



**Tri-Party Agreement**

U.S. Department of Energy  
Washington State Department of Ecology  
U.S. Environmental Protection Agency

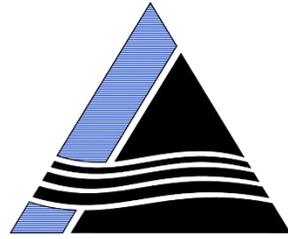
**SIGNATURES:**

Approval:  Date: 1/27/2020  
W.F. Hamel, DOE-RL Representative

Approval:  Date: 2/11/2020  
D.R. Einar, EPA Representative

Approval:  Date: 1/31/2020  
A.K. Smith, Ecology Representative

Central Plateau/River Corridor  
Tri-Party Agreement Quarterly Milestone Review Meeting Minutes  
September 19, 2019



*Tri-Party Agreement*

U.S. Department of Energy  
Washington State Department of Ecology  
U.S. Environmental Protection Agency

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## **1.0 INTRODUCTION**

The Central Plateau/River Corridor meetings are normally held quarterly between the U.S. Department of Energy, Richland Operations Office (DOE-RL), Washington State Department of Ecology (Ecology), and the U.S. Environmental Protection Agency (EPA), hereafter referred to as the Parties.

## **2.0 LIFECYCLE COST REPORT**

MSA reported the one page briefing for the Lifecycle Cost Report (LCR) (M-036 milestone) will be included in the final Administrative Record (AR) package. There will be no DOE-RL briefing provided at this time.

## **3.0 M-035 DATA ACCESS**

DOE-RL provided an update on milestone M-035-09K, regarding data access issues, work continues on the milestone by the Parties. The Parties were close to an agreement on a path forward for M-035-09K, with proposed interim milestones. DOE-RL reported where the negotiations fell short were on the fundamental issues between a primary and secondary document. DOE-RL noted that both Parties agreed to work on a strategy for documenting how data is managed and define the criteria of what TPA-relevant data is. DOE-RL explained that both Parties' project managers (PM) will continue to work on solutions while the Tri-Party Agreement (TPA) dispute resolution process continues for M-035-09K. The dispute resolution process expires at the PM level on September 19, 2019 and will be raised to the Interagency Agreement Integration Team (IAMIT) level to be resolved. DOE-RL explained that a Statement of Dispute (SOD) will be sent to Ecology for their reference. DOE-RL stated that the dispute at the PM level is for 30 days per the TPA.

Ecology asked that the dispute be extended at the IAMIT level until the third Thursday of November, so the IAMIT members can all hear the discussion at that time. EPA agreed with Ecology's suggestion. MSA responded that they would draft an extension for the Parties.

Ecology stated that the PMs on milestone M-035 agree on the concepts of the milestone, but are working within each of their organizations for support and to agree on a path forward. Ecology explained further that organization support consists of the management and legal departments of each organization to back the PM's strategy on coming to an agreement on the milestone.

## **4.0 PLUTONIUM FINISHING PLANT CLOSURE**

### **4.1 Milestone**

DOE-RL reviewed the milestone slide and reported that milestone M-083-00A has been missed, but progress continues with the lower-risk demolition.

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#### **4.2 Project Baseline Performance**

DOE-RL reported that Plutonium Finishing Plant (PFP) is over budget and behind schedule. DOE-RL also noted that there is 2019 funding that has been identified that will carry over to 2020 for completion of the PFP work.

#### **4.3 Planned Activities**

DOE-RL reported that planned activities consist of completing duct level and the second floor removal, connecting the IONEX exhauster and, in October, starting the 234-5Z area higher-risk demolition of Remote Mechanical (RM) A and C lines, along with starting plutonium reclamation facility (PRF) in December through February.

Ecology asked if the 2019 budget carryover takes PFP to slab on grade. DOE-RL responded that it does.

### **5.0 K BASINS SLUDGE REMOVAL PROJECT AND RIVER CORRIDOR CLOSURE**

#### **5.1 K Basins Engineered Container Sludge Removal Significant Accomplishments**

DOE-RL reported completing removal of the K Basin sludge two weeks ago. The last sludge transport and storage container (STSC) #20 was delivered to T Plant on September 11, 2019. DOE-RL noted that the sludge removal operations finished ahead of schedule and before the construction management date for the line item (complete operation is 15 months).

#### **5.2 Milestone Summary**

DOE-RL stated they are waiting on a completion letter from the contractor, but are reporting the milestone M-016-176, "Complete sludge removal from K Basin," as complete. DOE-RL added that additional work remains in the K Basin such as characterization, deactivation, and dewatering to meet the future milestones.

#### **5.3 300-296 Soil Removal**

DOE-RL explained 300-296 soil removal has not gone as planned. The first pilot hole for structural support in room 18 was completed in June 2019. However, there have been contamination control issues. The contamination has happened on the inside of the contamination area, but the issue is keeping the airborne radiation levels down. There have been a few stop-works to make modifications to the equipment to better control the contamination. DOE-RL is hopeful that the first two holes are the highest contamination, based on the geoprobes. Once the holes exceed 8 to 10 feet, DOE-RL is expecting less contamination.

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Ecology asked if the third pilot hole will be located on the west side of the room and if it should be less contaminated. DOE-RL responded pilot hole three will start next week on the west side of the room.

DOE-RL reported B-Cell debris cleanup has gone well. The remote arms are used to pack the bins, which are then placed in boxes and sent to the Environmental Restoration Disposal Facility (ERDF). The first ERDF box was sent in July 2019 and they have since shipped 12 to 13 more. DOE-RL stated there was a problem with A-D crane that had seized up and suspended boxes at the time. However, corrective actions have been taken to secure the boxes with an air mattress placed underneath to provide support to detach the crane. DOE-RL stated that they believe the issue with the crane was a seized up brake and are working with the vendor on the repair. DOE-RL reported the readiness assessment continues to be worked for removing the floor and soil, which takes place after the floor cuts. DOE-RL added they have released the micropile designs and are looking to start installing the first one, which serves as the structural support that bolts to the building. DOE-RL reported completion of the floor saw demo of the mockup and are ready for the floor saw in the hot cell. Floor cutting will take place once debris is removed from the hot cell. Additional support work is taking place with the installed D-Cell snorkel that hooks into the ventilation system. DOE-RL stated they have completed pilot hole #2 and they have fixed the stuck pin in A-Cell door for safety reasons. DOE-RL described the picture of a quadrant of B-Cell that has been cleaned for the floor saw that is to be placed in October 2019.

DOE-RL noted they are getting ready to award the Central Plateau cleanup contract and expect no impacts to the operations. DOE-RL also noted the 2020 budget is looking to remain at the current level.

DOE-RL reported pilot hole #3 will be completed by the end of September 2019, followed by completing a high-risk board meeting for converting pilot holes to micropiles.

Ecology asked what the acronym TSA stands for. DOE-RL answered that it is True Sleeve Assembly (TSA), which is the sleeve that the remote arm goes through and attaches to the wall.

#### **5.4 Project Baseline Performance**

DOE-RL stated they are behind schedule and over cost. However, DOE-RL has funding in 2020 to continue work as scheduled.

EPA asked DOE-RL to explain what over cost on the baseline performance sheet entails. DOE-RL responded over cost means money has been spent without receiving the product. EPA followed by asking if, based on the new budgeted work schedule, DOE-RL is behind schedule, but under cost? DOE-RL explained that in contract space, there is a 2019 extension that was placed in the baseline and it is being reflected in the cost variance.

#### **5.5 Milestone Summary**

DOE-RL notified the Parties that milestone M-016-86 is at risk.

Ecology stated milestone M-016-86 seems like it is going to be missed, and asked if DOE-RL has a strategy for this milestone. DOE-RL responded they have been discussing the milestone

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and have proposed a change to EPA. However, they will continue tracking as it gets closer. EPA added there is no way to get to the milestone at this time. Ecology suggested the milestone be reported as “To Be Missed.”

## **5.6 100K Closure**

DOE-RL shared that Waste Site 100-K-47:1 pipeline is nearing completion and Waste Site 100-K-47:2 removal and stockpiling of overburden is in progress. Waste Site 100-K-99 has completed remediation to remove residual contaminated soil identified at the duct bank during the last round of verification sampling, and Waste Site 116-KE-2 soil excavation and load out has resumed due to finding exceedances of uranium and chromium. DOE-RL explained how the contractor has issued a request for proposal for waste site remediation in FY2020 and FY2021.

