

Office of River Protection



Tri-Party Agreement Report Monthly Reporting Period November 1–November 30, 2023¹

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 2023.

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Acronyms and Abbreviations

CCF	change control form
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
FY	fiscal year
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
PMR	permit modification request
RCRA	<i>Resource Conservation and Recovery Act</i>
SST	single-shell tank
SV	schedule variance
TBI	Test Bed Initiative
TPA	<i>Tri-Party Agreement</i>
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 ^a	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

Milestone	Title	Due Date	DOE PM	Completion Date	Status
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-062-34-T01	Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements	12/30/2022	P. Schroder	-	In Dispute
M-045-59	Control Surface Water Infiltration Pathways as Needed	TBD ^b	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 ^b	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 ^b	P. Schroder	-	On Schedule
M-045-86	Submit Retrieval Data Report to Ecology for 19 Tanks Retrieved Under Consent Decree	TBD ^c	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	09/26/2023	Completed
M-045-92AB	Complete Construction of Barrier 4 in 241-U Farm	10/31/2023	P. Schroder	09/26/2023	Completed
M-045-92AG	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2023	P. Schroder	10/31/2023	Completed
M-062-40J	Submit System Plan to Ecology	12/31/2023	P. Schroder	-	On Schedule
M-045-86M	Submit Retrieval Data Report (RDR) to Ecology for Tank AX-103	01/17/2024	P. Schroder	11/28/2023	Completed
M-062-01AV	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2024	P. Schroder	-	On Schedule

Milestone	Title	Due Date	DOE PM	Completion Date	Status
M-045-91K-T01	Submit Report of the Initial Baseline Visual Inspection of All SSTs Remaining to be Inspected	03/31/2024	P. Schroder	12/01/2022	Completed
M-045-56T	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2024)	07/31/2024	P. Schroder	-	On Schedule
M-062-01AW	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2024	P. Schroder	-	On Schedule
M-062-21	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00	08/31/2024	P. Schroder	-	At Risk
Fiscal Year 2025 (October 1, 2024 – September 30, 2025)					
M-045-92AH	Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities	10/31/2024	P. Schroder	-	On Schedule
M-062-01AX	Submit Semi-Annual Project Compliance Report to Ecology	01/31/2025	P. Schroder	-	On Schedule
M-045-56U	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2025)	07/31/2025	P. Schroder	-	On Schedule
M-062-01AY	Submit Semi-Annual Project Compliance Report to Ecology	07/31/2025	P. Schroder	-	On Schedule
M-062-21A	Annually Submit Data Which Demonstrates Operation of WTP at a Rate Sufficient to Meet M-062-00	08/31/2025	P. Schroder	-	At Risk
M-062-56	Submit Permit Application for Design and Construction of the LAWP Capability	08/31/2025	P. Schroder	-	At Risk
M-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA	09/30/2025	P. Schroder	-	On Schedule
M-045-91E6	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology	09/30/2025	P. Schroder	-	On Schedule

Milestone	Title	Due Date	DOE PM	Completion Date	Status
M-090-13	Submit CDR (CD-1) for Interim Hanford Storage Project and CR for CD-2 to Ecology	09/30/2025	P. Schroder	-	On Schedule

^a On January 27, 2021, DOE submitted signed CCF M-62-21-01 to Ecology for evaluation to extend the Milestone M-062-45-A, "Complete Negotiations 6-months After Last System Plan," due date by 90 days due to "Holistic Negotiations" progress. This CCF was not concurred on by Ecology within the 14-day period; therefore, the CCF went into dispute on February 16, 2021, via ORP letter 21-TF-000637.

^b To be established in accordance with the date identified in the M-045-82 Tier 2 Closure Plan.

^c To be determined based on tank retrieval completion.

CCF = Change Control Form.

CD = Critical Decision.

CDR = conceptual design report.

CMIP = Corrective Measures Implementation Work Plan.

CR = change request.

DOE = U.S. Department of Energy.

Ecology = Washington State Department of Ecology.

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

LAWP = Low-Activity Waste Pretreatment.

Mod = modification.

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

PA = performance assessment.

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

- Completed replacement of hot cell window 11A6.
- During the month of November, the 222-S Laboratory delivered the following sample reports:
 - Final report for the Tank 241-AP-106 tank-side cesium removal (TSCR) post-Batch 4 verification.
 - Final report for A-AX Tank Farm vadose soil (Cores D0330, D0336, and D0340).
 - Final report for 221-T sand filter pad (Central Plateau Cleanup Company project).
 - Final report for 105KW Basin 2023-11 (Central Plateau Cleanup Company project).
- During the month of November, the 222-S Laboratory received and began analysis of samples collected from the following projects:
 - Tank 241-AP-106 grab TSCR post-Batch 4 verification.
 - Tank 241-SY-103 core (received the last five segments, all thirteen core segments are now received and being analyzed).
 - AZ-301 Catch Tank Grab sample.
 - 105KW Basin 2023-11.
 - 221-T Railroad Cut soil samples.

Significant Planned Activities in the Next Six Months

- Receive and analyze samples from Tank 241-AP-106 TSCR Grab numbers 5, 6, and 7; Tank 241-AN-102 core and grab; and B Tank Farm vadose soil samples.
- Replace 219-S P-4 waste transfer pump.
- Replace windows on 11A5 and 11A 1A west hot cells.

Issues

- U.S. Department of Energy (DOE) and its contractors continue to evaluate ongoing coronavirus disease 2019 (COVID-19) 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. Reference IAMIT² Determination Number 2023-023 approved November 16, 2023, which extended the temporary suspension of this milestone through January 2, 2024, keeping 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, Ecology³, and EPA⁴ may inform the path forward for addressing this milestone.
- M-062-40J Submit System Plan to Ecology**
 Due: December 31, 2023.
 Status: On Schedule.

Significant Past Accomplishments

- The 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 *Tri-Party Agreement* (TPA) Change Control Form (CCF) 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-

² IAMIT denotes Interagency Management Integration Team.

³ Ecology denotes Washington State Department of Ecology.

⁴ EPA denotes U.S. Environmental Protection Agency.

111 single-shell tank (SST) retrievals as part of the System Plan process. These discussions resulted in changes to the selected scenarios.

- 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.
- On December 27, 2022, DOE transmitted 22-TF-002632, “Selected Scenarios for the River Protection Project System Plan, Rev. 10,” to Ecology, supporting completion of Milestone M-062-40I. Ecology provided formal concurrence on the selected scenarios via letter 23-NWP-002, “Transmittal of Signed Selected Scenarios for the River Protection Project System Plan, Rev. 10,” on January 3, 2023.
- On March 9, 2023, DOE and Ecology agreed to extend milestone M-062-40J by 2 months, to December 31, 2023. This extension, documented by CCF M-62-23-01, will allow additional time for DOE and Ecology to review model results from the scenario selections and applicable Agreed Order Docket No. 21304 requirements and deliverables.
- On May 2, 2023, DOE, Ecology, and EPA announced conceptual agreement in Holistic Negotiations on revising plans for managing the Hanford Site tank waste. The drafting process is underway, including proposed changes to the Consent Decree and TPA, with a public comment period planned.
- As of May 31, 2023, modeling and analysis were completed for all System Plan 10 selected scenarios.
- In November 2023, the System Plan 10 document was finalized for approval and transmittal, including incorporation of review comments received from Ecology during the month of October. The draft evaluation on the practicability of accelerating retrieval of leaking Tanks 241-B-109 and 241-T-111, prescribed by Agreed Order Docket No. 21304, was subsequently provided to Ecology as an addendum to System Plan 10. Ecology reviewed the addendum and returned comments.

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.”
- Incorporate review comments, finalize, and submit 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 January 27, 2021, DOE signed and submitted CCF M-62-21-01, which proposed a 90-day extension of the due date (from April 30, 2021, to July 29, 2021) for TPA Interim Milestone M-062-45-A. Ecology disapproved the CCF. On February 16, 2021, DOE

initiated dispute resolution with Ecology via letter 21-TF-000637, “Initiation of Dispute Resolution Regarding Disapproval of Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Change Control Form M-62-21-01”. This dispute has since been extended at the project manager level for successive 30-day periods. On November 1, 2023, the dispute was extended at the project manager level through December 15, 2023.

- DOE and its contractors continue to evaluate ongoing COVID-19 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-1⁵ for Interim Hanford Storage Project and CR⁶ for CD-2 to ECY⁷

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

M-090-00 Acquire/Modify Facilities for Storage of First Two Years of IHLW⁸ from the WTP⁹ 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

⁵ CD denotes critical decision.

⁶ CR denotes change request.

⁷ ECY denotes Washington State Department of Ecology.

⁸ IHLW denotes immobilized high-level waste.

⁹ WTP denotes Waste Treatment and Immobilization Plant.

Treatment Pathway at Hanford,” issued June 27, 2019, thus placing these milestones in dispute resolution.

- DOE and its contractors continue to evaluate ongoing COVID-19 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 RCRA¹⁰ 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-062-21 **Annually Submit Data Which Demonstrates Operation of the WTP at
a Rate Sufficient to Meet M-062-00**
 Due: August 31, 2024.
 Status: At Risk.

M-062-21A **Annually Submit Data Which Demonstrates Operation of the WTP at
a Rate Sufficient to Meet M-062-00**
 Due: August 31, 2025.
 Status: At Risk.

¹⁰ RCRA denotes *Resource Conservation and Recovery Act*.

M-062-00 Complete Pretreatment Processing and Vitrification of HLW¹¹ and LAW¹² Tank Wastes

Due: December 31, 2047.

Status: At Risk.

Significant Past Accomplishments

- CCF M-62-23-04 was approved by DOE and Ecology on May 26, 2023, which extended the due date of interim Milestone M-062-21 by one year, from August 31, 2023, to August 31, 2024, 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.

Issues

- Milestones M-062-21 and M-062-21A were identified as “At Risk,” although the due dates were extended via CCF M-62-23-04. The extension allows DOE and Ecology to continue discussions and “Holistic Negotiations” that might affect this milestone. Operational data for the WTP, as described for the milestone, will not be available to support accurate mission forecasting.
- 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.
- DOE and its contractors continue to evaluate ongoing COVID-19 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.

¹¹ HLW denotes high-level waste.

¹² LAW denotes low-activity waste.

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 LAWP¹³ Capability**
 Due: August 31, 2025.
 Status: At Risk.
- M-062-60** **Submit Disposition Pathways Evaluation for Spent IX¹⁴ Columns as Primary Document to Ecology**
 Due: June 30, 2026.
 Status: On Schedule.
- M-062-61** **Submit Updated TSCR Closure Plan as a Permit Modification Request to Ecology**
 Due: April 30, 2029.
 Status: On Schedule.
- M-062-62** **Complete Negotiations to Establish HFFACO¹⁵ 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 PMR¹⁶, Final Design (90-100% Design) for Facility to Remove/Prepare/Process IX Waste Media**
 Due: September 30, 2043.
 Status: On Schedule.

¹³ LAWP denotes low-activity waste pretreatment.

¹⁴ IX denotes ion exchange.

¹⁵ HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

¹⁶ PMR denotes permit modification request.

Significant Past Accomplishments

- Completed Analysis of Alternatives report for the LAWP capability.
- Completed conceptual design and submitted the CD-1 package for DOE Headquarters' Independent Project Review.

Significant Planned Actions in the Next Six Months

- Obtain CD-1 approval to begin preliminary and detailed design.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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.
- DOE began reporting milestone M-062-56 as "At Risk" in July 2023 based on the schedule developed for CD-1 for the LAWP capability design and construction. On August 2, 2023, Ecology requested DOE provide expected impacts, causative factors, and actions DOE is taking regarding this milestone via letter 23-NWP-087, "Re: Department of Ecology Determination for *Tri-Party Agreement* Milestone M-062-56." DOE provided a response to Ecology on August 22, 2023; via letter 23-TF-0032, "Tri-Party Agreement Milestone M-062-56, 'Submit Permit Application for Design and Construction of the LAWP Capability.'" Ecology provided a response to DOE on October 16, 2023, via letter 23-NWP-133, "Re: Tri-Party Agreement Milestone M-062-56, 'Submit Permit Application for Design and Construction of the LAWP Capability.'" CCF M-62-23-05 was approved on October 23, 2023, establishing a new milestone due date of August 31, 2025. The milestone remains "At Risk" status based upon DOE letter 23-TF-0070, "Tri-Party Agreement Milestone M-062-56, 'Submit Permit Application for Design and Construction of the LAWP Capability,'" dated October 31, 2023.

Tank-Side Cesium Removal System

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Bibek Tamang
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.
- Received CD-4 approval for the Waste Feed Delivery Project on April 12, 2022.
- Completed Batch 4 of the first TSCR processing campaign and began Batch 5.

Significant Planned Actions in the Next Six Months

- Complete the first TSCR processing campaign.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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: Dan MacDonald

Under the Test Bed Initiative (TBI) Demonstration, approximately 2,000 gallons of waste from Tank 241-SY-101 at the Hanford Site 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.

Significant Past Accomplishments

- The Notice of Availability for the *Final Waste Incidental to Reprocessing Evaluation for the Test Bed Initiative Demonstration, U.S. Department of Energy* (Final WIR Evaluation) and associated *Waste Incidental to Reprocessing Determination for the Test Bed Initiative Demonstration at the Hanford Site, Washington* (WIR Determination) was published in the Federal Register on March 20, 2023 (88 FR 16615). The information demonstrates that the waste from DOE's proposed TBI Demonstration is WIR of spent nuclear fuel, is not high-level radioactive waste, and may be managed as low-level radioactive waste.
 - The Final WIR Evaluation was issued as DOE/ORP-2022-02, Revision 0.
 - The WIR Determination was issued as ORP-68455, Revision 0.
- DOE prepared the *Final Environmental Assessment of the Test Bed Initiative Demonstration* (Final EA). Based on the analysis in the Final EA, the preparation of an environmental impact statement is not required, and DOE issued a Finding of No Significant Impact (FONSI).
 - The Final EA and FONSI were issued under DOE/EA-2086 (March 2023).
- Submitted a Research, Development, and Demonstration permit application to Ecology for review on June 8, 2023.

Significant Planned Actions in the Next Six Months

- Complete required permitting actions to support installation and operation of the TBI Demonstration equipment.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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
2024	EC-11	AW-102	AP-103	EC-11 to be performed after completion of repairs related to a freeze event at 242-A.
2024	EC-12	AW-102	AP-103	EC-12 to be performed following completion of EC-11.

FY = fiscal year.

Significant Past Accomplishments

- Completed 242-A Evaporator ultrasonic test inspection of steam lines.
- 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 leak testing for AW-02E for the 242-A Evaporator's 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.
- Completed fit for use evaluation of 242-A Evaporator's condenser raw water system.
- 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's slurry and feed pipe-in-pipe transfer line replacement.
- Completed replacement of the U-Joint valve actuator driveshafts and mounting assemblies on the 242-A Evaporator's dump valve.
- Completed repairs related to a freeze event at the 242-A Evaporator.

Significant Planned Actions in the Next Six Months

- Initiate cold run activities.
- Conduct Contractor and DOE Readiness Assessment for restart of 242-A Evaporator.
- Initiate replacement of PB-1 Pump seal water flow transmitter and components.
- Initiate replacement of PB-2 Pump.
- Complete fitness-for-use evaluation related to a freeze event at the 242-A Evaporator.

Issues

- On December 22, 2022, the 242-A Evaporator experienced a freeze event. On December 25, 2022, it was discovered that the K1 ventilation heating system was not operational and several liquid piping systems were damaged. EC-11 start date has been moved from Fiscal Year (FY) 2023 to FY 2024, after completion of repairs related to the freeze event at the 242-A Evaporator.
- DOE and its contractors continue to evaluate ongoing COVID-19 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.

Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

Tank Farms Assistant Manager: Delmar Noyes
Technical Lead: Bibek Tamang
Ecology Project Manager: Ambika Chakravartty

Significant Past Accomplishments

Operations

- Continued to prepare facilities for FY 2024 processing campaign(s) and support Operational Acceptance Testing.

Projects

- Continued fieldwork activities for the Effluent Treatment Facility (ETF) supplemental organic treatment, storage and load-out system (e.g. monitoring instrument installation, insulation, electrical).

Significant Planned Actions in the Next Six Months

Operations

- Receive liquid effluent generated by tuning material from initial DFLAW cold commissioning (Phase 1B).
- Prepare facilities for FY 2024 processing campaign(s) and initiate processing.

Projects

- Complete testing and turnover activities for the ETF freeze protection upgrade to support enhanced facility operation.
- 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 redundant filtration system to reduce processing downtime.
- Complete testing and turnover activities for the Liquid Effluent Retention Facility Basin 41 installation for additional capacity.
- Complete testing and turnover activities for the ETF vessel offgas 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 2025ED Load-In Station expansion to support enhanced facility operation.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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.

Liquid Effluent Retention Facility Volumes

Liquid Effluent Retention Facility liquid levels, inventory, and received waste are shown in the table below. Volumes in the table are estimated.¹⁷

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
AZ-301 Condensate	-	-	-
Mixed Waste Trench 31 and 34	-	-	-
PUREX 211-A	-	-	+ 11,650
Other ^a	-	-	-
Processing Campaign(s)	-	-	-
Total Volume	900,000	5,780,000	2,622,000 ^b

^a Effluent Treatment Facility-utilized raw water.

^b Basin level was visually checked. Level included water on top of cover, actual basin level may be lower.

Data Date: November 30, 2023.

Values shown in gallons.

¹⁷ 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

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

M-042-10 Complete Tank Integrity Examination of DST¹⁸ Components to Assess Integrity

Due: December 31, 2026.
 Status: On Schedule (66.7% Complete).

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

Due: March 31, 2024.
 Status: Completed.

M-045-91E6 Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology

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

M-045-91L Obtain Assessment Reviewed/Certified by an IQRPE¹⁹ 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-AP-101, 241-AP-102, 241-AP-103, 241-AP-104, 241-AP-105, 241-AP-106, 241-AP-107, and 241-AP-108.

Significant Planned Actions in the Next Six Months

- Complete ultrasonic testing inspection fieldwork at Tanks 241-AN-103, 241-AP-102, and 241-AP-106.
- Begin DST annulus visual inspection at Tank 241-AY-101.
- Complete National Association of Corrosion Engineers' inspections of Tank Pits 241-AN-06A, 241-AN-A, and 241-AN-B.

¹⁸ DST denotes double-shell tank.

¹⁹ IQRPE denotes Independent Qualified Registered Professional Engineer.

Ultrasonic Testing Report Status

- Ultrasonic testing report for Tank 241-AP-101 was released as RPP-RPT-64396, *Ultrasonic Testing and Air Slot Visual Inspection Results for Double Shell Tank 241-AP-101 - FY 2023*, Rev. 0.
- Ultrasonic testing report for Tank 241-AP-104 is in the review process.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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.
- Transmitted 22-TF-003768, “Completion of Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Target Date M-045-91K-T01,” to Ecology on December 1, 2022, documenting completion of TPA target date for Milestone M-045-91K-T01.
- Transmitted 23-TF-0029, “Completion of Hanford Federal Facility Agreement and Consent Order Interim Milestone M-045-91E5,” to Ecology on September 1, 2023, documenting completion of TPA Interim Milestone M-045-91E5.
- FY 2024 SST visual inspections completed:
 - Tank 241-SX-111 (November, first of two FY inspections).
 - Tank 241-SX-112 (November, first of two FY inspections).

Significant Planned Actions in the Next Six Months

- Complete FY 2024 SST visual inspections:
 - Tank 241-B-101
 - Tank 241-B-201
 - Tank 241-B-202
 - Tank 241-B-203
 - Tank 241-B-204
 - Tank 241-S-101
 - Tank 241-S-106
 - Tank 241-S-109
 - Tank 241-S-111
 - Tank 241-SX-107
 - Tank 241-SX-108

- Tank 241-T-101
- Tank 241-T-102
- Tank 241-T-201
- Tank 241-T-203
- Tank 241-T-204
- Tank 241-U-111.

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

- Baseline Change Authorizations implemented:
 - One interstitial liquid level Baseline Change Authorization was implemented due to a known intrusion (Tank 241-BY-109).
 - One interstitial liquid level Baseline Change Authorization was implemented due to redistribution from interim stabilization (Tank 241-BY-105).
- Specification limit exceedance:
 - None.
- Intrusion:
 - None.
- Monitoring Change:
 - None.
- Primary Monitoring Device repair:
 - None.
- 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 were completed in May 2022, August 2022, November 2022, February 2023, May 2023, August 2023, and November 2023. These inspections indicated minor increases in cracking and spalling. The observed degradation remains bounded by RPP-RPT-63488.

- DOE and its contractors continue to evaluate ongoing COVID-19 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 2023, the following reports were completed (internal access only) or released (external access):

- Completed:
 - RPP-PLAN-65793, *Tank 241-AP-106 Grab Sampling – TSCR Post Batch 4 Verification*, Rev. 0.
 - RPP-PLAN-65880, *Tank 241-AP-106 Grab Sampling – TSCR Post Batch 5 Verification*, Rev. 0.
- Released:
 - HNF-EP-0182, *Waste Tank Summary Report for Month Ending October 31, 2023*, Rev. 430.
 - RPP-RPT-61636, *Data Quality Objectives (DQO) for Grab Sampling and Analysis of Pre-treated 241-SY-101 Liquid Waste in Process Totes*, Rev. 3.

Tank Sampling

Significant Past Accomplishments

- For November 2023, the following tank sampling was conducted:
 - Tank 241-AP-106 post-TSCR Batch 4 verification was completed.
 - Tank 241-SY-103 core sampling completed.

Significant Planned Actions in the Next Six Months

- Complete core sampling of Tank 241-AN-102.
- Complete grab sampling of Tanks 241-AP-106, 241-AP-107, and 241-SY-102.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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 2023:
 - RPP-RPT-444643, *Derivation of Best-Basis Inventory for Tank 241-SY-102 as of November 1, 2023*, Rev. 11.
 - RPP-RPT-52516, *Derivation of Best-Basis Inventory for Tank 241-C-112 as of October 1, 2023*, Rev. 4.
 - RPP-RPT-54440, *Derivation of Best-Basis Inventory for Tank 241-C-101 as of October 1, 2023*, Rev. 5.
 - RPP-RPT-58767, *Derivation of Best-Basis Inventory for Tank 241-SX-111 as of October 1, 2023*, Rev. 1.
 - RPP-RPT-58769, *Derivation of Best-Basis Inventory for Tank 241-SX-113 as of October 1, 2023*, Rev. 2.
 - RPP-RPT-58770, *Derivation of Best-Basis Inventory for Tank 241-SX-114 as of October 1, 2023*, Rev. 1.

Significant Planned Actions in the Next Month

- Best-basis inventory updates for the following tanks are currently planned to be completed in December 2023:
 - Tank 241-AP-102
 - Tank 241-AP-106
 - Tank 241-AP-107
 - Tank 241-AP-108
 - Tank 241-AX-101
 - Tank 241-AZ-102.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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, Milestone M-045-58, 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 CMIP²⁰ for WMA-C²¹**
Due: To be determined. To be established in accordance with the date identified in the M-045-82 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-045-82 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. Reference IAMIT Determination Number 2023-022 approved November 16, 2023, which extended the temporary suspension of this milestone through January 2, 2024, keeping 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-045-92 Complete Installation of 4 Additional Interim Barriers**
Due: October 31, 2023.
Status: Complete.

²⁰ CMIP denotes Corrective Measures Implementation Work Plan.

²¹ WMA-C denotes C Tank Farm Waste Management Area.

- M-045-92AB Complete Construction of Barrier 4 in 241-U Farm**
Due: October 31, 2023.
Status: Complete.
- M-045-92AG Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**
Due: October 31, 2023.
Status: Complete.
- M-045-56T Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2024)**
Due: July 31, 2024.
Status: On Schedule.
- M-045-56U Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2025)**
Due: July 31, 2025.
Status: On Schedule.
- M-045-92AH Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities**
Due: October 31, 2024.
Status: On Schedule.
- M-045-102 Submit to Ecology a Performance Assessment Maintenance Plan for WMA A/AX²² PA²³**
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.

²² WMA A/AX denotes Tank Farms A and AX Waste Management Areas.

²³ PA denotes performance assessment.

Significant Past Accomplishments

- RPP-RPT-64463, Rev. 0, was submitted to Ecology via letter 23-TF-0057, dated October 31, 2023, to fulfill Milestone M-045-92AG.

Significant Planned Activities in the Next Six Months

- None.

Issues

- DOE and its contractors continue to evaluate ongoing COVID-19 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 2023-021 approved November 16, 2023, which temporarily suspended this milestone through January 2, 2024, keeping 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 2023-021 approved November 16, 2023, which temporarily suspended this milestone through January 2, 2024, keeping 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 2023-021 approved November 16, 2023, which temporarily suspended this milestone through January 2, 2024, keeping 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. Thirteen Retrieval Data Reports have been submitted for tanks that were retrieved. Milestones M-045-86A through M-045-86M are completed. The Retrieval Data Report for Tank 241-AX-103 was due on January 17, 2024, and completed ahead of schedule on November 28, 2023, to complete Milestone M-045-86M. Tanks 241-A-101, 241-A-102, 241-A-104, 241-A-105, 241-A-106, and 241-AX-101 have submittal dates to be determined (Milestones M-045-86N 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. This milestone will be addressed with the negotiations supporting M-062-45 Milestone. Reference IAMIT Decision Document 2016-005 signed August 22, 2016.

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 2024

October-2023

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$35,655	\$41,501	\$42,433	\$5,846	(\$933)	1.16	0.98			
FYTD	\$35,655	\$41,501	\$42,433	\$5,846	(\$933)	1.16	0.98	\$835,735		
CTD	\$8,410,713	\$8,350,787	\$8,276,862	(\$59,926)	\$73,924	0.99	1.01	\$9,210,794	\$9,148,161	\$62,633

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.

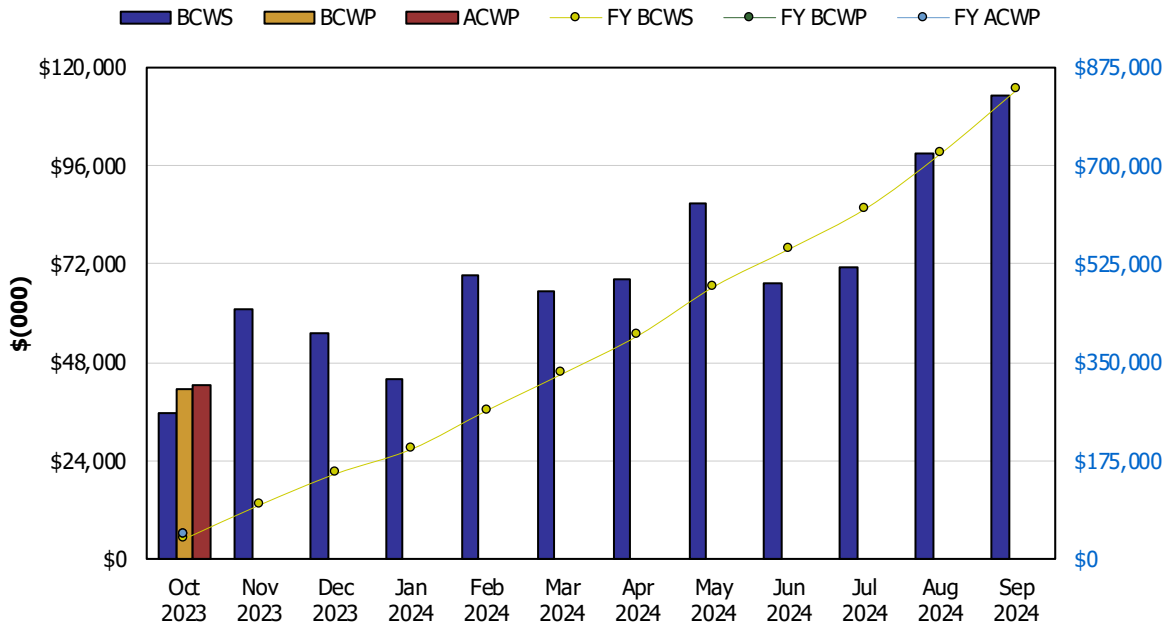
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000 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 2024

October-2023

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 2023	\$35,655	\$41,501	\$42,433	1.16	0.98	\$35,655	\$41,501	\$42,433	1.16	0.98
Nov 2023	\$60,836					\$96,490				
Dec 2023	\$55,225					\$151,716				
Jan 2024	\$43,801					\$195,517				
Feb 2024	\$69,210					\$264,727				
Mar 2024	\$65,434					\$330,161				
Apr 2024	\$68,150					\$398,311				
May 2024	\$87,049					\$485,360				
Jun 2024	\$67,171					\$552,531				
Jul 2024	\$71,348					\$623,879				
Aug 2024	\$98,923					\$722,803				
Sep 2024	\$112,933					\$835,735				

CTD	\$8,410,713	\$8,350,787	\$8,276,862	0.99	1.01
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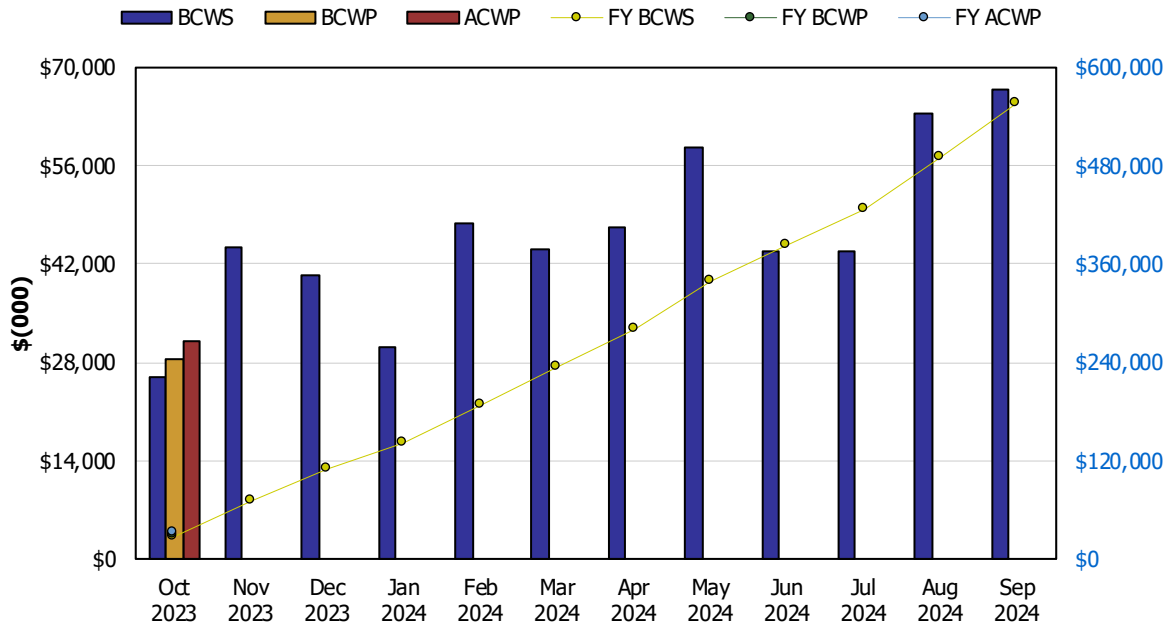
- ACWP = actual cost of work performed.
- BCWP = budgeted cost of work performed.
- BCWS = budgeted cost of work scheduled.
- CPI = cost performance index.
- CM = current month.
- CTD = contract to date.
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index.
- WBS = Work Breakdown Structure.

Earned Value Data: Fiscal Year 2024

October-2023

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 2023	\$26,001	\$28,499	\$30,884	1.10	0.92	\$26,001	\$28,499	\$30,884	1.10	0.92
Nov 2023	\$44,495					\$70,497				
Dec 2023	\$40,432					\$110,929				
Jan 2024	\$30,267					\$141,196				
Feb 2024	\$47,704					\$188,900				
Mar 2024	\$44,238					\$233,138				
Apr 2024	\$47,093					\$280,231				
May 2024	\$58,586					\$338,818				
Jun 2024	\$43,870					\$382,687				
Jul 2024	\$43,721					\$426,408				
Aug 2024	\$63,449					\$489,857				
Sep 2024	\$66,873					\$556,729				

CTD	\$5,601,542	\$5,573,476	\$5,539,058	0.99	1.01
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- 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.
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index.
- WBS = work breakdown structure.

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

5.01 – Base Operations

The October 2023 variances below do not impact TPA milestones.

The current month **favorable** SV of \$2,497,643 was due in part to:

- Offsetting SVs throughout the lower Work Breakdown Structure project elements:
 - Waste Transfer System Fitness-for-Service Assessment schedule recovery.
 - AP-106 Pit schedule recovery of jumper installation.
 - Accelerated grab sampling at Tank 241-AP-106.

The current month **unfavorable** CV of (\$2,384,704) was due in part to:

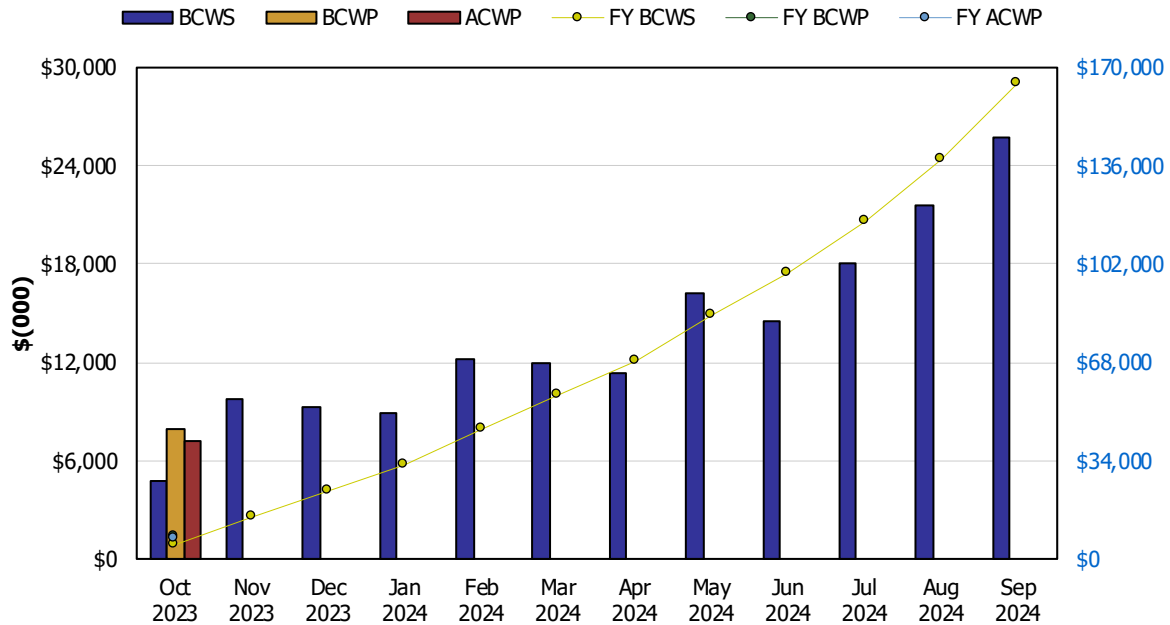
- ETF, Liquid Effluent Facility, and Environmental Restoration Disposal Facility subcontracts that were not planned.
- ETF brine storage subcontract change orders that added scope to the construction contract.
- ETF acetonitrile treatment subcontract change orders relating to overtime, additional parts needed, and modifications.

