

Office of River Protection



Monthly Reporting Period November 1–November 30, 2022¹

¹ The narrative descriptions of progress in this report cover the reporting period. Information outside the reporting period may also be included for purposes of providing continuity or useful context. Information may be repeated in multiple sections of this report for continuity and clarity. Earned Value Management System data and descriptions cover the period through October 2022.

Topic	Page
Acronyms and Abbreviations	ii
Administrative Items/Milestone Status	1
222-S Laboratory	5
System Plan.....	7
Acquisition of New Facilities	10
Supplemental Treatment and Resource Conservation and Recovery Act Part B Permit Applications	12
Low-Activity Waste Pretreatment System.....	15
Tank-Side Cesium Removal System	17
Test Bed Initiative Demonstration	19
242-A Evaporator Status.....	21
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility.....	23
Tank System Update	28
Independent Qualified Registered Professional Engineer Activities	32
In-Tank Characterization and Summary	33
Single-Shell Tank Closure Program	37
Single-Shell Tank Retrieval Program	42
Tank Operations Contract Overview	44
Table 1 Administrative Record Metadata	54

Acronyms and Abbreviations

COVID-19	coronavirus disease 2019
CMIP	Corrective Measures Implementation Work Plan
CV	cost variance
DFLAW	direct-feed low-activity waste
DOE	U.S. Department of Energy
DST	double-shell tank
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ETF	Effluent Treatment Facility
HFFACO	<i>Hanford Federal Facility Agreement and Consent Order</i> (HFFACO and TPA are used interchangeably throughout this report)
IAMIT	Interagency Management Integration Team
IQRPE	Independent Qualified Registered Professional Engineer
IX	ion exchange
LAW	low-activity waste
LAWP	low-activity waste pretreatment
LERF	Liquid Effluent Retention Facility
PMR	permit modification request
RCRA	<i>Resource Conservation and Recovery Act</i>
SST	single-shell tank
SV	schedule variance
TBI	Test Bed Initiative
TPA	Tri-Party Agreement
TSCR	tank-side cesium removal
WIR	Waste Incidental to Reprocessing
WMA	waste management area
WTP	Waste Treatment and Immobilization Plant

Administrative Items/Milestone Status

Milestone	Title	Due Date	DOE PM	Completion Date	Status
Prior Years					
M-062-45	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2015	P. Schroder	-	In Dispute
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection	04/30/2015	P. Schroder	-	In Dispute
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones	04/30/2015	P. Schroder	-	In Dispute
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment	04/30/2016	P. Schroder	-	In Dispute
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements	04/30/2018	P. Schroder	-	In Dispute
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	04/30/2021	P. Schroder	-	In Dispute
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	04/30/2021 ^c	P. Schroder	-	In Dispute
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5	12/31/2021	P. Schroder	-	In Abeyance
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs	01/31/2022	P. Schroder	-	In Abeyance
M-045-15	Completion of Tank A-103 SST Waste Retrieval	09/30/2022	P. Schroder	-	In Abeyance
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I	09/30/2022	P. Schroder	-	In Abeyance
M-045-15D	Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	09/30/2022	P. Schroder	-	In Abeyance
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD ^a	P. Schroder	-	On Schedule

Milestone	Title	Due Date	DOE PM	Completion Date	Status
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C	TBD ^a	P. Schroder	-	On Schedule
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan	TBD ^a	P. Schroder	-	On Schedule
M-045-86	Submit Retrieval Data Report to Ecology for 19 Tanks Retrieved Under Consent Decree	TBD ^b	P. Schroder	-	On Schedule
Fiscal Year 2023 (October 1, 2022 – September 30, 2023)					
M-062-34-T01	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	12/30/2022	P. Schroder	-	In Dispute
M-062-40I	Select a Minimum of 3 Scenarios	12/31/2022	P. Schroder	-	On Schedule
M-062-01AT	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2023	P. Schroder	-	On Schedule
M-062-51	Achieve Substantial Completion of LERF/ETF Construction Upgrades Necessary for LAW Hot Commissioning	04/15/2023	P. Schroder	-	On Schedule
M-062-52	Achieve Substantial Completion of Secondary Waste Construction Necessary for LAW Hot Commissioning	06/30/2023	P. Schroder	-	On Schedule
M-045-56S	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)	07/31/2023	P. Schroder	-	On Schedule
M-062-01AU	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2023	P. Schroder	-	On Schedule
M-062-53	Effluent Management Facility (EMF) Cold Commissioning Start	08/15/2023	J. Young	-	On Schedule
M-062-21	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00	08/31/2023 ^d	P. Schroder	-	At Risk
M-045-86L	Submit Retrieval Data Report (RDR) to Ecology for Tank AX-104	09/29/2023	P. Schroder	-	On Schedule

Milestone	Title	Due Date	DOE PM	Completion Date	Status
M-045-91E5	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2023	P. Schroder	-	On Schedule
Fiscal Year 2024 (October 1, 2023 – September 30, 2024)					
M-045-92	Complete Installation of 4 Additional Interim Barriers	10/31/2023	P. Schroder	-	On Schedule
M-045-92AB	Complete Construction of Barrier 4 in 241-U Farm	10/31/2023	P. Schroder	-	On Schedule
M-045-92AG	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2023	P. Schroder	-	On Schedule
M-062-40J	Submit System Plan to Ecology	10/31/2023	P. Schroder	-	On Schedule
M-062-56	Submit Permit Application for Design and Construction of the LAWP Capability	12/31/2023	P. Schroder	-	On Schedule
M-062-01AV	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2024	P. Schroder	-	On Schedule
M-045-91K-T01	Submit Report of the Initial Baseline Visual Inspection of All SSTs Remaining to be Inspected	3/31/2024	P. Schroder	-	On Schedule
M-045-56T	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2024)	7/31/2024	P. Schroder	-	On Schedule
M-062-01AW	Submit Semi-Annual Project Compliance Report to Ecology	7/31/2024	P. Schroder	-	On Schedule

Milestone	Title	Due Date	DOE PM	Completion Date	Status
M-062-21A	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00	08/31/2024 ^d	P. Schroder	-	At Risk

^a To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan.

^b To be determined based on tank retrieval completion.

^c On January 27, 2021, DOE submitted signed change package M-62-21-01 to Ecology for evaluation to extend the Milestone M-62-45, "System Plan negotiations," due date by 90 days due to "Holistic Negotiations" progress. This change package was not concurred on by Ecology within the 14-day period; therefore, the change package went into dispute on February 10, 2021.

^d Change control form M-62-22-01, approved November 29, 2022, extended the due date of interim Milestone M-062-21 by 6 months, from February 28, 2023, to August 31, 2023 (and annually thereafter).

CMP = Corrective Measures Implementation Work Plan.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

ETF = Effluent Treatment Facility.

HFFACO = *Hanford Federal Facility Agreement and Consent Order*.

LAW = low-activity waste.

LAWP = Low-Activity Waste Pretreatment.

LERF = Liquid Effluent Retention Facility.

Mod = modification.

ORP = U.S. Department of Energy, Office of River Protection.

PM = project manager.

RCRA = *Resource Conservation and Recovery Act*.

SST = single-shell tank.

TBD = to be determined.

WMA = waste management area.

WTP = Waste Treatment and Immobilization Plant.

222-S Laboratory

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Jeff Cheadle
Ecology Project Manager: Debra Alexander

Significant Past Accomplishments

- During the month of November, the 222-S Laboratory delivered the following tank farm final reports:
 - Caustic Demand Testing on 2020 Tank 241-AN-106 Core Samples
 - Tank 241-AZ-102 Grab (2022-05)
 - Tank 241-AW-105 Grab (2022-06).
- Completed transfer of 219-S Tank 102 to Tank 241-SY-101.

Significant Planned Activities in the Next Six Months

- Sample receipt and analysis as indicated throughout the Tri-Party Agreement (TPA) monthly report.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing coronavirus disease 2019 (COVID-19) concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition.
- On May 20, 2020, U.S. Department of Energy (DOE) authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.

- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

System Plan

Responsible Assistant Manager: Delmar Noyes
Technical Lead: Jim Lynch
Ecology Project Manager: Dan McDonald, Jeff Lyon

M-062-45	Complete Negotiations 6-Months after Last Issuance of System Plan
Due:	April 30, 2015.
Status:	In Dispute.
M-062-45-A	Complete Negotiations 6-Months after Last Issuance of System Plan
Due:	April 30, 2021.
Status:	In Dispute.
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45, Paragraphs 4 and 5
Due:	December 31, 2021.
Status:	In Abeyance.
M-062-40I	Select a Minimum of 3 Scenarios
Due:	December 31, 2022.
Status:	On Schedule.
M-062-40J	Submit System Plan to Ecology²
Due:	October 31, 2023.
Status:	On Schedule.