DOE-RL reported the next big challenge is the K W Basin deactivation and demolition. DOE-RL is currently slowing the work in the basin to avoid stirring up anything left in the basin floor from the sludge. This consists of changing out the ion exchange model (IXM) more often. Once work resumes, K W Basin characterization will continue. DOE-RL also stated they are separating higher dose material from lower dose material that can be left in the basin. As it is being characterized, it is expected to be transuranic waste (TRU). DOE-RL reported looking at a few processes and described a picture in the presentation as how they are handling the waste.

DOE-RL stated they had finished demolition of buildings 1724K, 1724KA and 167K.

DOE-RL explained the architecture engineering contractor completed development of the 90% safe storage enclosure (SSE) design modification package and submitted it for review (different design from the other reactors) for the K East and K West reactor interim safe storage (ISS).

DOE-RL finalized the asbestos removal mobilization work package, and mobilized asbestos abatement contractor equipment and personnel. DOE-RL discussed the contractor is working on an overall plan for K West Basin deactivation, including some innovations for getting higher activity waste out with vertical pipe casings that can be dug out later on, and it should be in by the end of the month. However, they are continuing with the washing station tipping assembly fabrication.

Ecology asked, since in the past the bigger pieces of fuel had gone to the canister storage building as spent fuel, how is it distinguished between what you treat as fuel and what you treat as TRU. DOE-RL responded the last shipments took place when the option was available for the holding canister being over the maximum in 2011. The fuel that is being packaged now is smaller and packaged separately. Oregon Department of Energy asked if the fuel pieces were going to Pacific Northwest Laboratories in the past. DOE-RL responded that is correct. DOE-RL explained the process of calibrating the gamma camera to develop the dose profile waste.

EPA asked about the metal in regards to the size reduction work and designation plan. DOE-RL responded lead components will not be taken. Zeolite will be used to absorb liquids and this information has been shared with EPA. DOE-RL will continue to work out any additional issues that may come up with this process.

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DOE-RL continued discussing deactivation and demolition facilities and removing fuel, oil, and water out of 166KE tanks. 165KW is close to completing asbestos removal and starting demolition in 2020.

## **6.0 LAND DISPOSAL RESTRICTIONS REPORT**

DOE-RL stated the 2014 Land Disposal Restriction (LDR) Report was delivered to Ecology in July 2019, and they are currently working on the 2019 report. Ecology stated it was a huge accomplishment to get the comments resolved on the 2014 report. DOE-RL agreed on the successful teamwork.

## **7.0 SOLID WASTE STABILIZATION AND DISPOSITION PROJECT**

### **7.1 Accomplishments**

DOE-RL reported an M-091 change package the Parties have been working on has come to an impasse over whether or not the shipment date is enforceable. The Parties will continue to work towards resolution. DOE-RL noted, in the meantime, they will continue working on completing the existing milestones. DOE-RL stated milestone M-091-47D for treating 280 cubic meters was met in August 2017. DOE-RL is continuing removal of mixed waste containers, 12 of 20 have been removed from Outside Storage Areas A and B, which forms milestone M-091-52-T01C. DOE-RL is also continuing Perma-Fix Northwest shipments with repackaging the waste. DOE-RL noted three more shipments have been moved into September due to having 3 weeks where no shipments were scheduled. This helps with licensing limits and adds flexibility.

Ecology stated that due to the inability to reach an agreement on the M-091 milestone series, the M-091-44T milestone, "Submit Change Package to Establish Schedule for Achieving Offsite Shipment of All TRUM Waste," due 9/30/2020, should be statused as "To Be Missed." Ecology noted the M-091-48 milestone should also be reported as "To Be Missed." Ecology continued that DOE-RL is rejecting an extension to an existing milestone that cannot be won through the TPA dispute process due to the dates coming from a settlement. Ecology made note that the last DOE-RL letter for M-091 milestone has been received, and a response will be provided by Ecology.

Oregon Department of Energy asked why both milestones M-091-44T and M-091-48, along with any others, are not on the handout. Ecology responded that DOE-RL does not status a milestone that is to submit a change package and M-091-48 is 11 years out so it would not be on the handout either. Oregon Department of Energy followed up by asking if there are any additional milestones that are not presented that are to be missed. Ecology responded no.

### **7.2 M-092-09 and M-092-00**

DOE-RL reported completing waste encapsulation and storage facility (WESF) modifications final design between June and August 2019. DOE-RL reviewed the planned activities between September and December 2019 included completing the Capsule Storage Area construction

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preparations, completing a Variance Contract Analysis to reflect final design for the Cask Storage System (cost and design), and continuing WESF modification preparations. DOE-RL noted Gary Pyle as the new project director for the WESF modification project.

### **7.3 Milestone Summary**

DOE-RL reviewed the milestone summary page that indicated milestones M-091-52, M-091-47D, M-091-53, M-091-52-T01A, M-091-52T01B as complete and milestone M-091-052-T-01C as on schedule.

### **7.4 Project Baseline Performance**

DOE-RL added that the project baseline performance table reflects a slight negative schedule variance, but doing fairly well overall. DOE-RL noted RL-13 funding will do well next year to keep everything on track. DOE-RL stated the two milestones that are in jeopardy are milestones that DOE does not have control over because it is dependent on another site, the Waste Isolation Pilot Plant.

## **8.0 CENTRAL PLATEAU REMEDIATION PROJECT**

### **8.1 REDOX Risk Reduction Accomplishments**

DOE-RL reported focusing on canyon facilities, mainly REDOX, and doing risk reduction by initiating mechanical and electrical isolations, performing mercury characterizations, commencing fixative application on high contamination areas to support characterization, field planning and placement of shot stickers to begin non-destructive assay on process piping, increasing the ventilation system where work is being completed, and taking steps to set up the infrastructure for crews.

### **8.2 Other Accomplishments**

DOE-RL stated completing demolition of the 242-B/BL small facility by sending solidified liquids to ERDF, and completed removal of the asbestos pipeline abatement in the 200 West area. DOE-RL noted Integrated Disposal Facility (IDF) should be operational by 2020 and mobilization for closure of 276-BA in 200 East Area has taken place.

DOE-RL commented battery cleanup at PUREX took place and the pictures in the presentation indicate the before and after. DOE-RL noted accomplishing PUREX Engineering Evaluation/Cost Analysis (EE/CA) and answering the associated comments, receiving the 224B Removal Action Work Plan (RAWP) draft that will be sent to the Parties the following week, and are currently working on the 224T RAWP and Sampling Analysis Plan (SAP).

DOE-RL reported completing collection of all requested beryllium samples in the REDOX silo 6<sup>th</sup> floor canyon, shipped for analysis, and performed entry to 7<sup>th</sup> floor silo sample gallery where they discovered mercury. DOE-RL explained they are in the process of cleaning out the mercury. DOE-RL continued that they are commencing field-testing of Roomba<sup>®</sup> (self-propelled vacuum)

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units in a clean area of the REDOX north annex, placed contracts for a new access road and personnel trailers for the north side of REDOX, and completing patching repairs on blower room #3 roof and south annex roof to mitigate water intrusions. Re-patching is occurring because roofs are past their life expectancies.

### **8.3 Milestone Summary**

DOE-RL briefly reviewed the milestone summary page of milestones and statuses.

### **8.4 Project Baseline Performance**

DOE-RL provided the baseline performance table through May 2019 for the Parties review.

### **8.5 Planned Activities for CPRM**

DOE-RL stated they completed tri-annual inactive waste site surveillances, started ground preparations for REDOX alternate exhaust system, are commencing field activities for REDOX electrical isolation, initiated non-destructive assay on REDOX process piping, continued field work at PUREX, and completed a PUREX canyon entry in August and finished in September (results still pending). DOE-RL continued performing clean closure of 276-BA, removing the tank and concrete slab.

### **8.6 Planned Activities**

DOE-RL reported the Planned Activities sheet has the statuses of ongoing documents. EPA stated that some of the reviews are not just EPA's but also include Ecology's review.

## **9.0 SOIL AND GROUNDWATER REMEDIATION PROJECT**

### **9.1 Accomplishments – River Corridor**

DOE-RL reported transmitting Rev. 0 of the 100-BC-5 Operable Unit (OU) Remedial Investigation/Feasibility Study (RI/FS) to EPA on June 27, 2019 and beginning the public comment period on October 7, 2019. DOE-RL also reported completing installation of six groundwater monitoring wells at 100-F as a requirement of the Record of Decision (ROD), completing the 300-FF-5 monitoring well down from the 324 building, and completing extraction testing on the stage B uranium sequestration by injecting phosphate and pulling cores. DOE-RL explained the sequestration extraction test is a 4-month test to figure out the leachability. Test results are not in, but the test looked favorable. DOE-RL stated they observed a soil flush treatability test (roughly 8 million gallons) at 100-KW that consisted of a 30-day rebound study testing chromium response in the groundwater. DOE-RL noted the data chart provided in the presentation. DOE-RL provided additional history in pumping the groundwater and was able to get the groundwater below the cleanup levels. DOE-RL then shut the process down for 6 to 9 months and watched where the contamination came back in the groundwater. It was noted the contamination came back at the KE head-house and that is where DOE-RL located

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their injection fields (about 1 acre infiltration field of piping to flood the ground in lieu of injecting). DOE-RL stated chromium was flushed out of the soil and captured by the extraction wells. DOE-RL explained this test (not a remedy) was authorized only once, and paperwork with EPA is holding up additional testing, which is desired.

