

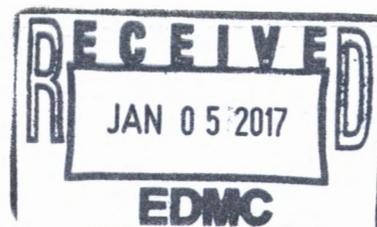
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# Environmental Administrative Record Cover Sheet

Subject: TPA Central Plateau/River Corridor Quarterly Milestone Review  
Date: 12/15/16

## Comments:

Due to inclement weather, the 4<sup>th</sup> Quarter TPA Central Plateau/River Corridor Milestone Review was canceled, resulting in no meeting minutes.





# *PFP Closure Project*

## *TPA Milestone Series: M-083*

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

4<sup>th</sup> Quarter FY 2016  
December 15, 2016



# Milestone

Milestone	Due Date	Description	Status
M-083-00	9/30/2017	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. Note: Also See "Description/Justification" Contained In Change Form M-83-01-03.	On Schedule

## Accomplishments 4<sup>th</sup> Quarter 2016

- Declared 236Z criticality incredible
- Disconnected 236Z ventilation system
- Completed 236Z 6<sup>th</sup> floor roof openings
- Removed 236Z filter box 50 and Glovebox 42 by crane
- Grouted 236Z pipe trench and crossover exhaust duct



Removal of Glovebox 42

## Accomplishments 4<sup>th</sup> Quarter 2016

- Demolished 2727Z and 2729Z buildings
- Initiated Readiness Assessment for demolition activities
- Continued with PRF canyon clean-up, characterization and painting with fixative
- PPE reduced from level B to level C (PAPR); level B supplies and infrastructure retired



Demolition of 2729Z

## Accomplishments 4<sup>th</sup> Quarter 2016

- Continued abatement of asbestos, removal of E4 ducting, and removal of process vacuum lines
- Issued final report documenting that radiolytic gas generation from J Pan waste is complete; waste drums closed and prepared for CWC storage



E-4 Size Reduction

# Project Baseline Performance

## Contract to Date (Through September 2016)

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>	\$964,930	\$915,291	\$945,137	(\$49,639)	-5.1%	(\$29,845)	-3.2%	\$979,501	\$1,036,098	(\$56,597)

## Fiscal Year to Date (Through September 2016)

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>	\$101,460	\$79,040	\$102,341	(\$22,419)	-22.0%	(\$23,300)	-29.4%

# Issues/Challenges

## Regulatory (*heads up*)

- *Rev. 0 of SAP for Slab Removal planned to be transmitted in December 2016*
- *Draft Addendum to the RAWP for use of temporary exhausters planned to be transmitted in December 2016*
- *TPA change notices for the RAWP and Action Memo for PFP waste storage at CWC*

## Non-Regulatory

- *Cutting of refrigerant line during demolition prep for 2727Z*
- *Discovery of energized circuit during electrical isolation of 236Z*
- *Worker felt electrical shock while using hand held Ludlum monitoring equipment*

## Planned Activities Through March 2017

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### 236Z (PRF)

- Remove select gloveboxes and other items prior to demolition
- Finish demolition punch-list and pre-start items
- Complete Ready for Demolition Checklist and walk down
- Issue Readiness Assessment Report and obtain decision to authorize demolition of 236Z to commence
- Initiate demolition

### 242Z (Americium Facility)

- Complete pre-demolition activities
- Complete Ready for Demolition Checklist and walkdown
- Initiate demolition

# Planned Activities Through March 2017

## 234-5Z (RMA/RMC and Backside Rooms)

- Relocate residents
- Continue with removal of ventilation and process piping and ducts
- Prepare tunnels for demolition activities
- Drain waterwalls
- Remove process support equipment
- Prepare for removal of large glove boxes and protection of remaining glove boxes
- Continue with removal of asbestos and hazardous materials
- Achieve criticality incredible

## 234-5Z (Duct Level)

- Drain remaining chemical lines
- Continue with removal of asbestos and hazardous materials
- Continue with removal of E3/E4 exhaust systems, filters, and filter boxes
- Continue with removal of 26 inch vacuum line and appurtenances
- Clean out of filter rooms

## 291Z

- Remove 26 inch vacuum line
- Remove 291Z filter boxes
- Characterize facility
- Remove asbestos and other hazardous materials
- Prepare for demolition

# PFP Timeline and Sequence



Expected Start Date  
 236Z – November  
 242Z – December  
 234-5Z – March  
 291Z - March

## Demolition Sequence

1	236Z Plutonium Reclamation Facility	3	234-5Z Plutonium Finishing Plant
2	242Z Americium Recovery Facility	4	291Z Ventilation Stack and Fan House



