CPCC-2200410
Revision 0

200 AREA PROJECT MANAGERS MEETING (PMM) JANUARY 20, 2022

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

Contractor for the U.S. Department of Energy
under Contract 89303320DEM000030

P.O. Box 1464
Richland, Washington 99352

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R. E. Fox
CH2M HILL Plateau Remediation Company

Date Published
January 2022

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Assistant Secretary for Environmental Management

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P.O. Box 1464
Richland, Washington 99352

APPROVED
By Janis Aardal at 9:00 am, Feb 23, 2022

Release Approval Date

Approved for Public Release;
Further Dissemination Unlimited

DISTRIBUTION
PROJECT MANAGERS MEETING
200 AREA GROUNDWATER and SOURCE OPERABLE UNITS
JANUARY 20, 2022

FINAL MEETING MINUTES

Electronic Distribution to:

Meeting Attendees
Administrative Record
Correspondence Control

200 Area Project Managers Meeting
Attachments List
January 20, 2022

Minutes of the 200 Area Project Managers Meeting are attached. Minutes are comprised of the following:

Attachment 1	**Agenda**
Attachment 2	**Attendance List**
Attachment 3	**Signature Approval Page**
Attachment 4	**Milestones and O. U. Status, July - August Data**
Attachment 5	**Documents Entered into the AR and Approved Change Notices November - December 2021 Data**
Attachment 6	**Action Item List**
Attachment 7	**Appendix A - Hanford Groundwater Sampling Program: Missed, Deferred or Outstanding Sample Trips**

200 Area Project Managers Meeting
Agenda
January 20, 2022

Milestones and O. U. Status-November - December 2021 Data

- 200-PW-1/3/6 and 200-CW-5
- U Plant Canyon
- Canyon Facilities
- Waste Site Removal
- 200-CB-1 (B Plant)
- 200-CP-1 (PUREX)
- 200-CR-1 (REDOX)
- Deep Vadose Zone
- 200-EA-1
- 200-IA-1
- 200-IS-1
- 200-SW-2
- 200-SW-1
- 200-OA-1, 200-CW-1, 200-CW-3
- 200-BC-1 and 200-WA-1
- 200-BP-5 and 200-PO-1
- 200-UP-1
- 200-ZP-1
- 200 Area Groundwater/200 West P&T Facility
- 200 Area RCRA TSD Closures
- Summary of Hanford Sampling Program
- Milestone Status

Documents for the Administrative Record and Approved TPA Change Notices

Action Items

Appendix A - Approved Groundwater Sample Event Disposition Concurrence Forms

Closing Comments (all)

- Sign concurrence to “Groundwater Summary by O.U.” and “Action Item List” if applicable
- EPA and ECY are reminding DOE that project documents are to be sent to the Project Managers.

200 Area Project Managers Meeting
Attendance List
Joined via Teams
January 20, 2022

NAME	ORGANIZATION	EMAIL
AMRHEIN, KATE	DOE	KATE.AMRHEIN@RL.DOE.GOV
ARMIJO, ROBERTO	EPA	ARMIJO.ROBERTO@EPA.GOV
BRASHER, STEPHANIE	HMIS	STEPHANIE_L_BRASHER@RL.GOV
CAMERON, CRAIG	EPA	CAMERON.CRAIG@EPA.GOV
CATHEL, ROBERT L	CPCC	ROBERT_L_CATHEL@RL.GOV
CIMON, SHELLEY	ODOH	SCIMON@OREGONTRAIL.NET
FAUGHT, WILLIAM	CPCC	WILLIAM_R_FAUGHT@RL.GOV
FOX, RANDAL	CPCC	RANDAL_E_FOX@RL.GOV
FRENCH, MARK	DOE	MARK.FRENCH@RL.DOE.GOV
GOSWAMI, DIB	ECY	DIB.GOSWAMI@ECY.WA.GOV
HIGGINS, KATHLEEN	DOE	KATHLEEN.HIGGINS@RL.DOE.GOV
JOHNSON, BRIAN	ECY	BRIAN.JOHNSON@ECY.WA.GOV
JASCHKE, NAOMI	DOE	NAOMI.JASCHKE@RL.DOE.GOV
KAMAL, MOSTAFA	DOE	MOSTAFA.KAMAL@RL.DOE.GOV
MERKER, MARISSA	NEZ PERCE	MARISSAM@NEZPERCE.ORG
MORGANS, DONNA	CPCC	DONNA_L_MORGANS@RL.GOV
O'MARA, LAURA K	CPCC	LAURA_K_OMARA@RL.GOV
SANDS, JOHN	DOE	JOHN.SANDS@RL.DOE.GOV
SCHRAMM, GEOFF	EPA	SCHRAMM.GEOFF@EPA.GOV
VIRGIN, JOHN	DOE	JOHN.VIRGIN@RL.DOE.GOV
WELSCH, KIM	ECY	KIM.WELSCH@ECY.WA.GOV
WIBORG, ANDERS	DOE	ANDERS.WIBORG@RL.DOE.GOV

200 Area Project Managers Meeting
Meeting Minutes Approval
200 Area Groundwater and Source Operable Units
January 20, 2022

SIGNATURES:

In accordance with the Tri-Party Agreement Section 4.1, Project Manager Role, any agreements and commitments resulting from the meeting will be prepared and signed by all parties as soon as possible after the meeting. The undersigned indicate by their signatures (or their delegate's signature) that these meeting minutes reflect the actual discussion during this meeting. Signatures denote concurrence with the agreements and commitments resulting from this meeting and do not imply agreement with statements made during this meeting. Attachments to these meeting minutes are provided for informational purposes only.

