

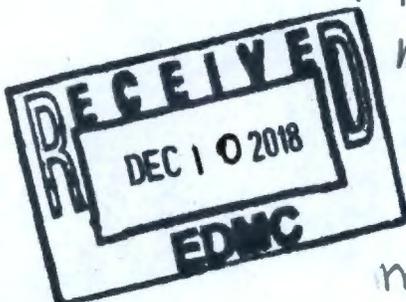
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River Corridor/Central Plateau Quarterly Tri-Party Agreement Milestone Review Meeting Minutes

Department of Ecology Building
Richland, Washington
September 20, 2018

m-016-181, m-089-00, m-093-28, m-094-00,
m-026-01, m-026-01AC, m-091-47D, m-091-52,
m-091-53 m-091-52-T01A, m-091-52-T01B,
m-091-03m, m-092-00, m-092-09, m-026-07D,
m-016-255, m-016-250C, m-016-256, m-085-82
m-015-92A, m-015-93C, m-015-99,
m-036-01
m-015-96, m-015-21A, m-015-98, m-016-193,
m-024-58K, m-024-69-T01, m-024-69,
m-024-58L, m-085-70, m-035-09K,
m-083-00, m-016-175, m-016-176,
m-016-00B, m-016-85, m-016-85A,
m-016-86, m-016-178



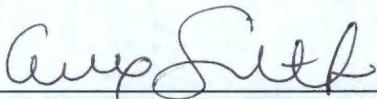


Tri-Party Agreement

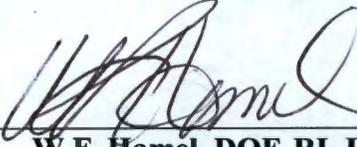
U.S. Department of Energy
Washington State Department of Ecology
U.S. Environmental Protection Agency

**River Corridor/Central Plateau
Tri-Party Agreement Quarterly Milestone Review
Meeting Minutes
September 20, 2018**

SIGNATURES

Approval: 
A.K. Smith, Ecology Representative

Date: 12/3/18.

Approval: 
W.F. Hamel, DOE-RL Representative

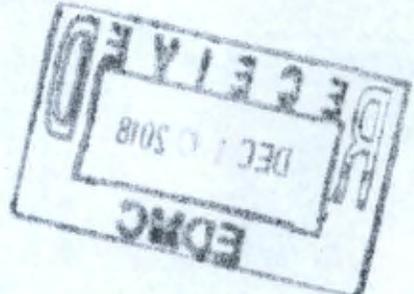
Date: 11/28/2018

Approval: 
D.R. Einan, EPA Representative

Date: 12/6/18

Minutes Prepared by: 
S.W. Davis, Mission Support Alliance

Date: 11/26/18



Soil and Groundwater Remediation Project – Tri-Party Agreement (TPA) Milestones M-015, M-016, M-024, M-085

River Corridor Accomplishments (June 2018 – August 2018) – DOE, Richland Operations Office (DOE-RL) reported that the 100 D/H Record of Decision (ROD) was signed.

DOE-RL stated that the Draft A soil flushing/treatability test for KW was submitted to the U.S. Environmental Protection Agency (EPA) for review. DOE-RL stated that the maximum contamination level (MCL) was met at the KW pump and treat (P&T) facility, and the P&T was shut down for a rebound study. The source of the contamination has been tentatively identified, and it will be flushed down and captured through the P&T. DOE-RL noted that the contamination source is in a fairly shallow area of about 50 to 80 feet, which will allow a good opportunity to flush it down. DOE-RL stated that the treatability test will be done by installing a small drain field above the source, and then injecting clean treated water and capturing it with the extractions. DOE-RL noted that the design was completed for the treatability test plan.

DOE-RL reported that the draft Rev. 0 for the 100-BC-5 remedial investigation/feasibility study (RI/FS) was submitted to EPA for final review and concurrence. DOE-RL stated that meetings are scheduled with the Tribes, and then the RI/FS will go out for public comment, with the end goal of achieving a ROD for 100-BC-5. DOE-RL noted that the draft Rev. 0 for the 100-BC-5 Proposed Plan (PP) was submitted to EPA for legal review, which is tied to the 100-BC-5 RI/FS.

DOE-RL stated that a TPA change notice was submitted to the Washington State Department of Ecology (Ecology) that adjusts the Permeable Reactive Barrier (PRB) injection schedule for the 100-NR-2 remedial design report/remedial action work plan (RD/RAWP). Ecology noted that the structure of the change notice is being evaluated.

DOE-RL reported that the phosphate injections at the 300-FF-5 uranium sequestration site were started on September 4, 2018, and that effort should be completed within the next 2 weeks. DOE-RL noted that the injections are not a set duration or set number of gallons, but it is a delivery to observe the distribution. DOE-RL added that when the right delivery is achieved, the injection effort will be done. DOE-RL noted that there are several electrical resistance tomography (ERT) screens in the ground that measure the distribution.

DOE-RL stated that the last of the 22 monitoring wells were installed in support of TPA milestone M-016-193 for 200-UP-1. The wells were installed per the project management plan, which includes a chromium remedial investigation (RI) report that will be transmitted to Ecology before the end of September 2018. DOE-RL noted that the Interim Record of Decision (IROD) strategy was approved for the 200-BP-5 and 200-PO-1, and the RI report was being finalized for submittal to Ecology.

DOE-RL reported that construction is under way to connect an additional extraction well for the 200-BP-5 removal action. DOE-RL noted that the plume is starting to pass by the other wells, and the new well is located in front of the plume and is scheduled to be hooked up in FY19.

Central Plateau Accomplishments (June 2018 – August 2018) – DOE-RL stated that the Draft A work plan and sampling and analysis plan (SAP) for 200-EA-1 were submitted to Ecology for review.

Comments were received from Ecology, followed by comments from EPA and the Yakama Nation (YN). DOE-RL noted that the goal was to disposition the comments and issue the draft work plan and SAP by the end of FY18, but with the timing and number of comments received, that time frame will likely not be met. DOE-RL added that there is no requirement to issue the work plan and SAP by the end of FY18, and the purpose is to assist with planning and funding for FY19.

DOE-RL noted that the Option 2 closure plan, which was submitted to Ecology for the 216-A-36B Crib, is a new approach for doing closure plans that was agreed to with Ecology. Ecology stated that the comments for 216-A-36B have been resolved for the most part, and the closure plan is now what is called frozen and will be kept frozen, rather than locked down, because there are a series of other closure plans that are very similar. Ecology added that the purpose of the new approach is to ensure that there is not something discovered in the upcoming closure plans that would require a modification. Ecology stated that once all of the closure plans have been done and are frozen, they will all be locked down at the same time.

DOE-RL stated that EPA was briefed on the 200-ZP-1 RD/RAWP revision strategy for P&T operations at 200 West. DOE-RL noted that a lot of cleanup has been done during the first 5 years of the P&T, and it is time to revise the strategy with the information obtained and possibly do an amended ROD. DOE-RL stated that the costs are nowhere near what the initial ROD assumed, and at a minimum, an explanation of significant difference (ESD) is needed.

DOE-RL reported that about 82 cubic yards of soil sediment were removed from the Modutanks and sent to the Environmental Restoration Disposal Facility (ERDF) in ERDF cans. DOE-RL noted that approval was received to truck the water that was pumped off and treated at the 200 West P&T. DOE-RL is considering installing a pipeline as an alternate pathway to treating the Modutank water when the evaporation rate is not adequate. DOE-RL noted that more purgewater is being generated than the Modutanks were initially set up for, due to the redevelopment that needs to be done at 200 West, and the ability to treat the purgewater at 200 West is a good option.

Milestone Summary through FY19 – DOE-RL stated that TPA milestone M-015-93C is in dispute, pending the tentative agreement (TA) with several other milestones, and the dispute has been extended to the end of October 2018. DOE-RL noted that the milestone to initiate characterization of 200-SW-2 will not be met by the 9/30/18 due date, but the goal is to reach a resolution via the TA.

DOE-RL reported that TPA milestone M-015-99 is at risk to complete remedial investigations of the Plutonium Finishing Plant (PFF) waste sites located in 200-WA-1. DOE-RL noted that there are subsequent milestones tied to M-015-99, which include M-015-84, M-015-91B and M-015-98. DOE-RL stated that the first milestone in the sequence did not get started due to funding issues and some PFF issues, which has a cascading effect on the subsequent milestones, placing them at risk. The milestones are identified in the TA, but they are not close to the time frame and are not yet in dispute.

DOE-RL noted that all of the M-024 milestones are on schedule and all of the wells were completed for FY18.

DOE-RL stated that milestone M-085-70 is at risk for submittal of the RI/FS work plan for B Plant, and the work plan has not been started. DOE-RL stated that the parties need to review the milestones and

then develop a strategy for moving forward.

River Corridor Planned Activities (September 2018 - November 2018) – DOE-RL noted that the planned activities listed in today's handout are on track to be done by November 2018. EPA stated that field remediation work is still ongoing at 100K, with digging and sampling in an effort to close out waste sites, and a fair amount of work still remains to be done. EPA suggested that the work should be included in today's handout. DOE-RL responded that the work should be addressed during the River Corridor closure presentation.

Central Plateau Planned Activities (September 2018 – November 2018) – DOE-RL stated that once the RI is issued for 200-BP-5/200-PO-1, the focus will turn to working on the feasibility study (FS).

Richland Operations Office Key Documents List

DOE-RL stated that the new status on the key documents list is highlighted in blue under the comments/issues section. It was noted that the regulatory lead for Nos. 11 and 12 on the key documents list should be EPA and not Ecology.

PFM Closure Project - TPA Milestone M-083

DOE-RL noted that all the parties are aware that milestone M-083-00 was missed.