# 100K Sludge Removal Project

TPA Milestone Series: M-016 and M-093

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

4<sup>th</sup> Quarter FY 2016  
December 15, 2016



**ch2m**<sup>SM</sup>



# Accomplishments

## 4<sup>th</sup> Quarter 2016

### MASF Preoperational Acceptance Testing (MPAT)

- Completed Engineered Container Retrieval and Transfer System (ECRTS) Cold Commissioning Testing at MASF
- Disposition of Testing Deficiency Reports (TDRs)
  - 160 of 160 TDRs are closed. Five TDRs defer confirmation of deficiency resolution to the K Basin Preoperational Acceptance Test (KPAT) scope.
  - Initiated shipments of equipment from MASF to KW Basin/Annex to allow construction team to begin installation.



Inspecting STSC Vessel for Cleanliness



Reinstalling STSC Top Flange



ECRT-PNL-201 Being Loaded for Delivery to 100K Area

# Accomplishments

4<sup>th</sup> Quarter 2016

## Sludge Removal Project *(continued)*



STSC 411 and STSC 413 Staged for Delivery Following Successful AVS Source Inspection



ECRTS Production Hardware in the Hands of Construction Personnel & Headed for 100K Area



XAGO Pump Skid Being Loaded at MASF for Delivery to 100K Area



Decant Box Being Rigged into Place



Completed Setting Sand Filter Shielding Box

# Accomplishments

## 4<sup>th</sup> Quarter 2016

### Equipment Installation

#### • Annex

- Placed Sand Filter in Sand Filter Shielding Assembly and continued activities (concrete wall scans and scaffolding) in support of completion of this equipment installation.
- Staged eight of the nine pieces of the Mezzanine Equipment (Decant Box and Lift Fixture, electrical panels, Panel 302/401/202, Overfill Recovery Pump, and Flocculant Skid).
- Completed shop fabrication of air spool modifications and tool shelf frame.
- Initiated shipments of equipment from MASF to KW Basin/Annex to allow construction team to begin installation.

#### • In Basin

- Completed installation of Booster Pump rail system.
- Completed setting and anchoring the XAGO Pump Skid and Flocculant Skids for East and Center Bay.
- Installed ion exchange module (IXM) Pipe, IXM Decant Filter Rack and connected supplied hoses for Decant.

#### • T-Plant

- Completed Relocate NLOP Equipment in T-Plant.
- Installed levelling frame and pulled the data cable into Cell 14R, in support of the Leak Detection System electrical installation.
- Completed Water Addition System work scope.
- Completed National Electric Code (NEC) inspections and received a fully executed Electrical Installation Permit.



**Aligned, Shimmed, Anchored the Sand Filter Shielding Box and Installed Base Plate**



**Completed Setting and Anchoring the XAGO Pump Skid and Floc Skid in the Basin**

# Accomplishments

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## 4<sup>th</sup> Quarter 2016

### Basin Operations

- Work continues to relocate high dose debris material in the KW Basin Center Bay
- Preparations continue for IWTS garnet filter sluice outlet valve test in support of garnet filter media system removal design

# 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-016-177	9/30/2017	Complete 105-KW sludge transfer equipment installation	On Schedule
M-016-175	9/30/2018	Begin Sludge Removal from 105-KW Fuel Storage Basin	On Schedule
M-016-176	12/31/2019	Complete sludge removal from 105-KW Fuel Storage Basin	On Schedule
<b>M-093-00 Complete Final Disposition of all 100 Area Surplus Production Reactor Buildings</b>			
M-093-28	12/31/2019	Submit Change Package for Proposed Interim Milestones for 105-KE/KW Reactor Interim Safe Storage	On Schedule

# Project Baseline Performance

(Contract to date through September 2016)

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
<b>Base Total</b>	622.7	623.7	597.6	1.0	26.1	737.1	710.4	26.6	1.00	1.04

# Planned Activities

October 2016 – March 2017

## Equipment Installation and Testing

- Complete installation of sludge transfer equipment (M-016-177) and initiate KW Basin/Annex pre-operational acceptance test (KPAT).

## T-Plant Construction

- Complete T-Plant facility modifications for sludge storage.

## Other Activities

- Obtain approval on the following safety documentation: 105-KW Integrated DSA/TSR, One Time Request for Shipment (OTRS) and Master Documented Safety Analysis (MDSA) Rev. 12.
- Complete iron contamination causal analysis and implement corrective actions.