Significant Past Accomplishments

- The U.S. Environmental Protection Agency (EPA), DOE, and Ecology met in the first mediated session of the “Holistic Negotiations” on June 25, 2020.
- On August 12, 2022, Ecology provided input on its selected scenarios for System Plan 10. Three meetings were held in the month of August to discuss Ecology’s selected scenarios and document the key assumptions associated with each. Additionally, DOE and Ecology discussed and agreed on an approach for documenting and concurring on the selected scenarios in support of completing Milestone M-062-40I.
- On October 17, 2022, DOE and Ecology agreed to extend Milestone M-062-40I by 2 months; from October 31, 2022, to December 31, 2022, with approval of TPA Change Control Form M-62-22-02. The extension recognized ongoing discussions between DOE and Ecology to incorporate actions from Agreed Order, Docket No. 21304 for evaluating the acceleration of Tanks 241-B-109 and 241-T-111 single-shell tank (SST) retrievals as part of the System Plan process. These discussions resulted in changes to the selected scenarios.

² Ecology denotes Washington State Department of Ecology.

- In the month of November 2022, DOE and Ecology reviewed the detailed modeling inputs for the System Plan 10 Baseline Case, as well as Scenarios 2 and 3. DOE approved the modeling inputs for the Baseline Case and Scenario 2, and Washington River Protection Solutions began modeling the Baseline Case.

Significant Planned Actions in the Next Six Months

- Continue to address and resolve disputes regarding Milestone M-062-45 and its associated milestones during “Holistic Negotiations”
- Obtain agreement on selected scenarios in support of Milestone M-062-40I
- Perform modeling and analysis of selected scenarios and develop the System Plan, Rev. 10, document in support of Milestone M-062-40J.

Issues

- Ecology and DOE have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.

- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Acquisition of New Facilities

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Janet Diediker
Ecology Project Manager: Dan McDonald
 Jeff Lyon

M-090-13 CD-1³ for Interim Hanford Storage Project and CR⁴ for CD-2 to ECY⁵

Due: September 30, 2025.
 Status: On Schedule.

M-090-00 Acquire/Modify Facilities for Storage of First Two Years of IHLW⁶ from the WTP⁷ Operations

Due: December 31, 2036.
 Status: In Dispute.

M-047-00 Completion of Work for Management of Secondary Waste from the WTP

Due: To be determined.
 Status: In Dispute.

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- None.

Issues

- Letter 19-ORP-0005, “Milestones in the Hanford Federal Facility Agreement and Consent Order Placed ‘In Abeyance’ During the System Plan 8 Negotiations,” was issued on June 21, 2019, from DOE to Ecology. The letter outlined a number of milestones (including M-047-00 and M-090-00) that DOE requested to be placed in abeyance due to the potential impacts that holistic negotiations may have on these milestones. The letter also stated that if Ecology disagreed with DOE’s proposal to maintain these milestones in abeyance, that 19-ORP-0005 constituted DOE’s notice that it is initiating the dispute resolution process. Ecology disagreed with DOE’s request to place the milestones in abeyance via letter 19-NWP-097, “Correspondence Regarding Tank Waste Retrieval and Treatment Pathway at Hanford,” issued June 27, 2019, thus placing these milestones in

³ CD denotes critical decision.

⁴ CR denotes change request.

⁵ ECY denotes Washington State Department of Ecology.

⁶ IHLW denotes immobilized high-level waste.

⁷ WTP denotes Waste Treatment and Immobilization Plant.

dispute resolution. It was during an internal review of the TPA monthly report late May 2022 that these milestones were found to be incorrectly listed as “On Schedule” in the report.

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Supplemental Treatment and Resource Conservation and Recovery Act Part B Permit Applications

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Richard Valle
Ecology Project Manager: Dan McDonald

M-062-45-ZZ Negotiate a One-Time Supplemental Treatment Selection

Due: April 30, 2015.
 Status: In Dispute.

M-062-45-ZZ-A Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones

Due: April 30, 2015.
 Status: In Dispute.

**M-062-31-T01 Complete Final Design and Submit RCRA⁸ Part B Permit
Modification Request for Enhanced WTP & Supplemental Treatment**

Due: April 30, 2016.
 Status: In Dispute.

**M-062-32-T01 Start Construction of Supplemental Vitrification Facility and/or WTP
Enhancements**

Due: April 30, 2018.
 Status: In Dispute.

**M-062-33-T01 Complete Construction of Supplemental Treatment Vitrification
Facility and/or WTP Enhancements**

Due: April 30, 2021.
 Status: In Dispute.

**M-062-34-T01 Complete Hot Commissioning of Supplemental Treatment
Vitrification Facility and/or WTP Enhancements**

Due: December 30, 2022.
 Status: In Dispute.

**M-062-52 Achieve Substantial Completion of Secondary Waste Construction
Necessary for LAW⁹ Hot Commissioning**

Due: June 30, 2023.
 Status: On Schedule.

**M-062-21 Annually Submit Data Which Demonstrates Operation of the WTP at
a Rate Sufficient to Meet M-062-00**

Due: August 31, 2023.
 Status: At Risk.

⁸ RCRA denotes *Resource Conservation and Recovery Act*.

⁹ LAW denotes low-activity waste.

M-062-21A Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00

Due: August 31, 2024.
Status: At Risk.

M-062-00 Complete Pretreatment Processing and Vitrification of HLW¹⁰ and LAW Tank Wastes

Due: December 31, 2047.
Status: At Risk.

Significant Past Accomplishments

- Transmitted 22-TF-003280, “U.S. Department of Energy Transmittal of DOE/ORP-2021-05, ‘Direct-Feed Low-Activity Waste Secondary Liquid and Solid Waste Work Plan,’ Rev. 1,” to Ecology on November 1, 2022, to update the TPA primary document based upon completion of Ecology comment disposition.
- Change Control Form M-62-22-01 was approved by DOE and Ecology on November 29, 2022, which extended the due date of interim Milestone M-062-21 by 6 months, from February 28, 2023, to August 31, 2023, and annually thereafter.

Significant Planned Actions in the Next Six Months

- See the “System Plan” section, above, for updates related to the M-062-45 Milestone negotiations
- Receive potential Ecology notification or response on completeness determination of DOE/ORP-2021-05, Rev. 1.

Issues

- Ecology and DOE have ended negotiations related to the M-062-45 Milestone and have initiated dispute. “Holistic Negotiation” mediated sessions began in June 2020 to resolve these disputes.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

¹⁰ HLW denotes high-level waste.

- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Low-Activity Waste Pretreatment System

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Janet Diediker
Ecology Project Manager: Dan McDonald

M-062-56 Submit Permit Application for Design and Construction of the LAWP¹¹ Capability

Due: December 31, 2023.
 Status: On Schedule.

M-062-60 Submit Disposition Pathways Evaluation for Spent IX¹² Columns as Primary Document to Ecology

Due: June 30, 2026.
 Status: On Schedule.

M-062-61 Submit Updated TSCR¹³ Closure Plan as a Permit Modification Request to Ecology

Due: April 30, 2029.
 Status: On Schedule.

M-062-62 Complete Negotiations to Establish HFFACO¹⁴ Milestones for Disposition of Spent IX Columns

Due: January 31, 2035.
 Status: On Schedule.

M-062-62-T01 Submit Conceptual Design Package (30% Design) for Facility to Remove/Prepare/Process IX Waste Media

Due: December 30, 2040.
 Status: On Schedule.

M-062-62-T02 Submit Conceptual Design Package (60% Design) for Facility to Remove/Prepare/Process IX Waste Media

Due: June 30, 2042.
 Status: On Schedule.

M-062-63 Submit as PMR¹⁵, Final Design (90-100% Design) for Facility to Remove/Prepare/Process IX Waste Media

Due: September 30, 2043.
 Status: On Schedule.

¹¹ LAWP denotes low-activity waste pretreatment.

¹² IX denotes ion exchange.

¹³ TSCR denotes tank-side cesium removal.

¹⁴ HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

¹⁵ PMR denotes permit modification request.

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- Initiate and complete the Analysis of Alternatives for the LAWP Capability.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Tank-Side Cesium Removal System

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Dustin Stewart
Ecology Project Manager: Dan McDonald

This section only covers the Tank Farms Project scope of the direct-feed low-activity waste (DFLAW) mission. Please refer to the Consent Decree monthly report for the WTP Project scope pertaining to DFLAW.

Significant Past Accomplishments

- TSCR received CD-4a approval from the Energy Systems Acquisition Advisory Board on December 10, 2021
- TSCR initiated operations on January 24, 2022
- Completed Declaration of Readiness for Waste Feed Delivery upgrades on February 8, 2022
- Completed the first batch of the first TSCR processing campaign and placed two IX Columns on the TSCR pad
- Received CD-4 approval for the Waste Feed Delivery Project on April 12, 2022.

Significant Planned Actions in the Next Six Months

- Continue the first TSCR processing campaign.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.

- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Test Bed Initiative Demonstration

Tank Farms Assistant Manager: Delmar Noyes

Technical Lead: Richard Valle

Ecology Project Manager: TBD

DOE proposed to undertake a Test Bed Initiative Demonstration (TBI Demonstration). If the TBI Demonstration is conducted, approximately 2,000 gallons of waste from Tank 241-SY-101 at the Hanford Site in Washington will be pretreated to remove most key radionuclides, then solidified (grouted) offsite, and subsequently disposed of at a licensed and permitted disposal facility outside of Washington State. DOE issued DOE-ORP-2021-01, Rev. 0, *Draft Waste Incidental to Reprocessing (WIR) Evaluation for the TBI Demonstration* in late 2021. Following public comment on the Draft WIR Evaluation and consultation with the Nuclear Regulatory Commission, DOE may issue a Final WIR Evaluation and a potential WIR Determination. DOE will also complete *National Environmental Policy Act* analysis prior to making a decision about whether to proceed with the TBI Demonstration.

Significant Past Accomplishments

- The Notice of Availability of *Draft Waste Incidental to Reprocessing Evaluation for the Test Bed Initiative Demonstration*, U.S. Department of Energy (Draft WIR Evaluation) was published in the Federal Register on November 5, 2021 (see 86 FR 61200). The Draft WIR Evaluation demonstrates that the pretreated and solidified waste will be incidental to reprocessing of spent nuclear fuel, will not be high-level radioactive waste, and may be managed as low-level radioactive waste.
 - Held virtual public meeting for the Draft WIR Evaluation on November 18, 2021
 - Closed public comment period for the Draft WIR Evaluation on February 2, 2022.
- Completed review of the public comments received on the Draft WIR Evaluation. Comment dispositions will be included as part of the Final WIR Evaluation (DOE/ORP-2022-02, Rev. 0).
- Received the Nuclear Regulatory Commission technical evaluation report on July 7, 2022. Comment dispositions will be included as part of the Final WIR Evaluation (DOE/ORP-2022-02, Rev. 0).

Significant Planned Actions in the Next Six Months

- Issue Final WIR Evaluation (DOE/ORP-2022-02, Rev. 0) and potential WIR Determination
- Issue final documentation related to the *National Environmental Policy Act* and potential decision document(s).

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority

of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

242-A Evaporator Status

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Paul Hernandez
Ecology Project Manager: Ambika Chakravartty

The 242-A Evaporator campaign strategy is identified in the following table:

Fiscal Year	Campaign No.	Feed Source	Slurry Tank	Comments
2023	EC-11	AW-102	AP-104	EC-11 to be performed after completion of transfer lines replacements in FY 2023.

FY = fiscal year.

Significant Past Accomplishments

- Completed 242-A Evaporator ultrasonic test inspection of steam lines
- Continued replacement of the PC Recycle F-C-4 and F-C-5 filter housings
- Completed pipe in pipe installation between AW Tank Farm and 242-A Evaporator for the slurry and feed pipe in pipe transfer line replacement
- Completed AW-B, AW-02A, AW-02E, and 242-A Evaporator's pump room jumper installation for the 242-A Evaporator slurry and feed pipe in pipe transfer line replacement
- Completed backfill/restoration and reopened 4th Street for the 242-A Evaporator's slurry and feed pipe in pipe transfer line replacement
- Completed 100 percent design and fabrication for the replacement of the U-Joint valve actuator driveshafts/mounting assemblies on the 242-A Evaporator's dump valves
- Completed calibration and testing of instruments for the 242-A Evaporator Documented Safety Analysis safety system upgrades
- Continued fit for use evaluation of 242-A Evaporator's condenser raw water system
- Received new PB-2 replacement pump
- Completed leak testing for AW-02A, AW-B, and 242-A Evaporator's pump room jumpers and fieldwork prior to turnover to operations for the 242-A Evaporator slurry and feed pipe in pipe transfer line replacement.

Significant Planned Actions in the Next Six Months

- Receive new PB-1 replacement pump
- Complete leak testing for AW-02E prior to turnover to operations for the 242-A Evaporator slurry and feed pipe in pipe transfer line replacement

- Complete fieldwork for the replacement of the U-Joint valve actuator driveshafts/mounting assemblies on the 242-A Evaporator's dump valves
- Initiate cold runs activities
- Replace transfer valve actuators' driveshafts in AW, AP, and AN tank farms
- Initiate replacement of PB-1 Pump seal water flow transmitter and components
- Initiate replacement of PB-2 Pump.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.
- Identified flow transient concern on 242-A condenser raw water system. Fit for use evaluation in progress. Operational restrictions have been implemented to isolate raw water system until the evaluation is completed.
- Metal shavings were found inside the 242-A dump valve actuator housings. Actions have been initiated to rebuild and reinstall actuators prior to the scheduled startup.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Richard Valle
Ecology Project Manager: Ambika Chakravartty

M-062-51 Achieve Substantial Completion of LERF¹⁶/ETF¹⁷ Construction Upgrades Necessary for LAW Hot Commissioning

Due: April 15, 2023.
 Status: On Schedule.

Significant Past Accomplishments

Operations

- In preparation for the future receipt of secondary liquid waste from WTP, a nuclear safety basis for the LERF was approved by DOE on August 24, 2022
- The nuclear safety basis was implemented at LERF on October 18, 2022
- A contractor operational readiness review was completed on November 15, 2022, to provide a disciplined, systematic, documented, performance-based examination of facilities, equipment, personnel, procedures, and management control systems to ensure safe operation within the approved safety envelope as defined by the facility safety basis.

Projects

- Completed fieldwork activities for the ETF freeze protection upgrade
- Completed fieldwork activities for the balance of ETF monitoring and control system upgrades
- Completed fieldwork activities for the ETF carbon dioxide removal skid
- Continued fieldwork activities for the ETF Load-In Station expansion (e.g., 2025ED demolitions)
- Continued fieldwork activities for the ETF chiller addition (e.g., mechanical installations)
- Continued fieldwork activities for the LERF Basin 41 installation (e.g., acceptance testing)
- Continued fieldwork activities for the ETF supplemental organic treatment system (e.g., install boiler, skids, and stripper tower equipment)
- Continued fieldwork activities for the ETF redundant filtration system upgrade (e.g., mechanical, electrical, and piping)
- Continued fieldwork activities for the ETF vessel offgas system (e.g., install fire damper)

¹⁶ LERF denotes Liquid Effluent Retention Facility.

¹⁷ ETF denotes Effluent Treatment Facility.

- Continued fieldwork activities for the ETF secondary waste storage and loadout upgrades (e.g., concrete).

Other

- Transmitted 22-TF-003280, “U.S. Department of Energy Transmittal of DOE/ORP-2021-05 to Ecology on November 1, 2022, to update the TPA primary document based upon completion of Ecology comment disposition.

Significant Planned Actions in the Next Six Months

Operations

- Develop process to remove accumulated solids inside the piping system at the LERF Basin 44 catch basin
- Conduct a DOE operational readiness review on the implementation of the LERF nuclear safety basis
- Receive liquid effluent generated by tuning material from initial DFLAW cold commissioning (Phase 1B)
- Prepare facilities for next Fiscal Year 2023 processing campaign(s).

Projects

- Complete procurements and fabrications for the ETF motor control center (E-House), acetonitrile, and secondary waste storage and loadout projects
- Complete testing and turnover activities for the enhanced leak detection system installation on the 310 and 311/PC-5000 transfer lines
- Complete testing and turnover activities for the balance of ETF monitoring and control system upgrades, as the previous system is outdated
- Complete testing and turnover activities for the ETF carbon dioxide removal skid to provide the capability to treat the WTP DFLAW effluent
- Complete testing and turnover activities for the ETF freeze protection upgrade to support enhanced facility operation
- Complete testing and turnover activities for the ETF motor control center (E-House) upgrade to improve electrical infrastructure for enhanced facility operation
- Complete testing and turnover activities for the ETF redundant filtration system to reduce processing down time
- Complete testing and turnover activities for the ETF vessel offgas upgrade to support enhanced facility operation
- Complete testing and turnover activities for the LERF Basin 41 installation for additional capacity

- Complete fieldwork activities for the 2025ED Load-In Station expansion to support enhanced facility operation
- Complete fieldwork activities for the ETF chiller addition to provide additional cooling capability for the ETF upgrade projects
- Complete fieldwork activities for the ETF supplemental organic treatment (i.e., steam stripping) system to provide the capability to treat the WTP DFLAW effluent
- Complete fieldwork activities for the ETF secondary waste storage and loadout upgrades to provide the capability to manage the WTP DFLAW effluent.

Other

- Receive potential Ecology notification or response on completeness determination of DOE/ORP-2021-05, Rev. 1.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

- Accumulated solids were discovered inside the piping system at the LERF Basin 44 catch basin. Operational restrictions have been implemented to isolate the affected area until removal process is completed.

Liquid Effluent Retention Facility Volumes

LERF liquid levels, inventory, and received waste are shown in the table below. Volumes in the table are estimated.¹⁸

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
AZ-301 Condensate	-	-	-
Mixed Waste Trench 31 and 34	-	-	+ 20,100
Other ^a	+ 2,100	+1,700	+ 3,500
Processing Campaign(s)	-	-	-
Total Volume	750,000	5,660,000	1,760,000

^a Effluent Treatment Facility/Liquid Effluent Retention Facility-generated waste water, and Basin 42, 43, and 44 cover water.
Data Date: November 30, 2022.
Values shown in gallons.