Project Baseline Performance – DOE-RL reported that \$23 million of carryover was generated in PBS-0011 going from FY18 to FY19. DOE-RL stated that an external independent cost estimate review was recently conducted to validate the new proposed baseline for the capital asset to complete demolition. Contained in the proposed baseline is a cost range that will be narrowed down. During the time of the external independent review, DOE-RL estimated that between \$58 million to \$80 million new budget authorization was required. DOE-RL stated that currently about \$57 million more is needed when taking away the \$23 million from carryover, which may impact some of the work that is ongoing. DOE-RL stated that within about two weeks, there will be a better understanding of what the funding will be since the DOE appropriation for FY19 is on the President's desk for signature. DOE-RL indicated that the financial impact to other work moving forward should be minimized.

DOE-RL stated that following the baseline change proposal that the independent cost estimate team is reviewing, the project re-baseline will be restructured to more accurately reflect the earned value management data.

Status: June 2018 through August 2018 – DOE-RL noted that information in today's handout is older information, and an update was provided on the current status. DOE-RL expressed appreciation to EPA and the Department of Health (DOH) for lifting the Article 42 stop work on the lower risk work. DOE-RL stated that EPA and DOH were conducting a walk-through yesterday and today in the high contamination area (called the zone), which is the airborne radiological area. The walk-through was to ensure the water foggers and other equipment were positioned to start the debris loadout on the southwest corner. DOE-RL stated that removal of the debris is anticipated to start next Tuesday (9/25/18).

DOE-RL stated that the roll-on/roll-off ERDF cans have ten “pokere” or protrusions through the tarping, and they will be repackaged on Monday (9/24/18). DOE-RL noted that there has been no release from the pokere, which is rebar that has been sitting for a long period of time and is poking through the tarps.

DOE-RL stated that the debris loadout that will start next week is scheduled to be completed by November 12, 2018, followed by a pause for lessons learned. The lower risk demolition in 234-5Z is scheduled from November 14, 2018 through February 13, 2019. DOE-RL stated that while the demolition and debris loadout is being done, another contractor independent assessment of the higher risk work will be conducted, which is currently scheduled for the last 2 weeks of January 2019. DOE-RL noted that a briefing will be provided to the regulators on the results from the independent assessment.

DOE-RL stated that the next phase would be the remote mechanical A and C lines (RMA/RMC), which are the main process lines in 234-5Z and a potential source of contamination. Demolition of the RMA/RMC lines is scheduled from February 14, 2019, through April 16, 2019, followed by another pause. The next phase will be the Plutonium Reclamation Facility (PRF) debris removal, which is scheduled from April 19, 2019 through June 5, 2019. The final steps will be site cleanup and sample analysis of 242-Z (McCluskey room) and the PRF slabs, which are on schedule and funded.

Map – DOE-RL noted that the map attached to today’s handout is from June 5, 2018, and an updated map will be provided for the meeting minutes. DOE-RL stated that the final radiological buffer areas in other rad zones have been instituted, which will be reflected on the updated map.

DOE-RL stated that the contractor is posed to resume lower risk work, and it will proceed in a slow and methodical pace. DOE-RL noted that debris loadout may end sooner than is scheduled, and the newer controls have been very effective for moving forward. DOE-RL stated that it will notify Ecology and EPA when the debris loadout is ready to start.

Biennial Assessments of Information and Data Access Needs – M-035-09

DOE-RL stated that there were no significant changes to report since the last quarterly meeting. DOE-RL noted that the contractors were requested to submit impact assessments for consolidating their operating record documents into a central repository to simplify data access. The contractors are working with DOE-RL to determine the process and mechanism for meeting the request, and responses are anticipated in the November/December 2018 time frame. DOE-RL stated that as a result of this effort, an extension to the milestone has been requested to the end of December 2018.

100K K-Basins Operations Project – TPA Milestone Series M-016

Accomplishments June 2018 – August 2018 - DOE-RL noted that the capital asset project to start sludge removal has been completed, meeting milestone M-016-175. DOE-RL proposed combining the M-016 milestone reporting with the River Corridor presentation since it also includes M-016. Ecology and EPA indicated that combining the 100K K-Basin operations with the River Corridor presentation would be acceptable.

Engineered Container Retrieval and Transfer System (ECRTS) Startup/Operations Activities – DOE-RL

stated that after a four-month process to prepare for sludge transfer, the transfer was started on June 12, 2018. There were three transfers of sludge needed to fill the first sludge transfer and storage container (STSC), which was completed on June 14, 2018. The STSC was sent to T Plant on June 25, 2018, and placed into the cell on June 27, 2018. DOE-RL stated that two more STSCs were filled and sent to T Plant, and currently the fourth STSC is being filled with sludge. DOE-RL stated that it is taking more transfers to fill the fourth STSC, and so far there have been six transfers, with one or two more transfers to fill the STSC. DOE-RL noted that the sludge is sitting in eight crates with baffles in the bottom, and as the crew gets near the bottom of a crate, it is more difficult to get as much sludge on each transfer. DOE-RL stated that the goal is to ship the fourth STSC to T Plant before the end of FY18.

Milestone Summary – DOE-RL reported that a notification letter was sent to EPA stating that milestone M-016-175 was completed. DOE-RL noted that milestone M-016-176 is on schedule to complete sludge removal from K Basin.

Project Baseline Performance – DOE-RL stated that the project is on schedule and slightly under cost, which reflects a positive project baseline performance.

Planned Activities September 2018 – November 2018 – DOE-RL stated that sludge removal operations will continue and be the main activity. DOE-RL noted that the STSC sits in a sludge transportation system cask (STS), and the second STS had scratching on the lid that could not be repaired. A new STS lid is being manufactured, and it should be ready in October 2018. DOE-RL stated that when the second STS is available, it will allow an empty STSC to be staged and ready to be filled and then placed in the STS after a full STSC is taken out of K-Basin. DOE-RL noted that having the second STS will significantly facilitate an increase in the sludge removal operations.

DOE-RL noted that a T Plant maintenance outage is scheduled for November 2018, which could impact the pace of sludge removal and transfer to T Plant. The contractor is reviewing the maintenance to determine whether any of it can be delayed since the sludge operations should be completed in about a year.

River Corridor Closure – TPA Milestones M-016/M-089/M-093/M-094

618-10 Burial Ground Significant Accomplishments (through August 2018)

DOE-RL reported that milestone M-016-00B was completed, and the completion letter is in concurrence and should be sent out by the end of this week. The 618-10 burial ground area has been transitioned to long-term stewardship under MSA, and the revegetation will be done this fall.

300-296 Soil Removal Significant Accomplishments (June 2018 – August 2018) DOE-RL stated that drilling of test micropiles is being done outside the 324 Building and at Pit 6 across from the 300 Area. The structural testing of the micropiles was completed last week, which is an important aspect for meeting the design requirements. DOE-RL noted that if the design requirements were not met, additional micropiles would need to be installed that would require more time and cost. The plan is to install micropiles by drilling down 15 feet and installing concrete and rebar micropiles, which will provide structural support for the 324 Building to ensure the building does not shift when soil removal begins.

DOE-RL noted that there was some difference in the drawings about how much rebar is in the foundation under C-Cell, so the floor was cut in one area and hand-digging is being done down to 10 feet to reach the foundation. Scans will then be done to determine whether the rebar is 6 or 9 inches apart.

DOE-RL stated that the remote excavator arms (REA) that will be used to dig out the soil at the 324 Building have been received. DOE-RL noted that the contractor has started to remove the geoprobes that were installed behind 324 to allow measurement of the dose rate below the B hot-cell.

300-296 Soil Removal Significant Planned Actions - DOE-RL stated that integrated testing at the mockup facility is in progress, and operating instructions for the REA system are being drafted. DOE-RL noted that the B-Cell filter frame installation mockup is associated with the ventilation system, and the purpose is to keep the main HEPA filters from loading up in the exhaust ventilation system at the 324 Building.

DOE-RL reported that the contractor has completed the 60 percent design review of the structural modification design, and DOE-RL will be reviewing the design. DOE-RL stated that the modified rail system in the airlock will be used to move larger equipment in and out of B-Cell, but it will not be used for taking bins of soil out of B-Cell. There will be another transfer mechanism that will be used to move the bins of soil out of B-Cell when soil removal is being done.

100K Closure Project Significant Accomplishments (through August 2018)

100K Soil Remediation - DOE-RL noted that limited waste site remediation continues at 100K, and a number of waste sites have been completed. The 116-KE-2 crib waste site is about 72 percent complete and is down to the crib level. The hazard review board is meeting this week, to be followed by remediation of the crib, which should take only a few days to be completed.

K West Basin Deactivation & Demolition Significant Accomplishments (through August 2018):

Garnet Filter Media Removal System (GFMRS) - DOE-RL stated that the GFMRS has been developed at the Maintenance and Storage Facility (MASF), which will be used for operator training. The system will be installed at the 100KW Basin when sludge removal has been completed. DOE-RL noted that four STSCs are being fabricated for the garnet and sand filter media, and all four of the STSCs have been received. Two of the STSCs have been assembled, and the last two are going through final testing at HiLine, which is located in Richland, WA.

DOE-RL stated that one of the garnet filter sluice outlet valves was stuck, and a hole was put in the side of the closure and a manual operator was attached. The valve was cracked open slightly, which proved that the valve will operate, and efforts will continue to fully open the valve.

Sand Filter Media Removal System (SFMRS) - DOE-RL stated that testing is being done at the MASF on the SFMRS. The design requirements and the operational system for the SFMRS will go out for bid, and the system will be installed after sludge removal has been completed.

K West Basin Characterization Significant Accomplishments (through August 2018) – DOE-RL noted that there is a lot of activity associated with basin characterization and the equipment in the basin. The contractor will be conducting 3-D modeling that will show the debris in the basin, and training on the 3-D modeling software is under way.