## **9.2 Accomplishments – River Corridor**

DOE-RL reported resolving technical comments on the 200-BP-5/200-PO-1 OU draft A Proposed Plan (PP) and anticipating an interim action ROD in the spring or summer 2020. DOE-RL reported completing the Interagency Management Integration Team (IAMIT) determinations associated with the two remaining issues, PCB Congeners (2019-003) and Recharge Rate (2019-004) for the 200-EA-1 OU RI/FS Work Plan (WP). DOE-RL noted initiating preparation of the WP on the 200-IS-1 as resources have freed up from 200-EA-1 to work on 200-IS-1. There has been one issue with 200-EA-1 in regards to schedule, but the issue has been reserved for the budget milestone negotiations. When the milestone is negotiated, the schedule will reflect the new milestone date.

DOE-RL reported receiving EPA Administrator approval of the ESDs and changes to the Waste Management Plans for the Centralized Waste Storage Area. This approval allows DOE-RL to drum miscellaneous sampling waste and send the drums to a bay area (segregated by OU and agency) that is fenced, covered, and surveilled while in storage. DOE-RL noted no additional costs and the process is a better way of doing business.

DOE-RL noted they received EPA's approval, which allows processing modular storage units water in the 200 West Area Pump and Treat Facility, if the evaporation rates cannot keep up.

DOE-RL reported completion of the electro-resistivity tomography (ERT) surveys of sites 216-U-5 and 216-U-6 cribs associated with 200-WA-1 to help locate characterization samples. DOE-RL noted the ERT technology was developed by Pacific Northwest National Laboratory for the injected phosphate solution at the 300 Area and that it allows for a 3D view of dispersed liquids in the soil.

## **9.3 Milestone Summary**

DOE-RL notified the Parties of the 12-month rolling milestone summary. DOE-RL reported milestone M-015-96 as complete and are currently working on comment responses from the 100-OL-1 Orchard Lands RI report. DOE-RL noted they are wanting to complete comment resolution so work can start on the FS report which has a milestone to be submitted to Ecology in August 2020. DOE-RL stated if comments are not resolved for the RI, it may affect the ability to initiate the FS. Ecology asked what milestone the August 2020 date comes from. DOE-RL confirmed milestone M-015-97 is the milestone.

DOE-RL stated M-015-21A is completed, and milestones M-015-98 and M-015-99 are in dispute and have been added into a draft funding agreement in principle (AIP).

DOE-RL explained there is a small sub-committee, or Representative Analogous Waste Site Coordinating Agency Liaisons (RASCAL) Team, comprised of all three agencies that is

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currently evaluating a proposal, which will ensure consistent remedies for similar conceptual site model groups and associated waste sites, and could potentially reduce characterization pre-ROD and post-ROD. The RASCAL Team anticipates starting discussions on September 30, 2019.

Ecology stated milestone M-015-110B should be reported as “To be Missed.” Ecology also suggested DOE-RL submit a change control form to establish a new milestone with the due date for submittal of the RI report for the deep vadose zone. In parallel, also submit a change control form to extend the due date of milestone M-015-110B to “TBD”, which requires DOE-RL to submit the Corrective Measures Study and FS Report and PP/Proposed Corrective Action Decision for the 200-DV-1 OU to Ecology by September 30, 2023. DOE-RL stated in the past a “TBD” status was not accepted, however, DOE-RL will discuss this proposal with their management. Ecology noted the RASCAL Team should be allowed to work to figure out what’s happening with the M-015 major milestone and suggested DOE-RL pursue the change control forms for 200-DV-1 in the interim.

Ecology reported receiving an email from a contractor, CHPRC, which indicated there was no funding available for submittal of the RI report. DOE-RL responded they do not share with their contractors what their budget requests or needs are until the budget is actually received. EPA stated the Parties should be copied on direction letters to the contractors as it affects the Integrated Priorities List (IPL) discussions. DOE-RL noted this is a contract letter between their contracting officer and contractor and what was shared at the IPL meeting was a funding level of \$570 thousand, while the budget guidance showed \$500 thousand. DOE-RL responded they will see what the sensitivity is in possibly sharing the contract letters and will respond back to the regulators.

DOE-RL reported the milestones M-024-58L, M-024-70-T01 and M-024-70 as complete, while milestone M-027-71-T01 is on schedule.

DOE-RL explained milestone M-085-70 is in dispute resolution and milestone M-085-80 is currently at risk. DOE-RL noted these milestones will be going into negotiations with the budget AIP and also noted the negotiations will most likely be based on risk priority as the agencies have a different perspective regarding which facility has the higher risk, REDOX or PUREX.

#### **9.4 RL-30 Project Baseline Performance**

DOE-RL stated over the 10-year period there is a \$50 million variance on a \$6 billion dollar contract, which is a 3% variance.

#### **9.5 Planned Activities**

##### **9.5.1 River Corridor**

DOE-RL discussed upcoming events with the River Corridor project and explained they will be issuing revision 0 of the 100-BC-5 PP to get a ROD, resolve Ecology’s comments on the 100-HR-3 Remedial Design/Remedial Action (RD/RA) WP, complete draft B for the 100-KR-4 RI FS , and submit draft B 100-NR-2 RI/FS to Ecology for review.

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EPA asked if there was more than just 100-KR-4 RI. DOE-RL responded that the 100-KR-4 OU includes the KR-4 pump and treat, KW pump and treat, KX pump and treat, and all of the K Area.

DOE-RL finished reviewing River Corridor activities by stating the plan is to submit draft B 100-NR-2 RI/FS by September 30, 2019 to Ecology and continue the KW treatability test, which is soil flushing.

### **9.5.2 Central Plateau**

DOE-RL discussed Central Plateau project planned activities as finalizing review comments responses (except for schedule) associated with the 200-EA-1 RI/FS WP. Ecology commented that review comment responses are normally complete and usually do not leave issues out (in this case the issue is the 200-EA-1 schedule). DOE-RL responded the schedule discussion should be kicked out to the negotiations but that issue could be worked out in the details.

DOE-RL reported 200-DV-1 treatability test evaluation report, Rev. 0 will be submitted. Ecology stated they have provided comments on the meeting minutes to 200-DV-1 to be addressed. They also mentioned that comments have been provided by Tribal Nations and Oregon. DOE-RL responded they will have to review and get an answer; however, the plan is to submit the document so work can begin on the RI.

DOE-RL stated they plan to submit to EPA for review, the RD/RA WP for the 200-ZP-1, which includes the optimization plan. Ecology commented the optimization plan presentation was well conducted. Ecology asked if the optimization plan is complete. DOE-RL stated the optimization plan is currently in draft. Ecology followed up that their lawyers are working on their comments on the plan and will get them to DOE soon.

DOE-RL noted work continued on the 200-BP-5/200-PO-1 FS and resolving Ecology's comments on the 200-BP-5/200-PO-1 PP to begin the public comment period.

DOE-RL reported working on issuing the Remedial Design Investigation Report for the 200-UP-1 southeast chromium plume, completing 200-WA-1 ERT characterization surveys at the 216-U-1/U-2 and 216-U-16 waste sites and issuing/certifying the 216-B-3, 216-S-10, 241-CX, 216-A-29 & 216-B-63 closure plans. Ecology stated they are working on resolving some issues with DOE on the closure plans.

## **10.0 KEY DOCUMENTS LIST**

DOE-RL noted the key document list has been updated in blue. DOE-RL stated that the purpose of the key document list is to give regulators an indication of what is coming, in an effort to help them resource load.