# River Corridor Closure - RL-41

Milestone Review M-016, M-089, M-094

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

4th Quarter FY 2016  
December 15, 2016



# 618-10 Burial Ground

## 4<sup>th</sup> Quarter FY2016 Significant Accomplishments

- RCCC Transition to CHPRC completed on August 29, 2016, with no significant issues or delays.
- Completed the External Independent Review (EIR) with DOE-HQ on September 16, 2016 with no significant findings.
- 49 of 80 VPU LLW Retrievals Complete.
- Continued preparations and mockups for 14 Steel VPU Retrievals.
- 116 additional drums retrieved and characterized; 1,902 to date.
- 31 additional drums grouted; 1,711 to date.

## 1<sup>st</sup> Quarter FY2017 Significant Planned Actions

- Issue Final “Due Diligence” Rad survey report on 618-10 Burial Ground.
- Complete drum retrieval, dependent on extent of drums discovered.
- Initiate Steel VPU retrieval.

# 300-296 Soil Removal

## 4<sup>th</sup> Quarter 2016 Significant Accomplishments

- Continue progress on design completion with near-term focus on preparing the mock-up for equipment installation. Equipment drawings and specifications are being prepared for procuring equipment
- Continue the design for structural reinforcement to the 324 Building
- Completed underground scanning to support the following: North Access design, Construction Trailer Placement for 324 Building, and Project Trailer placement for the Mockup Facility. Completed City of Richland permit application for infrastructure upgrades at the Mock-Up facility

## 1<sup>st</sup> Quarter 2017 Significant Planned Actions

- Complete North Access design to support planned Design Review in early Quarter 2 FY 2017
- Complete design for the Mockup Facility and 300 Area Trailer Infrastructure to support planned team growth
- Update key documents (Accident Analysis for soil spill and Fire Hazard Analysis) to support project schedule objectives
- Initiate the procurement process for key mockup systems

# 100K Closure Project

## 4<sup>th</sup> Quarter 2016 Significant Accomplishments

### 100K AB Waste Area Site Remediation

- Completed excavation of 18 chemical waste sites, including the demolition of the sedimentation basin south wall (waste site 100-K-101) and the disposal of approximately 140,000 tons of contaminated soil and concrete at ERDF
- Verification Sample instructions for waste sites 126-KE-2, 100-K-14, 100-K-50 and 1607-K2 approved by EPA
- EPA approved closure of waste site 100-K-105



# 100K Closure Project

## 4<sup>th</sup> Quarter 2016 Significant Accomplishments (continued)

### 165-KE Power House Asbestos Abatement

- Lower boiler room Negative Pressure Enclosure (NPE) installation completed

### 100K Minimum Safe Activities

- Nothing to report.

## 1st Quarter FY2017 Significant Planned Actions

### 100K AB Waste Site Area Remediation

- Close out waste sites 100-K-25, 100-K-27, 100-K-35, 100-K-50, 100-K-79, 100-K-98, 120-KE-1, 120-KE-2, 120-KE-3, 120-KE-4, 120-KE-5, 120-KE-6, 120-KE-9, 100-K-14, 126-KE-2, 1607-K2, and 100-K-101 in Waste Site Area AB
- Begin excavation of waste site 100-K-103 in 100K Waste Site Area AF

### 165-KE Asbestos Abatement

- Lay the building up for winter conditions



165-KE Entrance



165-KE NPE

# Remaining Closure Operations

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## 4<sup>th</sup> Quarter 2016 Significant Accomplishments

### Revegetation at 100-N, 100-D/H, and 300 Areas

- Received and reviewed WCH revegetation contract documentation
- Developed SOW and issued contract for FY17 grass seed
- Held a kickoff/planning meeting with revegetation contractor

## 1<sup>st</sup> Quarter 2017 Significant Planned Actions

### Revegetation

- Develop the FY17 SOW and prepare to issue an updated revegetation contract
- Develop the revegetation work package and associated permits
- Decompact sites soils to facilitate revegetation
- Complete most of the revegetation activities at the five FY17 sites (100-N-83, 100-N CTA and Trailer Area, 100-D Trailer Area, 600-385 and 300-288:2 CTA)

# 324 Minimum Safe Activities

## 4<sup>th</sup> Quarter 2016 Significant Accomplishments

- Closed all RCCC Transition Post Starts (84)
- Completed ConOps assessment interviews and document reviews
- Completed EP-901 and EP-902 Cleanout activities

## 1<sup>st</sup> Quarter 2017 Significant Planned Actions

- Progressing infrastructure design at 324 Mockup facility site



*324 - Removal of Zone I Exhaust Fan EP-975 Assembly from fan housing and transport to WESF for shaft/bearing replacement*