MICHAEL CLINE
Digitally signed by MICHAEL CLINE
Date: 2022.01.26 15:27:27 -08'00'

APPROVAL: _____ **DATE:** _____
200 Area Project Manager, DOE/RL

MARK FRENCH
Digitally signed by MARK FRENCH
Date: 2022.02.09 14:08:29 -08'00'

APPROVAL: _____ **DATE:** _____
200 Area Project Manager, DOE/RL

Digitally signed by Welsch, Kim (ECY)
Date: 2022.02.09 15:13:50 -08'00'

APPROVAL: _____ **DATE:** _____
200 Area Acting Project Manager, Ecology

CRAIG CAMERON
Digitally signed by CRAIG CAMERON
Date: 2022.02.16 14:45:25 -08'00'

APPROVAL: _____ **DATE:** _____
200 Area Project Manager, EPA

200 AREA PROJECT MANAGERS MEETING
Milestones and O.U. Status
November - December 2021 Data
January 20, 2022

200-PW-1/3/6 and CW-5

EPA Lead
RL – A. Wiborg, CPCCo – J. Thomson

- Limited funding is provided to support replanning.
- Please note that EPA has not agreed to any delays in this schedule and expects the RD/RA WP schedule to be followed since it is an enforceable part of the remedial action work plan. Any proposed changes to the schedule need to be discussed in a timely manner.
- A limited RD/RAWP revision was completed to update the schedule for the PW-3 and CW-5 remediation scope.

Regulatory Agency Comments: **No comments**

U Plant Canyon

EPA Lead
RL – A. Wiborg, CPCCo – TBD

M-016-200A: Complete U Plant canyon demolition. Due date 9/30/2024.

- Status: In Abeyance. Milestone identified to be In Abeyance by Inter-Agency Management Integration Team (IAMIT) Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team provided M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance to the IAMIT principals on January 06, 2022.

M-016-200B: Complete U Plant barrier construction. Due date 9/30/2027.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team provided M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance to the IAMIT principals on January 06, 2022.

Regulatory Agency Comments: **No comments**

Canyon Facilities

EPA/Ecology Lead
RL – A. Wiborg, CPCCo –B. Cathel

B Plant:

- The Removal Action Work Plan (RAWP) and Air Monitoring Plan (AMP) Draft A have been developed and are expected to be transmitted to Ecology in February, incorporating comment resolutions from the PUREX documents.
- Review comments were received from Ecology and EPA for the Sampling and Analysis Plan (SAP) Draft A September 7. Will respond to comments received and incorporate comment resolutions from the PUREX SAP and expect to return to Ecology and EPA for concurrence in January.

PUREX:

- All comments for the PUREX AMP have been addressed and closed. Revision 0 is currently in correspondence control in preparation to be issued.
- DOE continues to work on response to review comment #3, this is the only remaining open comment for the PUREX RAWP.
- Most responses to review comments were reviewed with and concurred by Ecology, EPA, and DOH for the SAP Draft A. Four EPA comments remain open, DOE and EPA are working toward resolution. Resolution expected to be applied to current open and future SAPs.

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November - December 2021 Data
January 20, 2022

- PUREX Tier 2 RAWP and SAP have been modified to add facility 205A, Silica Gel Facility. Draft A transmitted to Ecology and EPA for review.

M-085-76: Initiate Response Actions for B Plant Remedial/Removal Action Work Plan. Due date 9/30/2025

- Status: On Schedule

M-085-84: Initiate Response Actions for PUREX in accordance with Schedule in Approved Remedial/RAWP. Due date 9/30/2025

- Status: On Schedule

Regulatory Agency Comments: **No comments**

Waste Site Removal

Ecology Lead
RL- A. Wiborg/P. Ensign, CPCCo – D. Singleton, J. Thomson

M-016-250: Submit to Ecology for approval a three-year rolling prioritized schedule consistent with site-wide clean-up priorities to implement waste site removal actions per Action Memoranda, March 31, 2016, and annually thereafter. Due date TBD

- Status: In Program Planning

M-016-250G: Submit to ECY a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions. Due date 3/31/2022

- Status: On Schedule.

M-016-257: Complete Confirmation Sampling/No Further Action (CS/NFA) for all the waste sites as identified in TPA Change Control Form M-16-20-01 in Fiscal Year 2021. Due date 06/30/2022

- Status: On Schedule.

M-016-258: Complete Confirmation Sampling/No Further Action (CS/NFA) and Remove Treat Dispose (RTD) for all the waste sites as identified in TPA Change Control Form M-16-21-01 in Fiscal Year 2022. Due date 09/30/2022

- Status: On Schedule.

M-016-259: Complete Remove Treat Dispose (RTD) of all the waste sites as identified in TPA Change Control Form M-16-21-01 in Fiscal Year 2023. Due date 09/30/2023

- Status: On Schedule.

Regulatory Agency Comments: **No comments**

200 AREA PROJECT MANAGERS MEETING
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200-CB-1 (B Plant)

Ecology Lead
RL- Mike Cline, CPCCo – Bill Faught

- Not funded.

M-085-70: Submit to Ecology a Remedial Investigation/Feasibility Study Work Plan for 200-CB-1. Due date 09/30/2019.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

Regulatory Agency Comments: No comments

200-CP-1 (PUREX)

Ecology Lead
RL- John Sands, CPCCo– Bill Faught

- Received Ecology's comments on the Draft A, Remedial Investigation/Feasibility Study Work Plan for 200-CP-1 on April 23, 2021 (21-NWP-066). Submitted draft responses to Ecology's comments on September 30, 2021. Held comment disposition meeting on October 18, 2021 and one additional session on December 20, 2021. Work Plan text is being redlined for closed comments. One additional session is likely needed to resolve the last few comments.

Regulatory Agency Comments: No comments

200-CR-1 (REDOX)

EPA Lead
RL- Mike Cline, CPCCo – Bill Faught

- Not funded.

M-085-90: Submit a Remedial Investigation/Feasibility Study Work Plan for 200-CR-1 to EPA. Due date 09/30/2026.
Status: On Schedule.

Regulatory Agency Comments: No comments

200-DV-1

Ecology Lead
RL –Kate Amrhein, CPCCo – Mark Byrnes

- Perched water extraction well D0113 has reached total depth at 235 feet bgs. Well construction shall commence in early January 2022.