¹⁸ The volume in each Liquid Effluent Retention Facility basin is calculated from liquid level sensor readings. Therefore, based on sensor fluctuations and/or environmental effects (e.g., precipitation, temperature), values for basin volumes may vary slightly from the net inputs and outputs shown for the basin.

Tank System Update

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Erik Nelson
Ecology Project Manager: Jeff Lyon
 Ambika Chakravartty
 Nina Menard

Reports are identified as completed (internal access only) or released (external access).

M-042-10 Complete Tank Integrity Examination of DST¹⁹ Components to Assess Integrity

Due: December 31, 2026.
 Status: (50% Complete).

M-045-91E5 Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology

Due: September 30, 2023.
 Status: On Schedule.

M-045-91K-T01 Submit Report of the Initial Baseline Visual Inspection of all SSTs Remaining to be Inspected

Due: March 31, 2024.
 Status: On Schedule.

M-045-91L Obtain Assessment Reviewed/Certified by an IQRPE²⁰ Attesting to SST Structural Integrity

Due: September 30, 2034.
 Status: On Schedule.

Double-Shell Tank Integrity

Significant Past Accomplishments

- Completed DST annulus visual inspections at Tanks 241-AN-104, 241-AW-101, 241-AW-103, 241-SY-101, 241-SY-102, and SY-103.

Significant Planned Actions in the Next Six Months

- Complete DST annulus visual inspections at Tanks 241-AW-102, 241-AW-104, 241-AW-105, and 241-AW-106
- Complete ultrasonic testing inspection fieldwork at Tanks 241-AP-101, 241-AP-104, 241-SY-102, and 241-SY-103

¹⁹ DST denotes double-shell tank.

²⁰ IQRPE denotes Independent Qualified Registered Professional Engineer.

- Complete pressure encasement test/NACE inspections of Evaporator Drain Lines 241-AP-02A, 241-AP-07A, and 241-AW-02D.

Ultrasonic Testing Report Status

- Ultrasonic testing report for Tank 241-AN-107 was released as RPP-RPT-63549, *Ultrasonic Testing and Air Slot Visual Inspection Results for Tank 241-AN-107 – FY 2022, Rev. 0*
- Ultrasonic testing report for Tank 241-AN-101 was released as RPP-RPT-63732, *Ultrasonic Testing and Air Slot Visual Inspection Results for Double Shell Tank 241-AN-101 - FY 2022, Rev. 0*
- Completed development of the ultrasonic testing reports for Tanks 241-AP-105 and 241-SY-101
- Begin the ultrasonic testing reports for Tanks 241-SY-102 and 241-SY-103.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Single-Shell Tank Integrity

Significant Past Accomplishments

- Transmitted 22-TF-002813, “Completion of Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Milestone M-045-91K,” to Ecology on September 29, 2022, documenting completion of TPA Milestone M-045-91K.

Significant Planned Actions in the Next Six Months

- Release RPP-RPT-63488, *Structural Assessment of Concrete Damage in the Hanford SX Single-Shell Tanks*, Rev. 0
- Complete SST visual inspection at Tanks 241-A-106, 241-BY-101, 241-BY-102, 241-BY-106, 241-BY-111, 241-BX-101, 241-BX-103, 241-BX-110, 241-C-101, 241-C-102, 241-C-110, 241-C-112, 241-SX-111, 241-SX-111 (rescan2), 241-T-111, and 241-U-104.

RPP-9937, Single-Shell Tank System Leak Detection and Monitoring Functions and Requirements Document, Rev. 5 Updates

- Baseline Change Authorizations implemented:
 - None.
- Specification limit exceedance:
 - One interstitial-liquid level exceeded its upper specification limit (Tank 241-SX-103).
- Intrusion:
 - None.
- Annual RPP-9937 meeting:
 - Completed April 21, 2022.
- Primary Monitoring Device repair:
 - Discussed at the annual RPP-9937 meeting conducted on April 21, 2022. Tank 241-SX-105 Liquid Observation Well is currently scheduled to be replaced by December 31, 2022.
- Non-Valid required readings due to a Suspect Verifying and Validating designation:
 - None.

Issues

- Tank 241-SX-111 was inspected visually in mid-August 2020. Spalled/cracked concrete was identified in various locations on the tank dome. Concrete was noted on the waste surface and, when compared to past visual inspections, suggests that the spalling occurred post-1987. On September 1, 2020, a laser scan of Tank 241-SX-111 was performed. Review of the laser scan results identified a new spalling location since the visual inspection. Tank 241-SX-111 was visually inspected in August 2021 to support the ongoing analysis. During the August 2021 visual inspection, additional spalling was

observed. A subsequent laser scan was performed in September 2021. RPP-RPT-63488, Rev. 0, concluded that the levels of spalling identified in the February 2020 through August 2021 inspections of the SX-tank domes do not pose a threat to the structural integrity of the tanks. An additional visual inspection and laser scan were performed at Tank 241-SX-111 in November 2021. An analysis of the November 2021 inspection results identified one new area of spalling. A visual inspection and laser scan were performed in February 2022 and no further spalling was noted. Additional visual inspections and laser scans were completed in May, August, and November 2022. These inspections indicated minor increases in cracking and spalling. The observed degradation remains bounded by RPP-RPT-63488.

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Independent Qualified Registered Professional Engineer Activities

- DST system:
 - RPP-RPT-58441, *Double-Shell Tank System Integrity Assessment Report (DSTAR)*, Rev. 1, was completed in 2016
 - The IQRPE recommended the next DST system integrity assessment report be completed in 10 years.
- SST system:
 - Completed M-045-9II Milestone report RPP-IQRPE-50028, *Single-Shell Tank System Structural Integrity Assessment Report*, in 2018
 - The IQRPE recommended the next SST structural integrity assessment be completed in 16 years. Ecology transmitted letter 19-NWP-009, “*Single-Shell Tank Structural Integrity Assessment, RPP-IQRPE-50028*,” on January 16, 2019. The letter noted Ecology’s agreement with the IQRPE’s 16-year recommendation.
- 242-A Evaporator:
 - Completed RPP-RPT-60098, *242-A Evaporator System Integrity Assessment Report*, Rev. 0, in 2018
 - The IQRPE recommended the next 242-A Evaporator system integrity assessment be completed in 15 years. Ecology transmitted letter 18-NWP-114, “Department of Ecology’s (Ecology’s) Comments on the *242-A Evaporator System Integrity Assessment Report, RPP-RPT-60098, Revision 0*,” on July 19, 2018. The letter noted Ecology’s disagreement with the IQRPE’s 15-year recommendation. The Hanford Sitewide permit, Rev. 8C, currently provides for 242-A Evaporator system integrity assessments at a frequency of 10 years. DOE will continue to comply with the permit condition.
- ETF:
 - Completed RPP-IQRPE-50043, *Effluent Treatment Facility (ETF) IQRPE Integrity Assessment*, in 2019
 - The IQRPE recommended the next ETF integrity assessment be completed in 10 years.
- 219-S tank system:
 - Completed RPP-IQRPE-50029, *219-S Integrity Assessment Report*, in February 2020
 - The IQRPE recommended the next 219-S Tank system integrity assessment be completed in 20 years.

In-Tank Characterization and Summary

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Erik Nelson
Ecology Project Manager: Jeff Lyon
Ambika Chakravartty

Reports Completed or Released

For November 2022, the following reports were completed (internal access only) or released (external access):

- Completed:
 - RPP-RPT-64029, *Final Report for Tank 241-AZ-102 Grab Sampling and Analysis Plan – Fiscal Year 2022*, Rev. 0
 - RPP-PLAN-65319, *Tank 241-AN-102 Grab Sampling and Analysis Plan – Fiscal Year 2023*, Rev. 0
 - RPP-PLAN-65336, *Tank 241-SY-101 Large Volume Sample Collection to Support Platform Testing, Phase 1, FY23*, Rev. 0
 - RPP-PLAN-65337, *Tank 241-SY-101 Large Volume Sample Collection to Support Platform Testing, Phase 2, FY23*, Rev. 0.
- Released:
 - HNF-EP-0182, *Waste Tank Summary Report for Month Ending September 30, 2022*, Rev. 417.

Tank Sampling

Significant Past Accomplishments

- For November 2022, the following tank sampling was conducted:
 - Completed U-Farm Soil Sample.