# Milestone Summary

Milestone	Due Date	Description	Status
<b>M-016</b>			
M-016-00A	3/31/2017	Complete all response actions for the 100 Areas units (except groundwater actions and 100 K response actions) by the specified due date as approved in RD/RAWP.	On Schedule
M-016-00B	9/30/2018	Complete all 300 Area remedial actions including the 618-10 burial ground, but not including 618-11 burial ground, 300-296, and sites associated with retained 300 Area facilities and utility corridors.	On Schedule
M-016-164	3/31/2017	Complete 100-N interim response actions and close 100-N ancillary facilities area of contamination	On Schedule
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
<b>M-089</b>			
M-089-00	TBD	Closure of Mixed Waste Units in 324 building REC B&D cells and High & Low level vaults	On Schedule
<b>M-094</b>			
M-094-00	9/30/2018	Complete disposition of all 300 Area Surplus Facilities excluding the 324 Building	On Schedule

# Project Baseline Performance

Contract to Date Through September 2016

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)
<b>Total</b>	<b>348.3</b>	<b>356.5</b>	<b>319.1</b>	<b>8.1</b>	<b>37.4</b>	<b>519.8</b>	<b>467.0</b>	<b>52.8</b>

Numbers are rounded to the nearest \$0.1 million.



*Solid Waste Stabilization and  
Disposition Project RL-0013  
Milestone Review*  
M-091, M-026, M-092

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

4<sup>th</sup> Quarter FY 2016  
December 15, 2016



# Accomplishments

## 4<sup>th</sup> Quarter 2016

- M-091-47C Certify or treat 280 m<sup>3</sup> of TRUM/MLLW:
  - Shipped all waste to PFNW needed to meet this milestone.
  - 215 m<sup>3</sup> has been completed and returned.
- M-091-47D Certify or treat 280 m<sup>3</sup> of TRUM/MLLW:
  - Initiated shipments of waste to PFNW that will count toward this Milestone.
- M-091-03 Annual Revision of Project Management Plan:
  - Submitted to Ecology on 9/14/2016.
- M-091-51 Engineering Alternative Study:
  - Submitted to Ecology on 9/28/2016.



Contents of retrieved TRUM box being size reduced and repackaged at PFNW (PIN 090808W4BT7-1)

## M-092-05

Determine disposition path and establish interim agreement milestones for Hanford Site Cs/Sr capsules.

- 4<sup>th</sup> Quarter FY2016 Accomplishments
  - Prepared contract for cask storage system design fabrication
  
- Planned Activities October-March 2017
  - Issue contract for design and fabrication of Cs/Sr casks (*signed November 2, 2016*)
  - Draft report on assessing viability of disposal

# Milestone Summary

Milestone or Target Date	Due Date	Description	Status
<b>M-091</b>			
M-091-47C	9/30/2017	Certify or treat 280 cubic meters of TRUM/MLLW waste	On Schedule
M-091-47D	9/30/2018	Certify or treat 280 cubic meters of TRUM/MLLW waste	On Schedule
M-091-51	9/30/2016	Submit secondary document for new or modified facilities to process all Hanford Site RH TRUM waste	Complete
M-091-03K	6/30/2017	Submit Revision Of TRUM Waste And MLLW PMP To Ecology	On Schedule
M-091-52	9/30/2017	Submit change request with target dates for new/modified capabilities to process TRUM waste	On Schedule
M-091-03L	6/30/2018	Submit Revision Of TRUM Waste And MLLW PMP To Ecology	On Schedule
M-091-53	9/30/2018	Submit milestone change request to replace target dates for capabilities to process TRUM waste	On Schedule
M-091-03M	6/30/2019	Submit Revision Of TRUM Waste And MLLW PMP To Ecology	On Schedule
<b>M-026</b>			
M-026-07D	3/31/2019	Evaluation of Tritium Treatment Technology to EPA & Ecology	On Schedule
<b>M-092</b>			
M-092-05	6/30/2017	Determine Disposition Path and Establish Cs/Sr Interim Milestones.	On Schedule

# Project Baseline Performance

Through September 2016

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>	1,091.1	1,093.1	1,023.1	2.0	0.2%	70.0	6.4%	1,341.2	1,289.5	51.7

Numbers are rounded to the nearest \$0.1 million.

