUDGETED COST		ACTUAL	VARIANCE		BUDGETED COST		ACTUAL	VARIANCE		ADJUSTMENTS			BUDGETED	ESTIMATED	VARIANCE	
	WORK SCHEDULED (2)	WORK PERFORMED (3)	COST WORK PERFORMED (4)	SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)	COST WORK PERFORMED (9)	SCHEDULE (10)	COST (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	(14)	(15)	(16)	
3B - PFP Closure Project	0	369	5,389	369	-5,020	55,307	42,779	102,990	-12,528	-60,211	0	0	0	55,307	148,574	-93,267	
b. COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
c. GENERAL AND ADMINISTRATIVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
d. UNDISTRIBUTED BUDGET														0	0	0	
e. SUBTOTAL (Performance Measurement Baseline)	0	369	5,389	369	-5,020	55,307	42,779	102,990	-12,528	-60,211	0	0	0	55,307	148,574	-93,267	
f. MANAGEMENT RESERVE														3,434			
g. TOTAL	0	369	5,389	369	-5,020	55,307	42,779	102,990	-12,528	-60,211	0	0	0	58,741			

CLASSIFICATION (When Filled In)

**CONTRACT PERFORMANCE REPORT
FORMAT 4 - STAFFING**

Dollars in: FTE

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) 2018 / 10 / 22	
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE		b. TO (YYYYMMDD) 2018 / 11 / 25	
		c. TYPE CPAF	d. SHARE RATIO	c. EVMS ACCEPTANCE <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES (YYYYMMDD) 2009 / 09 / 18			

5. PERFORMANCE DATA		FORECAST (Non-Cumulative)													AT COMPLETION
WBS.Resp Org Group	ACTUAL CURRENT PERIOD	ACTUAL END OF CURRENT PERIOD (Cumulative)	SIX MONTH FORECAST BY MONTH (Enter names of months)						ENTER SPECIFIED PERIODS						
			+1 DEC 2018 (4)	+2 JAN 2019 (5)	+3 FEB 2019 (6)	+4 MAR 2019 (7)	+5 APR 2019 (8)	+6 MAY 2019 (9)	JUN 2019 (10)	JUL 2019 (11)	FY19 END (12)	FY20-LC (13)	ATCOMPLETE (14)		
3B - PFP Closure Project	141	2,504	151	158	150	144	144	143	143	139	283	144	0	4,103	
g. TOTAL DIRECT	141	2,504	151	158	150	144	144	143	143	139	283	144	0	4,103	