DOE-RL stated that different samples are being taken from the basin. Surveys in the bottom of the basin were taken to determine dose rates, which were much less than anticipated, and it will help with characterization of the basin to ensure waste is low-level and can be sent to ERDF. Solid samples are being taken, and four sediment samples have been taken that were sent off for analysis. DOE-RL noted that a lot of debris was left in the basin and has been sitting there for a long period, and efforts will continue to determine what is low-level and what is transuranic (TRU) and the path for disposition.

Ancillary Facility Deactivation and Demolition Significant Accomplishments (through August 2018) - DOE-RL stated that asbestos abatement is continuing with the 165KE power control building, and it is about 73 percent complete. The first floor boilers are the only remaining work that is needed.

DOE-RL stated that a modification is being done to the 100K RAWP to incorporate TPA change packages that were done in the past.

DOE-RL stated that planning continues for remediation of the 166KE fuel storage basin, and pointed out that it is a diesel fuel basin and not reactor fuel. DOE-RL noted that if funding becomes available, demolition and remediation of the 165KE and 166KE waste sites will be done in 2019 and 2020.

K East and K West Reactor Interim Safe Storage (ISS) Significant Accomplishments (through August 2018) – DOE-RL stated that design efforts will continue with the K East Reactor ISS, which will also be used for the K West Reactor ISS. DOE-RL added that if funding becomes available, ISS will move forward starting with the K East Reactor.

100K Soil Remediation Significant Planned Actions (September 2018 through November 2018) – DOE-RL noted that excavation has started with the 100-K-47:1 waste site.

K West Basin Deactivation Significant Planned Actions (September 2018 through November 2018) – DOE-RL stated work continues on the K West Basin characterization. Gamma cameras are being calibrated using some of fuel from the basin to look for hot spots and debris in the basin.

Ancillary Facility Deactivation & Demolition Significant Planned Actions (September 2018 through November 2018) – DOE-RL stated work continues on the 165K East and the 166K East fuel storage basins.

K East Reactor ISS Significant Planned Actions (September 2018 through November 2018) – DOE-RL stated they are finalizing plans for the K East Reactor ISS.

Remaining Closure Operations Significant Accomplishments (through August 2018) – DOE-RL stated that revegetation of the 618-10 waste site will be done this fall, which is not part of TPA milestone M-016-00B. DOE-RL noted that the 300 Area final ROD actions were completed to put in caps and stabilize some of the waste sites that could not be remediated.

Milestone Summary – DOE-RL pointed out a few updates to the milestone status that were not included in today's handout. DOE-RL noted that M-016-00B has been completed.

DOE-RL stated that M-016-85A is now at risk to complete remediation of the 300-296 waste site under the 324 Building. DOE-RL added that the work is continuing with the 300-296 waste site and the project is funded, but it is considered very hazardous.

DOE-RL reported that M-016-86 to complete remediation of the 618-11 burial ground is also at risk, and meetings with EPA will be scheduled to discuss modifying the at-risk milestones.

Project Baseline Performance - DOE-RL stated that the project is doing well from a cost and schedule standpoint.

Land Disposal Restrictions (LDR) TPA Milestone M-026-01

DOE-RL stated that efforts continue with the LDR report, and a revised meeting sequence will be established in the near future with the new DOE-RL lead for LDR.

M-091, M-026-07B and M-092 TPA Milestones

M-091 Accomplishments (June 2018 – August 2018) – DOE-RL provided an update on the target milestone under M-091-52 for 2018, 2019 and 2020. The removal of five mixed waste (MW) containers from Outside Storage Area (OSA) A or B has been completed, which was required in 2018. Ten MW containers are required to be removed from OSA-A or B in 2019, and six MW containers have been removed due to the efficient operations at Permafix Northwest. DOE-RL noted that twenty MW containers are also to be removed from OSA-A or B in 2020.

DOE-RL reported that agreement was reached with Ecology to extend the M-091 negotiations to December 31, 2018, and a change package is being prepared for signature by DOE-RL and Ecology.

M-092-05 and M-092-00 Accomplishments (June 2018 - August 2018) - DOE-RL noted that the M-092 milestones are associated with the disposition of the cesium and strontium capsules by moving them to dry storage. DOE-RL stated that the public comment period was completed, and there were five comments. DOE-RL noted that the Tri-Parties signed a tentative agreement, and there are some internal comments that EPA has to resolve before moving forward with the tentative agreement. EPA referred to slide No. 3 on today's handout that states EPA has issues with regard to the responses to public comments, and stated that the issue is larger than the responses to public comments. EPA stated that the issue is with the change package and is related to issues that the RCRA program believes have not been resolved by Ecology. EPA added that it is in the process of sorting out the issues between the cleanup side and the RCRA side of EPA.

DOE-RL noted that the last correspondence from EPA was an email stating that internal issues were being addressed. EPA responded that it would not characterize the issues as internal, and they are related to the implementation of the RCRA program on-site. DOE-RL acknowledged that there are issues with program coordination. Ecology stated that it had a recent discussion with the RCRA program, and Ecology is aware of the concerns and is working to address them this week. Ecology

added that another discussion with the RCRA program is planned for next week.

EPA referred to the milestones that are “in abeyance,” and stated that EPA cannot agree with the term until it consults with legal. DOE-RL responded that the term “in abeyance” has been used between DOE-RL and Ecology for a number of years and circumstances, and it is being used to describe the current situation.

Ecology asked if the M-092 milestones also address bulk sodium. DOE-RL responded that bulk sodium will be addressed.

Milestone Summary – DOE-RL noted that the milestones listed are complete, on schedule or “in abeyance.”

Planned Activities (September 2018 – November 2018) – DOE-RL stated that target milestones under M-091-52 were met for 2017 and 2018, and it will continue to move forward with the milestones and negotiations for M-091.

Central Plateau Remediation Project – TPA Milestones M-016, M-037, M-085

PUREX Tunnel No. 2 Stabilization Accomplishments (June 2018 - August 2018) DOE-RL reported that the temporary grout plant has been installed for tunnel No. 2. Two test batches from the plant were taken over to American Rock and poured into an 80-foot long, 36-inch plume to observe the flowability and workability of the grout, and whether it segregates. The test results showed a good recipe and the capability to make the grout in accordance with the recipe.

DOE-RL stated that the plan for grouting at tunnel No. 2 is to install conveyance devices at six tunnel locations, and to have a pump at two of the six locations on a given shift. The concrete trucks would dump into the pumps and pump into the two conveyance devices at the two locations during a shift. During the down time for the next shift, the two pumps would be moved to a new location.

Central Plateau Risk Reduction Accomplishments (June 2018 – August 2018)

DOE-RL reported that the current issue is the accelerated radionuclide loading of the main filters at B Plant. DOE-RL stated that previously the set of filters would last for about 18 months, and now they are lasting about 6 months. The cause is not known at this time. DOE-RL stated that the actions taken were to decrease the flow of the B Plant exhaust fan by changing the sheave size on the fan motor, and several entries have been made to ascertain whether there is any visual evidence of something that is occurring that is unknown. Preparations are under way to access the far end of B Plant Canyon to change some damper positions on the HVAC flows in an effort to reduce the radionuclide loading.

Other Facilities Accomplishments (June 2018 – August 2018) – DOE-RL stated that a semi-permanent coating was placed on the top of the Plutonium Uranium Extraction Plant (PUREX) tank 30 to keep the asbestos insulation in place for the next 10 to 20 years.

DOE-RL noted that ultrasonic testing and interrogation of the Reduction-Oxidation (REDOX) silo tanks has been under way, both last year and this year, and will continue into next year to reduce some of the greatest risks in the building. The purpose of the work being done is to be able to move towards

preparation for decontamination and decommissioning (D&D) for the facility. EPA asked if the work that is being performed at the REDOX silo is under surveillance and maintenance at this point. DOE-RL responded that it is being done under surveillance and maintenance (S&M).

Milestone Summary – DOE-RL noted that the milestones have been completed or are in progress of negotiation.

Planned Activities for Facilities and Waste Sites (September 2018 – November 2018) – DOE-RL noted that the reduction of the B Plant stack flow rate has been done. DOE-RL stated that the overall status of the grout preparation at PUREX tunnel No. 2 is that it is fully prepared to initiate grout placement within 24 hours' notice.

Ecology requested notification when DOE-RL goes in to B Plant. DOE-RL responded that it will provide notification to Ecology.

Oregon Department of Energy (ODOE) inquired about the grout recipe for PUREX tunnel No. 2 in comparison to the recipe for tunnel No. 1. DOE-RL responded that the grout recipe for tunnel No. 2 is about the same as tunnel No. 1. DOE-RL stated that the break strength for 28 days for both tunnels is 2,000 pounds per square inch, and noted a comparison that the break strength of public sidewalks is 2,500 pounds per square inch. DOE-RL stated that the components of the grout recipe are water, sand, fly ash and cement. DOE-RL noted that the same protocol was followed for tunnel No. 2 as was followed for tunnel No. 1 in terms of the grout experts developing a recipe that would flow adequately for the minimal injection points for tunnel No. 1. DOE-RL added that the experts included a corporate CHPRC expert from Idaho, Hanford civil concrete specialist engineers, and American Rock.

DOE-RL pointed out that tunnel No. 1 was 400 feet, and the only injection point was about 50 feet from one end of the tunnel, which required increased flowability.

DOE-RL stated that the purpose of one of the four additives to the grout recipe is to maintain the concrete workability for 4 hours, along with the compressive strength for 28 days. DOE-RL stated that the compressive strength design for the tunnels was supposed to be in the median of two unacceptabilities of being too hard to cut or soft enough that when the dirt and roof were removed, it would not fall apart. The 2,000 pounds compressive strength was determined to be the median for meeting the criteria.

DOE-RL pointed out that there are 17 available risers in tunnel No. 2 for grout delivery versus the one location at tunnel No. 1, which was the location of collapse. Six of the risers in tunnel No. 2 were selected, and grout will be poured in lifts in the same manner that was done for tunnel No. 1. DOE-RL stated the purpose of the lifts is to: 1) allow the grout to solidify for 24 hours before the next grout pour; 2) control the heat rate generated in the tunnel since there is a lot of heat generated from curing grout; 3) prevent items in the tunnel from floating; 4) to ensure there is enough flow capability to fill the entire tunnel.



AGENDA
Tri-Party Agreement River Corridor/Central Plateau Milestone Review
September 20, 2018

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

Time	Milestones	Subject	DOE Presenter
9:00 a.m.	M-015, 016, 024, 085	Soil and Groundwater Remediation	Mike Cline
9:15 a.m.	—	Richland Operations Office Key Documents List	Mike Cline
9:20 a.m.	M-035	Data Access	Ben Ellison
9:30 a.m.	M-083	Plutonium Finishing Plant (PFP) Closure	Tom Teynor
9:40 a.m.	M-016, 093	100 K Sludge Removal	Mark French
9:50 a.m.	M-016, 089, 093, 094	River Corridor Closure	Mark French
9:55 a.m.	M-026	Land Disposal Restrictions Report	Al Farabee
10:00 a.m.	M-091 & M-092	Solid Waste Stabilization and Deposition	Al Farabee
10:15 a.m.	M-016, 037, 085	Central Plateau Remediation	Al Farabee
10:30	—	Adjourn	—



*Tri-Party Agreement River Corridor/Central Plateau Milestone Review
September 20, 2018*

<u>Name</u>	<u>Organization</u>
<u>CAROLYN NOONAN</u>	<u>MSA</u>
<u>Li Wang</u>	<u>YN</u>
<u>Julie Atwood</u>	<u>YN</u>
<u>Shirley Simon</u>	<u>DDOE</u>
<u>ROD LOBOS</u>	<u>EPA</u>
<u>Kathy Knox</u>	<u>Court reporter</u>
<u>Michael Cline</u>	<u>DOE-RL</u>
<u>Tom Tegner</u>	<u>DOE-RL</u>
<u>Tom Skinnarland</u>	<u>Ecology</u>
<u>Kathleen Higgs</u>	<u>DOE-RL</u>
<u>Kelly Elsethagen</u>	<u>Ecology</u>
<u>Amarda Mayfield</u>	<u>Ecology</u>
<u>Chengli Whyte</u>	<u>Ecology</u>
<u>Mark French</u>	<u>DOE-RL</u>
<u>B. Ellison</u>	<u>DOE</u>
<u>Dib Goswami</u>	<u>Ecology</u>



Soil and Groundwater Remediation Project

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

June 2018 – August 2018
September 20, 2018



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

Columbia River White Bluffs



Accomplishments – River Corridor June 2018 – August 2018

- Completed the 100 D/H ROD on July 30, 2018.
- Submitted the KW Soil Flushing/Infiltration Treatability Test Sampling and Analysis Plan, Draft A, to EPA for review on June 28, 2018.
- Completed the KW Soil Flushing Treatability Test Design in June 2018.
- Met with the Tri-Parties in August 2018 to discuss the process for obtaining the Technical Impracticability Wavier for Sr-90 contaminated groundwater at 100-K and 100-N.
- Provided the Draft Rev 0, 100-BC-5 RI/FS to EPA for final checking and concurrence on July 16, 2018.
- Provided the Draft Rev 0, 100-BC-5 Proposed Plan for EPA legal review on June 11, 2018; EPA legal comments received July 26, 2018.
- Submitted a draft TPA CN to Ecology on June 28, 2018, that adjusts the PRB injection schedule in the 100-NR-2 RD/RAWP.
- Completed construction acceptance testing for injection of phosphate as part of 300-FF-5 uranium sequestration.



100-K Area – Soil Flushing Treatability Test Site



EPA signs \$200M remedy for 100 D and H Area at the Hanford Reservation Superfund Site

WASHINGTON, D.C. — The U.S. Environmental Protection Agency today announced a \$200 million remedy for the 100-D and H Area at the Hanford Reservation Superfund Site. The remedy includes groundwater monitoring, groundwater treatment, and soil remediation. The remedy also includes a groundwater monitoring system, a groundwater treatment system, and a soil remediation system. The remedy is the most comprehensive and aggressive ever for the Hanford Reservation Superfund Site. The remedy is the result of a long and complex process that began in 2007. The remedy is the result of a long and complex process that began in 2007. The remedy is the result of a long and complex process that began in 2007.

WASHINGTON, D.C. — The U.S. Environmental Protection Agency today announced a \$200 million remedy for the 100-D and H Area at the Hanford Reservation Superfund Site. The remedy includes groundwater monitoring, groundwater treatment, and soil remediation. The remedy also includes a groundwater monitoring system, a groundwater treatment system, and a soil remediation system. The remedy is the most comprehensive and aggressive ever for the Hanford Reservation Superfund Site. The remedy is the result of a long and complex process that began in 2007. The remedy is the result of a long and complex process that began in 2007. The remedy is the result of a long and complex process that began in 2007.



EPA Signs 100-D and H Area ROD

Accomplishments – Central Plateau June 2018 – August 2018

- Completed the last of the 22 monitoring wells in support of TPA milestone M-016-193 for 200-UP-1.
- Approved the 200-BP-5 and 200-PO-1 Interim Record of Decision (IROD) strategy during the July IAMIT meeting.
- Resolved Ecology's comments on the 200-PO-1 RI Report Addendum.
- Submitted Draft Rev 0 200-BP-5 RI Report to Ecology for final check review on July 26, 2018.
- Initiated construction activities to connect an additional extraction well for the 200-BP-5 Removal Action.
- Completed the 200-DV-1 Field Summary Reports for B-, S-, T-Complex and for the Shallow Risk Boreholes and held four workshops with Ecology.



200-DV-1 OU Shallow Soil Risk Borehole Drilling at B-, S-, and T-Complex



Accomplishments – Central Plateau June 2018 – August 2018

- Submitted Draft A, 200-EA-1 Work Plan and Sampling and Analysis plan to Ecology for review on July 12, 2018 (meeting TPA MS M-015-92A); Ecology's comments were received on August 17, 2018
- Submitted Option 2 closure plan on July 31, 2018 for 216-A-36B Crib to Ecology for inclusion in the Rev 9 permit modification.
- Brief EPA on the 200-ZP-1 RD/RAWP revision strategy on August 28, 2018.
- Transferred and treated Modular Storage Unit (MSU) #3 water in June 2018, treating 154,000 gallons at 200W Pump and Treat.
- Removed ~82 cubic yards of soil sediment from MSU #2 in June and July 2018, and shipped to ERDF.
- Completed construction of two 200-ZP-1 OU injection wells.

Modular Storage Unit #3 after water and sediment removal (east area)



200-ZP-1 Injection well site located north of the 200 West Area



Milestone Summary

Through FY19

Milestone or Target Date	Due Date	Description	Status
M-015-92A	7/31/2018	Submit RCRA FICMS & R/VFS Work Plan for 200-EA-1 OU to Ecology	Completed
M-015-93C	9/30/2018	Initiate characterization of the 200-SW-2 OU unlined landfills	In Dispute
M-015-99	12/31/2019	Complete remedial investigations of PFP wastes sites located in 200-WA-1 in accordance with WP	At Risk*
M-015-96	2/28/2019	Submit 100-OL-1 RI report and change request for FS report to Ecology	On Schedule
M-015-21A	3/31/2019	Submit 200-BP-5 and 200-PO-1 OU FS Report & PP(s) to Ecology	On schedule
M-015-98	6/30/2019	Complete remedial investigations of U Plant wastes sites located in 200-WA-1 in accordance with WP	At Risk*
M-016-00			
M-016-193	9/30/2018	Investigate SE Chromium Plume per 200-UP-1 RD/RAWP	On Schedule**

* Subsequent follow-on milestones (M-015-84 and M-015-91B) are also at risk.

** EPA agreed on April 26, 2018, that the 22 remedy performance monitoring wells to be installed for 200-UP-1 OU meet the TPA Milestone M-16-193 requirements.



Milestone Summary

Through FY19

Milestone or Target Date	Due Date	Description	Status
M-024-000			
M-024-58K	6/1/2018	Initiate Discussions of Well Commitments	Completed
M-024-69-T01	8/1/2018	Conclude Discussions of Well Commitments initiated under M-024-58	Completed
M-024-69	12/31/2018	DOE shall complete the construction of all wells listed for calendar year 2018 and before	Completed
M-024-58L	6/1/2019	Initiate Discussions of Well Commitments	On Schedule
M-085-00			
M-085-70	9/30/2019	Submit Remedial Investigation/Feasibility Study Work Plan for 200-CB-1 to Ecology	At Risk

RL-30 Project Baseline Performance

Contract to Date Through August 2018

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)
Total	1,520.0	1,513.9	1,463.4	(6.1)	(0.4%)	50.4	3.3%	1,595.6	1,544.5	51.1

Numbers are rounded to the nearest \$0.1 million. Period of performance 10/1/2008 through July 2018



Planned Activities

September - November 2018

River Corridor

- Complete phosphate injections for the 300-FF-5 uranium sequestration
- Issue the Rev. 0 100-BC-5 RI/FS
- Resolve comments on the Draft Rev. 0 100-BC-5 PP
- Submit the KR-4 Draft B RI for concurrent RL and EPA review
- Issue TI Waiver documents for 100-K and 100-N.
- Issue the KW Soil Flushing/Infiltration Treatability Test Sampling and Analysis Plan

Central Plateau

- Issue the 200-EA-1 RI/FS WP
- Submit the Draft A Remedial Design Investigation Report for the 200 UP Southeast Chromium Plume to EPA for review
- Prepare the Draft A 200-BP-5/200-PO-1 IROD FS
- Conduct workshop #6 with EPA and Ecology on 200-DV-1 RI/FS Workbook on B-Complex characterization results in August 2018.
- Conduct Unit Group workshops with Ecology to discuss NRDWL/SW1 needs and the 216-A-37-1 Crib needs.



TPA Decision Document List

	ROD Area Location	Document	Milestone	Milestone Due Date	Regulatory Review	DOE Lead	Contractor Lead	Regulatory Lead	Agency	Comments/Issues
1	200-IS-1 200 Inner Area/Pipelines	RI/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	M. Hickey	N. Menard	Ecology	
2	200-EA-1 200 East Inner Area	TSD - Closure Plans for 207-A South Retention Basin, 216-A-29 Ditch, 216-A-36B Crib, 216-A-37-1 Crib, 216-B-63 Trench, and the Hexone Storage and Treatment Facility (276-S-143/142)	M-037-10: Complete Closure for 6 Specified TSD Units	9/30/2020	TBD TBD	M. Kamaal	M. Hickey	N. Menard	Ecology	207-A South Retention Basin: Closure complete and approved. Remaining effort includes administrative processing of WIDS waste site reclassification form as closed out. 216-A-36B closure plan was prepared following the Ecology Option 2 closure plan format and informally reviewed by Ecology. All comments resolved. Closure plan submitted to Ecology and Ecology has put a "freeze" on the closure plan until needed for the Rev 9 permit.
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	TBD TBD	M. Kamaal	M. Hickey	N. Menard	Ecology	
4	200-EA-1 200 East Inner Area	RI/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	B. Vannah	M. Hickey	N. Menard	Ecology	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for 200-EA-1 OU was submitted to Ecology on July 12, 2018. Final Ecology comments were received on August 17, 2018.
5	200-BP-5, 200-PO-1 200 East Area Groundwater	200-BP-5 RI Report	None		8/11/2015 8/3/2017	J. Hanson	C. Wittreich	N. Menard	Ecology	The 200-BP-5 comment resolution process is nearing completion.
6	200-BP-5, 200-PO-1 200 East Area Groundwater	200-PO-1 RI Report Addendum	None		8/11/2015 8/3/2017	J. Hanson	C. Wittreich	N. Menard	Ecology	The PO-1 comment resolution process is complete and the document is being finalized
7	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.	3/30/2019	12/1/2018 12/30/2018	J. Hanson	C. Wittreich	N. Menard	Ecology	The IAMIT approved the IROD Strategy in July. The Decisional Draft is expected to be completed in September for review
8	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 12/15/2015	12/16/2016 01/30/2017	E. Glassbrenner	R. Evans	L. Buelow	EPA	Draft Rev 0 RI/FS was submitted to EPA for final review on July 16, 2018. Text is being prepared to summarize the National Historic Preservation Act (NHPA) process applied at 100-BC. This text will be incorporated into the RI/FS and ready for RI and EPA review in August 2018. Draft Rev 0 PP is being revised to incorporate EPA legal comments received on July 26, 2018. EPA is scheduled to review these revisions in September 2018. Meeting with Tribes expected in September 2018.
9	100-HR-1, 100-HR-2, 100-HR-3 100-D/H	RI/FS Reports and Proposed Plan	M-015-70-T01: Submit FS & PP for HR 1/2/3 and DR 1/2 Complete	Target Completed 12/14/2012		S. Balone	E. Feist	N. Menard	Ecology	Final ROD was signed July 30, 2018.
10	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		S. Balone	E. Feist	R. Lobos	EPA	The RI and FS have been separated to allow for a potential TI waiver to be pursued. The RI and FS will go to RL and EPA for concurrent review. The RI Draft B is scheduled for review end of August 2018 and the FS Draft B is scheduled for review in November 2018.
11	100-KR-1, 100-KR-2, 100-KR-4 100-K	RD/RAWP	None		TBD TBD	J. Sans	E. Feist	N. Menard	Ecology	In development. Anticipated ready in January 2019
12	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	Continue with preparation of the Draft B RI/FS. Ecology extended comment resolution to March 25, 2019.

Note: Blue text reflects changes from previous quarter. Shading discriminates change in ROD Area Location from adjacent rows.

Information current as of 8/17/2017



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”.
 - Due 3/31/98 (and biennially thereafter).
- M-035-09K DOE is requesting an additional 3 month extension until 12/31/2018

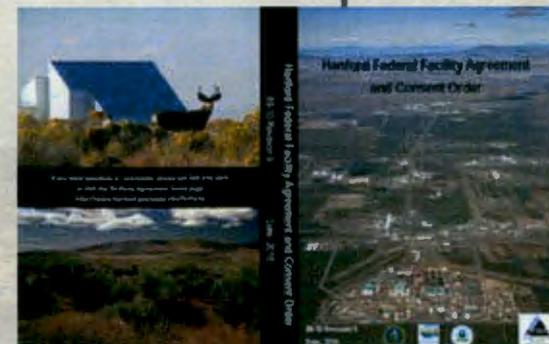


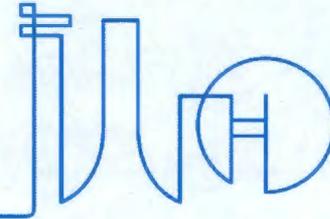
Tri-Party Agreement



Issues and Challenges

- Ecology does not have satisfactory access to operating record files, which are stored in multiple databases including IDMS
- DOE has requested contractors to develop impact assessments associated with developing a mechanism to centralize operating record files
- Ecology will not consider milestone complete until an implementation plan **including schedule** is complete for a centralized operating record repository





PFP Closure Project – June - August 2018

TPA Milestone Series: M-083



PFP workers perform mock-up activities as part of the August 2018 Management Assessment to determine readiness to resume demolition-related activities.



September 20, 2018
U.S. Department of Energy
U.S. Environmental Protection Agency
State of Washington, Department of Ecology



Milestone

Milestone	Due Date	Description	Status
M-083-00	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 2018)

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)
Total	\$989.2	\$976.2	\$1,134.0	(\$13.0)	(1.3%)	(\$157.4)	(16.2%)	\$994.8	\$1,202.3	(\$207.5)

Fiscal Year to Date (Through August 2018)

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 (%)
Total	\$1.3	\$12.6	\$67.7	\$11.3	856.5%	(\$55.1)	(438.4%)



Status: June through August 2018

- New Contamination Area and High Contamination Area boundaries established
- 134 of 234 containers of previously packaged waste shipped
 - Previously packaged waste comprises 90 percent of the material-at-risk
- Plutonium Reclamation Facility rubble remains under at least 18 inches of clean overburden and fixative
- Approximately 40 percent of Main Processing Facility remaining for demolition
- Fixative applied as scheduled

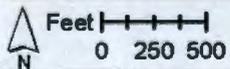
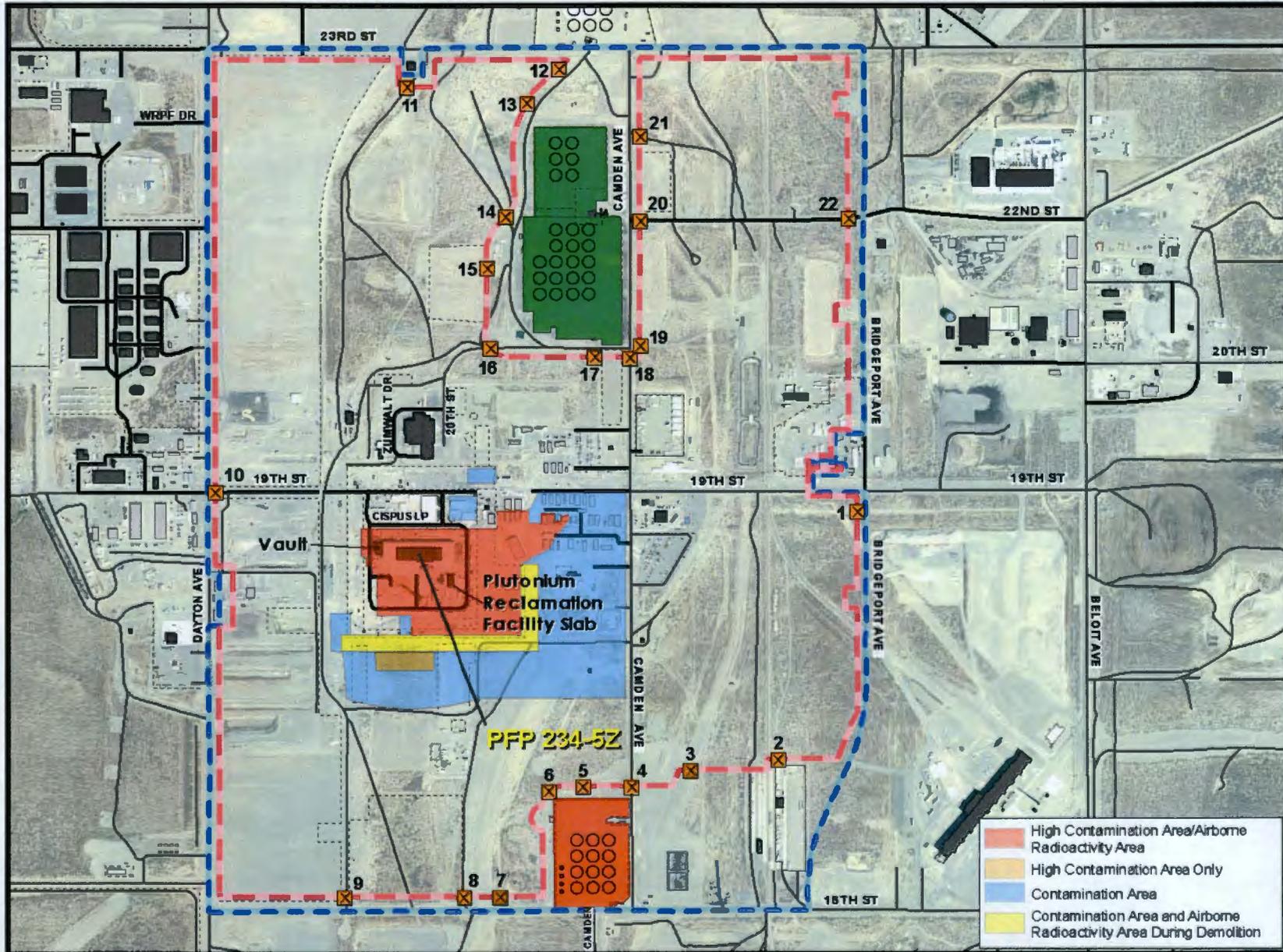