**AGENDA**  
***Tri-Party Agreement Central Plateau/River Corridor Milestone Review***  
***September 19, 2019***

**Place:** Ecology, 3100 Port of Benton Blvd., Richland  
**Time:** 9:00-10:30 a.m.  
**Chair:** Mark French

Time	Milestones	Subject	DOE Presenter
9:00 a.m.	M-035	Data Access	Ben Ellison
9:10 a.m.	M-083	Plutonium Finishing Plant (PFP) Closure	Mark French
9:20 a.m.	M-016, 089, 093, 094	100 K Remediation/River Corridor Closure	Mark French
9:35 a.m.	M-026	Land Disposal Restrictions Report	Mark French
9:40 a.m.	M-091, M-092	Acquisition of Facilities to treatment, storage, and disposal (TSD), transuranic (TRU), transuranic mixed (TRUM) and low-level mixed waste (LLMW)	Mark French
9:55 a.m.	M-016, 037, 085	Central Plateau Remediation	Mark French
10:15 a.m.	M-015, 016, 024, 085	Soil and Groundwater Remediation	Mike Cline
10:25 a.m.	—	Richland Operations Office Key Documents List	Mike Cline
10:30	—	Adjourn	—



# M-035-09

*Conduct Biennial Assessments of Information and Data Access Needs*

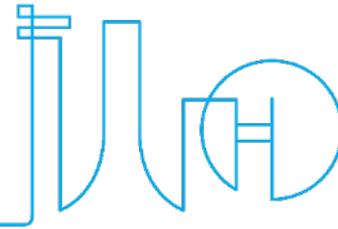
**RICHLAND**  
**OPERATIONS OFFICE**

United States Department of Energy



# M-035-09K Milestone

- “Conduct biennial assessments of information and data access needs with EPA and Ecology. DOE will propose implementation schedules (TPA Milestones) for enhancements as a result of the biennial assessments.”
- Milestone M-035-09K is in dispute at the project manager level through September 19.
- The M-035-09K dispute is being elevated to the IAMIT for resolution.



# PFP Closure Project, June - August 2019

## TPA Milestone Series: M-083



**September 19, 2019**

U.S. Department of Energy

U.S. Environmental Protection Agency

State of Washington, Department of Ecology

# Milestone

Milestone	Due Date	Description	Status
M-083-00A	9/30/17	Complete PFP Facility transition & selected disposition activities. Completion of this major milestone includes the following key elements: 1) completion of all activities necessary to achieve end point criteria established through Milestone M-83-20 for placing the PFP facility in a safe and stable S&M mode, 2) completion of all activities described in the approved M-83 series interim milestones and target date; and 3) completion of the balance of PFP selected disposition activities pursuant to the final action memoranda and work plans. Also see “description/justification” contained in change form M-83-01-03.	Missed



# Project Baseline Performance

## Contract to Date (Through August 2019)

RL-0011 Nuclear Material Stabilization and Disposal	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
<b>Total</b>	\$1,121.3	\$1,105.5	\$1,196.9	(\$15.8)	(1.4%)	(\$91.5)	(8.2%)	\$1,138.7	\$1,230.6	(\$91.9)

## Fiscal Year to Date (Through August 2019)

RL-0011 Nuclear Material Stabilization and Disposal	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)
<b>Total</b>	\$130.7	\$127.8	\$56.0	(\$2.9)	(2.2%)	\$71.8	(56.1%)



# Status: June through August 2019 (Cont.)

- 234-5Z Lower-risk demolition



# Planned Activities September through November 2019

- Complete duct level and 2<sup>nd</sup> floor removal
- Connect IONEX exhauster
- Start 234-5Z higher-risk demolition of Remote Mechanical (RM) A and C lines area.



West End August 30, 2019



# K Basins Sludge Removal Project

## Milestone M-016-176 and River Corridor Closure

TPA Milestone Series: M-016, M-089, M-093, M-094

**June 2019 - August 2019**



U.S. Department of Energy  
U.S. Environmental Protection Agency  
State of Washington, Department of Ecology



September 19, 2019

# K Basins Engineered Container Sludge Removal Significant Accomplishments (through August 2019)

## Engineered Container Retrieval and Transfer System (ECRTS) Operations

- Sludge Transport and Storage Container (STSC) #15 was delivered to T Plant on June 10, 2019.
- STSC #16 was delivered to T Plant on June 25, 2019.
- STSC #17 was delivered to T Plant on July 18, 2019.
- STSC #18 was delivered to T Plant on August 5, 2019.
- STSC #19 was delivered to T Plant on August 19, 2019.
- STSC #20 forecast to be delivered to T Plant on September 9, 2019.



# Planned Activities

## September - November

### K Basins Sludge Removal Operations

- Continue ECRTS operations – End Point criteria is expected to be reached during the process of STSC #20 but may require STSC #21.
  - STSCs #22-24 are not expected to be required to finish ECRTS.
- Perform bulk and end point criteria inspections of Engineered containers as they are emptied to support 100K Closure.
- Transition staff in support of Garnet Filter Media Retrieval and other basin closure activities.



*Empty containers are shipped from T Plant to 100-K where they are filled with sludge and returned to the plant for safe, interim storage.*



# Milestone Summary

Milestone	Due Date	Description	Status
M-016-176	12/31/2019	Complete Sludge Removal from 105-KW Fuel Storage Basin	On Schedule



# 300-296 Soil Removal

## Significant Accomplishments (June 2019 through August 2019)

- Completed 1<sup>st</sup> pilot hole in Rm 18 (06/12/19).
- Shipped first 9x5x5 B-Cell debris to ERDF (07/11/19).
- Conducted 2 operational drills in 324 Building (07/09/19 & 07/11/19).
- Completed readiness self-assessment (07/16/19).
- Released Micropile design (07/22/19).
- Conducted operations drill for readiness assessment practice (08/06/19).



Removing first waste box containing waste bins from facility



Loading first waste box with B-Cell waste bins



# 300-296 Soil Removal

## Significant Accomplishments (cont.) (June 2019 through August 2019)

- Conducted floor saw demo at Mockup (07/30/19).
- Installed D-Cell snorkel (D-Cell ready for waste goal) (08/01/19).
- Received final structural modification design from vendor (08/20/19).
- Completed Pilot Hole #2 (09/07/19).
- Repaired A-Cell Door (09/06/19).



Floor Scraping



Floor Saw



# 300-296 Soil Removal (Cont.)

## Significant Planned Actions

- Trouble-shooting A-D Crane the week of 09/09/19.
- Complete B-Cell floor cleaning for saw install (from August).
- Complete floor saw preparation: facility utility installation, ops performance and HRB.
- Complete installation of final B-Cell TSA location.
- Complete pilot hole location #3.
- Complete final pilot hole location.
- Complete HRB for conversion of pilot holes to micropiles.



# Project Baseline Performance

## Contract to Date through August 25, 2019

	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Cost Variance (\$)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
<b>Total</b>	<b>684.0</b>	<b>672.2</b>	<b>639.5</b>	<b>(11.8)</b>	<b>32.7</b>	<b>693.0</b>	<b>662.8</b>	<b>30.2</b>
Numbers are rounded to the nearest \$0.1 million.								



# Milestone Summary

Milestone	Due Date	Description	Status
<b>M-016</b>			
M-016-00B	9/30/2018	Complete all 300 Area remedial actions including the 618-10 burial ground, but not including the 618-11 burial ground, 300-296, and sites associated with retained 300 Area facilities and the utility corridors. Completion of all remedial actions is defined as the completion of the ROD requirements in accordance with an approved RD/RA work plan for all waste sites except 618-10, 316-4 and 600-63 which will be completed through backfill	<b>Complete</b>
M-016-85	9/30/2025	Complete remedial actions for 300-296 and final disposition for 324 building and Ancillary buildings	On schedule. Due date extended per Change Control M-16-19-01 approved 6/27/19
M-016-85A	9/30/2021	Complete remote excavation of the 300-296 waste site	On schedule. Due date extended per Change Control M-16-19-01 approved 6/27/19
M-016-086	9/30/2021	Complete remedial actions for 618-11 burial ground in accordance with DOE/RL-2014-13-ADD1	At Risk
<b>M-094</b>			
M-094-00	9/30/2018	Complete disposition of all 300 Area Surplus Facilities excluding the 324 Building	<b>Complete</b>



# 100K Closure

## Significant Accomplishments (through August 2019)

### 100K Soil Remediation

#### Waste Site 100-K-47:1

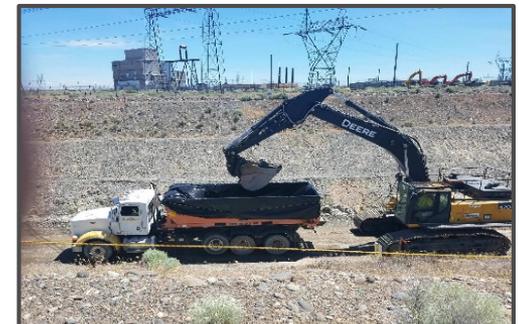
- Continued excavation and load out.
- Completed demolition of the floor of the concrete box culvert on the west leg.
- Returned several government furnished excavators to service for use in demolishing and size reducing the cement box culvert on the west leg.

#### Waste Site 100-K-47:2

- Initiated removal and stockpiling of overburden.