Significant Planned Actions in the Next Six Months

- Complete core sampling of Tank 241-AN-104
- Complete grab sampling of Tank 241-AP-104
- Complete grab sampling of Tank 241-AP-106
- Complete grab sampling of Tank 241-SY-101.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Best-Basis Inventory Updates

Significant Past Accomplishments

- Best-basis inventory updates for the following tanks were completed in November 2022:
 - RPP-RPT-44637, *Derivation of Best-Basis Inventory for Tank 241-AZ-101 as of October 1, 2022*, Rev. 19
 - RPP-RPT-57338, *Derivation of Best-Basis Inventory for Tank 241-U-111 as of October 1, 2022*, Rev. 3
 - RPP-RPT-59491, *Derivation of Best-Basis Inventory for Tank 241-U-201 as of October 1, 2022*, Rev. 1
 - RPP-RPT-59554, *Derivation of Best-Basis Inventory for Tank 241-U-202 as of October 1, 2022*, Rev. 1
 - RPP-RPT-59572, *Derivation of Best-Basis Inventory for Tank 241-U-203 as of October 1, 2022*, Rev. 1
 - RPP-RPT-59823, *Derivation of Best-Basis Inventory for Tank 241-BX-108 as of November 1, 2022*, Rev. 1
 - RPP-RPT-59906, *Derivation of Best-Basis Inventory for Tank 241-U-103 as of October 1, 2022*, Rev. 2
 - RPP-RPT-59933, *Derivation of Best-Basis Inventory for Tank 241-U-109 as of November 1, 2022*, Rev. 3
 - RPP-RPT-60514, *Derivation of Best-Basis Inventory for Tank 241-U-107 as of October 1, 2022*, Rev. 2.

Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in December 2022:
 - Tank 241-U-104
 - Tank 241-U-204.

Issues

- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.
- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to

infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.

- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Single-Shell Tank Closure Program

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Becky Blackwell
Ecology Project Manager: Jeff Lyon

- M-045-59 Control Surface Water Infiltration Pathways as Needed**
 Due: To be determined. Will be implemented if needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST waste management areas (WMA) (pending the corrective measures study report, M-45-58 Milestone, and implementation of other interim corrective measures).
 Status: On Schedule.
- M-045-62 Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP²¹ for WMA-C²²**
 Due: To be determined. To be established in accordance with the date identified in the M-45-82 Milestone Tier 2 closure plan.
 Status: On Schedule.
- M-045-83 Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan**
 Due: To be determined. To be established in accordance with the date identified in the M-45-82 Milestone Tier 2 closure plan.
 Status: On Schedule.
- M-045-85 Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs**
 Due: January 31, 2022.
 Status: In Abeyance.
- M-045-56S Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)**
 Due: July 31, 2023.
 Status: On Schedule.
- M-045-92 Complete Installation of 4 Additional Interim Barriers**
 Due: October 31, 2023.
 Status: On Schedule.
- M-045-92AB Complete Construction of Barrier 4 in 241-U Farm**
 Due: October 31, 2023.
 Status: On Schedule.

²¹ CMIP denotes Corrective Measures Implementation Work Plan.

²² WMA-C denotes C Tank Farm waste management area.

- M-045-92AG** **Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**
 Due: October 31, 2023.
 Status: On Schedule.
- M-045-56T** **Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2024)**
 Due: July 31, 2024.
 Status: On Schedule.
- M-045-102** **Submit to Ecology a Performance Assessment Maintenance Plan for WMA A/AX²³ PA²⁴**
 Due: September 30, 2025.
 Status: On Schedule.
- M-045-103** **Submit to Ecology a PMR with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule**
 Due: September 30, 2026.
 Status: On Schedule.
- M-045-104** **Submit to Ecology as a PMR the Post-Closure Plan for WMA A/AX**
 Due: September 30, 2028.
 Status: On Schedule.
- M-045-00** **Complete Closure of All SST Farms**
 Due: January 31, 2043.
 Status: At Risk. Decision document 2016-005, signed August 22, 2016, requires this milestone to be addressed with the negotiations supporting M-062-45 Milestone.

Significant Past Accomplishments

- Transmitted the updated RPP-RPT-63200, *FY2020 Annual Interim Surface Barrier Monitoring Report*, Rev. 1, to Ecology via letter 22-TF-003719, “The U.S. Department of Energy Transmittal of RPP-RPT-63200, ‘FY2020 Annual Interim Surface Barrier Monitoring Report,’ Rev. 1,” dated November 30, 2022.

Significant Planned Activities in the Next Six Months

- Submit to Ecology the following SST System closure plans for the Hanford Site Hazardous Waste Facility Permit:
 - RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*, Rev. 3

²³ WMA A/AX denotes Tank Farms A and AX waste management areas.

²⁴ PA denotes performance assessment.

- RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*, Rev. 1
- RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for 241-C-200 Series Tanks*, Rev. 3
- RPP-PLAN-63246, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for the 241-C-107 through 241-C-112 Tanks*, Rev. 2
- RPP-PLAN-63990, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for the 241-C-101 through 241-C-106 Tanks*, Rev. 1.
- Complete construction of the U Tank Farm interim surface barrier evapotranspiration basin and begin construction of the U Tank Farm interim surface barrier in support of Milestone M-045-92AB.
- Respond to Ecology’s comments on RPP-PLAN-64407, *Waste Management Area Integration Study – Waste Management Area A-AX*, Rev. 0 provided via letter 22-NWP-038, dated February 28, 2022. DOE requested a third extension to provide responses to Ecology’s comments and to provide a plan for updating the document by December 31, 2022, via letter 22-TF-002760, “Request for Additional Extension for Comment Response and Plan for Document Update: RPP-PLAN-64407, ‘Waste Management Area Integration Study - Waste Management Area A-AX,’ Rev. 0,” dated September 27, 2022. RPP-PLAN-64407, Rev. 0 was submitted to Ecology via letter 21-TF-002876, “U.S. Department of Energy Transmittal of RPP-PLAN-64407, Waste Management Area Integration Study – Waste Management Area A-AX, Revision 0, to Meet Hanford Federal Facility Agreement and Consent Order Interim Milestone M-045-97,” dated September 17, 2021, to complete Milestone M-045-97, “Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document.”

Issues

- DOE and Ecology agreed, via *Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (LAMIT) Determination*, Number 2022-013, to continue the temporary suspension of Milestone M-045-85 (originally due January 31, 2022) for an additional 30 days, from November 30, 2022, until December 30, 2022. This 30-day suspension will allow discussions that might affect this milestone to continue in the on-going “Holistic Negotiations” between DOE, Ecology, and EPA. This milestone deals with final dates for closure of Hanford tanks which is an assumed primary discussion topic in the “Holistic Negotiations.” Upon conclusion of the “Holistic Negotiations,” DOE and Ecology will discuss the criteria needed for completing Milestone M-045-85.
- Ecology proposed (via an email from Mr. Jeff Lyon on June 17, 2020) to remove the milestone (i.e., M-045-62) for submittal of the CMIP, with the intent to install a final closure cap, rather than implement the planned interim barrier. Ecology’s proposal to install the final closure cap before most of the closure activities would be completed at

Tank Farms 241-A, 241-AN, 241-AP, 241-AW, 241-AX, 241-AY, and 241-AZ is an issue for the following reasons:

- Could impact retrievals and tank structural stability
- Could cause runoff issues for adjacent tank farms
- Is not consistent with the approach analyzed in DOE/EIS-0391, *Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington*; the record of decision (i.e., 78 FR 75918, “Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland, Washington”); and captured in the approved RPP-RPT-59379, *Waste Management Area C Phase 2 Corrective Measures Study Report*.

DOE plans to develop the CMIP to submit to Ecology and has followed this path since RPP-RPT-59379 was approved in June 2018. DOE understands that the CMIP is the vehicle that Ecology will use to meet its TPA obligations in its role as lead agency, as set forth in paragraph 54 of the TPA legal agreement. Paragraph 54 of the TPA states:

DOE shall develop and submit its proposed remedial action (or corrective action) alternative following completion and approval of a Remedial Investigation and Feasibility Study (or RCRA Facility Investigation and Corrective Measures Study), in accordance with the requirements and schedules set forth in the Action Plan. If Ecology is the lead regulatory agency, it will recommend the CERCLA remedial action(s) it deems appropriate to EPA. The EPA Administrator, in consultation with the DOE and Ecology, shall make final selection of the CERCLA remedial action(s), which shall not be subject to dispute.

- Ecology and DOE continue to disagree that several TPA secondary documents are TPA primary documents. Ecology has asserted that the TPA Appendix I performance assessment documents for WMA C; RPP-ENV-61497, *Preliminary Performance Assessment of Waste Management Area A-AX, Hanford Site, Washington*, and RPP-ENV-62206, *Analysis of Post-Closure Groundwater Impacts from Hazardous Chemicals in Residual Wastes in Tanks and Ancillary Equipment at Waste Management Area A-AX at the Hanford Site, Southeast Washington*; are primary documents. As set forth in Section 9.1 of the TPA Action Plan, primary documents are identified in Table 9-1, “Primary Documents,” and are “those which represent the final documentation of key data and reflect decisions on how to proceed.” Since these documents are neither referenced in the TPA as a primary document, nor listed in Table 9-1 of the TPA Action Plan, they are secondary documents. DOE considers these documents to be secondary documents that fit in the category of “Supporting studies and analyses” identified in the secondary documents listed in Table 9-2, “Secondary Documents,” of the TPA Action Plan.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition.