M-015-110B: Submit Corrective Measures Study & Feasibility Study Report and Proposed Plan/Proposed Corrective Action Decision for the 200-DV-1 OU to Ecology. Due date 09/30/2023.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

200 AREA PROJECT MANAGERS MEETING
Milestones and O.U. Status
November - December 2021 Data
January 20, 2022

The volume of groundwater treated and mass of constituents removed from 200-DV-1 Perched Water during November and December

Month	Extracted (gal)	Uranium Removed (kg)	Technetium-99 Removed (Ci)
November	25,000	5.3	$4.2x10^{-3}$
December	26,100	6.2	$4.5x10^{-3}$

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.

Cumulative values of the volume of groundwater treated and mass of constituents removed from 200-DV-1 Perched Water

	Extracted (gal)	Uranium Removed (kg)	Technetium-99 Removed (Ci)
Cumulative FY2022	77,000	17.0	$12.2x10^{-3}$
Cumulative (2017 to current)	1,686,000	345	$2.3x10^{-1}$

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
Note – Values include treatability test extraction and removal action extraction

Regulatory Agency Comments: No comments

200-EA-1

Ecology Lead
RL- Kaycee Bailey, CPCCo – Bill Faught

- Status: Revisions to the 200-EA-1 RI/FS work plan incorporating the RASCAL approach was started in July 2021. Currently updating each chapter and sending those to internal review. The updated chapters will be available as a Decisional Draft to DOE in Spring 2022. This includes the SAP.

M-015-92B: Submit RFI/CMS & RI/FS Report and Proposed Corrective Action Decision/Proposed Plan for the 200-EA-1 OU (Central Plateau 200 East Inner Area) to Ecology. Due date 11/30/2022.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-037-20: Submit CC Proposal for 4 Specified TSDs if Requesting Use of Alternative Closure Requirements

- Status: Due concurrent with M-015-92B (currently In Abeyance)

Regulatory Agency Comments: No comments

200-IS-1

Ecology Lead
RL- Kaycee Bailey, CPCCo – Bill Faught

- Nothing new to report. Not funded in FY22.

M-015-112: Submit Draft B, 200-IS-1 OU Pipeline System Waste Sites RFI/CMS/RI/FS work plan to Ecology, including a schedule of completion dates for major tasks and deliverables. Due date 11/30/2020.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A

200 AREA PROJECT MANAGERS MEETING
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Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-015-92C: Submit the RFI/CMS & RI/FS Report and Proposed Corrective Action Decision/Proposed Plan for the 200-IS-1 OU to Ecology. Due date 3/31/2023.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-037-25: Submit CCP for Inactive SST Components Outside WMAs if Requesting Alternative Closure Requirements

- Status: Due concurrent with M-015-92C (currently In Abeyance)

Regulatory Agency Comments: **No comments**

200-SW-2

Ecology Lead
RL- Kaycee Bailey, CPCCo – Bill Faught

- Nothing new to report. Not funded in FY22.

M-015-93C: Initiate Characterization Field Work for 200-SW-2 Operable Unit Landfills. Due date 09/30/2018.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-015-93B: Initiate characterization fieldwork for the 200-SW-2 Operable Unit landfills in accordance with the schedule in the approved RI/FS/RFI/CMS Work Plan. Due date 01/31/2023.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-037-26: Submit CCP for Green Island TSDs in LLBG if Requesting Use of Alternative Closure Requirements
Status: Due concurrent with M-015-93B (currently In Abeyance).

Regulatory Agency Comments: **No comments**

200-SW-1/NRDWL

Ecology Lead
RL- Doug Hildebrand/Mostafa Kamal, CPCCo- Bob Bullock

- No additional progress. Concurrence has been reached on eleven minor Hold/Needs deficiencies and resolution of the remaining deficiencies is continuing. Open Hold/Needs deficiency items are related to cover design and Construction Quality Assurance (CQA) related issues.
- No additional progress. Discussions regarding the development of a planning approach and processes for the development of the design and design related engineering documentation for the NRDWL/SWL CAP have been stopped.

Regulatory Agency Comments: **No comments**

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200-IA-1

EPA and Ecology Joint Lead
RL- Jason Capron, CPCCo – Dave Becker

- The Focused Feasibility Study (FFS) for the 200-IA-1 waste sites with comment resolutions was submitted to DOE for review on December16, 2020 and continues to be reviewed internally.
- Scheduled regular bi-weekly meeting with EPA and Ecology to discuss project progress.

Regulatory Agency Comments: **No comments**

200-OA-1, Outer Area, 200-CW-1, and 200-CW-3

EPA Lead
RL- Jason Capron, CPCCo – Bill Faught

- An Explanation of Significant Differences (ESD) to the 100-F/IU Record of Decision (ROD) was proposed to add 60 waste sites in the Outer Area and River Corridor to the 100-F/IU Final ROD. Based on discussion with EPA, this ESD is no longer being pursued. DOE and EPA are considering use of the Remaining Sites ROD for interim action remediation of a subset of the waste sites.

M-015-38B Submit FS/PP for 200-CW-1, 200-CW-3 and 200-OA-1 OUs to EPA. Due date 07/31/2023.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-037-22: Submit CC Proposal for 2 Specified TSDs if Requesting Use of Alternative Closure Requirements

- Status: Due concurrent with M-015-38B (currently In Abeyance)

Regulatory Agency Comments: **EPA requests updated bullets at next PMM.**

200-BC-1 and 200-WA-1

EPA Lead
RL- Doug Hildebrand, CPCCo – Bill Faught

- Status: Revisions to the 200-BC-1 and 200-WA-1 RI/FS work plan incorporating the RASCAL approach and addressing other work plan changes (waste site binning) were initiated on October 1, 2020 and will continue through FY22. The Draft of the Rev. 1 document is being prepared and will be advanced to internal CPCCo review early in January/February 2022.