Waste Sites 100-K-47:1 East Leg  
(Note 116-KE-2 Inlet Pipe Trench in Foreground)



Waste Site 100-K-47:1  
West Leg



# 100K Closure

## Significant Accomplishments (through August 2019)

### 100K Soil Remediation

#### Waste Site 100-K-99

- Completed additional remediation to remove residual contaminated soil identified during the last round of verification sampling.
- Verification samples collected following remediation.

#### Waste Site 116-KE-2

- Resumed soil excavation and load out. Will excavate to the design depth of 60 feet below ground surface to remove contamination identified during in-process sampling.



*Waste Site 100-K-116:2  
Excavation and Load Out*



# 100K Closure

## Significant Accomplishments (through August 2019)

### 100K Closure Project

- CHPRC Issued a request for proposal for waste site remediation in FY2020 and FY2021.



# 100K Closure

## Significant Accomplishments (through August 2019)

### K W Basin Deactivation & Demolition

#### - K W Basin Characterization

- Completed basin wall surveys at the waterline supporting characterization of the wall source term.
- Completed Attila 3-G model training for radiological engineers and designers, increasing the contingent of local resources capable of supporting the K West Basin characterization effort.
- Completed fabrication of more specialized clamshell tools for EC230 cleanout.
- Completed the design of the air hammer RH TRU crushing system.



*Fuel Specimen (RH TRU) Crusher Bucket and Tipping Assembly*



*Gamma Camera Planer Source Check Standard Fixture*



# 100K Closure

## Significant Accomplishments (through August 2019) Ancillary Facility Deactivation & Demolition

- Demolished Buildings 1724K, 1724KA and Building 167K and completed load out of debris following the demolition .



*New View at 100-K Following Demolition  
and Removal of Buildings 167, 1724K &  
1724KA*



# 100K Closure

## Significant Accomplishments (through August 2019) K East and K West Reactor Interim Safe Storage (ISS)

- The architecture engineering contractor completed development of the 90% Safe Storage Enclosure (SSE) design modification package and submitted it for review.
- Finalized the asbestos removal mobilization work package, and mobilized asbestos abatement contractor equipment and personnel.
- Finished installation of exterior stair tower and doorway on the east side of the building to allow increase in personnel allowed in building.
- Finished installing negative air enclosure around the glycol tank at the 66-foot level and started installing glove-bags on asbestos covered lined in preparation for removal activities.



*Removal of asbestos from glycol line hangers*



*Abated glycol surge tank at 66' elevation*

# 100K Closure

## Significant Planned Actions (through November 2019)

### 100K Soil Remediation

- Complete overburden removal of Waste Site 100-K-47:2.
- Complete excavation of Waste Site 116-KE-2.
- Complete excavation of Waste Site 100-K-99.

### K West Basin Deactivation & Demolition

- K West Basin Characterization
  - Issue a contract and begin VPC and debris bin tipping assembly fabrication.



## Significant Planned Actions (through November 2019)

### K West Basin Deactivation & Demolition

- K West Basin Characterization
  - Complete design, award a contract, and begin fabrication of the VPCs.
  - Progress disposition of found fuel specimens.
    - Complete development of the fuel piece specimen conditioning unit.
    - Condition found fuel specimens and transport a small sample to PNNL for analysis and the remainder configured as an underwater check source for the gamma camera.



# 100K Closure

## Significant Planned Actions (through November 2019)

### Ancillary Facility Deactivation & Demolition

- 166KE Fuel Storage Basin/Waste Site 130-KE-2
  - Progress preparations for demolition.
  - Remove oily water from the 166KE.

### K East Reactor ISS

- Complete ISS change package
- Begin asbestos removal and complete the design modification.
  - Limited asbestos will be removed along the surveillance and maintenance tour path within 105-K East Reactor.
  - The 2012 SSE design will be updated to address necessary changes to support future Surveillance & Maintenance entries into the SSE and Reactor Building.
    - Examples of design changes include creating inspection openings in transite panels, adding a stairwell and railings, modifying lighting, adding electrical receptacles and shifting the entire SSE to avoid the groundwater well installed on the north side of the Reactor Building.
  - Completion of the asbestos removal and updating the SSE design are predecessors to performing earthwork around the 105-K East Reactor, constructing the SSE foundation and erecting the SSE structure.





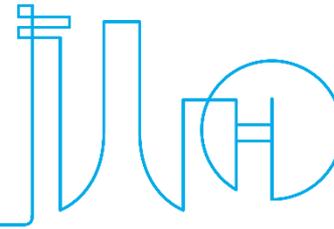
Tri-Party Agreement

U.S. Department of Energy  
Washington State Department of Ecology  
U.S. Environmental Protection Agency

# M-026-01 Land Disposal Restrictions

## TPA Milestone M-026-01 Quarterly Status

- The *CY2014 Hanford Site Mixed Waste Land Disposal Restrictions (LDR) Full Report* TPA primary document review process is complete.
  - DOE submitted a letter July 30, 2019 transmitting the agreed to changes documented in a review comment record, concluding the comments from the 2014 LDR Full Report.
  - The Parties have started holding regularly scheduled LDR PMM's.
- The Parties will enter into CY2019 Report Parking Lot discussions in the near term, to shape the content of the CY2019 Full Report.



# Solid Waste Stabilization and Disposition Project

TPA Milestone Series: M-091, M-026, and M-092

June – August 2019

September 19, 2019



U.S. Department of Energy

U.S. Environmental Protection Agency

State of Washington, Department of Ecology

*Columbia River White Bluffs*



# Accomplishments

## June – August 2019

- M-091-47D Certify or Treat 280-m3 of TRUM/MLLW:
  - Met 280 m3 in August 2017. Awaiting negotiations of M-91 series for additional milestones.
  - Waste shipments continue to PFNW, completed 967 m3 since August 2017.
- M-091-52-T01C:
  - Continued removal of mixed waste containers from Outside Storage Area A and/or Outside Storage Area B. Twelve (12) of the twenty (20) have now been removed.
- M-091-52-T02:
  - Preparing Engineering Evaluation and Cost Analysis (EE/CA) for submittal to DOE-RL.
- M-091-52-T03:
  - Preparing Mission Needs statement (CD-0) for CH processing facilities/capabilities for submittal to DOE-RL.
- M-091-53:
  - Tentative Agreement not signed.



Legacy Waste Box being loaded on Super7A transport.



Legacy Waste Box being unloaded at PFNW.



# M-092-09 and M-092-00

Determine disposition path and establish interim agreement milestones for Hanford Site Cesium and Strontium capsules.

- June – August 2019 Accomplishments
  - Completed WESF modifications final design.
- September – December 2019 Planned Activities:
  - Complete Capsule Storage Area construction preparations.
  - Complete Variance Contract Analysis to reflect final design for the Cask Storage System.
  - Continue WESF modifications preparations.



# Milestone Summary

Milestone	Due Date	Description	Status
<b>M-091</b>			
M-091-52	12/29/2017	Submit change request with target dates for new/modified capabilities to process	Complete
M-091-47D	9/30/2018	Submit change request to establish next two TRU/MLLW annual certification/disposal milestones.	Complete*
M-091-53	9/30/2018	Submit Milestone Change Request to Replace Target Dates for Capabilities to Process TRUM Waste	Complete*
M-091-52-T01A	11/30/2018	Remove 5 MW containers from Outside Storage Area (OSA) A and/or Outside Storage Area B	Complete
M-091-52-T01B	11/30/2019	Remove 10 MW containers from Outside Storage Area (OSA) A and/or Outside Storage Area B	Complete
M-091-052-T01C	11/30/2020	Remove 20 MW containers from Outside Storage Area (OSA) A and/or Outside Storage Area B	On Schedule

\*DOE-RL statused as "complete" at M-091 PMM on 9/12/19.



# Project Baseline Performance through August 2019

RL-0013 Solid Waste Stab & Disp	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Schedule Variance (%)	Cost Variance (\$)	Cost Variance (%)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
<b>Total</b>	<b>938,355.9</b>	<b>933,749.6</b>	<b>878,112.9</b>	<b>(4,606.3)</b>	<b>-0.5%</b>	<b>55,636.7</b>	<b>6.0%</b>	<b>947,074.3</b>	<b>891,320.4</b>	<b>55,753.9</b>

Numbers are rounded to the nearest \$0.1 million.

Title	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance	Cost Variance
Project Management	177,209.2	176,306.5	142,472.4	-0.5%	19.2%
Capsule Storage & Disposition	108,338.8	108,355.0	118,689.1	0.0%	-9.5%
Mixed Low Level Waste Treatment	43,182.5	43,182.5	37,200.3	0.0%	13.9%
TRU Retrieval	100,244.2	100,268.1	112,538.5	0.0%	-12.2%
TRU Repackaging	115,888.0	114,411.8	108,089.7	-1.3%	5.5%
Waste Receiving and Processing Facility	57,876.7	57,884.1	55,761.2	0.0%	3.7%
T Plant	144,173.5	144,302.8	125,384.6	0.1%	13.1%
Central Waste Complex	120,812.1	120,251.6	118,606.9	-0.5%	1.4%
TRU Disposition	33,899.2	33,648.3	25,513.4	-0.7%	24.2%
Mngt of Cesium and Strontium Capsules Proj W-135	11,798.0	12,420.6	13,027.3	5.3%	-4.9%
Capsule Interim Storage Operations	24,933.6	22,718.3	20,829.4	-8.9%	8.3%



# Planned Activities

## September – November 2019

- M-091-47D TRUM/MLLW Treatment
  - Met volume processed, August 8, 2017. Complete renegotiation of M-091 series milestones.
  - Continue waste processing toward next objective.
  - *Completed with submittal of CCF M-91-19-03 to Ecology via letter 19-AMPR-0065 dated 6/27/19.*
- M-091-52 Target Milestones
  - Continue removing mixed waste containers from OSA A and/or OSA B in support of M-091-52-T01C
  - Continue progress towards M-091-52-T02 to develop Interim Response Action to resume waste retrieval in support of M-091-49A.
  - Continue progress towards M-091-52-T03 to develop a mission needs statement (CD-0) regarding CH processing facilities/capabilities.
- M-091-53
  - Tentative Agreement not signed.
  - *Completed with submittal of CCF M-91-19-03 to Ecology via letter 19-AMPR-0065 dated 6/27/19.*



# Central Plateau Remediation Project

TPA Milestone Series: M-016, M-037, M-085

June 2019 – August 2019  
September 19, 2019



U.S. Department of Energy  
U.S. Environmental Protection Agency  
State of Washington, Department of Ecology

*Columbia River White Bluffs*



# REDOX Risk Reduction Accomplishments

June 2019 through August 2019

- Initiated mechanical isolations at REDOX; continued electrical isolation planning walkdowns.
- Performed mercury characterization throughout much of the facility.
- Commenced fixative application on high contamination areas in REDOX to support characterization.
- Commenced field planning and placement of shot stickers to begin non-destructive assay on process piping in REDOX.
- Placed contract for the procurement of the temporary ventilation system.
- New crew trailer, haul road, and container transfer area installation completed at REDOX.
- Shipped legacy metal waste box from the REDOX lag yard to ERDF.



**REDOX Haul Road Construction**

**Fixative application west of the “hump” in REDOX**



# Other Accomplishments

June 2019 through August 2019

- Completed demolition, waste loadout of 242-B/BL and placement of cover cap.
- Completed asbestos abatement and steam line removals of 200 West Sections 3, 4, 5, 6, and 8. Over 12,000 linear feet removed fiscal year to date.
- Began downsizing 200 West steamline stanchion anchors.
- Mobilized for removal of steam lines near the Integrated Disposal Facility (IDF).
- Mobilized for closure of 276-BA in 200 East.



Demolition of 242-B/BL in 200 East

Cover cap on 242-B/BL



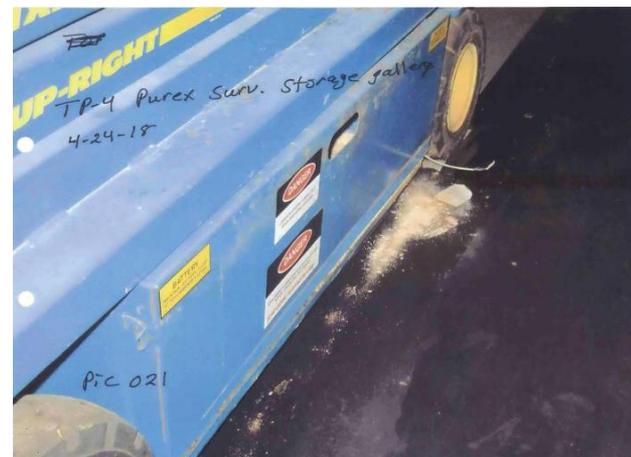
Crews hanging bags on steamlines in 200 West



# Other Accomplishments

June 2019 through August 2019

- Completed fire pump inspection on 400 area pumps #P-27 and #P-28.
- Completed Quarterly CX-70, 71, 72 TSD Inspection.
- Completed Annual Facility TSD Inspection.
- Completed the 200 West and 200 East Tri-Annual (second of three) Inactive Waste Site Surveillances.
- Completed the Bi-Annual (second of two) PACM Waste Site Surveillances.
- Completed annual PMs on the B Plant exhaust fans.
- Cleaned battery corrosion from PUREX scissor lift.



PUREX scissor lift cleanup before and after



# Accomplishments

## June 2019 through August 2019

### Canyon Stabilization Documents

- Submitted to Regulators:
  - DOE/RL- 2017-45 Tier 2 B Plant Sampling Analysis Plan (SAP), Rev. 0 (Approved)
  - DOE/RL-2016-15 PUREX Engineering Evaluation/Cost Analysis (EE/CA), Rev.0 for Public Review
  - DOE/RL-2016-14 B Plant EE/CA, Rev.0 for Regulator Review
- Received from CHPRC:
  - DOE/RL-2017-34 224B Removal Action Work Plan (RAWP), Decisional Draft (DD) for RL Review
  - DOE/RL-2017-33 224B SAP, Draft for RL Review
  - DOE/RL-2016-53 PUREX Action Memorandum (AM), Draft for RL Review
  - DOE/RL-2016-47 Tier 2 PUREX RAWP, DD for RL Review
  - DOE/RL-2017-46 Tier 2 PUREX SAP, DD for RL Review
- In Development Nearing Completion:
  - DOE/RL-2019-36 224T RAWP, Draft for RL Review
  - DOE/RL-2019-37 224T SAP, Draft for RL Review



# Milestone Summary

Milestone	Due Date	Description	Status
<b>M-016-00 Complete Remedial Actions For All Non-Tank Farm &amp; Non-Canyon OUs</b>			
M-016-255	9/30/2018	DOE shall complete the removal of all waste sites for fiscal year 2018 as identified in TPA change package M-16-16-01	Dispute resolution
M-016-250D	3/31/2019	DOE shall submit a 3-year rolling prioritized schedule to implement waste site removal actions	Complete 3/27/19
M-016-256	9/30/2019	DOE shall complete the removal of all waste sites for fiscal year 2018 as identified in TPA change package M-16-17-01	Dispute resolution
<b>M-037 TSD Closure Activities</b>			
M-037-10	9/30/2020	Complete Closure for 6 Specified TSD Units	In abeyance 8/26/19 - TA approved, out for public comment 10/14/19 – 11/29/19
<b>M-085-00 Complete Response Actions for Specified Canyon Facilities &amp; Waste Sites</b>			
M-085-82	12/31/2017	Submit to Ecology for approval proposal(s) for expedited response action(s) for one or more of the Tier 1 and Tier 2 facilities in the PUREX Geographic Area listed in HFFACO Appendix J.	Complete 12/7/17
M-085-74	6/30/2018	Submit Expedited Response Action for one or more Tier 1 and Tier 2 facilities in the B Plant geographical area.	Complete 6/30/18



# Project Baseline Performance through August 2019

## Contract to Date

<b>BS 040/RL-0040 Nuclear Facility D&amp;D</b>	<b>Budgeted Cost of Work Scheduled</b>	<b>Budgeted Cost of Work Performed</b>	<b>Actual Cost of Work Performed</b>	<b>Schedule Variance (\$)</b>	<b>Cost Variance (\$)</b>	<b>Budget at Completion (BAC)</b>	<b>Estimate at Completion (EAC)</b>	<b>Variance at Completion (VAC)</b>	<b>SPI</b>	<b>CPI</b>
BASE	269.9	266.5	263.3	(3.3)	3.2	277.6	277.6	(0.0)	0.99	1.01
ARRA	285.5	285.5	266.5	0	19.0	285.5	266.5	19.0	1.00	1.07
<b>Total</b>	<b>555.4</b>	<b>552.0</b>	<b>529.8</b>	<b>(3.3)</b>	<b>22.2</b>	<b>563.1</b>	<b>544.1</b>	<b>19.0</b>	<b>0.99</b>	<b>1.04</b>

Numbers are rounded to the nearest \$0.1M



# Planned Activities for CPRM

September 2019 – November 2019

- Complete Tri-Annual (third of three) Inactive Waste Site Surveillances.
- Start ground preparations for REDOX alternate exhaust system.
- Commence field activities for REDOX electrical isolation.
- Initiate Non-Destructive Assay on REDOX processing piping.
- Complete installation of PUREX mobile office and shower trailers.
- Continuation of effective RCRA Rev 9 permit with modified addendums.
- Continuation of steamline abatement and removal in 200 West.
- Perform clean closure of 276-BA.
- Complete abatement and processing of removal of steam lines near the Integrated Disposal Facility (IDF).