## Project Baseline Performance Contract to Date through September 2016

Dollars in Thousands

Title	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance	Cost Variance
Central Waste Complex	80,176.7	80,137.7	76,540.3	0.0%	4.5%
Waste Receiving and Processing Facility (WRAP)	44,782.5	44,782.5	42,403.0	0.0%	5.3%
T-Plant	94,351.4	93,600.3	74,940.7	-0.8%	19.9%
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	74,972.5	82,355.7	73,865.9	9.8%	10.3%
TRU Waste Disposition	30,934.4	30,934.4	22,345.0	0.0%	27.8%
Project Management	131,937.0	130,435.9	110,441.5	-1.1%	15.3%

## Planned Activities

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### October – December 2016

- Initiated work on the M-091-52 Engineering Analysis.
- Complete M-091-47C (Certify or Treat 280 cubic meters of TRUM/MLLW waste).
- Continue shipping TRUM waste to PFNW that will count toward M-091-47D
  - Waste package Z7610-210 scheduled to ship to PFNW for repackaging in January 2017.
- Initiate work on M-026-07D (Evaluation of Tritium Treatment Technology).



# Central Plateau Remediation Project RL-40

Milestone Review M-016, M-037, M-085

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

4th Quarter FY 2016  
December 15, 2016



# Accomplishments

## 4<sup>th</sup> Quarter 2016

- Completed B Plant Surveillances.
- Completed PUREX Stack System repairs.
- Completed demolition REDOX ancillary buildings 2710S, 2711S and 2718S.
- Completed demolition of 275-EA.



*Pre Demo of 2718S*



*Post Demo of 2718S*

# Accomplishments

- 4<sup>th</sup> Quarter 2016
- Completed removal of 2 REDOX North Sample Gallery Pu Bags.
- Commenced mobilization for the REDOX Roof Replacement; continued planning in support of roof removal activities; continued the removal of ground interferences North of REDOX (Power poles, Waste containers, 120v power supply).



West  
REDOX  
Pu Bag  
Before



West  
REDOX  
Pu Bag  
After

# Accomplishments

## 4<sup>th</sup> Quarter 2016

### Canyon Stabilization Documents

- PUREX Fire Hazard Analysis in review.
- PUREX North Closure Plan comment review period ended.
- 276BA Closure Plan comment resolution continued; meetings held with Ecology to review RCR.
- Removal Action Work Plan (RAWP) for 276-BA, 222-B, and 2716-B; Draft A sent to Ecology for review.
- RAWP for PUREX ancillaries (203-A and 211-A) Decisional Draft in review.
- EE/CA for REDOX sent to EPA for review.
- Preparing Removal Action Work Plan (RAWP) for 242-B/BL and 276C.

### Additional Work

- Initiated deactivation planning at REDOX (silo, north sample gallery).
- Addressed immediate site access restrictions at WIDS Site #216Z 1 & 2 to address cave in.



216-Z-1 Cave In

# Milestone Summary through FY19

Milestone	Due Date	Description	Status
<b>M-016-00 Complete Remedial Actions For All Non-Tank Farm &amp; Non-Canyon OUs</b>			
M-016-250b	3/31/2017	Develop a three year rolling prioritized schedule consistent with site-wide clean-up priorities to implement waste site removal actions	On Schedule
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	On Schedule
<b>M-037 TSD Closure Activities</b>			
		Milestones due past 3 year window	
<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.	On Schedule
M-085-74	6/30/2018	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 B Plant Geographic Area listed in HFFACO Appendix J.	On Schedule
M-085-80A	9/30/2017	Submit to Ecology as a secondary document a data quality objectives report to assess the structural integrity of the PUREX storage tunnels 1 and 2.	On Schedule

# Project Baseline Performance

## Contract to Date Through September 2016

### 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
Total	425.5	422.0	390.1	-3.4	31.9	472.3	444.3	28.1	.99	1.08

Numbers are rounded to the nearest \$0.1M

# Planned Activities

October – March 2017

## Minimum Safe/Maintenance Activities

- Replace Motor Mounts for B-Plant fans.
- Perform PUREX Annual Surveillance.
- Perform REDOX Annual Surveillance.
- Complete U Plant Annual Surveillance (support T-Plant entry into canyon to identify usable crane parts).
- Change pre-filters at B Plant.
- Change PUREX ventilation system HEPA filters.



*B Plant Pre-filters*

# Planned Activities

## October – March 2017 (Continued)

### Nuclear Safety

- Support planning and preparations for further REDOX deactivation work, including initial planning for new Hazard and Accident Analyses for North Sample Gallery and Silo (clean areas) cleanout activities in 2017.
- Support development and submittal of B Plant Documented Safety Analysis Annual Update – includes development and issue of hazard categorization documentation (to < HC-3) for several B Plant ancillary facilities to allow for D&D in the coming year.
- Continue support for ongoing Nuclear Safety and Un-reviewed Safety Question reviews of design and work documents.