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) 2018/10/22			
b. LOCATION (Address and ZIP Code) Richland, WA		b. NUMBER RL14788		b. PHASE			b. TO (YYYYMMDD) 2018/11/25			
c. TYPE CPAF		d. SHARE RATIO		c. EVMS ACCEPTANCE No X Yes (YYYYMMDD) 2009 / 09 / 18						
Direct Projects										
5. Evaluation		Budget	Earned	Actuals	SV in \$	SV in %	CV in \$	CV in %	SPI	CPI
Current:		0.0	369.2	5,389.5	369.2	0	-5,020.2	-1359.6%	0	0.07
Cumulative:		55,306.9	42,778.9	102,989.7	-12,528.0	-22.7%	-60,210.8	-140.7%	0.77	0.42
		BAC	EAC	VAC in \$	VAC in %	TCPI to BAC	TCPI to EAC			
At Complete:		55,306.9	148,573.7	-93,266.8	-168.6%	0	0.27			
Explanation of Variance/Description of Problem:										
Current Month:										
Schedule Variance: The schedule variance for the current month is within threshold.										
Cost Variance: The current month negative cost variance is due to the resumption actions and implementation of the new demolition requirements associated with a December 2017 contamination event. This includes fixative applications, performance of radiological surveys, revising radiological postings, infrastructure modifications, and stabilization activities to support resumption of PFP demolition. This also includes additional material and equipment purchases to support the revised demolition approach. As resumption corrective actions and mockups are performed, costs for labor, subcontracts, and material purchases add to the current month variance. Additionally, work to size reduce and loadout debris associated with demolition has been slower than planned due to the realized risk of Bump and Roll, LAMP, or Other Contractor Hiring of Bargaining Unit employees, continued process improvements being implemented, and a learning curve associated with revised requirements.										
Cumulative to Date:										
Schedule Variance: The cumulative unfavorable schedule variance is due to delay of demolition of ancillary buildings and 236-Z caused by resources being redirected to support higher priority critical path work associated with decommissioning of 234-5Z, 242-Z, and 236-Z, as well as ready for demo activities associated with impacts from 236-Z Canyon Crane failure, contamination impacts from an unplanned criticality alarm failure, contamination recovery in the duct level of 234-5Z (two week delay in July 2016), increased characterization efforts, weather delays (snow and wind), recovery from demolition contamination events, and greater efforts to complete 242-Z demolition than originally planned. In addition, the PUREX Tunnel collapse caused a four day delay due to closure of the Hanford site restricting access to PFP and a contamination event associated with removal of PRF gallery gloveboxes causing a 20 day delay of demolition activities on the 236-Z facility. Further, impacts associated with the Stop Work that was initiated by the Hanford Atomic Metals Trade Council (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 a result of delays in the ready for demolition activities, completion of the C2 CD-4 has been delayed. TPA milestone M-083-00A due September 30, 2017, was not met. A BCR was processed in the month of September to draw down on DOE contingency to recover the direct cost impacts to the RL-0011 C.2 Project associated with realization of the DOE-RL risks. Areas that were impacted were associated with Weather Delays, Stop Works, PRF Contamination Events, and MSA Resources retained to prevent Bump and Roll impacts. A contamination event occurred on Friday, December 15, 2017, swing shift when 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 has been conducted and recovery actions and expected completion dates are identified. This is partially offset 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.										
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 with a baseline start date of February 2016. 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 Hanford Atomic Metals Trade Council (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 G&A Rate for FY2017 resulted in a reduction to the 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 has been conducted and resumption actions and expected completion dates are identified. This is partially offset by recognized efficiencies associated with the removal of the 18 sections of the PRF gallery gloveboxes, progress on demolition of 236-Z, demolition of the 2727-Z and 2729-Z facilities, the 242-ZA and 242-Z facilities, the 291-Z facility, 291-Z stack, 234-5ZA, 252-Z1, 2503-Z, 2735Z, 2734ZA, ZB, ZC, ZD, and ZL facilities.										
Impact:										
Schedule Impact: Progress continued to work toward CD-4 closure as teams continued to ready the PFP facilities for demolition. The PRF facility initiated demolition on November 8, 2016. Demolition on the 291-Z facility commenced on June 30, 2017, and the 291-Z stack was demolished on July 15, 2017. The 234-5ZA facility was demolished in the month of August 2017 with loadout of waste completed in the month of September. Demolition of 234-5Z was initiated on September 13, 2017. Completion of all demolition activities are forecast to occur in September 2019. The September date is reflective of the known actions and resumption efforts associated with a contamination event that occurred in December, 2017. The baseline completion date is not considered recoverable. The TPA Milestone TPA-083-00A, complete PFP facility transition and selected disposition activities of November 30, 2017 was not met.										
Cost Impact: Stop Works, Safety Pauses, weather impacts (i.e., unusual winter, heat, wind, etc.) multiple contamination events, the PRF Crane failure, and associated recovery actions have negatively impacted demolition of the PFP facilities. In addition, readiness activities took longer than originally assumed as a result of increased requirements required by the Readiness Assessment team to demonstrate readiness for demolition of the PRF facility and efforts to mobilize took longer than originally assumed as a result of implemented recommendations from the readiness assessment team. An unplanned Management Assessment for the 234-5Z and 291-Z facilities to incorporate lessons learned from the demolition of the 236-Z and 242-Z facilities are also contributing to the cost impacts. Finally, in the early stages of this project subcontracted MSA resources specializing in facility demolition charged the project until the ready for demo status was achieved. Unexpected contamination events that occurred during demolition of the PRF facility in January, June, and December, 2017, and delays with the 242-Z demolition has contributed to the cost impacts on this project. A Baseline Change Request (BCR) was processed in the month of September to draw down on DOE contingency to recover the direct cost impacts to the RL-0011 C.2 Project associated with realization of the DOE-RL risks. Areas that were impacted were associated with Weather Delays, Stop Works, PRF Contamination Events, and MSA Resources retained to prevent Bump and Roll impacts. This is partially offset by recognized efficiencies during the 291-Z demolition and 291-Z stack implosion as well as the 234-5ZA, 252-Z1, 2503-Z, and 2735Z, 2734ZA, ZB, ZC, ZD, and ZL facilities.										
A negative VAC is reflective of impacts associated with recovery efforts from a contamination event that occurred on December 15, 2017. Partially offset by working one shift during demolition of 236-Z, 242-Z and 291-Z building and stack rather than two as planned in the PMB. Durations for the remainder of the 234-5Z and PRF demolitions activities have been adjusted to incorporate increased durations as a result of expected recovery actions from the contamination event that occurred in December.										

Corrective Action:

NOTE: All corrective actions and resumption pre-start items identified in the management assessment are have been completed, and the DOE has provided concurrence for the resumption of lower risk work. The Stop Work issued by CHPRC management on demo activities has been lifted and resumption of low risk debris disposition has been initiated.

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

The following items are addressed, as applicable:

1. Schedule Margin Analysis: In the EAC there is currently no remaining schedule margin in this capital asset account. Schedule margin was lost in February 2016 as a result of impacts from stop works associated with PremAire breathing air issues related to size reduction of the HA-9A glovebox and impacts from a safety pause associated with a PremAire Breathing Air radiological event resulting in increased survey requirements for PPE and a requirement for removing additional asbestos in the 234-5Z facility prior to demolition activities commencing.
2. IMS Data dictionary Changes: No change in the month of November.
3. Forecast Schedule with No Baseline: No change in the month of November.
4. UB Balance: No change in the month of November.
5. Negative ACWP: No change in the month of November.
6. EAC Analysis: Best Case = \$148,574; Most Likely = \$152,008; Worst Case = \$152,008. 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.
7. Negative CV > VAC: No change in the month of November.
8. MR Transactions: No change in the month of November.
9. Freeze Period Changes: No change in the month of November.
10. Retroactive Changes: No change in the month of November.
11. EVT Changes: No change in the month of November.

Prepared by: Jessica Mares

Date: 12/10/18

Approved by:

Date: