

Office of River Protection



Monthly Reporting Period April 1–April 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 March 2022.

Topic	Page
Acronyms and Abbreviations	2
Administrative Items/Milestone Status	3
222-S Laboratory	7
System Plan.....	9
Acquisition of New Facilities	11
Supplemental Treatment and Resource Conservation and Recovery Act Part B Permit Applications	13
Low-Activity Waste Pretreatment System.....	16
Tank-Side Cesium Removal System	18
Test Bed Initiative Demonstration	20
242-A Evaporator Status.....	22
Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility.....	24
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	43
Table 1 Administrative Record Metadata	53

Acronyms and Abbreviations

COVID-19	coronavirus disease 2019
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
FY	fiscal year
HFFACO	<i>Hanford Federal Facility Agreement and Consent Order</i> (HFFACO and TPA are used interchangeably throughout this report)
IQRPE	independent, qualified, registered, professional engineer
IX	ion exchange
LAW	low-activity waste
LERF	Liquid Effluent Retention Facility
NRC	Nuclear Regulatory Commission
ORP	U.S. Department of Energy, Office of River Protection
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	Status
Prior Years				
M-062-45-T01	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-045-59	Control Surface Water Infiltration Pathways as Needed	TBD ^a	P. Schroder	On Schedule
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
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	4/30/2021	P. Schroder	In Dispute
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	4/30/2021	P. Schroder	In Dispute
Fiscal Year 2022 (October 1, 2021 – September 30, 2022)				
M-045-92Z	Submit to Ecology Design for Barrier 4 in 241-U Farm	10/31/2021	P. Schroder	Complete
M-062-45-XX	Complete Negotiations to Resolve Future Disputes M-062-45 Paragraphs 4 & 5	12/31/2021	P. Schroder	In Abeyance

Milestone	Title	Due Date	DOE PM	Status
M-062-51-T01	Submit to Ecology, as a Primary Document, a Secondary Liquid Waste Disposition Work Plan	12/31/2021	P. Schroder	Complete
M-062-52-T01	Submit to Ecology, as a Primary Document, a Secondary Solid Waste Disposition Work Plan	12/31/2021	P. Schroder	Complete
M-045-85	Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs	1/31/2022	P. Schroder	In Abeyance
M-045-92AA	Barrier 4 Design Approved by Ecology	1/31/2022	P. Schroder	Complete
M-062-01AR	Submit Semi-Annual Project Compliance Report to Ecology	1/31/2022	B. Trimberger	Complete
M-062-53A	Achieve Substantial Completion of EMF Construction	04/30/2022	W. Abdul	Complete
M-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types	5/15/2022	P. Schroder	On Schedule
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste	5/15/2022	P. Schroder	On Schedule
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2022)	7/31/2022	P. Schroder	On Schedule
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology	7/31/2022	B. Trimberger	On Schedule
M-045-86K	Submit Retrieval Data Report (RDR) to Ecology for Tank AX-102	9/13/2022	P. Schroder	On Schedule
M-045-15	Completion of Tank A-103 SST Waste Retrieval	9/30/2022	P. Schroder	At Risk
M-045-97	Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document	9/30/2022	P. Schroder	Complete
M-045-98	Submit to Ecology an RFI/CMS Work Plan for WMA A/AX as a Primary Document	9/30/2022	P. Schroder	On Schedule
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA	9/30/2022	P. Schroder	At Risk
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I	9/30/2022	P. Schroder	At Risk

Milestone	Title	Due Date	DOE PM	Status
M-045-15D	Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	9/30/2022	P. Schroder	At Risk
Fiscal Year 2023 (October 1, 2022 – September 30, 2023)				
M-045-92AF	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2022	P. Schroder	On Schedule
M-062-40I	Select a Minimum of 3 Scenarios	10/31/2022	P. Schroder	On Schedule
M-062-34-T01	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	12/30/2022	P. Schroder	In Dispute
M-042-10-T01	Complete Leak Test/Internal Inspections, or Other Tank Integrity Examination of DST Components	12/31/2022	P. Schroder	On Schedule
M-062-54B	Achieve Substantial Completion of LAW Pretreatment Capability Construction for DFLAW Initial Ops	12/31/2022	P. Schroder	On Schedule
M-062-01AT	Submit Semi-Annual Project Compliance Report to Ecology	1/31/2023	B. Trimberger	On Schedule
M-062-21	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00	2/28/2023	P. Schroder	At Risk
M-062-51	Achieve Substantial Completion of LERF/ETF Construction Upgrades Necessary for LAW Hot Commissioning	4/15/2023	P. Schroder	On Schedule
M-062-54	Low Activity Waste Pretreatment Capability; Cold Commissioning Complete	4/30/2023	P. Schroder	On Schedule
M-062-52	Achieve Substantial Completion of Secondary Waste Construction Necessary for LAW Hot Commissioning	6/30/2023	P. Schroder	On Schedule
M-045-56S	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)	7/31/2023	P. Schroder	On Schedule
M-062-01AU	Submit Semi-Annual Project Compliance Report to Ecology	7/31/2023	B. Trimberger	On Schedule
M-062-53	Effluent Management Facility (EMF) Cold Commissioning Start	8/15/2023	J. Young	On Schedule

Milestone	Title	Due Date	DOE PM	Status
M-062-55	LAWP Capability Necessary to Feed DFLAW; Hot Commissioning Complete	8/15/2023	P. Schroder	On Schedule
M-045-91K	Complete Initial Baseline Visual Inspections of All SSTs	9/30/2023	P. Schroder	On Schedule
M-045-91E5	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	9/30/2023	P. Schroder	On Schedule

^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

CD	=	critical decision.	LERF	=	Liquid Effluent Retention Facility.
CMIP	=	corrective measures implementation work plan.	Mod	=	modification.
CMS	=	Corrective Measure Study.	PA	=	Performance Agreement.
DFLAW	=	Direct-Feed Low-Activity Waste.	PM	=	project manager.
DOE	=	U.S. Department of Energy.	PMR	=	permit modification request.
DST	=	double-shell tank.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
Ecology	=	Washington State Department of Ecology.	RFI	=	<i>Resource Conservation and Recovery Act Facility Investigation.</i>
EMF	=	Effluent Management Facility.	SST	=	single-shell tank.
ETF	=	Effluent Treatment Facility.	TBD	=	to be determined.
HFFACO	=	<i>Hanford Federal Facility Agreement and Consent Order.</i>	WMA	=	waste management area.
LAW	=	low-activity waste.	WTP	=	Waste Treatment and Immobilization Plant.
LAWP	=	Low-Activity Waste Pretreatment.			