### 207A South Retention Basin Closure

- Ecology approval of permit modification request received.
- Complete permit closure activities for 207A South
  - Backfill
  - Submit VSP Data Analysis Report
  - Submit IQRPE
  - Submit Change request based on approval of the previous two items.



207A  
Backfilled

# Planned Activities October – March 2017 (Continued)

## Canyon Stabilization Documents

- Submit REDOX proposal (EE/CA) to EPA and EPA approval
- Public Comment Period for REDOX EE/CA (Dec 2016-Jan 2017)
- Submit B-Plant proposal (EE/CA) to Ecology for approval (M-085-74 completion)
- Ecology issues a final permit for 276BA Closure Plan
- Ecology completeness determination for the PUREX North Closure Plan.
- Issue PUREX FHA
- Ecology approval of B-Ancillary RAWP and PUREX North RAWP

## Other Work

- Initiate B Plant Ancillary Facility demolition planning.
- Initiate REDOX roof replacement.
- Initiate replacement of PUREX Ventilation sample system.



REDOX Roof



# *Soil and Groundwater Remediation Project Milestone Review*

M-015, M-016, M-024, M-085

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

4<sup>th</sup> Quarter FY 2016  
December 15, 2016



# Accomplishments

## 4<sup>th</sup> Quarter 2016

### River Corridor

- Documents

- Issued 100-HR-3 OU interim action RD/RAWP Rev 0, O&M plan Rev 0, and SAP Rev 0
- Resolved EPA comments on draft 100-KR-4 OU interim action RD/RAWP, O&M Plan, and SAP
- Issued 100 D/H Proposed Plan and completed public review
- Initiated finalization of the Draft A 100-BC-5 RI/FS and PP

- Field Activities

- Completed six 100-NR-2 OU monitoring wells
- Completed three 100-KR-4 OU and eight 100-HR-3 OU wells to support pump-and-treat operations
- Completed aquifer testing in the 100-HR-3 OU Ringold Upper Mud unit
- Initiated D&D of the 100-NR-2 pump and treat facility and piping



Well drilling at 100-NR-2 Operable Unit.

# Accomplishments

## 4<sup>th</sup> Quarter 2016

### Central Plateau

- Documents
  - Issued Rev 1 200-SW-2 RFI/CMS&RI/FS Work Plan
  - Issued Rev 0 200-DV-1 RFI/CMS&RI/FS Work Plan
  - Received EPA's approval of Rev 0 200-PW-1 SVE Response Action Report, completing the remedial action
  - Issued 200-BP-5 Treatability Test Report
  - Initiated preparation of the 200-EA-1 RI/FS work plan
  - Completed evaluation of the dangerous waste units (i.e., green islands) within 200-SW-2 OU footprint
- Field Activities
  - Completed 12 200-DV-1 characterization boreholes, bringing the total to 22 for FY16
  - Completed hydraulic testing of perched water at 200-DV-1



Worker performing maintenance at 200 West Pump and Treat Facility.

# Milestone Summary through FY19

Milestone or Target Date	Due Date	Description	Status
<b>M-015-00</b>			
M-015-112	2/28/2014	Submit Draft B 200-IS-1 RF/CMS/R/F/S Work Plan to Ecology with Schedule Dates	Dispute Resolution
M-015-79	12/15/2016	Submit CERCLA Remedial Investigation/Feasibility Study Report & Proposed Plan for 100-BC-1/2/5	On Schedule
M-015-92A	9/30/2017	Submit RCRA F/CMS & R/F/S Work Plan for 200-EA-1 OU to Ecology	On Schedule
M-015-21A	6/30/2018	Submit 200-BP-5 and 200-PO-1 OU FS Report & PP(s) to Ecology	On Schedule
M-015-96	8/31/2018	Submit 100-OL-1 RI report and change request for FS report to Ecology	On Schedule
M-015-93C	9/30/2018	Initiate characterization of the 200-SW-2 OU unlined landfills	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	On Schedule
M-015-99	6/30/2019	Complete remedial investigations of PFP wastes sites located in 200-WA-1 in accordance with WP	On Schedule
<b>M-016-00</b>			
M-016-193	9/30/2017	Investigate SE Chromium Plume per 200-UP-1 RD/RAWP	On Schedule*