M-015-98: Complete remedial investigation of U Plant related waste sites located in 200-WA-1 in accordance with the WA-1 RI/FS Work Plan. Due date 06/30/2019.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-015-99: Complete remedial investigation of PFP related waste sites located in 200-WA-1 in accordance with the 200-WA-1 and 200-BC-1 RI/FS Work Plan. Due date 12/31/2019.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A

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Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-015-84 Complete RI of 200-WA-1 and 200-BC-1 Waste Sites in Accordance with RI/FS Work Plan. Due date 12/31/2021.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

M-015-91B Submit FS/PP for the 200-BC-1/200-WA-1 OUs to EPA. Due date 07/31/2023.

- Status: In Abeyance. Milestone identified to be In Abeyance by IAMIT Determination 2021-002 until such time as the Parties agree to an enforceable date for the milestones or the Adaptive Milestone Approach is discontinued. A Tri-Party working team is evaluating the M-015 milestone series date timing needs with respect to the RCRA Rev. 9 Permit issuance and will report back to the IAMIT principals no later than January 15, 2022.

Regulatory Agency Comments: No comments

200-BP-5 and 200-PO-1

Ecology Lead
RL – J. Virgin, CPCCo – Chris Cearlock

- . The 200-BP-5/PO-1 Remedial Design/Remedial Action (RD/RA) work plan is under internal review/revision. Draft A is planned for submittal in March 2022.
- Provided TPA change notice for addition of new monitoring wells to the 200-PO-1 Waste Control Plan to regulators for review on December 29, 2021.
- Approximately 84.6 million gallons of groundwater were pumped from the BP-5 extraction wells in calendar year 2021 as part of the removal action.

The volume of groundwater treated and mass of constituents removed from 200-BP-5 during November and December

Month	Extracted (mgal)	Cyanide Removed (Kg)	Uranium Removed (Kg)	Technetium-99 Removed (Ci)	Iodine-129 Removed (Ci)*
November	7.1	3.55	2.55	9.11×10^{-2}	6.05×10^{-5}
December	7.4	3.65	2.63	9.38×10^{-2}	6.23×10^{-5}

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
* removed from the aquifer, but not treated before injection into the 200 West aquifer with the 200 West P&T treated effluent

200 AREA PROJECT MANAGERS MEETING
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Cumulative values of the volume of groundwater treated and mass of constituents removed from 200-BP-5

	Extracted (mgal)	Cyanide Removed (kg)	Uranium Removed (kg)	Technetium-99 Removed (Ci)	Iodine-129 Removed (Ci)*
Cumulative FY2022	21.8	10.9	7.6	$2.75x10^{-1}$	$1.85x10^{-4}$
Cumulative (2015 to current)	415.8	263.4	233.3	7.08	$4.35x10^{-3}$

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
Note – Values include treatability test extraction and removal action extraction
* removed from the aquifer, but not treated before injection into the 200 West aquifer with the 200 West P&T treated effluent

Regulatory Agency Comments: ECY and EPA requests to be invited to DQO and any further meetings on SAP documents.

200-UP-1

EPA Lead
RL – Kate Amrhein, CPCCo – Chris Cearlock

- RL met with EPA on 11/1/2021 to provide a status of the I-129 Technical Impracticability waiver document.
- Approximately 116.6 million gallons of groundwater have been pumped from the UP-1 extraction wells in calendar year 2021 as part of the remedial action.

The volume of groundwater treated and mass of constituents removed from 200-UP-1 during November and December

Month	Extracted (mgal)	Carbon Tetrachloride (Kg)	Chromium removed (Kg)	Uranium Removed (Kg)	Nitrogen in NO_3 Removed (Kg)*	Nitrate removed (Kg)*	Iodine-129 Removed (Ci)*	Technetium-99 Removed (Ci)	Cyanide Removed (Kg)
November	9.7	1.75	0.12	0.64	285	1,265	$2.56x10^{-5}$	$2.58x10^{-2}$	0
December	10.0	1.88	0.08	0.57	303	1,343	$3.42x10^{-5}$	$2.34x10^{-2}$	0

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
* removed from the aquifer, but not treated before injection into the 200 West aquifer with the 200 West P&T treated effluent

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Cumulative values of the volume of groundwater treated and mass of constituents removed from 200-UP-1

	Extracted (mgal)	Carbon Tetrachloride (Kg)	Chromium removed (Kg)	Uranium Removed (Kg)	Nitrogen in NO_3 Removed (Kg)*	Nitrate removed (Kg)*	Iodine-129 Removed (Ci)*	Technetium-99 Removed (Ci)	Cyanide Removed (Kg)
Cumulative FY2022	29.7	5.45	0.3	1.87	884	3,915	8.62×10^{-5}	7.63×10^{-2}	0
Cumulative (2012 to current)	875	245.2	45.6	74.76	46,653 **	206,673**	3.1×10^{-4}	5.1	0

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
Note – values include available data from extraction before 200W Pump & Treat operation
* removed from the aquifer, but not treated before injection into the 200 West aquifer with the 200 West P&T treated effluent
** Represents the total nitrate mass in extracted groundwater by the 200-UP-1 remedial action. Nitrate treatment was suspended in October 2019 for the 200-ZP-1 OU Optimization Study. Prior to suspension of biological treatment a total of 129,842 kg of nitrate (29,310 kg Nitrogen in NO_3) was removed from groundwater extracted from the 200-UP-1 OU.

Regulatory Agency Comments: **No comments**

200-ZP-1

EPA Lead
RL – Kate Amrhein, CPCCo – Mark Byrnes

- Continued implementing the Optimization Study Plan (DOE/RL-2019-38, Rev. 0) to collect the data needed to evaluate remedy performance enhancements and remedy configuration changes associated with P&T operations.
- Continued path forward for D0134/299-W14-27, D0095/299-W11-103, D0132/299-W11-104, D0140/299-W14-33. The wells will be decommissioned, and new wells will be drilled and installed in FY22.
- Sampling for total and free cyanide continues at monthly and quarterly frequencies at wells within the BP-5 and ZP-1 OUs and at the 200 W P&T.
- Pumping continued at the 200 West P&T and flows currently average 2,473 gpm.

The volume of groundwater treated and mass of constituents removed from 200-ZP-1 during November and December

Month	Extracted (mgal)	Carbon Tetrachloride Removed (Kg)	Trichloroethylene Removed (Kg)	Chromium Removed (Kg)	Nitrogen in NO_3 Removed (Kg)*	Nitrate Removed (Kg)*	Technetium-99 Removed (Ci)	Iodine-129 Removed (Ci)*	Cyanide Removed (Kg)
November	90.0	109.9	0.3	1.46	9,044	40,067	5.31×10^{-2}	2.18×10^{-4}	0.31
December	93.0	114.1	0.78	0.78	9,187	40,700	4.86×10^{-2}	1.11×10^{-5}	0.4

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
* removed from the aquifer, but not treated before injection into the 200 West aquifer with the 200 West P&T treated effluent

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Cumulative values of the volume of groundwater treated and mass of constituents removed from 200-ZP-1

	Extracted (mgal)	Carbon Tetrachloride Removed (Kg)	Trichloroethylene Removed (Kg)	Chromium Removed (Kg)	Nitrogen in NO_3 Removed (Kg)*	Nitrate Removed (Kg)*	Technetium-99 Removed (Ci)	Iodine-129 Removed (Ci)*	Cyanide Removed (Kg)
Cumulative FY2022	274.4	347.8	2.23	2.77	27,500	121,838	$1.53x10^{-1}$	$7.09x10^{-4}$	1.03
Cumulative (1991 to current)	10,772	34,193	122,3	491.6	924,626**	4,096,095**	6.15	321	806

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
Note – values include available data from extraction before 200W Pump & Treat operation
* removed from the aquifer, but not treated before injection into the 200 West aquifer with the 200 West P&T treated effluent
** Represents the total nitrate mass in extracted groundwater by the 200-ZP-1 remedial action. Nitrate treatment was suspended in October 2019 for the 200-ZP-1 OU Optimization Study. Prior to suspension of biological treatment a total of 1,951,516 kg of nitrate (440,522 kg Nitrogen in NO_3) was removed from groundwater extracted from the 200-ZP-1 OU.

200W Pump & Treat Facilty

The volume of groundwater treated and mass of constituents removed by the 200 West P&T Facility during November and December

Month	Treated (mgal)	Carbon Tetrachloride Removed (kg)	Trichloroethylene Removed (Kg)	Chromium Removed (kg)	Tc-99 Removed (Ci)	Cyanide Removed (Kg)	Uranium Removed (kg)
November	107.0	111	0.74	0.91	0.174	3.89	9.41
December	110.4	116	0.81	0.82	0.179	4.08	10.1

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
Note – I-129 not included because not removed by the 200W Pump & Treat facility.

Cumulative values of the volume of groundwater treated and mass of constituents removed by the 200 West P&T Facility

	Treated (mgal)	Carbon Tetrachloride Removed (kg)	Trichloroethylene Removed (Kg)	Chromium Removed (kg)	Nitrogen in NO3 Removed (Kg)*	Nitrate Removed (Kg)*	Tc-99 Removed (Ci)	Cyanide Removed (Kg)	Uranium Removed (kg)
Cumulative FY2022	326.1	340	2.31	2.66	NA	NA	$5.29x10^{-1}$	12.0	28.91
Cumulative (2012 to current)	9,167	20,719	121,6	522.6	493,644	2,186,276	17.16	321	806

Note - numbers shown are estimates; actual numbers are reported in the annual P&T reports.
Note – I-129 not included because not removed by the 200W Pump & Treat facility.
* Nitrate treatment was suspended in October 2019 for the 200-ZP-1 OU Optimization Study. Prior to suspension of biological treatment a total of 2,186,276 kg of nitrate (493,644 kg Nitrogen in NO_3) was removed by the 200 West P&T.

Regulatory Agency Comments: **No comments**

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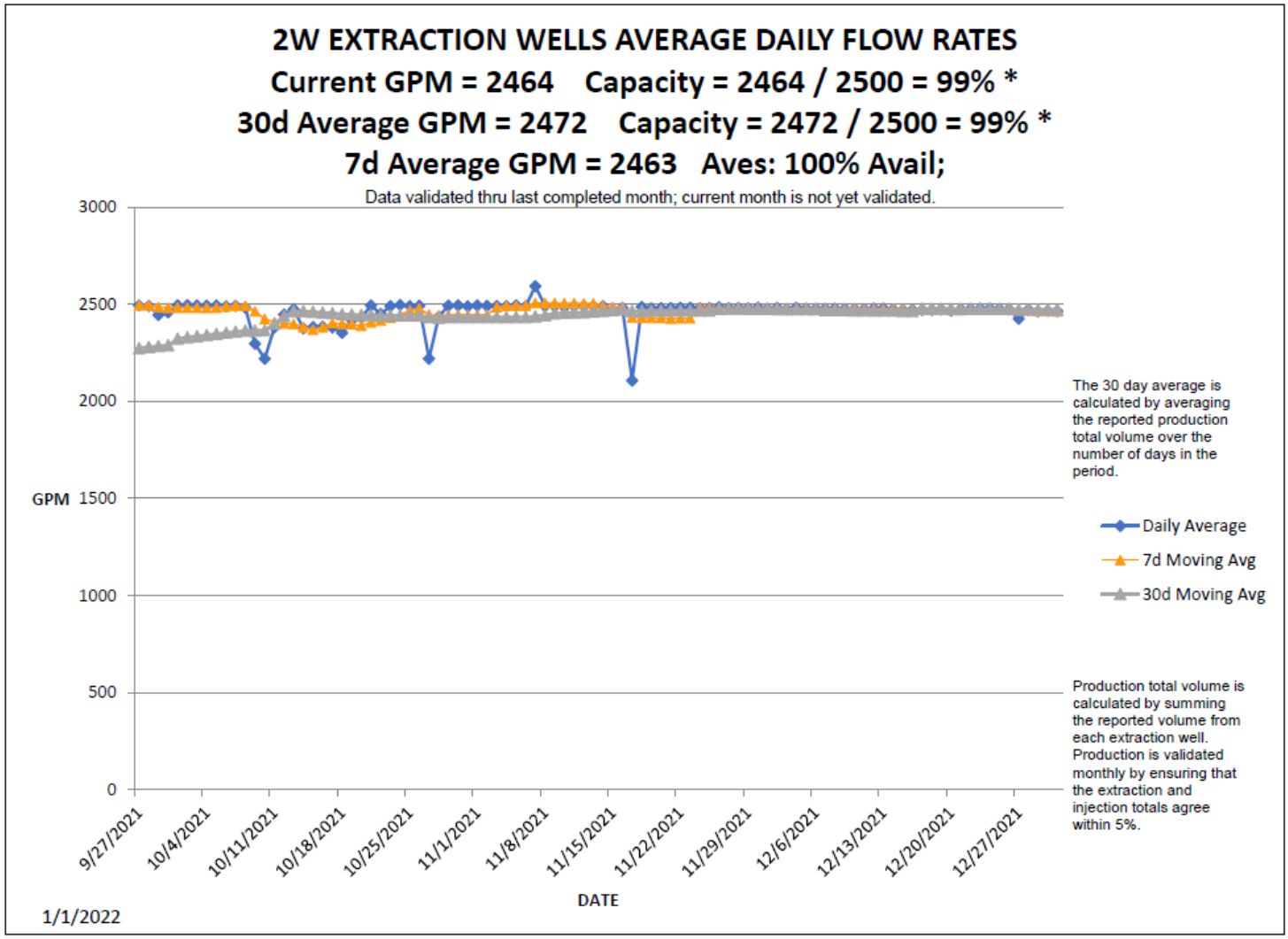