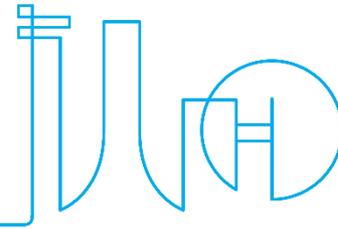
# Planned Activities

September 2019 through November 2019

## Canyon Stabilization Documents

- Ecology approvals:
  - DOE/RL-2016-15 PUREX EE/CA, Rev.0
- RL/Ecology Reviews:
  - DOE/RL-2016-53 PUREX AM, Draft for RL Review
  - DOE/RL-2015-72 PUREX N RCRA Closure Plan (CP), Draft for RL Review
  - DOE/RL-2016-47 Tier 2 PUREX RAWP, Rev.0 for Regulator Review
  - DOE/RL-2017-46 Tier 2 PUREX SAP, Rev.0 for Regulator Review
  - DOE/RL-2016-14 B Plant EE/CA, Rev.0 for Regulator Review
  - DOE/RL-2017-34 224B RAWP, Rev.0 for Regulator Review
  - DOE/RL-2017-33 224B SAP, Rev.0 for Regulator Review
  - DOE/RL-2019-36 224T RAWP, Draft for RL Review
  - DOE/RL-2019-37 224T SAP, Draft for RL Review
  - Z-2 ESD / TPA Change Notice, Draft for RL Review
  - Z-9 ESD / TPA Change Notice, Draft for RL Review





# Soil and Groundwater Remediation Project

TPA Milestone Series: M-015, M-016, M-024, M-085



U.S. Department of Energy  
U.S. Environmental Protection Agency  
State of Washington, Department of Ecology

*June – August 2019*

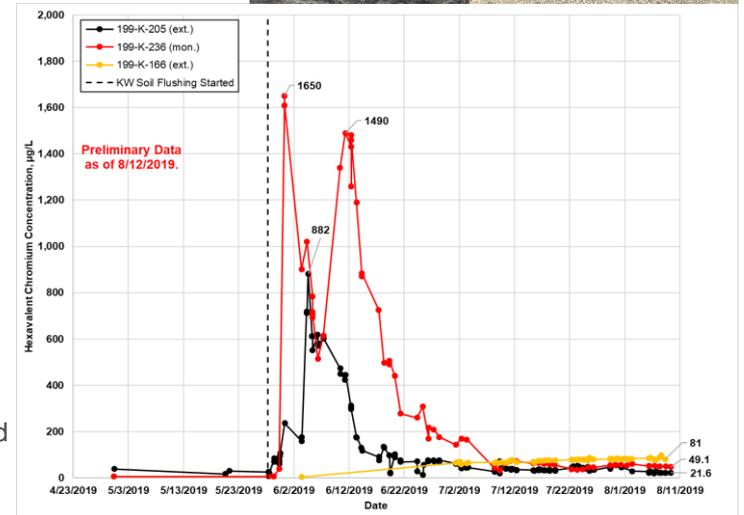


September 19, 2019

# Accomplishments – River Corridor June 2019 – August 2019

- Transmitted Revision 0 100-BC-5 RI/FS to EPA on June 27, 2019.
- Received approval from EPA HQ on June 28, 2019, to release the 100-BC-5 Proposed Plan for public review. The public review has been scheduled for October 7 – November 6, 2019.
- Completed installation of six groundwater monitoring wells at 100-F on August 14, 2019.
- Completed installation of 300-FF-5 monitoring well downgradient of the 324 building on June 24, 2019 to assist with monitoring during soils excavation.
- Completed laboratory sequential extraction testing on post injection samples associated with Stage B Uranium Sequestration.
- Good performance was observed on the 100-KW soil flushing treatability test. A 30-day rebound study was initiated on August 12, 2019 to test chromium response in the groundwater.

Air Rotary Drill in  
100-FR-3 OU



Cr(VI) data collected  
during soil flushing  
infiltration test



# Accomplishments – Central Plateau June 2019 – August 2019

- Resolved Ecology’s technical comments on the Draft A, 200-BP-5/200-PO-1 Proposed Plan on August 20, 2019.
- Completed the IAMIT determinations associates with the two remaining issues on the 200-EA-1 OU RI/FS Work Plan.
  - PCB/Congeners on June 20, 2019
  - Infiltration/recharge rate on July 17, 2019
- Initiated preparation of the 200-IS-1 RI/FS Work Plan on August 12, 2019.
- Received Agency approval of the ESD’s and changes to the Waste Management Plans for the Centralized Waste Storage Area in July.
- Received EPA’s approval that allows processing of Modular Storage Units water at the 200 West P&T Facility on August 19, 2019.



Drilling at 200-BP-5 OU



Basalt Core from 200-BP-5 OU



# Accomplishments – Central Plateau June 2019 – August 2019

- Completed Electro-Resistivity Tomography (ERT) survey of sites 216-U-5 and 216-U-6 on August 2, 2019 associated with the 200-WA-1 characterization.



ERT Installation



ERT Multiplexors



# Milestone Summary (Rolling 12 Months)

Milestone or Target Date	Due Date	Description	Status
<b>M-015-00</b>			
M-015-93C	9/30/2018	Initiate characterization of the 200-SW-2 OU landfills	Dispute Resolution
M-015-96	2/28/2019	Submit 100-OL-1 RI report and change request for FS report to Ecology	Completed
M-015-21A	3/31/2019	Submit 200-BP-5 and 200-PO-1 OU FS Report & PP(s) to Ecology	Completed
M-015-98	6/30/2019	Complete remedial investigation of U Plant waste sites located in 200-WA-1 in accordance with WP	Dispute Resolution*
M-015-99	12/31/2019	Complete remedial investigation of PFP related waste sites located in 200-WA-1 in accordance with the 200-WA-1 and 200-BC-1 RI/FS Work Plan	Dispute Resolution*
<b>M-024-00</b>			
M-024-58L	6/1/2019	Initiate Discussions of Well Commitments	Completed
M-024-70-T01	8/1/2019	Conclude Discussions of Well Commitments initiated under M-024-58	Completed
M-024-71-T01	8/1/2020	Conclude Discussions of Well Commitments initiated under M-024-58	On Schedule
M-024-70	12/31/2019	Complete the Construction of All Wells Listed for CY19 and Before	Completed
<b>M-085-00</b>			
M-085-70	9/30/2019	Submit Remedial Investigation/Feasibility Study Work Plan for 200-CB-1 to Ecology	Dispute Resolution
M-085-80	9/30/20	Submit Remedial Investigation/Feasibility Study Work Plan for 200-CP-1 to Ecology	At Risk

\* Subsequent follow-on milestones (M-015-84 and M-015-91B) are also in dispute resolution.



# RL-30 Project Baseline Performance

Contract to Date Through August 2019

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)	Variance at Completion (VAC)
<b>Total</b>	1,626.4	1619.9	1570.8	-6.5	-0.4%	49.1	3.0%	1,633.5	1,583.4	50.1

Numbers are rounded to the nearest \$0.1 million.

Period of performance 10/1/2008 through August 2019



# Planned Activities

## September through November 2019

### **River Corridor**

- Issue Revision 0 100-BC-5 Proposed Plan (PP).
- Initiate Public Review of the 100-BC-5 PP.
- Resolve Ecology's comments on the 100-HR-3 RD/RA Work Plan.
- Receive EPA's comments on the Draft B 100-KR-4 RI.
- Complete Draft B 100-KR-4 FS.
- Submit Draft B 100-NR-2 RI/FS to Ecology for review.
- Continue the KW Treatability Test.

### **Central Plateau**

- Finalize Review Comment Responses (RCRs), except for schedule, associated with the 200-EA-1 RI/FS Work Plan.
- Issue Revision 0 200-DV-1 Treatability Test Evaluation Report.
- Submit the Draft A, Rev 1 200-ZP-1 RD/RA WP and Performance Monitoring Plan to EPA for review.
- Issue Revision 0 200-ZP-1 Optimization Plan.
- Issue Revision 0 200-BP-5/200-PO-1 FS.
- Resolve Ecology's comments on the 200-BP-5/200-PO-1 PP.