- On May 20, 2020, DOE authorized the Hanford Site to move to Phase 1 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

Single-Shell Tank Retrieval Program

Tank Farms Assistant Manager: Delmar Noyes

Technical Lead: Jim Greene

Ecology Project Manager: Jeff Lyon

- M-045-15 Completion of Tank A-103 SST Waste Retrieval**
 Due: September 30, 2022.
 Status: In Abeyance. Reference IAMIT Determination Number 2022-010 approved September 23, 2022, which temporarily suspended this milestone through March 30, 2023, and placed it “In Abeyance.” DOE previously reported TPA Milestone M-045-15 as "At-Risk" during the July 2021 TPA Project Managers’ Monthly meeting. This milestone deals with an assumed primary discussion topic in the “Holistic Negotiations.” The outcome of the ongoing “Holistic Negotiations” between DOE, Ecology, and EPA may inform the path forward for addressing this milestone.
- M-045-15A Submit a Retrieval Data Report Pursuant to Agreement Appendix I**
 Due: September 30, 2022.
 Status: In Abeyance. Reference IAMIT Determination Number 2022-010 approved September 23, 2022, which temporarily suspended this milestone through March 30, 2023, and placed it “In Abeyance.” This milestone deals with an assumed primary discussion topic in the “Holistic Negotiations.” The outcome of the ongoing “Holistic Negotiations” between DOE, Ecology, and EPA may inform the path forward for addressing this milestone.
- M-045-15D Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H**
 Due: September 30, 2022.
 Status: In Abeyance. Reference IAMIT Determination Number 2022-010 approved September 23, 2022, which temporarily suspended this milestone through March 30, 2023, and placed it “In Abeyance.” This milestone deals with an assumed primary discussion topic in the “Holistic Negotiations.” The outcome of the ongoing “Holistic Negotiations” between DOE, Ecology, and EPA may inform the path forward for addressing this milestone.

M-045-86 Submit Retrieval Data Report to Ecology for 19 Tanks Retrieved Under Consent Decree.

Due: To Be Determined. Eleven Retrieval Data Reports have been submitted for tanks that have been retrieved and Milestones M-045-86A through M-045-86K have been completed. Tank 241-AX-104 currently has a Retrieval Data Report submittal due date of September 29, 2023 (Milestone M-045-86L). Tanks 241-A-101, 241-A-102, 241-A-104, 241-A-105, and 241-A-106, 241-AX-101, and 241-AX-103 have submittal dates to be determined (Milestones M-045-86M through M-045-86S).

Status: On Schedule.

M-045-70 Complete Waste Retrieval from all Remaining Single Shell Tanks (SSTs)

Due: December 31, 2040.

Status: At Risk. Decision document 2016-005, signed August 22, 2016, requires this milestone be addressed with the negotiations supporting M-062-45 Milestone.

Significant Past Accomplishments

- Refer to the Consent Decree monthly report.

Significant Planned Activities in the Next Six Months

- Refer to the Consent Decree monthly report.

Issues

- Refer to the Consent Decree monthly report.

Tank Operations Contract Overview

Earned Value Data: Fiscal Year 2023

October-2022

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$35,238	\$47,661	\$47,420	\$12,424	\$241	1.35	1.01			
FYTD	\$35,238	\$47,661	\$47,420	\$12,424	\$241	1.35	1.01	\$693,724		
CTD	\$7,700,388	\$7,667,393	\$7,583,124	(\$32,995)	\$84,269	1.00	1.01	\$8,358,875	\$8,257,748	\$101,126

ACWP = actual cost of work performed.

BAC = budget at completion.

BCWP = budgeted cost of work performed.

BCWS = budgeted cost of work scheduled.

CM = current month.

CPI = cost performance index.

CTD = contract to date.

CV = cost variance.

EAC = estimate at completion.

FYTD = fiscal year to date.

SPI = schedule performance index.

SV = schedule variance.

VAC = variance at completion.

WBS = work breakdown structure.

The Earned Value Management System is intended to provide a status of how the contractor is progressing against its monthly planned work (i.e., schedule), and whether it is costing more or less to complete the work than planned. The earned value analysis is not intended to be a measurement of performance against existing TPA milestones.

The project plan is measured by expressing the schedule in terms of dollars spread over the anticipated project duration, and then for each month, determining how much of the planned work was accomplished or “earned,” as measured in equivalent dollars. If more work is accomplished than planned, then the project is ahead of schedule and has a favorable schedule variance (SV). Similarly, if less work is accomplished, the project is behind schedule and has an unfavorable SV. Accomplished work is reported in the month it was completed, which may not be when it was planned. For example, work completed in a month earlier than planned would be reported as a favorable SV for the month in which it was completed but would be reported as an unfavorable SV in the month it was planned. The end result would be a net zero overall cumulative SV over these months. Likewise, work completed late will recover an earlier reported unfavorable SV.

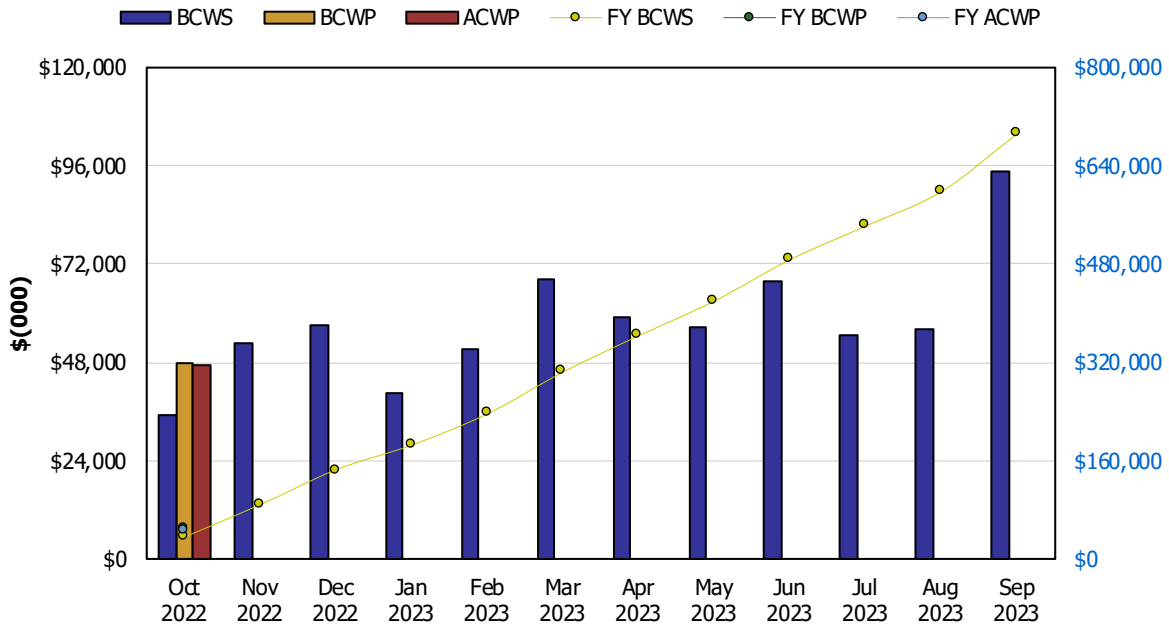
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 behind schedule [a negative or unfavorable SV: $\$8,000 - \$10,000 = (\$2,000)$] and has cost \$1,000 more [a negative or unfavorable CV: $\$8,000 - \$9,000 = (\$1,000)$] than was planned for completing that work scope. Likewise, a favorable or positive CV would be reported if it cost less to complete the work than the performed dollar value of the work. The SV and CV are reported for each monthly period, fiscal-year-to-date, as well as for the contract-to-date value. The monthly variances can fluctuate significantly (for reasons noted earlier), so the fiscal year or contract-to-date report provides a better indicator of the overall project completion status and can give a reasonable projection of how the project will finish, based on the progress-to-date.

Earned Value Data: Fiscal Year 2023

October-2022

Tank Farms ORP-0014
WBS 5 - River Protection Project

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2022	\$35,238	\$47,661	\$47,420	1.35	1.01	\$35,238	\$47,661	\$47,420	1.35	1.01
Nov 2022	\$52,625					\$87,862				
Dec 2022	\$57,030					\$144,892				
Jan 2023	\$40,289					\$185,181				
Feb 2023	\$50,986					\$236,167				
Mar 2023	\$68,245					\$304,412				
Apr 2023	\$59,224					\$363,635				
May 2023	\$56,668					\$420,304				
Jun 2023	\$67,671					\$487,974				
Jul 2023	\$54,852					\$542,827				
Aug 2023	\$56,275					\$599,102				
Sep 2023	\$94,622					\$693,724				