Status: June through August 2018

- Work Resumption Plan complete
- EPA and Ecology lifted stop work for low hazard work in relation to January 9, 2018 “Creation of Danger” Letter
- Management Assessment with DOE oversight completed with three pre-start corrective actions identified
- Demolition will not resume without DOE approval



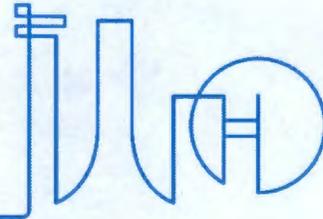
CURRENT RADIOLOGICAL BUFFER AREA AND ACCESS CONTROL BOUNDARY (UPDATED 06/05/18)



- | | | | | | |
|-------------------------|--------------|----------------|------------------|----------|-----------|
| Access Control Boundary | RBA Boundary | Gate Locations | WRPS Managed RBA | Building | Structure |
| WRPS Managed CA | Trailer | Fence | | | |

Map As of 11:13:27 AM 6/5/2018
MSA Central Mapping Services
(Reference Map)

180503_RBA_AccessControlBoundaries_11x85_Rev-6



100K K Basin Operations Project

TPA Milestone Series: M-016

June – August 2018



Columbia River White Bluffs

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



September 20, 2018



K Basin Operations Accomplishments June 2018 – August 2018

ECRTS Startup/Operations Activities

- Transfer of sludge to sludge transport and storage container (STSC) began June 12, 2018. Final transfer completed on June 14, 2018.
- Sludge Transportation System Cask (with initial STSC) was delivered to T Plant on June 25, 2018.
- The first STSC was placed into T Plant Cell 10L on June 27, 2018.
- The second STSC was delivered to T Plant on August 6, 2018. The STSC was subsequently placed into a T Plant Cell for safe storage.
- The third STSC was delivered to T Plant on September 4, 2018. The STSC was subsequently placed into a T Plant Cell for safe storage.



K Basin Operations Accomplishments

- Tri-Party Agreement Milestone M-016-175, “Begin Sludge Removal from 105-KW Fuel Storage Basin” was successfully completed June 12, 2018, well ahead of the milestone due date of September 30, 2018.
- Two (2) STSCs were successfully loaded with 105-KW Basin Sludge in the June/August period.
- A substantial number of the ORR Post-Start Items were completed during this performance period.



Milestone Summary

Milestone	Due Date	Description	Status
M-016-00 Complete Remedial Actions for all Non-Tank Farm & Non-Canyon OUs			
M-016-175	9/30/2018	Begin Sludge Removal from 105-KW Fuel Storage Basin	Complete
M-016-176	12/31/2019	Complete Sludge Removal from 105-KW Fuel Storage Basin	On Schedule

Project Baseline Performance (Contract to date through August 26, 2018)

RL-0012 Spent Nuclear Fuel Stabilization and Disposal	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)	SPI	CPI
Base Total	741.1	739.6	710.2	(1.4)	29.4	745.4	715.8	29.6	1.00	1.04



Planned Activities September - November

K Basin Operations

- Continue Sludge Removal Operations.
- Complete Loading and Transfer of Sludge Transport and Storage Containers 3 - 6.
- Recommission Sludge Transportation System (STS) #2 following Lid Replacement and Annual Leak Test/Maintenance.
- Following execution of T Plant Crane Outage in November, commence utilization to both STS Transporters to facilitate increase sludge removal efficiency.





River Corridor Closure

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

June – August 2018
June 21, 2018



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

Columbia River White Bluffs



ch2m.SM

618-10 Burial Ground

Significant Accomplishments (through August 2018)

- Completed site recontouring.
- Completed site demobilization.
- Formally transmitted the Cleanup Verification Package on August 2, 2018.



Remainder of Fiscal Year 2018 Significant Planned Actions

- Complete 618-10 Burial Ground project closeout activities.
- Transfer the 618-10 Burial Ground complex to the Long Term Stewardship program.



300-296 Soil Removal

Significant Accomplishments (June 2018 through August 2018)

- Removed the first legacy-contaminated equipment from B-Cell.
- Completed debris removal in C-Cell and D-Cell.
- Removed the concrete floor in C-Gallery.
- Began drilling of test micropiles outside the 324 Building.
- Installed the first Remote Excavator Arm (REA) at the Mockup facility.
- Received final shipment of the 324 Building REAs.
- Began excavation of soil to expose Geoprobes for eventual removal.
- Installed temporary lights and cameras in A-Cell and D-Cell.



Micropile drilling outside of 324 Building



Setting upper REA on installation cart at Mockup



300-296 Soil Removal

Significant Planned Actions

- Perform Integrated Testing at Mockup
- Draft the operating instructions for the REA system
- Continue cleanout of B-Cell
- Complete B-Cell Filter Frame Installation Training at the Mockup
- Complete the 60% design review of the Structural Modification Design
- Install the modified rail system in the 324 Airlock
- Award contracts for the waste box grouting system for 324 and the waste box shielding for 324



B-Cell track removal



Transfer mechanism testing at Mockup

100K Closure Project

Significant Accomplishments (through August 2018)

100K Soil Remediation

- Finished backfill of Waste Sites 100-K-103, 100-K-79:9, 1607-K1, and 1607-K5, completing the FY2018 campaign.
- Continued excavation of radioactive waste crib 116-KE-2 which is 72% complete.
- Completed sample collection and analysis and preparation of the draft Remaining Sites Verification Package for closure of Waste Site 100-K-50:2.
- EPA approved the Verification Sampling Instruction (VSI) for Waste Site 100-K-13.
- Received EPA comments on the VSI for Waste Site 100-K-99.



100K Closure Project

Significant Accomplishments (through August 2018)

K West Basin Deactivation & Demolition

- Garnet Filter Media Removal System (GFMRS)
- Integrated Testing:
 - Completed Integrated GFMRS testing. Testing demonstrates the system and production equipment are operating as expected. The test set up will remain in place for the remainder of FY18 to support operations familiarization and procedure development.
- STSC Fabrication:
 - HiLine Engineering successfully completed fabrication of the Overflow Recovery Tools.
 - STSC 425 and STSC 426 assembly is complete. HiLine is preparing the final data packages.
 - STSC 427 assembly continues.
- Garnet Filter Number 3 Sluice Outlet Valve V-305 Risk Mitigation:
 - Effort to resume removing the air operator and manually cycling valve V-305 work by Apollo Construction continues. The current plans are to complete the work before the end of September.



100K Closure Project



STSC Unit #426



STSC Unit
#426



STSC Float Arm & Distribution Header



100K Closure Project

Significant Accomplishments (through August 2018)

K West Basin Deactivation & Demolition

- Sand Filter Media Removal System (SFMRS)
 - Completed the draft SFMRS design requirements document.
 - Completed the draft SFMRS operational system description, currently being reviewed internally.
 - Initiated the ALARA design review, environmental screening, and preliminary hazard analysis.



100K Closure Project

Significant Accomplishments (through August 2018)

K West Basin Deactivation & Demolition

- KW Basin Characterization

- Conducted the first Attila 3-D modeling software training session in which a 3-D model of the K West basin was developed.
- Settled solids Data Quality Objective/Sampling Analysis Plan is in the final review and approval stage.
- Two Viking type A packages were acquired from sample services for use in shipping settled solids samples to the 222S laboratory. Two sample cells were provided to 222S laboratory analysts to act as a mockup to determine how the solids samples will be retrieved and analyzed.
- Conducted checkout of the data and signal continuity of the gamma camera at Building 142-K.
- Completed floor core sampling in K West Basin *Center Bay and West Bay*.
- Shipped K West Basin *East Bay* floor core samples to PNNL, which were received at Building 325.
- Completed 16 basin floor radiation survey measurements in the K West basin *East Bay*. Initial review of data collected indicates that the number of samples collected should be sufficient for subsequent source term analysis.



100K Closure Project

Significant Accomplishments (through August 2018)

Ancillary Facility Deactivation & Demolition

- Continued thermal system insulation asbestos abatement in 165K East Power Control Building (approximately 73 percent complete).
- Resolved DOE comments on DOE/RL-2005-26, *RAWP for 100K Reactor and Ancillary Facilities*.
- Finalized draft of the 100D/H Remedial Action Report.
- Continued planning for 166KE Fuel Storage Basin (FSB) D&D and Waste Site 130-KE-2 remediation.
 - Completed load testing of 166KE FSB roof to confirm safe access for future planning and characterizing of FSB contents



100K Closure Project

Significant Accomplishments (through August 2018)

K East and K West Reactor Interim Safe Storage (ISS)

- Continued the functional design review, and cost estimate update project execution plan update for the installation of the K East Reactor Safe Storage Enclosure
- Began Integrated Systems Testing/Operator training in support of KW Basin Garnet Filter Media Removal



100K Closure Project

Significant Planned Actions (September through November 2018)

100K Soil Remediation

- Complete excavation of radioactive waste crib, Waste Site 116-KE-2
- Start excavation of Waste Site 100-K-47:1

K West Basin Deactivation

- Garnet Filter Media Removal System (GFMRS) and Sand Filter Media Removal System (SFMRS)
 - Finalize and approve design requirements documents for Sand Filter Media Removal
 - Complete the ALARA design review, environmental screening, and preliminary hazard analysis
 - Complete STSC instrumentation installation and overflow recovery tool fabrication



100K Closure Project

Significant Planned Actions (September through November 2018)

- **K West Basin Characterization**

- Obtain packaging and ship *Center Bay* and *West Bay* floor core samples to PNNL for isotopic analysis.
- Complete gamma ray spectrometry surveys of the debris fields in the *Center Bay* and *West Bay*.
- Develop K West Basin Waste Disposition Plan.
- Complete Settled Solids Data Quality Objective/Sampling Analysis Plan and begin settled solids sampling.



100K Closure Project

Significant Planned Actions (September through November 2018)

Ancillary Facility Deactivation & Demolition

- Complete thermal system asbestos removal from the 165K East Power Control Building.
- Develop a preliminary plan for the demolition of the 166K East FSB and remediation of Waste Site 130-KE-2.

K East Reactor ISS

- Finalize planning for the design modification and build of the K East Reactor Safe Storage Enclosure.



Remaining Closure Operations

2018 Significant Accomplishments (through August 2018)

- Continued collecting shrub seeds from various locations around the Hanford Site to support FY2019 re-vegetation efforts (includes 618-10).
- Completed installation of asphalt cap at Waste Site 300-5.
- Completed asphalt cap installation field work and demobilized contractor personnel and equipment at Waste Sites 331LSLT1 and 331LSLST2.



Remaining Closure Operations

Significant Planned Actions (September through November 2018)

- Grow shrub tubelings in support of FY19 618-10 revegetation. The shrubs will be received and planted during the FY19 revegetation effort in the 618-10 area.



Milestone Summary

Milestone	Due Date	Description	Status
M-016			
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	Complete
M-016-85	9/30/2021	Complete remedial actions for 300-296 and final disposition for 324 building and Ancillary buildings	On Schedule
M-016-85A	9/30/2019	Complete remote excavation of the 300-296 waste site	On Schedule
M-016-86	9/30/2021	Complete remedial actions for 618-11 burial ground in accordance with DOE/RL-2014-13-ADD1	On Schedule
M-016-178	12/31/2019	Initiate Deactivation of 105-KW Fuel Storage Basin	On Schedule
M-016-181	9/30/2023	Complete Deactivation, Demolition & Removal of 105-KW FSB	On Schedule
M-089			
M-089-00	TBD	Closure of Mixed Waste Units in 324 building REC B&D cells and High & Low level vaults	On Schedule
M-093			
M-093-28	12/31/2019	Submit Change Package for Proposed Interim Milestones for 105-KE/KW Interim Safe Storage	On Schedule
M-094			
M-094-00	9/30/2018	Complete disposition of all 300 Area Surplus Facilities excluding the 324 Building	Complete



Project Baseline Performance

Contract to Date through August 2018

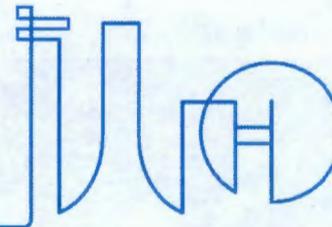
RL-0041 Nuclear Facility D&D River Corridor	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance (\$)	Cost Variance (\$)	Budget at Completion (BAC)	Estimate at Completion (EAC)	Variance at Completion (VAC)
Total	611.4	579.0	519.9	(32.3)	59.2	649.3	586.4	62.9
Numbers are rounded to the nearest \$0.1 million.								



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 ongoing.
 - Review Comment Record (RCR) Ecology Comments/Responses were provided on August 23, 2018. The Parties agreed to establish standing TPA primary document review process meetings every two-weeks, through the end of CY2018.
 - The Parties agreed to place the LDR PMM's on-hold until the end of the TPA primary document review process for the RCR Ecology Comments/Responses.
- The Parties mutually agreed to forego publication of the CY2018 Hanford Site Mixed Waste Land Disposal Restrictions Summary Report while continuing resolution of comments on the CY2014 Report, as resolution of these comments will impact future reporting.
 - Deletion of TPA Milestone M-026-01AC for the CY2018 LDR Summary Report will occur in the near term.



Solid Waste Stabilization and Disposition Project

RL-0013 TPA Milestone Series: M-091, M-026, and M-092

June – August 2018

September 20, 2018



U.S. Department of Energy

U.S. Environmental Protection Agency

State of Washington, Department of Ecology

Columbia River White Bluffs



Accomplishments

June – August 2018

- M-091-47D Certify or Treat 280-m3 of TRUM/MLLW:
 - Waste shipments continue to PFNW.
 - Completed 168.8m3 toward next objective (480 m3 overall achievement since M-091-47D).
- M-091-52:
 - Continued removal of mixed waste containers from Outside Storage Area A and/or Outside Storage Area B in pursuit of Milestone M-091-52-T01B. Six (6) of the ten (10) planned for FY19 have now been removed.
- M-091-53:
 - Continue supporting M-091 TPA negotiations.
 - Development of draft TPA change request.



PRF Strongback Size Reduction and Repackaging at Perma-Fix Northwest (none M-091 waste)



PRF Strongback Size Reduction and Repackaging at Perma-Fix Northwest (none M-091 waste)



M-092-09 and M-092-00

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

- **June – August 2018 Accomplishments**

- M-092 Public Comment period completed.
- DOE, WDOE, and EPA have signed a Tentative Agreement to modify the due dates for milestones M-092-00 and M-092-09.
 - Proposed interim milestone, Milestone M-092-21 will address the movement of the Cs/Sr capsules to a new interim dry storage facility. Target milestones are also proposed to achieve final disposition capability.

- **September – November 2019 Planned Activities**

- Complete and issue the Final Approval Package for M-092
 - A Tentative Agreement was reached and approved on May 7, 2018 as the Parties agreed there was good cause for modifying TPA Major Milestone M-092-00 and Interim Milestone M-092-09. The M-092 Final Approval Package is being delayed as EPA has fundamental issues with the Response to Public Comments document that needs to be addressed and resolved by the RCRA program management which had not been previously discussed with DOE and as of this date have not been communicated to DOE. Based on this delay, DOE is providing notification that the status of TPA major milestone M-092-00 and interim milestone M-092-09 will be changed to “In Abeyance” until the final change control forms (M-92-18-01 and M-92-18-02) can be approved by all Parties



Milestone Summary

Milestone	Due Date	Description	Status
M-091			
M-091-47D	9/30/2018	Submit change request to establish next two TRU/MLLW annual certification/disposal milestones.	In Abeyance
M-091-52	12/29/2017	Submit change request with target dates for new/modified capabilities to process	Complete
M-091-53	9/30/2018	Submit Milestone Change Request to Replace Target Dates for Capabilities to Process TRUM Waste	In Abeyance
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	On Schedule
M-091-03M	6/30/2019	Submit Revision of TRUM Waste and MLLW PMP to Ecology	On Schedule
M-092			
M-092-00	9/30/2018	Acquire Facilities for Cs/Sr, Na & SCW	In Abeyance
M-092-09	9/30/2018	Establish Milestones and/or Target Dates for Sodium Facilities	In Abeyance
M-026			
M-026-07D	3/31/2019	Evaluation of Tritium Treatment Technology to EPA & Ecology	On Schedule



Project Baseline Performance through August 2018

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)
Total	730,729.2	728,088.3	660,011.7	(2,640.8)	-0.4%	68,076.7	9.4%	737,054.1	667,869.4	69,184.6

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
Central Waste Complex	104,088.0	104,072.0	103,086.4	0.0%	0.9%
Waste Receiving and Processing Facility (WRAP)	52,989.6	52,989.6	50,982.9	0.0%	3.8%
T-Plant	125,396.6	125,278.4	105,740.9	-0.1%	15.6%
Mixed Low Level Waste Treatment	43,182.5	43,182.5	37,200.3	0.0%	13.9%
TRU Waste Retrieval	99,991.6	99,991.6	112,253.3	0.0%	-12.3%
TRU Waste Repackaging	105,226.3	104,814.7	95,182.2	-0.4%	9.2%
TRU Waste Disposition	33,038.4	32,994.3	24,250.1	-0.1%	26.5%
Project Management	166,816.2	164,765.2	131,315.5	-1.2%	20.3%

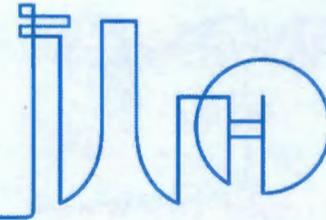


Planned Activities

September – November 2018

- M-091-47D TRUM/MLLW Treatment
 - Met volume processed, August 8, 2017. Issue the TPA milestone completion letter along with the required TPA change proposal to establish the next two annual interim milestone objectives.
 - Continue waste processing toward next objective.
- M-091-52
 - Continue removing mixed waste containers from OSA A and/or OSA B in support of M-091-52-T01
 - Continue progress towards M-091-52-T02 to development of an Interim Response Action to resume waste retrieval in support of M-091-49A.
- M-091-53
 - Continue negotiations.
 - Continue analysis and draft TPA change request.





Central Plateau Remediation Project

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

June – Aug 2018
September 20, 2018



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

Columbia River White Bluffs



PUREX Tunnel # 2 Stabilization Accomplishments

June 2018 through August 2018

Site Improvements:

- Completed road upgrades for safe access during grouting operations and cleared area for mobile batch plant site.
- Installed temporary trailers and completed power drop and energization at IDF for batching operations.

Conveyance System

- Performed load testing of conveyance system per design specifications and completed off-site mockups for component (ball joint) functionality, grout flow ability and riser installation.
- Fabricated all 7 conveyance system units, HEPA skid, and supplemental lighting.
- Installed conveyance system insertion device on six pre-selected tunnel #2 risers in preparation of grout placement.

Power Upgrades for Batch Plant



Installation of conveyance system insertion device on PUREX Tunnel #2 Riser



PUREX Tunnel # 2 Stabilization Accomplishments

June 2018 through August 2018

- Awarded Grout Stabilization Contract on July 9th, 2018. Submitted batch plant layout and traffic control plan
- Mobilized crew and equipment including 100 ton crane and two man lifts
- Demonstrated grout mix performance offsite
- Completed erection of mobile batch plant on-site and installed power feed.
- Conducted batch plant start up and onsite trial batch
- Stockpile grout material at batch plant site



Offloading grout material onsite



Set-up of mobile batch plant supplied by grout contractor

ch2m:
RL-40

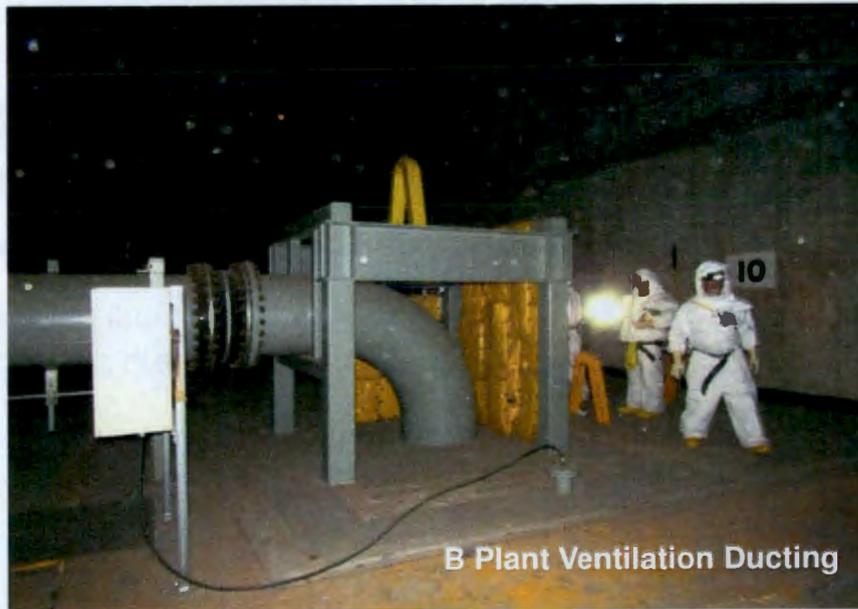
Central Plateau Risk Reduction Accomplishments

June 2018 through August 2018

- Performed three B Plant Canyon entries to investigate elevated dose rates at filters. First entries into Canyon since 1998.
- Completed demolition and load out of 222-B to clear footprint near B Plant.
- Performed 242-B/BL, 216-Z-9, and REDOX annual surveillances.



Inside B Plant Canyon



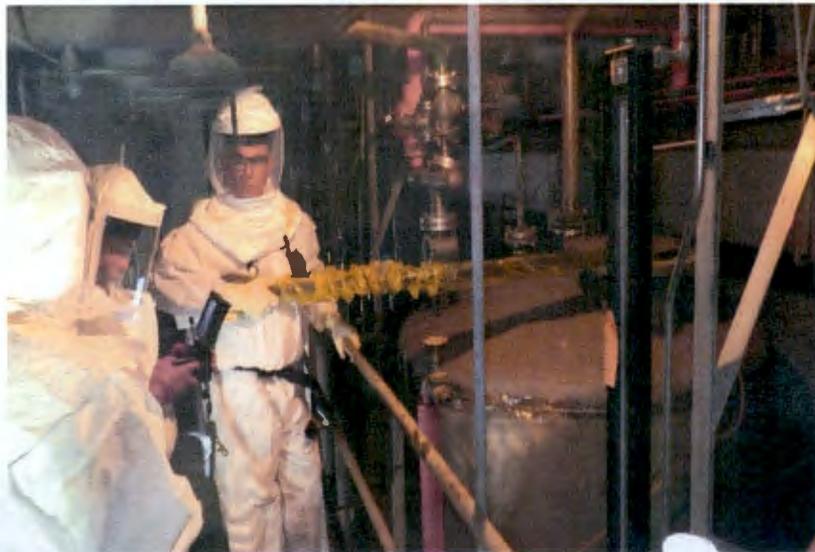
B Plant Ventilation Ducting



Other Facilities Accomplishments

June 2018 through August 2018

- Performed application of waterproof coating on PUREX Tank 30 to mitigate Potential Asbestos Containing Material.
- Performed Ultrasonic testing and interrogation of REDOX Silo tanks in preparation for the draining risk mitigation campaign.



Visual inspection of internal tank configuration in REDOX Silo



PUREX Tank 30: Before and After application of coating

Accomplishments

June 2018 through August 2018

Canyon Stabilization Documents

- Submitted to Regulators:
 - DOE/RL-2016-46 Tier 2 B Plant Removal Action Work Plan (RAWP), Rev 0
 - DOE/RL-2016-14 B Plant Engineering Evaluation/Cost Analysis (EE/CA), Draft B
 - DOE/RL-2017-05 REDOX Sample Analysis Plan (SAP), Draft C
 - DOE/RL-2016-52 REDOX Action Memorandum (AM), Draft C
 - DOE/RL-2015-70 276-BA Closure Plan
 - Proposed permit modifications for PUREX Tunnel #2 stabilization.
- Received from CHPRC:
 - DOE/RL- 2017-45 Tier 2 B Plant SAP, Decisional Draft
- In Development Nearing Completion:
 - DOE/RL-2016-47 Tier 2 PUREX RAWP
 - DOE/RL-2017-06 REDOX RAWP, Draft A for RL Review



Milestone Summary

Through FY19

Milestone	Due Date	Description	Status
M-016-00 Complete Remedial Actions For All Non-Tank Farm & Non-Canyon OUs			
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	In negotiation
M-016-250C	3/31/2018	DOE shall submit a 3-year rolling prioritized schedule to implement waste site removal actions	Complete 3/29/18
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	In negotiation
M-037 TSD Closure Activities			
		Milestones due past 3 year window	
M-085-00 Complete Response Actions for Specified Canyon Facilities & Waste Sites			
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



Project Baseline Performance through August 2018

Contract to Date

BS 040/RL-0040 Nuclear Facility D&D	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)	SPI	CPI
BASE	205.9	200.2	196.9	-5.7	3.3	249.9	245.0	4.9	0.97	1.02
ARRA	285.5	285.5	266.5	0	19.0	285.5	266.5	19.0	1.00	1.07
Total	491.4	485.7	463.4	-5.7	22.3	535.5	511.5	23.9	0.99	1.05

Numbers are rounded to the nearest \$0.1M



Planned Activities for Facilities and Waste Sites

September – November 2018

Minimum Safe/Maintenance Activities

- Complete Annual B Plant Surveillance
- Complete fourth B Plant Canyon Entry to investigate and likely adjust ventilation dampers
- Reduce B Plant Stack flow rate to 14,000 CFM
- Complete investigative REDOX Canyon Entry
- Install remainder of PUREX Tunnel #2 grout conveyance system
- Complete validation of batch plant functionality
- Complete onsite batch plant grout flowability test
- Be prepared to stabilize PUREX Tunnel #2
- Complete the Semi-Annual PACM (Presumed Asbestos Containing Material) WIDS sites surveillance.
- Initiate Steamline Crossover removals



Planned Activities

September through November 2018

Canyon Stabilization Documents

- Ecology approvals:
 - None
- RL/Ecology Reviews:
 - DOE/RL-2016-52 REDOX Action Memorandum (AM), Draft C
 - DOE/RL-2017-05 REDOX Sample Analysis Plan (SAP), Draft C
 - DOE/RL-2017-06 REDOX RAWP, Draft A
 - DOE/RL-2016-15 PUREX EE/CA, Draft B
 - DOE/RL-2016-47 Tier 2 PUREX Removal Action Work Plan (RAWP)
 - DOE/RL-2016-46 Tier 2 B Plant RAWP
 - DOE/RL-2016-14 B Plant EE/CA, Draft B
 - DOE/RL-2017-34 224 B Plant RAWP, Decisional Draft
 - DOE/RL-2017-33 224 B Plant SAP, Decisional Draft
 - DOE/RL-2015-70 276-BA 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 20, 2018

1. Significant Activities Last Three Months

- The draft 2019 Lifecycle Report was prepared and submitted to DOE for review on August 30, 2018.
- Lifecycle Report Project Manager Meetings (PMM) were held on June 13 and September 13, 2018.

2. Budget Status (within budget or explain variance)

- Not documented for this milestone per IAMIT Determination 2017-004 dated March 15, 2018.

3. Issues

- No major issues identified.

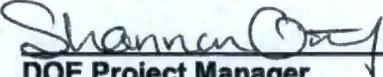
4. Non-TPA Regulatory Issues with Potential Impact to TPA Milestone

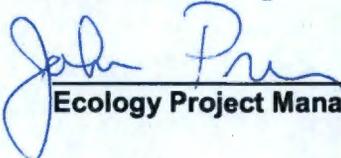
- No major issues identified.

5. Significant Activities Planned Next Three Months

- DOE review of the draft 2019 Lifecycle Report by October 31, 2018.
- Prepare final 2019 Lifecycle Report by December 31, 2018 for DOE submittal by the milestone due date of January 31, 2019.

Note: Approved form to be submitted to IAMIT members 7 days prior to scheduled Milestone Review.


DOE Project Manager


Ecology Project Manager


EPA Project Manager