# Planned Activities

## September through November 2019

### Central Plateau

- Issue the Rev. 0 Remedial Design Investigation Report for the 200-UP-1 Southeast Chromium Plume.
- Complete 200-WA-1 ERT characterization surveys at the 216-U-1/U-2 and 216-U-16 Waste sites.
- Issue/Certify the 216-B-3 Pond Closure Plan.
- Issue/Certify the 216-S-10 Pond and Ditch Closure Plan.
- Issue/Certify the 241-CX Tanks Closure Plan.
- Issue/Certify the 216-A-29 Ditch Closure Plan.
- Issue/Certify the 216-B-63 Trench Closure Plan.



**Hanford Federal Facility Agreement and Consent Order  
IAMIT Milestone Review Form  
(For Milestones without Issues or Significant Activity)**

**M-036-01 Hanford Lifecycle Scope, Schedule and Cost Report**

**Date: September 19, 2019**

**1. Significant Activities Last Three Months**

- Public feedback received on the 2019 Lifecycle Report was reviewed with EPA and Ecology at the July 30, 2019 Project Managers Meeting. Additional comments received from Ecology were also discussed at the July 30<sup>th</sup> meeting.

**2. Budget Status (within budget or explain variance)**

- No major issues identified.

**3. Issues**

- No major issues identified.

**4. Non-TPA Regulatory Issues with Potential Impact to TPA Milestone**

- No major issues identified.

**5. Significant Activities Planned Next Three Months**

- No significant actions are planned during the next 3 months. Work will continue on addressing feedback received on the 2019 Lifecycle Report.

TPA Decision Document List

Data through September 16, 2019

	ROD Area Location	Document	Milestone	Milestone Due Date	Regulatory Review	DOE Lead	Contractor Lead	Regulatory Lead	Agency	Comments/Issues	
1	200-IS-1 200 Area Pipelines	RFI/CMS & RI/FS Work Plan - Draft B	M-015-112: Submit Draft B RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for 200-IS 1 OU to Ecology	11/30/2020	TBD	D. Hildebrand	D. St John	K. Welsch	Ecology	Partial project initiation began in August 2019, allowing sufficient resources to complete the 200-EA-1 RI/FS work plan.	
	200-IS-1 200 Area Pipelines	TSD - Closure Plan for 241-CX Tank System (241-CX-70, 241-CX-71, 241-CX-72)	M-037-13: Complete Closure Requirements for 241-CX-70, 241-CX-71, and 241-CX-72	9/30/2024	TBD	M. Kamal	D. St John	K. Welsch	Ecology	241-CX Tank System: The Closure Plan was submitted to Ecology on August 14, 2019, to 're' confirm comment capture following resolution of a global Section H3 comment. We received Ecology's concurrence on August 26, 2019. CHPRC completed certification on August 27, 2019 and provided to DOE for their certification.	
2	200-EA-1 200 East Closure Plans		M-037-10: Complete Closure for 6 Specified TSD Units	9/30/2020	On Going	On Going	M. Kamal	D. St John	K. Welsch	Ecology	216-A-36B Crib: The Closure Plan was certified and submitted to Ecology on February 5, 2019. Ecology placed it into 'lockdown' on February 28, 2019. 216-A-37-1 Crib: The Closure Plan was certified and submitted to Ecology on February 5, 2019. Ecology placed it into 'lockdown' on May 3, 2019. 216-A-29 Ditch: The Closure Plan was placed into 'freeze' status by Ecology on April 25, 2019. It is ready for certification and is waiting for bulk certification with the other three closure plans. 216-B-63 Trench: The Closure Plan was submitted to Ecology for review on June 15, 2019. Comments were received on July 10, 2019, and discussed on July 11, 2019. One RL comment remains resolution (the removal of 200-E-191-PL from the scope). Ecology is reviewing this deletion. Hexone Storage and Treatment Facility: closure plan is undergoing comment resolution with Ecology.
3	200-CW-1, 200-CW-3, and 200-OA-1 Outer Area	TSDs - Closure Plans for 216-B-3 Main Pond and 216-S-10 Pond and Ditch	M-037-11: Complete Closure Requirements for 216-B-3 & 216-S-10	9/30/2024	On Going	On Going	M. Kamal	D. St John	K. Welsch	Ecology	216-B-3 Main Pond: The Closure Plan was submitted to Ecology on June 20, 2019, for their confirm comment capture review. Issues regarding the Part A waste codes and constituents prevent completion at this time. This closure plan is part of the bulk certification group. 216-S-10 Pond: The Closure Plan was submitted to Ecology on August 6, 2019, for their confirm comment capture review. Comments were provided on August 7 and resolved on August 14. The Closure Plan was submitted to Ecology on August 21, 2019, to be 'frozen.' Ecology responded on August 22, 2019, with an additional comment; this additional comment is under review. This closure plan is part of the bulk certification group.
4	200-EA-1 200 East Inner Area	RFI/CMS & RI/FS Work Plan	M-015-92A: Submit Draft B RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for 200-EA-1 OU to Ecology	7/31/2018	7/14/2018	8/16/2018	D. Hildebrand	D. St John	K. Welsch	Ecology	Resolved two remaining Ecology comments during the May 16, 2019 IAMIT meeting. The first issue was related to the infiltration rate or rates to be used when evaluating the characterization data. The second issue was a request from Ecology to analyze PCB samples for the congeners associated with a specific Aroclor. Continue to finalize the document. A schedule was added to the work plan but was rejected by Ecology.
5	200-UP-1 200 West Area Groundwater	200-UP-1 Southeast Chromium Plume Remedial Design Report	M-16-193: Complete the remedial design investigation of the southeast chromium plume, including the installation of new wells and evaluation of groundwater monitoring data and install monitoring wells needed for remedy performance monitoring as defined in the 200-UP-1 RD/RA WP.	Milestone Completed on 9/25/2018	9/26/2018	12/13/2018	J.Hanson	C. Cearlock	E. Laija	EPA	The Draft Rev 0 document was provided to EPA for checking in July 2019.
6	200-BP-5, 200-PO-1 200 East Area Groundwater	200-BP-5/PO-1 FS and PP	M-015-21A: Submit a 200-BP-5 and 200-PO-1 OU Feasibility Study Report and Proposed Plan(s) to Ecology.	Milestone Completed 3/27/2019	12/18/2018 3/28/2019	2/28/2019 5/13/2019	J.Hanson	C. Cearlock	K. Welsch	Ecology	Regulatory comments on the Draft A FS were resolved in July 2019 and the Draft Rev. 0 was provided to Ecology for checking in August 2019. Received comment from Ecology on the Draft A Proposed Plan in August 2019.
7	100-BC-1, 100-BC-2, 100-BC-5 100-B/C	RI/FS Report and Proposed Plan	M-015-79: Submit RI/FS Report and PP for 100-BC	Milestone Completed 12/15/2016	12/16/2016	01/30/2017	E. Glossbrenner	R. Evans	L. Buelow	EPA	RI/FS report (Rev 0) completed and transmitted to RL on June 18, 2019. Document transmitted by RL to EPA on June 27, 2019.  EPA HQ completed review of Draft Rev 0 Proposed Plan on June 28, 2019, and had no comments or concerns. EPA HQ, with concurrence from EPA Region 10, approved the release of the document for public review. The document will be finalized to Revision 0 and is scheduled to be transmitted to RL early September 2019. The public comment period for the PP is scheduled for October 7 to November 6, 2019.
8	100-KR-1, 100-KR-2, 100-KR-4 100-K	RI/FS Reports and Proposed Plan	M-015-66-T01: Submit RI/FS Report and PP for 100-K. Complete	Target Completed 9/21/2011			E. Glossbrenner	E. Feist	L. Buelow	EPA	The RI and FS have been separated to allow for a potential TI waiver to be pursued. The Draft B RI was delivered to EPA for review on May 3, 2019, awaiting comments. The Draft B FS is scheduled for EPA review in February, 2020.
9	100-DR-1, 100-DR-2, 100-HR-1, 100-HR-2, 100-HR-3 100-D/H	RD/RAWP	None		1/24/2019	3/33/19	J.Sands	R. Evans	K. Welsch	Ecology	Completed resolution of Ecology's comments except for one concerning Ecology's request that implementing documents (e.g. Sampling & Analysis Plan [SAP], Waste Management Plan [WMP]) should be considered part of the RD/RAWP. EPA supports Ecology's position on this matter. RL is working internally to resolve this comment. Resolution of this comment is delaying completion of the RD/RAWP.
10	100-NR-1, 100-NR-2 100-N	RI/FS Reports and Proposed Plan	M-015-75: Submit FS/PP for NR 1/2 Complete	Milestone Completed 6/24/2013	6/25/2013	10/2/2013	S. Balone	B. Faught	A. Boyd	Ecology	Continued preparation of the Draft B RI/FS. Responses to RL comments have been prepared and delivery to Ecology for review is still on track for September 30, 2019.