CTD	\$7,700,388	\$7,667,393	\$7,583,124	1.00	1.01
-----	-------------	-------------	-------------	------	------

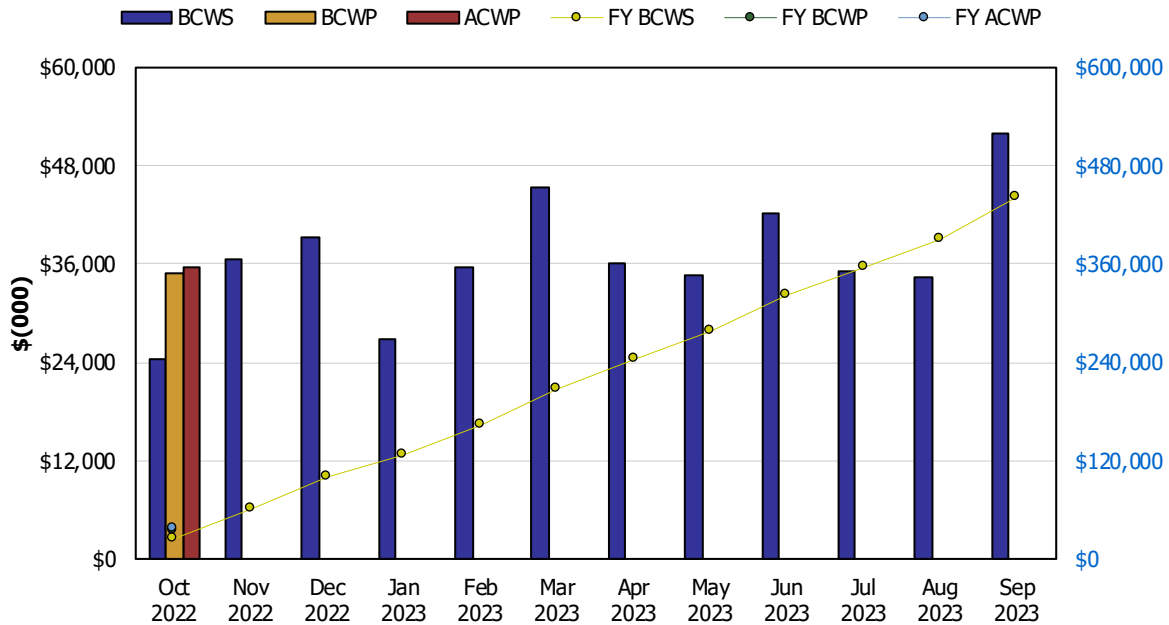
- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CM = current month.
- CTD = contract to date.
- FY = fiscal year.
- SPI = schedule performance index.

Earned Value Data: Fiscal Year 2023

October-2022

Tank Farms ORP-0014
WBS 5.1 - Base Operations

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2022	\$24,399	\$34,783	\$35,610	1.43	0.98	\$24,399	\$34,783	\$35,610	1.43	0.98
Nov 2022	\$36,543					\$60,942				
Dec 2022	\$39,305					\$100,247				
Jan 2023	\$26,801					\$127,047				
Feb 2023	\$35,562					\$162,609				
Mar 2023	\$45,438					\$208,047				
Apr 2023	\$36,181					\$244,228				
May 2023	\$34,677					\$278,905				
Jun 2023	\$42,075					\$320,980				
Jul 2023	\$35,164					\$356,143				
Aug 2023	\$34,301					\$390,445				
Sep 2023	\$51,911					\$442,355				

CTD	\$5,136,668	\$5,104,841	\$5,042,073	0.99	1.01
-----	-------------	-------------	-------------	------	------

- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CM = current month.
- CTD = contract to date.
- FY = fiscal year.
- SPI = schedule performance index.

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Ricky Bang

5.01 – Base Operations

The October 2022 variances below do not impact TPA milestones.

The current month **favorable** SV of \$10,383,600 was due in part to:

- TSCR IX Column Procurement schedule recovery from FY 2022
- Grab and Off Riser Sampling System sampling accelerated two grab samples
- DST Integrity Ultrasonic Testing accelerated work package planning and field work for Tanks 241-SY-102 and 241-SY-103 ultrasonic testing.

The current month **unfavorable** CV of (\$827,400) was due in part to:

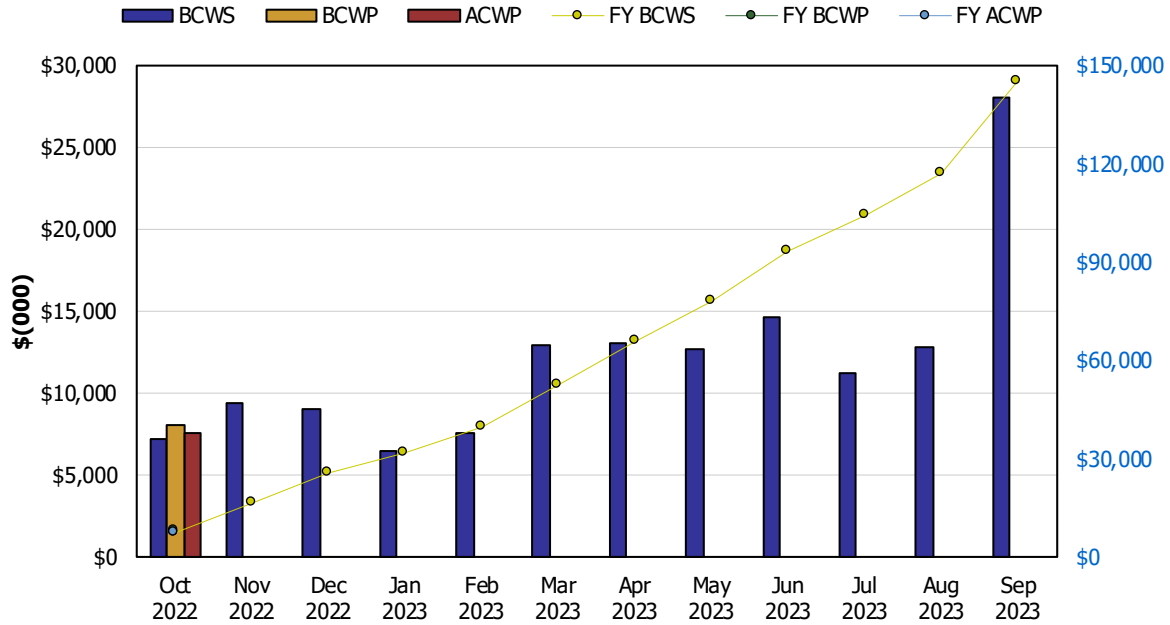
- ETF Brine Storage Tanks subcontractor change request for ALDO system design support
- ETF acetonitrile treatment higher than anticipated subcontractor costs, related engineering support, procurements, and overhead costs.

Earned Value Data: Fiscal Year 2023

October-2022

Tank Farms ORP-0014
WBS 5.2 - Retrieve and Close SSTs

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2022	\$7,181	\$8,004	\$7,595	1.11	1.05	\$7,181	\$8,004	\$7,595	1.11	1.05
Nov 2022	\$9,376					\$16,557				
Dec 2022	\$9,050					\$25,607				
Jan 2023	\$6,424					\$32,031				
Feb 2023	\$7,589					\$39,620				
Mar 2023	\$12,989					\$52,609				
Apr 2023	\$13,071					\$65,680				
May 2023	\$12,629					\$78,309				
Jun 2023	\$14,694					\$93,003				
Jul 2023	\$11,167					\$104,171				
Aug 2023	\$12,784					\$116,954				
Sep 2023	\$28,063					\$145,017				

CTD	\$1,449,241	\$1,452,077	\$1,483,490	1.00	0.98
-----	-------------	-------------	-------------	------	------

- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CM = current month.
- CTD = contract to date.
- FY = fiscal year.
- SPI = schedule performance index.

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Becky Blackwell
Jim Greene

5.02 – Retrieve and Close Single-Shell Tanks

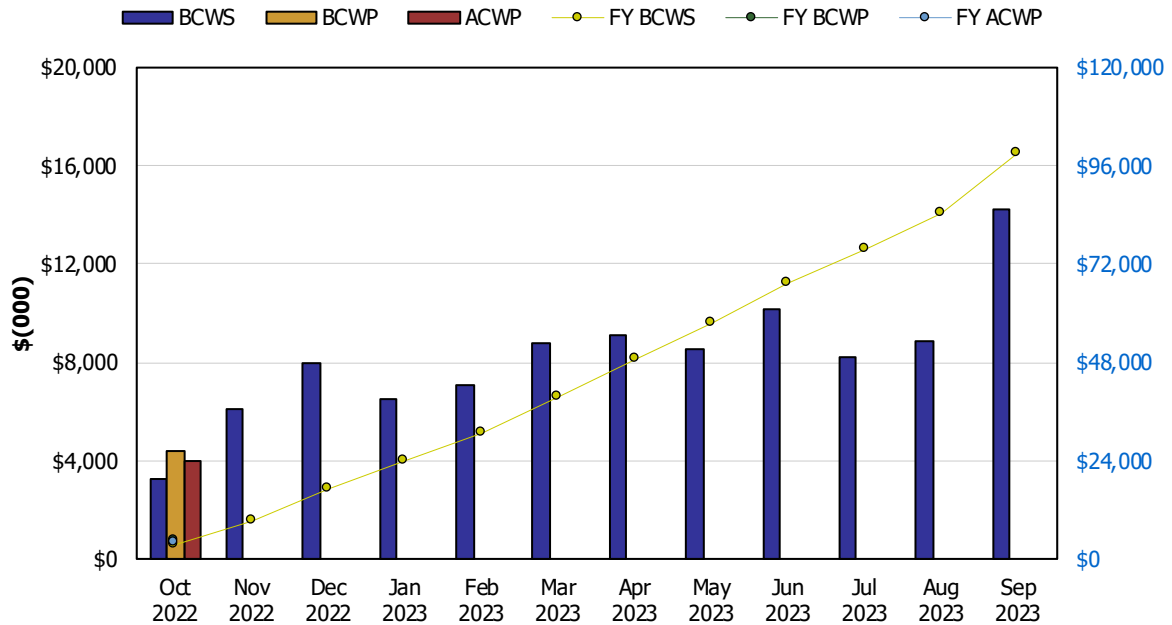
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2023

October-2022

Tank Farms ORP-0014
WBS 5.3 - WFD/Treatment Plng/DST Retrieval/Closure

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2022	\$3,229	\$4,419	\$4,002	1.37	1.10	\$3,229	\$4,419	\$4,002	1.37	1.10
Nov 2022	\$6,106					\$9,335				
Dec 2022	\$7,939					\$17,273				
Jan 2023	\$6,533					\$23,806				
Feb 2023	\$7,066					\$30,872				
Mar 2023	\$8,785					\$39,657				
Apr 2023	\$9,128					\$48,785				
May 2023	\$8,553					\$57,339				
Jun 2023	\$10,175					\$67,514				
Jul 2023	\$8,209					\$75,723				
Aug 2023	\$8,885					\$84,607				
Sep 2023	\$14,220					\$98,827				

CTD	\$815,990	\$812,013	\$750,306	1.00	1.08
-----	-----------	-----------	-----------	------	------

- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CM = current month.
- CTD = contract to date.
- FY = fiscal year.
- SPI = schedule performance index.

Tank Farms Assistant Manager: Delmar Noyes
Federal Program Manager: Paul Schroder

5.03 – Waste Feed Delivery/Treatment

The October 2022 variances below do not impact TPA milestones.

The current month **favorable** SV of \$2,261,000 was due to:

- WTP Transition Support schedule recovery from previous months.

The current month **unfavorable** CV of (\$172,000) was due to:

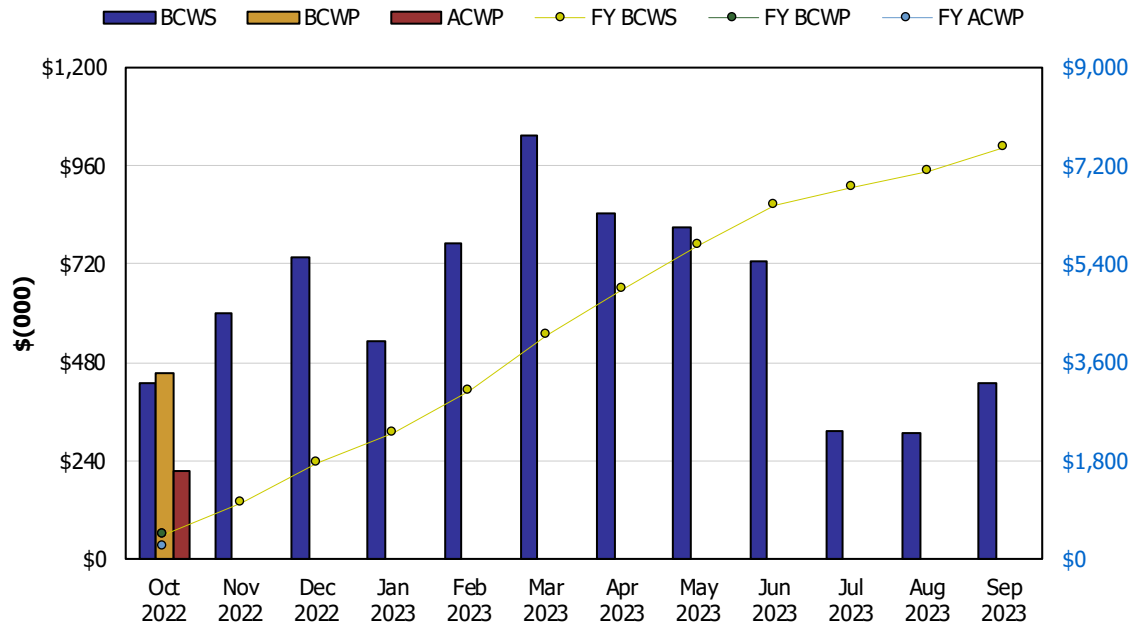
- Multiple minor control account variances falling below the reportable threshold.

Earned Value Data: Fiscal Year 2023

October-2022

**Tank Farms ORP-0014
WBS 5.5 - Treat Waste**

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 2022	\$429	\$456	\$214	1.06	2.13	\$429	\$456	\$214	1.06	2.13
Nov 2022	\$600					\$1,028				
Dec 2022	\$737					\$1,765				
Jan 2023	\$532					\$2,297				
Feb 2023	\$769					\$3,066				
Mar 2023	\$1,033					\$4,099				
Apr 2023	\$843					\$4,942				
May 2023	\$809					\$5,751				
Jun 2023	\$727					\$6,478				
Jul 2023	\$312					\$6,790				
Aug 2023	\$305					\$7,095				
Sep 2023	\$429					\$7,525				

CTD	\$274,779	\$274,751	\$285,640	1.00	0.96
-----	-----------	-----------	-----------	------	------

- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CM = current month.
- CTD = contract to date.
- FY = fiscal year.
- SPI = schedule performance index.

Tank Farms Assistant Manager: Delmar Noyes
Federal Program Manager: Paul Schroder

5.05 – Treat Waste

The October 2022 variances below do not impact TPA milestones.

The current month **favorable** SV of \$26,652 is below reportable thresholds.

The current month **favorable** CV of \$241,872 is below reportable thresholds.

Table 1 Administrative Record Metadata

Milestone Number or Facility Identification	Title
M-042-10	Complete Leak Test/Internal Inspections, or Other Tank Integrity Examination of DST Components
M-045-00	Complete Closure of All SST Farms
M-045-15	Completion of Tank A-103 SST Waste Retrieval
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I
M-045-15D	Exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H
M-045-56S	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)
M-045-56T	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2024)
M-045-59	Control Surface Water Infiltration Pathways as Needed
M-045-62	Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C
M-045-70	Complete Waste Retrieval from all Remaining Single Shell Tanks
M-045-83	Complete the Closure of WMA-C by Completing Closure Activities Specified in the Tier 2 Closure Plan
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs
M-045-86	Submit Retrieval Data Report (RDR) to Ecology for 19 Tanks Retrieved Under Consent Decree
M-045-86L	Submit Retrieval Data Report (RDR) to Ecology for Tank AX-104
M-045-91K	Complete Initial Baseline Visual Inspections of All SSTs
M-045-91K-T01	Submit Report of the Initial Baseline Visual Inspection of All SSTs Remaining to be Inspected
M-045-91E5	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-92	Complete Installation of 4 Additional Interim Barriers
M-045-92AB	Complete Construction of Barrier 4 in 241-U Farm
M-045-92AG	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
M-047-00	Completion of Work for Management of Secondary Waste from the WTP

Milestone Number or Facility Identification	Title
M-062-00	Complete Pretreatment Processing and Vitrification of HLW & LAW Tank Wastes
M-062-01AT	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AU	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AV	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AW	Submit Semi-Annual Project Compliance Report to Ecology
M-062-21	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00
M-062-21A	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00
M-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
M-062-34-T01	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
M-062-40I	Select a Minimum of 3 Scenarios
M-062-40J	Submit System Plan to Ecology
M-062-45	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-T01	Complete Negotiations 6-Months After Last Issuance of System Plan
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5
M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones
M-062-51	Achieve Substantial Completion of LERF/ETF Construction Upgrades Necessary for LAW Hot Commissioning
M-062-52	Achieve Substantial Completion of Secondary Waste Construction Necessary for LAW Hot Commissioning
M-062-53	Effluent Management Facility (EMF) Cold Commissioning Start
M-062-56	Submit Permit Application for Design and Construction of the LAW Capability

Milestone Number or Facility Identification	Title
M-090-00	Acquire/Modify Facilities for Storage of First Two Years of IHLW from WTP Operations
S-2-3	Double-Shell Tank System (DST)
S-2-4	Single-Shell Tank System (SST)
S-2-8	Liquid Effluent Retention Facility (LERF)
T-2-6	242-A Evaporator
T-2-8	Effluent Treatment Facility (ETF)
TS-2-1	222-S Laboratory Treatment Tanks and Storage Building
TS-2-8	Low-Activity Waste Pretreatment System (LAWPS)
WMA A/AX	Waste Management Area A/AX

CMIP	=	Corrective Measures Implementation Work Plan.	LERF	=	Liquid Effluent Retention Facility.
DOE	=	U.S. Department of Energy.	LAW	=	low-activity waste.
DST	=	double-shell tank.	LAWP	=	Low-Activity Waste Pretreatment.
Ecology	=	Washington State Department of Ecology.	Mod	=	modification.
ETF	=	Effluent Treatment Facility.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
HFFACO	=	<i>Hanford Federal Facility Agreement and Consent Order.</i>	SST	=	single-shell tank.
IHLW	=	immobilized high-level waste.	WMA	=	waste management area.
			WTP	=	Waste Treatment and Immobilization Plant.