222-S Laboratory

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Jeff Cheadle
Ecology Project Manager: Edward Holbrook

Significant Past Accomplishments

- In the month of April, Hanford Laboratory Management and Integration, LLC delivered several project reports to Hanford clients:
 - 241-AZ-301 Grab sample final report
 - U-Farm Vadose Core D0158 final report
 - 241-AN-102 Grab Caustic Precipitation Study final report
 - 241-AN-107 Core (2019) Caustic Demand testing final report
 - 105KW Basin Settled Solids and Debris preliminary results
 - Effluent Treatment Facility (ETF) Thin Film Dryer Pipe solids preliminary results.
- A second ICP-OES analytical instrument was placed into routine production support. This provides the 222-S Laboratory with the additional capacity and reliability for the performance of *Resource Conservation and Recovery Act* (RCRA) metals analyses on Hanford client samples including Tank Farms sample matrixes.

Significant Planned Activities in the Next Six Months

- Sample receipt and analysis as indicated throughout the Tri-Party Agreement (TPA) 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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

System Plan

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

M-062-45-T01 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: October 31, 2022.
 Status: On Schedule.

Significant Past Accomplishments

- The U.S. Environmental Protection Agency (EPA), DOE, and Washington State Department of Ecology (Ecology) met in the first mediated session of the “Holistic Negotiations” on June 25, 2020. Two smaller in person group negotiation sessions were held on April 19 and 20, 2022.
- On January 27, 2021, DOE submitted signed change package M-62-21-01 to Ecology for evaluation to extend the M-62-45 Milestone date 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.
- On March 15, 2022, Washington River Protection Solutions, LLC facilitated a kick-off meeting with Ecology and DOE to initiate scenario selection discussions for Revision 10 of the System Plan, in support of M-062-40I. Four additional meetings were held as of April 26, 2022, and the team has discussed key assumptions for the System Plan baseline scenario.

Significant Planned Actions in the Next Six Months

- Discuss disputes regarding Milestone M-062-45 and its associated milestones during “Holistic Negotiations”.

Issues

- Ecology and DOE Office of River Protection (ORP) 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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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-1² for Interim Hanford Storage Project and CR³ for CD-2 to ECY⁴

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

M-090-00 Acquire/Modify Facilities for Storage of First Two Years of IHLW⁵ from the WTP⁶ Operations

Due: December 31, 2036.
 Status: On Schedule.

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

Due: To be determined.
 Status: On Schedule.

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- None.

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. 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.

² CD denotes critical decision.

³ CR denotes change request.

⁴ ECY denotes Washington State Department of Ecology.

⁵ IHLW denotes immobilized high-level waste.

⁶ WTP denotes Waste Treatment and Immobilization Plant.

- The Hanford Site transitioned to Phase 2 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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

The current status for each of the projects listed below, unless noted differently, is:

- In Dispute. Ecology and ORP have ended negotiations related to the M-062-45 Milestone and have initiated dispute. Therefore, the status of the milestones below has changed to “In Dispute.”

M-062-45-ZZ	Negotiate a One-Time Supplemental Treatment Selection
Due:	April 30, 2015.
M-062-45-ZZ-A	Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones
Due:	April 30, 2015.
M-062-31-T01	Complete Final Design and Submit RCRA Part B Permit Modification Request for Enhanced WTP & Supplemental Treatment
Due:	April 30, 2016.
M-062-32-T01	Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements
Due:	April 30, 2018.
M-062-33-T01	Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
Due:	April 30, 2021.
M-062-52-T01	Submit to Ecology, as a Primary Document for Approval a Secondary Solid Waste Disposition Work Plan
Due:	December 31, 2021.
Status:	Complete.
M-062-52-T02	Submit Permit Modification Requests for Any Ancillary Facilities or Capabilities to Support Treatment of Secondary Waste
Due:	May 15, 2022.
Status:	On Schedule.
M-062-34-T01	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements
Due:	December 30, 2022.

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

Due: February 28, 2023.
Status: At Risk.

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

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

M-062-00 Complete Pretreatment Processing and Vitrification of HLW⁷ and LAW⁸ Tank Wastes

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

Significant Past Accomplishments

- Received Ecology comments on the combined DOE/ORP-2021-05, *Direct-Feed Low-Activity Waste Secondary Liquid and Solid Waste Work Plan*, for target Milestones M-062-51-T01 and M-062-52-T01.

Significant Planned Actions in the Next Six Months

- See the “System Plan” section, above, for updates related to the M-062-45 Milestone negotiations
- Disposition Ecology comments and revise the combined DOE/ORP-2021-05 work plan for target Milestones M-062-51-T01 and M-062-52-T01
- Submit combined DOE completion documentation in support of target Milestones M-062-51-T02 and M-062-52-T02.

Issues

- Ecology and ORP 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. 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

⁷ HLW denotes high-level waste.

⁸ LAW denotes low-activity waste.

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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

Low-Activity Waste Pretreatment System

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

M-062-60 Submit Disposition Pathways Evaluation for Spent IX⁹ Columns as Primary Document to Ecology

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

M-062-61 Submit Updated TSCR¹⁰ Closure Plan as a Permit Modification Request to Ecology

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

M-062-62 Complete Negotiations to Establish HFFACO¹¹ 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 PMR¹², Final Design (90-100% Design) for Facility to Remove/Prepare/Process IX Waste Media

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

Significant Past Accomplishments

- None.

Significant Planned Actions in the Next Six Months

- None.

⁹ IX denotes ion exchange.

¹⁰ TSCR denotes tank-side cesium removal.

¹¹ HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

¹² PMR denotes permit modification request.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

Tank-Side Cesium Removal System

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Janet Diediker
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

- Tank-side cesium removal (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 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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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 a 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 (NRC), 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
 - Continued consultation with the NRC concerning the draft WIR Evaluation. The NRC has found the submittal to be complete and is conducting a technical review.

Significant Planned Actions in the Next Six Months

- Review of the public comments received on the draft WIR Evaluation
- Provide support for the NRC technical review of the draft WIR Evaluation and respond to any requests for additional information
- Receipt of an NRC technical evaluation report based on NRC technical review of the draft WIR Evaluation.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

242-A Evaporator Status

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Paul Hernandez
Ecology Project Manager: Jeff Lyon

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 ultrasonic test inspection of steam lines
- Continued replacement of the PC Recycle F-C-4 and F-C-5 filter housings
- Continued AW Tank Farm to 242-A Evaporator slurry and feed pipe in pipe transfer line replacement
- Continued calibration and testing of instruments for the 242-A Evaporator Documented Safety Analysis safety system upgrades
- Continued fit for use evaluation of 242-A condenser raw water system.

Significant Planned Actions in the Next Six Months

- Receive new PB-1 and PB-2 replacement pumps
- Complete pipe in pipe installation in AW Tank Farm for the 242-A Evaporator slurry and feed pipe in pipe transfer line replacement
- Complete AW-B, AW-02E, AW-02A, and 242-A Pump Room jumper installation for the 242-A Evaporator slurry and feed pipe in pipe transfer line replacement
- Complete 100% design, fabrication, and fieldwork for the replacement of the U-Joint valve actuator driveshafts/mounting assemblies on the 242-A dump valves
- Initiate cold runs activities
- Initiate replacement of PB-1 Pump seal water flow transmitter and components.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.
- Identified flow transient concern on 242-A condenser raw water system. Fit for use evaluation in progress. Operational restrictions have been implemented to isolate system.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Richard Valle
Ecology Project Manager: John Temple, Dan McDonald (for milestones)

M-062-51-T01 Submit to Ecology, as a Primary Document for Approval a Secondary Liquid Waste Disposition Work Plan

Due: December 31, 2021.
 Status: Complete.

M-062-51-T02 Submit Permit Modification Request for Redesign Upgrades and Operations to Support Volumes of Waste Types Expected

Due: May 15, 2022.
 Status: On Schedule.

M-062-51 Achieve Substantial Completion of LERF¹³/ETF Construction Upgrades Necessary for LAW Hot Commissioning

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

Significant Past Accomplishments

Operations

- Total FY 2022 processing volume: approximately 1.0 million gallons
- Continued operation and cleanout activities for the ETF secondary treatment train.

Projects

- Continued fieldwork activities for the ETF Load-In Station expansion (e.g., installation of the 2025EG Backup Load-In Station)
- Continued fieldwork activities for the ETF motor control center upgrade (e.g., installation of 3000KV electrical upgrades and excavation and underground conduit installation for motor control center replacement)
- Continued fieldwork activities for the ETF chiller addition (e.g., concrete slab pour and setting of chillers and buffer tank)
- Continued fieldwork activities for the LERF Basin 41 installation (e.g., excavations for transfer line tie-ins and soil/bentonite test pad and testing)
- Continued fieldwork activities for the enhanced leak detection system installation on the 310 and 311/PC-5000 transfer lines (e.g., trenching and installation of conduit, installation of wireless transmitter racks, and electrical rough-in for base station installation)

¹³ LERF denotes Liquid Effluent Retention Facility.

- Continued fieldwork activities for the ETF freeze protection upgrade (e.g., excavations and demolitions)
- Continued fieldwork activities for the ETF supplemental organic treatment system (e.g., site preparation)
- Initiated fieldwork activities for the ETF carbon dioxide membrane system to provide the capability to treat the WTP DFLAW effluent (e.g., demolitions and installation of mezzanine structural steel)
- Initiated fieldwork activities for the ETF instrument air upgrade to support enhanced facility operation (e.g., mobilization, routing of conduit, concrete for air dryer pad).

Other

- Received Ecology comments on the combined Direct-Feed Low-Activity Waste Secondary Liquid and Solid Waste Work Plan (DOE/ORP-2021-05) for target Milestones M-062-51-T01 and M-062-52-T01.

Significant Planned Actions in the Next Six Months

Operations

- Complete operation and cleanout activities for the ETF secondary treatment train
- Develop process to remove accumulated solids inside the piping system at the LERF Basin 44 catch basin.

Projects

- Complete procurements and fabrications for the ETF, freeze protection, vessel offgas system, Load-In Station expansion, and brine and acetonitrile storage tanks upgrade projects
- Continue fieldwork activities for the ETF Load-In Station expansion upgrade to support enhanced facility operation
- Continue fieldwork activities for the ETF motor control center upgrade to improve electrical infrastructure for enhanced facility operation
- Continue fieldwork activities for the ETF chiller addition to provide additional cooling capability for the ETF upgrade projects
- Continue fieldwork activities for the LERF Basin 41 installation for additional capacity
- Continue fieldwork activities for the enhanced leak detection system installation on the 310 and 311/PC-5000 transfer lines
- Continue fieldwork activities for the ETF freeze protection upgrade to support enhanced facility operation
- Continue fieldwork activities for the ETF supplemental organic treatment (i.e., steam stripping) system to provide the capability to treat the WTP DFLAW effluent

- Continue fieldwork activities for the ETF carbon dioxide membrane system to provide the capability to treat the WTP DFLAW effluent
- Continue fieldwork activities for the ETF instrument air upgrade to support enhanced facility operation
- Begin fieldwork activities for the ETF redundant filtration system to reduce processing down time
- Begin fieldwork activities for the ETF monitoring and control system balance of facility upgrades, as the previous system is outdated
- Begin fieldwork activities for the ETF vessel off gas demister housing upgrade to support enhanced facility operation.

Other

- Disposition Ecology comments and revise the combined DOE/ORP-2021-05 work plan for target Milestones M-062-51-T01 and M-062-52-T01
- Submit combined DOE completion documentation in support of target Milestones M-062-51-T02 and M-062-52-T02.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

- 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.¹⁴

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
AZ-301 Condensate	-	+ 3,330	-
Mixed Waste Trench 31 and 34	+ 6,300	-	+ 25,900
Other ^a	-	-	+ 1,500
Processing Campaign(s)	-	-	-
Total Volume	610,000	5,790,000	1,490,000

^a 325 Building retention process sewer and solid waste landfill lysimeter.

Data Date: April 30, 2022.

Values shown in gallons.

¹⁴ 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, Nina Menard

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

M-042-10-T01 Complete Leak Test/Internal Inspections, or Other Tank Integrity Examination of DST¹⁵ Components

Due: December 31, 2022.
 Status: On Schedule.

M-045-91K Complete Initial Baseline Visual Inspections of all SSTs¹⁶

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

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 IQRPE¹⁷ 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-101, 241-AN-102, 241-AN-103, 241-AN-104, 241-AN-105, 241-AN-106, 241-AN-107, 241-AZ-101, and 241-AZ-102
- Completed ultrasonic testing inspection field work at Tanks 241-AN-101, 241-AN-105, and 241-AP-107
- Released reports for the nine DST annulus visual inspections performed in FY 2021

¹⁵ DST denotes double-shell tank.

¹⁶ SST denotes single-shell tank.

¹⁷ IQRPE denotes independent qualified registered professional engineer.

- Completed pressure encasement tests/NACE inspections at AP-01A, AW-05A, and AZVP.

Significant Planned Actions in the Next Six Months

- Complete ultrasonic testing inspections at Tank 241-SY-101
- Complete report development for the nine DST annulus visual inspections performed in FY 2022
- Complete report development for the four ultrasonic testing inspections performed in FY 2022
- Complete pressure encasement tests/NACE inspections at AP-05A, AY-01A, and AP-06A.

Ultrasonic Testing Report Status

- Ultrasonic testing report for Tank 241-AN-107 is in the external clearance process
- Continued development of the ultrasonic testing report for Tank 241-AN-101
- Continued development of the ultrasonic testing report for Tank 241-AP-105.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

Single-Shell Tank Integrity

Significant Past Accomplishments

- Completed follow-up visual and laser inspections at Tank 241-SX-111 (November 2021 and February 2022)
- Completed SST visual inspection at Tanks 241-TY-101, 241-S-102, 241-C-103, 241-C-109, 241-C-201, 241-C-202, 241-C-203, 241-C-204, 241-C-107, and 241-C-111.

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 inspections at Tanks 241-C-102, 241-C-104, 241-C-105, and 241-C-108
- Complete 90-day follow-up visual and laser inspection at Tank 241-SX-111.

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

- Baseline change authorizations implemented:
 - One SST Baseline Change Authorization implemented due to intrusion (Tank 241-T-111).
- Specification limit exceedance:
 - One surface level exceeded its upper specification limit (Tank 241-B-111) and is under evaluation.
- Intrusion:
 - None.
- Annual RPP-9937 meeting:
 - Completed April 21, 2022.
- Primary Monitoring Device repair:
 - As discussed in the annual RPP-9937 meeting conducted on April 21, 2022, the 241-SX-105 Liquid Observation Well is scheduled to be replaced by September 30, 2022.

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. 90-day follow-up visual inspection and laser scan were performed in February 2022 and no additional spalling was noted.

- 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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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. ORP 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

Reports Completed or Released

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

- Completed:
 - RPP-RPT-44625, *Derivation of Best-Basis Inventory for Tank 241-AW-105 as of April 1, 2022*, Rev. 7
 - RPP-RPT-59039, *Derivation of Best-Basis Inventory for Tank 241-AX-104 as of April 1, 2022*, Rev. 5
 - RPP-RPT-59032, *Derivation of Best-Basis Inventory for Tank 241-B-102 as of April 1, 2022*, Rev. 1
 - RPP-RPT-58071, *Derivation of Best-Basis Inventory for Tank 241-C-105 as of April 1, 2022*, Rev. 8
 - RPP-RPT-60349, *Derivation of Best-Basis Inventory for Tank 241-S-103 as of April 1, 2022*, Rev. 1
 - RPP-RPT-63631, *Tank 241-AX-104 Residual Waste Inventory Estimates for Component Closure Risk Assessment*, Rev. 0
 - RPP-RPT-63645, *Caustic Demand Testing on 2019 Tank 241-AN-107 Core Samples*, Rev. 0
 - RPP-RPT-63675, *Final Analytical Report for Tank 241-AN-101 Core 2021-05 Tank Sampling and Analysis*, Rev. 0.
- Released:
 - HNF-EP-0182, *Waste Tank Summary Report for Month Ending February 28, 2022*, Rev. 410.

Tank Sampling

Significant Past Accomplishments

- For April 2022, the following tank sampling was conducted:
 - Shipped three core samples from Tank 241-AW-105 to the 222-S Laboratory.

Significant Planned Actions in the Next Six Months

- Complete grab sampling of Tank 241-AN-107
- Complete grab sampling of Tank 241-AP-106

- Complete grab sampling of Tank 241-AP-105
- Complete grab sampling of Tank 241-AP-108
- Complete core sampling of Tank 241-AW-105
- Complete grab sampling of Tank 241-AW-105
- Complete grab sampling of Tank 241-AX-103
- Complete grab sampling of Tank 241-AZ-102
- Complete grab sampling of Tank 241-SY-102.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

Best-Basis Inventory Updates

Significant Past Accomplishments

- Best-basis inventory updates for the following tanks were completed in April 2022:
 - Tank 241-AW-105
 - Tank 241-AX-104
 - Tank 241-B-102
 - Tank 241-C-105
 - Tank 241-S-103.

Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in May 2022:
 - Tank 241-AP-107
 - Tank 241-AX-101
 - Tank 241-BY-104
 - Tank 241-BY-107
 - Tank 241-C-301.

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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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 CMIP¹⁸ for WMA-C¹⁹

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-045-92AA Barrier 4 in 241-U Farm Design Approved by Ecology

Due: January 31, 2022.

Status: Complete.

M-045-85 Initiate Negotiations of HFFACO Interim Milestones for Closure of Remaining WMAs

Due: January 31, 2022.

Status: In Abeyance.

M-045-56R Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2022)

Due: July 31, 2022.

Status: On Schedule.

¹⁸ CMIP denotes corrective measures implementation work plan.

¹⁹ WMA-C denotes C Tank Farm waste management area.

- M-045-98** **Submit to Ecology as a Primary Document an RFI/CMS²⁰ work plan for WMA A/AX including an implementation schedule in accordance with HFFACO Action Plan Section 11.6**
 Due: September 30, 2022.
 Status: On Schedule.
- M-045-102** **Submit to Ecology a Performance Assessment Maintenance Plan for WMA A/AX PA²¹**
 Due: September 30, 2022.
 Status: At Risk.
- M-045-92AB** **Complete Construction of Barrier 4 in 241-U Farm**
 Due: October 31, 2023.
 Status: On Schedule.
- M-045-92AF** **Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**
 Due: October 31, 2022.
 Status: On Schedule.
- M-045-56S** **Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)**
 Due: July 31, 2023.
 Status: On Schedule.
- M-045-103** **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

- Completed mobilization and initiated site preparation and excavation for construction of the U Tank Farm interim surface barrier evapotranspiration basin in support of Milestone

²⁰ RFI/CMS denotes *Resource Conservation and Recovery Act* Facility Investigation/Corrective Measure Study.

²¹ PA denotes performance agreement.

M-045-92AB, “Complete Construction of Barrier 4 in 241-U Farm.” Mass excavation of the basin footprint is 70 percent complete.

Significant Planned Activities in the Next Six Months

- Certify and submit to Ecology the following Hanford Facility RCRA Permit, Rev. 9, Addendum H, Closure Plans for the Single-Shell Tank System:
 - RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*, Rev. 3
 - 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.
- Meet with Ecology to fulfill Milestone M-045-56R, “Ecology and DOE agree, at a minimum, to meet yearly (by July 2022) . . . for the establishment of additional Agreement interim measures.”
- Submit to Ecology an RFI/CMS work plan for WMA A/AX to fulfill Milestone M-045-98, “Submit to Ecology as a Primary Document an RFI/CMS work plan for WMA A/AX including an implementation schedule in accordance with HFFACO Action Plan Section 11.6.”
- Complete construction of the U Tank Farm interim surface barrier evapotranspiration basin in support of Milestone M-045-92AB, “Complete Construction of Barrier 4 in 241-U Farm.”
- Respond to Ecology’s comments on RPP-RPT-61684, “Maintenance and Performance Monitoring Plan for the Interim Barriers Program,” Rev. 3 provided via letter 22-NWP-037, dated February 28, 2022. DOE requested an extension to provide responses to Ecology’s comments and update the document by June 30, 2022, via letter 22-TF-000800 Reissue, dated March 22, 2022. Ecology approved the extension via letter 22-NWP-055, dated March 31, 2022. RPP-RPT-61684, Rev. 3 was hand delivered to Ecology on October 5, 2021, to complete Milestone M-045-92Z.
- 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 an extension to provide responses to Ecology’s comments and to provide a plan for updating the document by June 30, 2022, via letter 22-TF-000803, dated March 21, 2022. RPP-PLAN-64407, Rev. 0 was submitted to Ecology via letter 21-TF-002876, dated September 17, 2021, to complete Milestone M-045-97.

Issues

- Milestone M-045-102 is being listed as “At Risk” as the Performance Assessment Maintenance Plan for WMA A/AX will not be developed by the current due date of September 30, 2022, as it is following a development path necessitated by DOE Order 435.1. Following these requirements, a draft PA Maintenance Plan for WMA A/AX will be reviewed by DOE and submitted with the draft WMA A/AX PA to DOE Headquarters’ Low-level Waste Disposal Facility Federal Review Group (LFRG) as part of their formal review of the WMA A/AX PA. The formal LFRG review of the WMA A/AX PA is scheduled to occur in FY 2024. DOE shared a draft TPA Change Control Form with Ecology proposing a new due date.
- DOE and Ecology agreed, via *Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (IAMIT) Determination* Number 2022-004, to continue the temporary suspension of Milestone M-045-85 (originally due January 31, 2022) for an additional 30 days, from April 1, 2022, until May 2, 2022. This 30-day suspension will allow discussions that might affect this milestone to continue in the ongoing “Holistic Negotiations” between DOE and Ecology. 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, “Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP for WMA-C”) for submittal of the corrective measures’ implementation work plan, 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 corrective measures implementation work plan to submit to Ecology and has followed this path since RPP-RPT-59379 was approved in June 2018. DOE understands that the corrective measures implementation work plan is the vehicle that Ecology will use to meet its TPA/HFFACO obligations in its role as lead agency, as set forth in paragraph 54 of the HFFACO legal agreement. Paragraph 54 of the HFFACO 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 HFFACO 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 HFFACO as a primary document, nor listed in Table 9-1 of the HFFACO 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 HFFACO 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. 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 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 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 are engaged in ongoing analysis of work schedule impacts. DOE is continuing to evaluate the information, COVID-19 potential impacts on the TPA, and if other actions may be necessary.

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: At Risk.

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

Due: To Be Determined. Ten Retrieval Data Reports have been submitted for Tanks that have been retrieved and Milestones M-045-86A through M-045-86J have been completed. Tank AX-102 currently has a Retrieval Data Report submittal due date of September 13, 2022 (Milestone M-045-86K). Tanks AX-104, AX-103, AX-101, A-101, A-102, A-106, A-104, and A-105 have submittal dates to be determined (Milestones M-045-86L 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 2022

March-2022

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$53,776	\$50,436	\$49,041	(\$3,340)	\$1,395	0.94	1.03			
FYTD	\$298,362	\$290,115	\$290,019	(\$8,247)	\$95	0.97	1.00	\$726,111		
CTD	\$7,250,063	\$7,206,984	\$7,156,203	(\$43,079)	\$50,782	0.99	1.01	\$8,381,473	\$8,346,441	\$35,032

ACWP	=	actual cost of work performed.	CV	=	cost variance.
BAC	=	budget at completion.	EAC	=	estimate at completion.
BCWP	=	budgeted cost of work performed.	FYTD	=	fiscal year to date.
BCWS	=	budgeted cost of work scheduled.	SPI	=	schedule performance index.
CM	=	current month.	SV	=	schedule variance.
CPI	=	cost performance index.	VAC	=	variance at completion.
CTD	=	contract to date.	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.

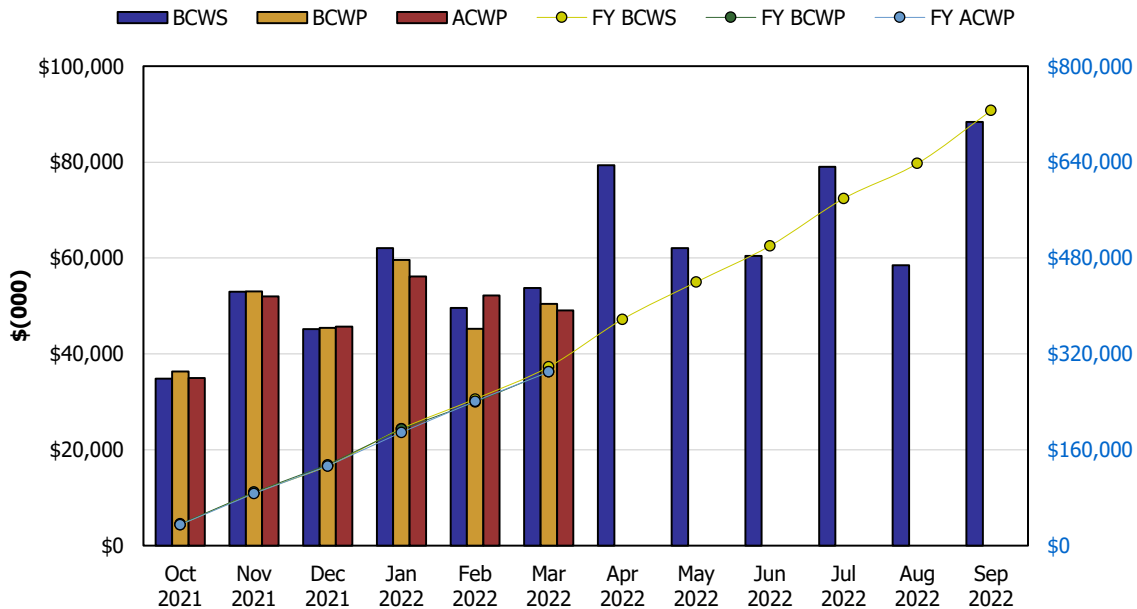
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 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 FY 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 2022

March-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 2021	\$34,832	\$36,349	\$34,953	1.04	1.04	\$34,832	\$36,349	\$34,953	1.04	1.04
Nov 2021	\$52,947	\$53,064	\$52,011	1.00	1.02	\$87,779	\$89,413	\$86,964	1.02	1.03
Dec 2021	\$45,170	\$45,453	\$45,700	1.01	0.99	\$132,949	\$134,867	\$132,664	1.01	1.02
Jan 2022	\$62,064	\$59,575	\$56,151	0.96	1.06	\$195,013	\$194,442	\$188,815	1.00	1.03
Feb 2022	\$49,573	\$45,237	\$52,163	0.91	0.87	\$244,586	\$239,678	\$240,978	0.98	0.99
Mar 2022	\$53,776	\$50,436	\$49,041	0.94	1.03	\$298,362	\$290,115	\$290,019	0.97	1.00
Apr 2022	\$79,330					\$377,692				
May 2022	\$62,074					\$439,766				
Jun 2022	\$60,461					\$500,227				
Jul 2022	\$79,019					\$579,246				
Aug 2022	\$58,492					\$637,738				
Sep 2022	\$88,373					\$726,111				

CTD	\$7,250,063	\$7,206,984	\$7,156,203	0.99	1.01
-----	-------------	-------------	-------------	------	------

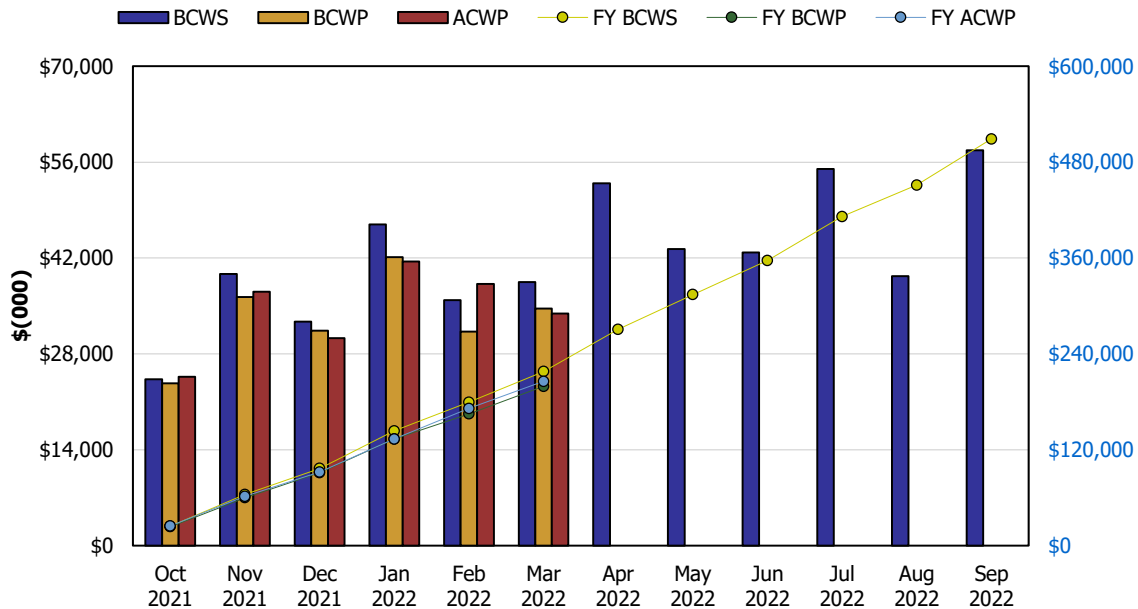
- ACWP = actual cost of work performed. CM = current month.
- BCWP = budgeted cost of work performed. CTD = contract to date.
- BCWS = budgeted cost of work scheduled. FY = fiscal year.
- CPI = cost performance index. SPI = schedule performance index.

Earned Value Data: Fiscal Year 2022

March-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 2021	\$24,307	\$23,703	\$24,654	0.98	0.96	\$24,307	\$23,703	\$24,654	0.98	0.96
Nov 2021	\$39,657	\$36,323	\$37,067	0.92	0.98	\$63,964	\$60,026	\$61,720	0.94	0.97
Dec 2021	\$32,716	\$31,369	\$30,319	0.96	1.03	\$96,680	\$91,395	\$92,039	0.95	0.99
Jan 2022	\$46,889	\$42,146	\$41,491	0.90	1.02	\$143,569	\$133,541	\$133,530	0.93	1.00
Feb 2022	\$35,837	\$31,274	\$38,230	0.87	0.82	\$179,406	\$164,816	\$171,760	0.92	0.96
Mar 2022	\$38,490	\$34,619	\$33,893	0.90	1.02	\$217,896	\$199,435	\$205,654	0.92	0.97
Apr 2022	\$52,914					\$270,810				
May 2022	\$43,310					\$314,120				
Jun 2022	\$42,793					\$356,913				
Jul 2022	\$54,990					\$411,903				
Aug 2022	\$39,354					\$451,256				
Sep 2022	\$57,745					\$509,001				

CTD	\$4,822,146	\$4,780,856	\$4,738,718	0.99	1.01
-----	-------------	-------------	-------------	------	------

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

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

5.01 – Base Operations

The March 2022 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$3.9 million) was due in part to:

- AP-105 Transfer Pump Replacement design and planning delays
- ETF Brine Storage Tank procurement being delayed due to incomplete subcontractor engineering design
- SX Farm extent of condition evaluation being delayed due to subcontractor performance
- ETF Monitoring Control System/Hardware being re-prioritized
- LERF Basin 41 Installation air permitting being needed prior to restarting construction activities
- Core Sampling technical difficulties that prompted transitioning from sampling Tank AN-102 to AW-105.

The current month **favorable** CV of \$0.7 million was due in part to:

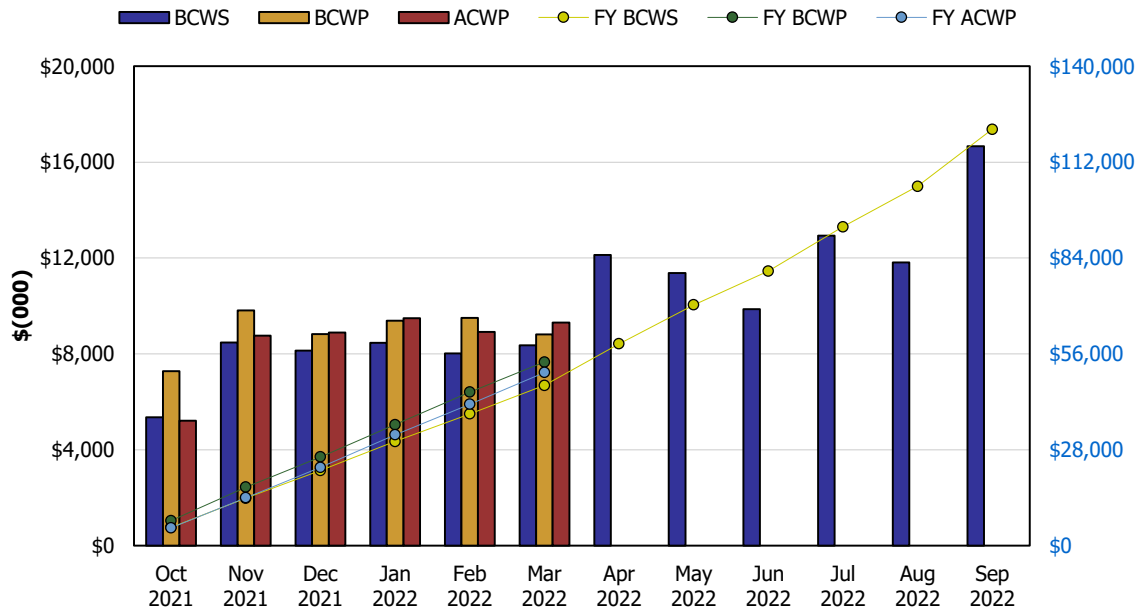
- Waste Management Programs subcontractor invoice corrections
- ETF/LERF/TEDF Operations and Maintenance labor efficiencies
- The favorable CV was partially offset by ETF Acetonitrile Treatment field support and EFT Load-in Expansion labor overruns.

Earned Value Data: Fiscal Year 2022

March-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 2021	\$5,352	\$7,278	\$5,214	1.36	1.40	\$5,352	\$7,278	\$5,214	1.36	1.40
Nov 2021	\$8,477	\$9,811	\$8,762	1.16	1.12	\$13,830	\$17,089	\$13,977	1.24	1.22
Dec 2021	\$8,136	\$8,825	\$8,888	1.08	0.99	\$21,966	\$25,914	\$22,864	1.18	1.13
Jan 2022	\$8,460	\$9,389	\$9,491	1.11	0.99	\$30,425	\$35,303	\$32,355	1.16	1.09
Feb 2022	\$8,026	\$9,508	\$8,916	1.18	1.07	\$38,451	\$44,811	\$41,271	1.17	1.09
Mar 2022	\$8,360	\$8,814	\$9,306	1.05	0.95	\$46,811	\$53,625	\$50,577	1.15	1.06
Apr 2022	\$12,130					\$58,942				
May 2022	\$11,376					\$70,318				
Jun 2022	\$9,870					\$80,187				
Jul 2022	\$12,929					\$93,116				
Aug 2022	\$11,816					\$104,933				
Sep 2022	\$16,666					\$121,598				

CTD	\$1,373,561	\$1,374,231	\$1,415,614	1.00	0.97
-----	-------------	-------------	-------------	------	------

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

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

5.02 – Retrieve and Close Single-Shell Tanks

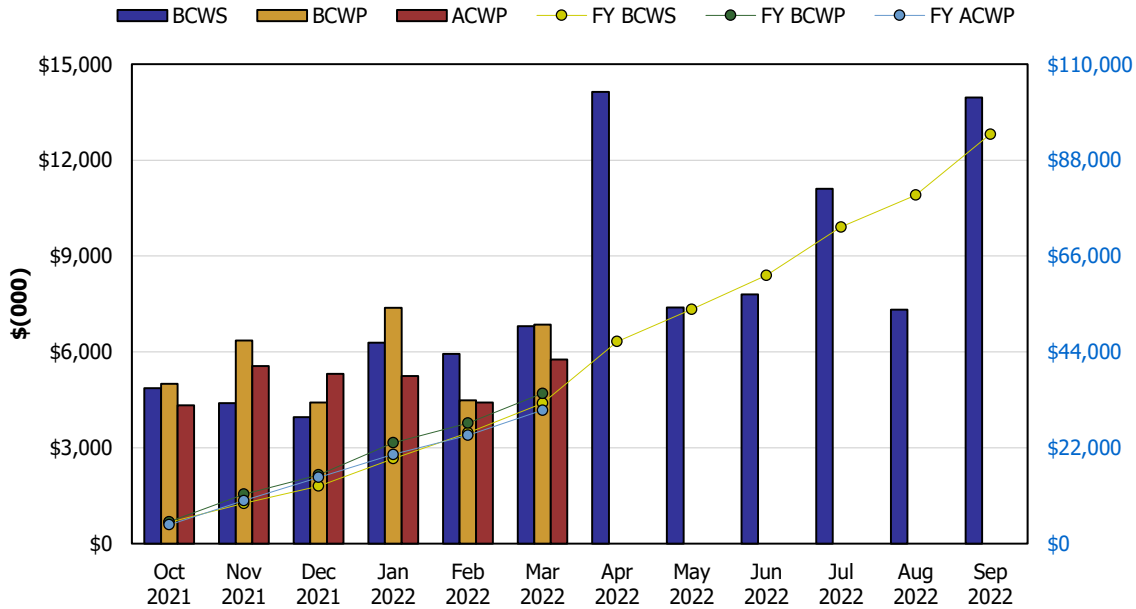
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2022

March-2022

Tank Farms ORP-0014
WBS 5.3 - WFD/Treatment Pmg/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 2021	\$4,863	\$5,004	\$4,330	1.03	1.16	\$4,863	\$5,004	\$4,330	1.03	1.16
Nov 2021	\$4,392	\$6,355	\$5,554	1.45	1.14	\$9,255	\$11,359	\$9,884	1.23	1.15
Dec 2021	\$3,957	\$4,418	\$5,317	1.12	0.83	\$13,212	\$15,777	\$15,202	1.19	1.04
Jan 2022	\$6,288	\$7,379	\$5,246	1.17	1.41	\$19,499	\$23,157	\$20,448	1.19	1.13
Feb 2022	\$5,938	\$4,484	\$4,419	0.76	1.01	\$25,437	\$27,641	\$24,867	1.09	1.11
Mar 2022	\$6,803	\$6,850	\$5,764	1.01	1.19	\$32,240	\$34,491	\$30,631	1.07	1.13
Apr 2022	\$14,133					\$46,372				
May 2022	\$7,388					\$53,761				
Jun 2022	\$7,798					\$61,559				
Jul 2022	\$11,100					\$72,659				
Aug 2022	\$7,323					\$79,981				
Sep 2022	\$13,962					\$93,944				

CTD	\$757,121	\$754,742	\$695,761	1.00	1.08
-----	-----------	-----------	-----------	------	------

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

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

5.03 – Waste Feed Delivery/Treatment

The March 2022 variances below do not impact TPA milestones.