\* Extension being requested

# Milestone Summary through FY19

Milestone or Target Date	Due Date	Description	Status
<b>M-024-000</b>			
M-024-58J	6/1/2017	Initiate Discussions of Well Commitments	On Schedule
M-024-68-T01	8/1/2017	Conclude Discussions of Well Commitments initiated under M-024-58	On Schedule
M-024-68	12/31/2017	Complete Construction of All Wells Listed for CY 2017 and Before as Identified in M-024-14-01	On Schedule
M-024-58K	6/1/2018	Initiate Discussions of Well Commitments	On Schedule
M-024-69-T01	8/1/2018	Conclude Discussions of Well Commitments initiated under M-024-58	On Schedule
M-024-69	12/31/2018	DOE shall complete the construction of all wells listed for calendar year 2018 and before, as identified in TPA CP M-24-15-01	On Schedule
<b>M-085-00</b>			
M-085-70	9/30/2019	Submit Remedial Investigation/Feasibility Study Work Plan for 200-CB-1 to Ecology	On Schedule

## RL-30 Project Baseline Performance

### Contract to Date Through September 2016

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>	1,284.6	1,272.8	1,243.7	-11.8	-0.9%	29.1	2.3%	1,564.8	1,494.5	70.3

Numbers are rounded to the nearest \$0.1 million.  
Period of performance 10/1/2008 through September 2016

# Issues

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- Regulatory agency delays in decision document approvals, including:
  - 200-IS-1 RI/FS Work Plan (Tri-Party Agreement dispute since Feb. 2014)
  - 200-BP-5 RI Report/200-PO-1 RI Addendum

## Planned Activities October – December 2016

- Transmit 100-BC-5 Draft A RI/FS and PP to Ecology to meet M-015-79
- Issue 100 D/H Record of Decision
- Issue 200-BP-5 AM

TPA Decision Document List

	Geographical Areas	ROD Area Location	Document	Milestone	Milestone Due Date	Regulatory Review	DOE Lead	Contractor Lead	Regulatory Lead	Agency	Comments/Issues
1	Central Plateau Source Inner Area	200-IS-1 200 Inner 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 Dispute Resolution	2/28/2014	TBD	D. Hildebrand	B. Day	N. Menard	Ecology	Dispute Resolution extended to March 16, 2017.  RI and Ecology are continuing the Work Plan preparation workshops as part of the RI/FS WP development.
2	Central Plateau Source Inner Area	200-IS-1	TSD - Closure Plan for the Hesone Storage and Treatment Facility TSD Unit	M-037-01: Submit Revised Closure Plan to support TSD closure of the Hesone Storage and Treatment Facility (276-S-141/142) TSD Unit. Complete	Milestone Completed 7/16/2010		D. Hildebrand	B. Day	N. Menard	Ecology	Comments received. Anticipated to start in 2017 if funding is available.
3	Central Plateau Source Inner Area	200-EA-1 200 East Inner Area	TSD - Closure Plans for 207-A South Retention Basin (DOE/RL-2005-89 RO), 216-A-29 Ditch (DOE/RL-2008-53 RI), 216-A-98 Crb (DOE/RL-2005-90 RO), 216-A-37-1 Crb (DOE/RL-2005-88 RO), and 216-B-63 Trench (DOE/RL-2006-11 RI)	M-037-02: Submit Revised Closure Plan to support TSD closure for five (5) TSD Units Complete	Milestone Completed 6/29/14	6/24/2014 12/9/2014	M. Kamal	B. Day	N. Menard	Ecology	Comment periods completed. Awaiting Ecology resolution on public comments and issuance of permit.
4	Central Plateau Source Inner Area	200-EA-1 200 East Inner Area	RFI/CMS & RI/FS Work Plan	M-037-02A: 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	9/30/2017	10/1/2017 11/30/2017	D. Hildebrand	B. Day	N. Menard	Ecology	Initiated Draft.
5	Central Plateau Source Inner Area	200-WA-1 and 200-BC-1 200 West Inner Area	RI/FS Work Plan	M-015-91A: Submit a Remedial Investigation/Feasibility Study Work Plan for the 200-WA-1 operable unit to EPA Complete	Milestone Completed 11/27/2011	10/1/2015 11/30/2015	J. Sunde	P. Byrnes	C. Cameron	EPA	Redlined, hard copy was provided to EPA on August 11, 2016. Comments from Yakima Nation were received August 8. Working to resolve EPA comments. Anticipate re-submittal of Rev O in January 2017.
6	Central Plateau Source Deep Vadose Zone	200-DV-1 Deep Vadose Zone	RI/FS Work Plan	M-015-110A: Submit RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) & Remedial Investigation/Feasibility Study (RI/FS) work plan for the 200-DV-1 OU to Ecology. The work plan shall include technology screening that identifies technologies applicable for characterization, treatment, and monitoring of deep vadose zone contaminants. Complete	Milestone Completed 3/18/2015	4/1/2015 6/24/2015	J. Hanson	M. Byrnes	D. Goswami	Ecology	Approved September 2016
7	Central Plateau Source Outer Area	200-CW-1, 200-CW-3, and 200-OA-1 Outer Area	TSDs - Closure Plan for 216-B-3 Main Pond and 216-S-10 Pond and Ditch	M-037-08: Submit Revised Closure Plans Complete	Milestone Completed 6/18/2013	4/15/2013 7/17/2013	J. Sunde	B. Day	N. Menard	Ecology	NOD was issued and response submitted. Major issues have been identified related to non-TSD past-practice contamination and these issues remain unresolved.
8	Central Plateau Groundwater	200-BP-5, 200-PO-1 200 East Area Groundwater	200-BP-5 RI Report	None		8/11/2015 TBD	J. Hanson	C. Wittreich	N. Menard	Ecology	RI Transmitted the Draft A 200-BP-5 RI report to the regulators for review on August 11, 2015. Ecology suspended their review on October 23, 2015. On February 9, Ecology issued a letter indicating they will restart their review, require a minimum of 4 months to complete their review and require additional fate and transport modeling information. Subsequent milestone may be at risk if not resolved. A TPA Change Control Form is being drafted to extend M-15-21A (Draft A BP-5/PO-1 FS and PP) to accommodate an extended Ecology review period on the supporting Draft A RI reports.
9	Central Plateau Groundwater	200-BP-5, 200-PO-1 200 East Area Groundwater	200-PO-1 RI Report Addendum	None		8/11/2015 TBD	J. Hanson	C. Wittreich	N. Menard	Ecology	RI Transmitted the Draft A 200-PO-1 RI report addendum to the regulators for review on August 11, 2015. Ecology suspended their review on October 23, 2015. On February 9, Ecology issued a letter indicating they will restart their review, require a minimum of 4 months to complete their review and require additional fate and transport modeling information. Subsequent milestone may be at risk if not resolved. A TPA Change Control Form is being drafted to extend M-15-21A (Draft A BP-5/PO-1 FS and PP) to accommodate an extended Ecology review period on the supporting Draft A RI reports.
10	Central Plateau Groundwater	200-BP-5 200 East Area Groundwater	200-BP-5 Action Memo Memorandum for 200-BP-5 Operable Unit Groundwater Extraction, DOE/RL-2016-41	None		10/13/2016 TBD	J. Hanson	C. Wittreich	N. Menard	Ecology	Action Memo was signed on December 1, 2016.
11	Central Plateau Groundwater	200-LP-1 200 West Area Groundwater	Technology Evaluation Plan	M-016-192: Submit I-129 Technology Evaluation Plan Draft A to EPA as defined in the 200-LP-1 RI/RA WP Complete	Milestone Completed 12/3/2015	6/18/2016 8/1/2016	K. Amrhein	PWNE	E. Leija	EPA	Meeting will be scheduled with EPA to discuss path forward.
12	River Corridor	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 On Schedule	12/15/2016	12/16/2016 01/30/2017	G. Sletten	R. Evans	L. Burdow	EPA	Submittal is on schedule.