Regulatory Agency Comments: **No comments**

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M-024 Well Installation

Ecology Lead
RL - Kathy Higgins, CPCCo - Jennifer Richart

M-024-72: Complete the Construction of All Wells Listed for CY21 and Before. Due date 12/31/2021.

- Status: Complete 12/20/2021; 21-SGD-004164

M-024-58O: Initiate Discussion of Well Commitments, Due date 06/01/2022.

- Status: On Schedule

M-024-73-T01: Conclude Discussion of Well Commitments Initiated Under M-024-58. Due date 08/01/2022.

- Status: On Schedule

M-024-73: Complete the Construction of All Wells Listed for CY22 and Before. Due date 12/31/2022

- Status: On Schedule. For the M-024-73 milestone, 0 wells complete, 0 wells in-progress.

Sampling and Analysis Instructions are being issued to provide opportunistic sampling while the RCRA wells are being drilled. The opportunistic sampling will support future CERCLA activities.

Regulatory Agency Comments: No comments

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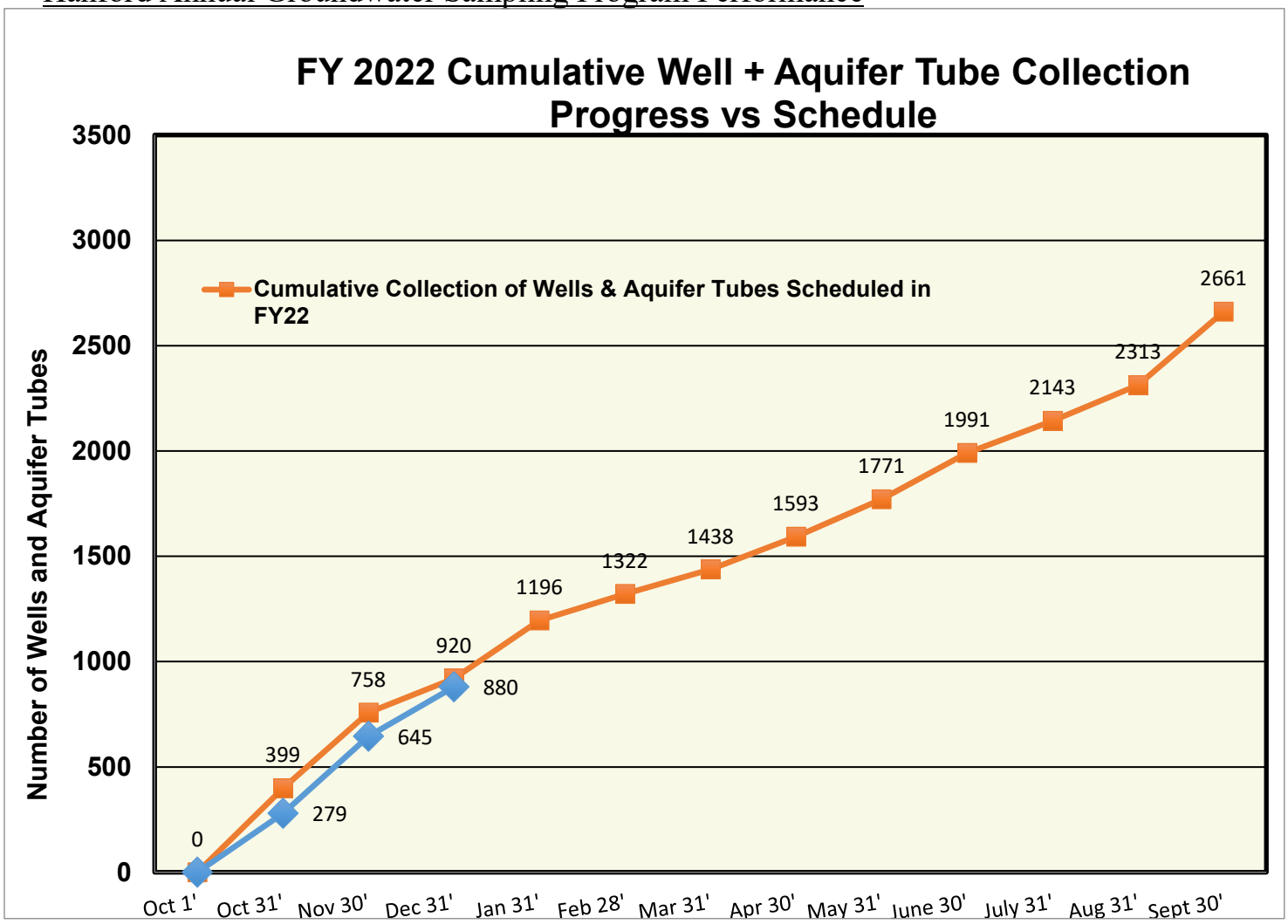
Hanford Annual Groundwater Sampling Program Performance



Regulatory Agency Comments: **No comments**

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Central Plateau Milestones

MS#	Title	Due Date
	Fiscal Year 2018	
M-015-93C	Initiate characterization field work for the 200-SW-2 OU	9/30/2018 In Abeyance
	Fiscal Year 2019	
M-015-98	Complete remedial investigation of U Plant related waste sites located in 200-WA-1 in accordance with the WA-1 RI/FS Work Plan	6/30/2019 In Abeyance
M-085-70	Submit RI/FS Work Plan for 200-CB-1	9/30/2019 In Abeyance
	Fiscal Year 2020	
M-015-99	Complete remedial investigation of PFP related waste sites located in 200-WA-1 in accordance with the 200-WA-1 and 200-BC-1 RI/FS Work Plan.	12/31/2019 In Abeyance
	Fiscal Year 2021	
M-015-112	Submit RFI/CMS & RI/FS Work Plan for 200-IS-1 Work Plan to Ecology	11/30/2020 In Abeyance
	Fiscal Year 2022	
M-015-84	Complete RI of 200-WA-1 and 200-BC-1 Waste Sites in Accordance with RI/FS Work Plan	12/31/2021 In Abeyance
M-024-72	Complete the Construction of All Wells Listed for CY21 and Before	Complete 12/20/2021
M-016-250G	Submit to ECY a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	03/31/2022 On Schedule
M-026-07D	Evaluation of Tritium Treatment Technology to EPA & Ecology	3/31/2022 On Schedule
M-024-58O	Initiate Discussions of Well Commitments	06/01/2022 On Schedule
M-016-257	Complete CS/NFA for identified waste sites in TPA CCF M-16-20-01	06/30/2022 On Schedule
M-024-73-T01	Conclude discussions of well commitments initiated under M-024-58 by August 1, 2022.	08/01/2022 On Schedule
M-016-258	Complete Confirmation Sampling/No Further Action (CS/NFA) and Remove Treat Dispose (RTD) for all the waste sites as identified in TPA Change Control Form M-16-21-01 in Fiscal Year 2022.	09/30/2022 On Schedule
	Fiscal Year 2023	
M-015-92B	Submit RFI/CMS, RI/FS Study report and Proposed CAD/PP for 200-EA-1	11/30/2022 In Abeyance
M-037-20	Submit Coordinated Closure Proposal for the 4 Specified TSDs if Requesting Use of Alternative Closure Requirements	Concurrent with M-015-92B (Currently In Abeyance)
M-024-73	Complete the Construction of All Wells Listed for CY22 and Before	12/31/2022 On Schedule
M-015-93B	Submit RFI/CMS & RI/FS Study Report and proposed CAD/PP for 200-SW-2 OU	1/31/2023 In Abeyance

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MS#	Title	Due Date
M-037-26	Submit Coordinated Closure Proposal for Green Island TSDs in LLBG if Requesting Use of Alternative Closure Requirements	Concurrent with M-015-93B (Currently In Abeyance)
M-015-92C	Submit RFI/CMS & RI/FS Study report and proposed CAD/PP for the 200-IS-1 OU to Ecology	3/31/2023 In Abeyance
M-037-25	Submit Coordinated Closure Proposal for Inactive SST Components Outside WMAs if Requesting Alternative Closure Requirements	Concurrent with M-015-92C (Currently In Abeyance)
M-016-250H	Submit to ECY a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	3/31/2023 On Schedule
M-024-58P	Initiate Discussions of Well Commitments	6/1/2023 On Schedule
M-015-38B	Submit FS/PP for 200-CW-1, 200-CW-3 and 200-OA-1 OUs	7/31/2023 In Abeyance
M-037-22	Submit Coordinated Closure Proposal for the 2 Specified TSDs if Requesting Use of Alternative Closure Requirements	Concurrent with M-015-38B (Currently In Abeyance)
M-015-91B	Submit FS/PP for the 200-BC-1 and 200-WA-1 OUs to EPA	7/31/2023 In Abeyance
M-024-74-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	8/1/2023 On Schedule
M-015-110B	Submit CMS & FS and Proposed CAD/PP for 200-DV-1 OU	9/30/2023 In Abeyance
M-016-259	Complete RTD for identified waste sites in TPA CCF M-16-21-01	09/30/2023 On Schedule
Fiscal Year 2024		
M-024-74	Complete the Construction of All Wells Listed for CY23 and Before	12/31/2023 On Schedule
M-016-250I	Submit to ECY a 3-Year Rolling Prioritized Schedule to Implement Waste Site Removal Actions	03/31/2023 On Schedule
M-024-58Q	Initiate Discussions of Well Commitments	06/01/2024 On Schedule
M-016-200A	Complete U Plant canyon demolition	9/30/2024 In Abeyance
M-024-75-T01	Conclude Discussions of Well Commitments Initiated Under M-024-58	08/01/2024 On Schedule
Fiscal Years 2025-2027		
M-024-75	Complete the Construction of All Wells Listed for CY24 and Before	12/31/2024 On Schedule
M-085-76	Initiate response actions for the B Plant geographic area	9/30/2025 On Schedule
M-085-84	Initiate response actions for the PUREX geographic area	9/30/2025 On Schedule
M-085-01	Submit change package to establish a date for major milestone M-085-00	6/30/2026 On Schedule
M-015-00	Complete the RI/FS (or RFI/CMS) Process for All Non-Tank Farm Operable Units	6/30/2026 At Risk