The current month **favorable** SV of \$47,000 is below reportable thresholds.

The current month **favorable** CV of \$1,086,000 was primarily due to:

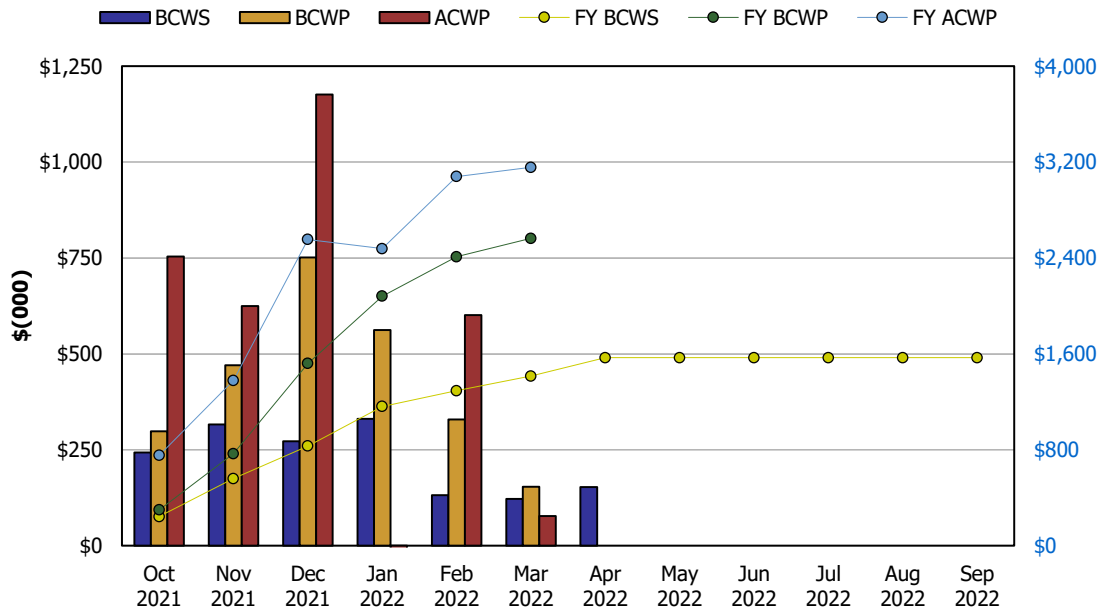
- Pacific Northwest National Laboratory (PNNL) test plan development and review process efficiencies.

Earned Value Data: Fiscal Year 2022

March-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 2021	\$243	\$298	\$754	1.23	0.40	\$243	\$298	\$754	1.23	0.40
Nov 2021	\$316	\$470	\$625	1.49	0.75	\$559	\$768	\$1,379	1.37	0.56
Dec 2021	\$272	\$751	\$1,176	2.76	0.64	\$831	\$1,520	\$2,555	1.83	0.59
Jan 2022	\$330	\$562	(\$76)	1.70	-7.35	\$1,161	\$2,082	\$2,478	1.79	0.84
Feb 2022	\$131	\$329	\$601	2.50	0.55	\$1,293	\$2,411	\$3,079	1.87	0.78
Mar 2022	\$122	\$154	\$77	1.26	1.99	\$1,415	\$2,564	\$3,157	1.81	0.81
Apr 2022	\$153					\$1,568				
May 2022	\$0					\$1,568				
Jun 2022	\$0					\$1,568				
Jul 2022	\$0					\$1,568				
Aug 2022	\$0					\$1,568				
Sep 2022	\$0					\$1,568				

CTD	\$273,524	\$273,444	\$284,496	1.00	0.96
-----	-----------	-----------	-----------	------	------

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

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

5.05 – Treat Waste

The March 2022 variances below do not impact TPA milestones.

The current month **favorable** SV of \$31,000 is below reportable thresholds.

The current month **favorable** CV of \$76,000 is below reportable thresholds.

Table 1 Administrative Record Metadata

Milestone Number or Facility Identification	Title
M-042-10-T01	Complete Leak Test/Internal Inspections, or Other Tank Integrity Examination of DST Components
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-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July)
M-045-56S	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)
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-045-83	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-045-86K	Submit Retrieval Data Report (RDR) to Ecology for Tank AX-102
M-045-91K	Complete Initial Baseline Visual Inspections of All SSTs
M-045-91E5	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-92AF	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities
M-045-98	Submit to Ecology an RFI/CMS Work Plan for WMA A/AX as a Primary Document
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AT	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AU	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-062-31-T01	Complete Final Design & Submit RCRA Part B Permit Mod Request for Enhanced WTP & Supplemental Treatment

Milestone Number or Facility Identification	Title
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-062-45-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-062-51-T02	Submit to Ecology, PMR for Redesign Upgrades and Ops to Support Volumes of Waste Types
M-062-52	Achieve Substantial Completion of Secondary Waste Construction Necessary for LAW Hot Commissioning
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste
M-062-53	Effluent Management Facility (EMF) Cold Commissioning Start
M-062-54	Low Activity Waste Pretreatment Capability; Cold Commissioning Complete
M-062-54B	Achieve Substantial Completion of LAW Pretreatment Capability Construction for DFLAW Initial Ops
M-062-55	LAWP Capability Necessary to Feed DFLAW; Hot Commissioning Complete
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

Milestone Number or Facility Identification	Title
TS-2-8	Low-Activity Waste Pretreatment System (LAWPS)

CMS	=	corrective measure study.	LAW	=	low-activity waste.
DFLAW	=	direct-feed low-activity waste.	PA	=	performance agreement.
DOE	=	U.S. Department of Energy.	PMR	=	permit modification request.
DST	=	double-shell tank.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
Ecology	=	Washington State Department of Ecology.	RFI	=	<i>Resource Conservation and Recovery Act Facility Investigation.</i>
EMF	=	Effluent Management Facility.	SST	=	single-shell tank.
ETF	=	Effluent Treatment Facility.	WMA	=	waste management area.
HFFACO	=	<i>Hanford Federal Facility Agreement and Consent Order.</i>	WTP	=	Waste Treatment and Immobilization Plant.