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

(Information current as of 12/2/2016)

TPA Decision Document List

	Geographical Areas	ROD Area Location	Document	Milestone	Milestone Due Date	Regulatory Review	DOE Lead	Contractor Lead	Regulatory Lead	Agency	Comments/Issues
13	River Corridor	100-DR-1, 100-DR-2, 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	7/26/2016 9/16/2016	S. Balow	M. Drewett	N. Menard	Ecology	Complete ROD issuance underway
14	River Corridor	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. Balow	M. Drewett	R. Lohoe	EPA	RI/FS rewrite tentatively scheduled to begin in January 2017.
15	River Corridor	100-KR-1, 100-KR-2, 100-KR-4 100-K	Interim Action Remedial Design / Remedial Action Work Plans	None		7/20/2016 9/2/2016	S. Balow	M. Drewett	R. Lohoe	EPA	Interim Action RD/RAWP, SAP and O&M Rev D plans cleared October 31, 2016. Rev D plans scheduled for submittal in early November 2016.
16	River Corridor	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 10/1/2013	G. Sinton	B. Fought	A. Royal	Ecology	Revised RI under review by Ecology. Resolution of Ecology's comments on the Draft A RI/FS has been extended through March 31, 2017. This work is impacted by the DR ROD.
17	Central Plateau Groundwater	200-EP-5	200-EP-5 Groundwater Sampling and Analysis Plan, DOE/NL-2014-33	None		1/9/2015	J. Hanson	C. Wittreich	N. Menard	Ecology	Comment resolution completion impacted by RI report??

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

(Information current as of 12/7/2016)