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MS#	Title	Due Date
M-085-90	Submit RI/FS Work Plan for 200-CR-1	9/30/2026 On Schedule
M-026-07E	Evaluation of Tritium Treatment Technology to EPA & Ecology	3/31/2027 On Schedule
M-016-200B	Complete U Plant barrier construction	9/30/2027 In Abeyance

Regulatory Agency Comments: **No comments**

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Documents Submitted to the Administrative Record

Document Number	Title	Referencing Document
ECF-200PO1-21-0114_R0	Statistical Support for Detection Monitoring Plan at Waste Management Area (WMA) A-AX	Engineering Reports
RCRA-CN-01_DOE/RL-2009-75_R2	Interim Status Change Number 1: Interim Status Groundwater Monitoring Plan for the LLBG WMA-1	Engineering Reports
ECF-200W-21-0118_R0	Groundwater Elevation Mapping for 200 West Area - Quarter 1 Calendar Year 2021	Engineering Reports
ECF-200UP1-21-0135_R0	Statistical Analysis in Support of the Final Status Monitoring Plan at 216-S-10 Pond and Ditch	Engineering Reports
CPCC-00327_R0	Simulation of Potential Saturation Profiles at the Hanford Treated Effluent Disposal Facility (TEDF) to Support a Planned Electrical Resistivity Tomography (ERT) Study	Annual Reports
ECF-200IA1-20-0092_R1	200-IA-1 Operable Unit Human Health Risk and Kd Screen	Annual Reports
ECF-200IA1-20-0093_R1	200-IA-1 Operable Unit Ecological Risk Screen	Annual Reports
ECF-200UP1-21-0028-R0	Calculation of 95 Percent Upper Confidence Limits on Plume Monitoring Data for the 200-UP-1 Groundwater Operable Unit, Calendar Year 2020	Annual Reports
ECF-200UP1-21-0084_R0	Calculation of Temporal Trends and Confidence Limits for Chromium and Cyanide in Groundwater at Waste Management Area U through Calendar Year 2020	Annual Reports
ECF-200W-21-0031_R0	Updates to the 200-West Three-Dimensional Groundwater Concentration Plumes for Calendar Year 2015 for Use as Initial Conditions in the Plateau to River (P2R) Groundwater Model for Calendar Year 2020	Annual Reports
ECF-200ZP1-21-0032_R0	Calculation of Concentration Trends, Means, and Confidence Limits for the 200-ZP-1 Operable Unit Contaminants of Concern Before and After 200 West Pump and Treat Startup for the Calendar Year 2020 (CY 2020)	Annual Reports
ECF-200ZP1-21-0033_R0	Calculation of Concentration Summary Statistics for Monitoring Wells of the 200-ZP-1 Performance Monitoring Plan (PMP) for the Calendar Year 2020 (CY 2020)	Annual Reports
ECF-HANFORD-21-0034_R0	Description of Groundwater Calculations to Support Performance Assessment for the Calendar Year 2020 (CY 2020) 200 Areas Pump-and-Treat Report	Annual Reports
ECF-200BP5-21-0080_R0	Calculation of Temporal Trends and Confidence Limits for Chromium and Cyanide in Groundwater at Waste Management Area C through Calendar Year 2020	Annual Reports
ECF-200E-21-0124_R0	Groundwater Flow and Migration Calculations for the 2021 Annual Assessment of the Final Status Monitoring Networks for the 200 East Area Dangerous Waste Management Units	Annual Reports
ECF-200IA1-20-0107_R0	Predictive Flow Simulation with the P2R Model for the 200-IA-1 Preliminary Remediation Goal Saturated Zone Abstraction	DOE/RL-2020-51
ECF-200IA1-20-0108_R0	Determination of Preliminary Remediation Goals for 200-IA-1 Source Operable Unit	DOE/RL-2020-51
ECF-HANFORD-21-0119_R0	Hydraulic Gradient and Average Linear Groundwater Velocity Calculations - Quarter 1 Calendar Year 2021	Annual Reports
ECF-HANFORD-16-0134_R0	Calculation of Soil Nonradiological Preliminary Remedial Goals for the Outdoor Worker Scenario	DOE/RL-2016-58_R0
RCRA-CN-02_DOE-RL-2019-74_R0	Interim Status Change Number 2: Interim Status Groundwater Quality Assessment Plan for the Single-Shell Tank System	Primary Document

Regulatory Agency Comments: **No comments**

200 AREA PROJECT MANAGERS MEETING
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Approved Change Notices

Number	Title	Description of Change
TPA-CN-0912	DOE/RL-2019-42, Sampling and Analysis Plan for Perched Water Extraction and Monitoring Wells in the 200-DV-1 Operable Unit, Revision 0	DOE/RL-2019-42 is being revised to remove oxidation-reduction potential as a required field parameter measurement for routine groundwater sampling. QC requirements and groundwater purge/sampling rates were revised.
TPA-CN-0921	DOE/RL-2017-64, Post Remedial Investigation Waste Control Plan and Removal Action Waste Management Plan for the 200-BP-5 Groundwater Operable Unit, Rev. 0	DOE/RL-2017-64 is amended to add one well to Table A-1 (299-E26-16) and remove two wells from Table A-1 (299-E27-4 and 299-E28-15).

Regulatory Agency Comments: **No comments**

Monthly Performance Report Assessment

The DOE Project Managers have identified no outstanding issues with the preceding month's Environmental Performance Report for this scope.

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OPEN ACTION ITEM TRACKING

Action #	Action/Subject	Assigned To	Owed To	Assigned Date	Original Due Date	Adjusted Due Date	Status
195	Brief ECY and EPA on results of congeners, DV-1	CPCC/DOE	ECY, EPA	1/20/2022	3/17/2022		

Appendix A

Approved Groundwater Sample Event Disposition Concurrence Forms

NO FORMS FOR THIS REPORTING PERIOD