Earned Value Data: Fiscal Year 2024

October-2023

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 2023	\$4,752	\$7,931	\$7,200	1.67	1.10	\$4,752	\$7,931	\$7,200	1.67	1.10
Nov 2023	\$9,722					\$14,474				
Dec 2023	\$9,230					\$23,704				
Jan 2024	\$8,911					\$32,615				
Feb 2024	\$12,241					\$44,856				
Mar 2024	\$12,009					\$56,864				
Apr 2024	\$11,366					\$68,230				
May 2024	\$16,166					\$84,396				
Jun 2024	\$14,457					\$98,853				
Jul 2024	\$18,075					\$116,928				
Aug 2024	\$21,534					\$138,462				
Sep 2024	\$25,709					\$164,171				

CTD	\$1,595,709	\$1,585,327	\$1,598,469	0.99	0.99
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- 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.
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index.
- SST = single-shell tank.
- WBS = Work Breakdown Structure.

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

5.02 – Retrieve and Close Single-Shell Tanks

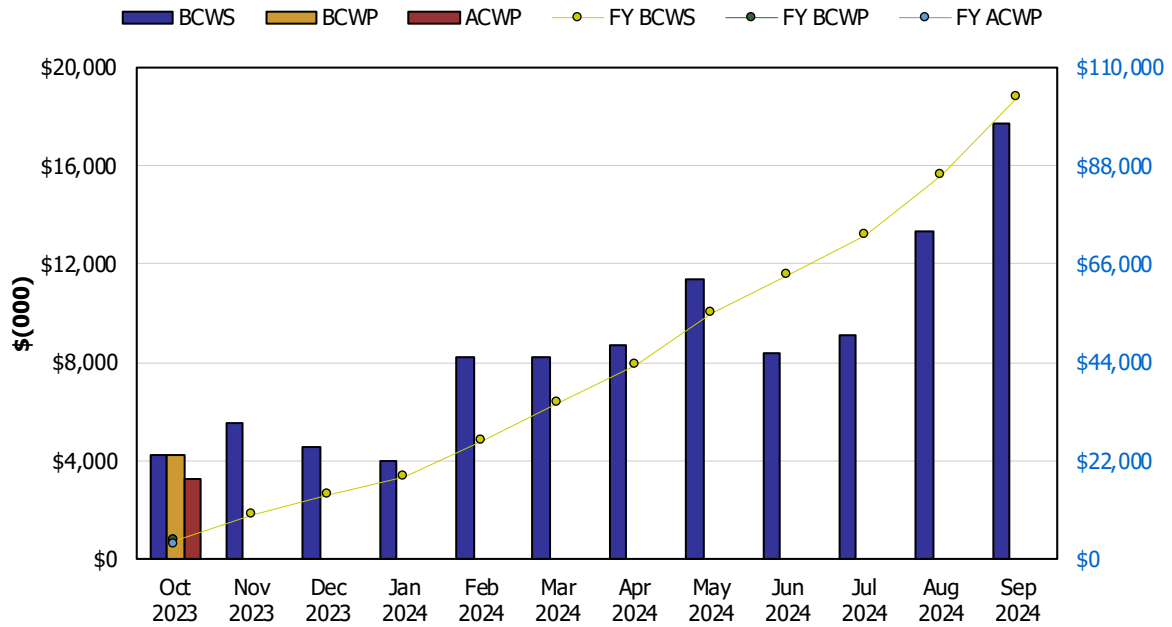
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2024

October-2023

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 2023	\$4,231	\$4,201	\$3,228	0.99	1.30	\$4,231	\$4,201	\$3,228	0.99	1.30
Nov 2023	\$5,519					\$9,749				
Dec 2023	\$4,596					\$14,345				
Jan 2024	\$3,986					\$18,332				
Feb 2024	\$8,232					\$26,564				
Mar 2024	\$8,220					\$34,784				
Apr 2024	\$8,724					\$43,508				
May 2024	\$11,411					\$54,919				
Jun 2024	\$8,393					\$63,312				
Jul 2024	\$9,101					\$72,413				
Aug 2024	\$13,324					\$85,737				
Sep 2024	\$17,728					\$103,465				

CTD	\$902,208	\$882,664	\$820,782	0.98	1.08
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- 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.
- DST = double-shell tank.
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index.
- WBS = Work Breakdown Structure.
- WFD = waste feed delivery.

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

5.03 – Waste Feed Delivery/Treatment

The October 2023 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$29,475) was below the reportable threshold.

The current month **favorable** CV of \$973,283 was due in part to:

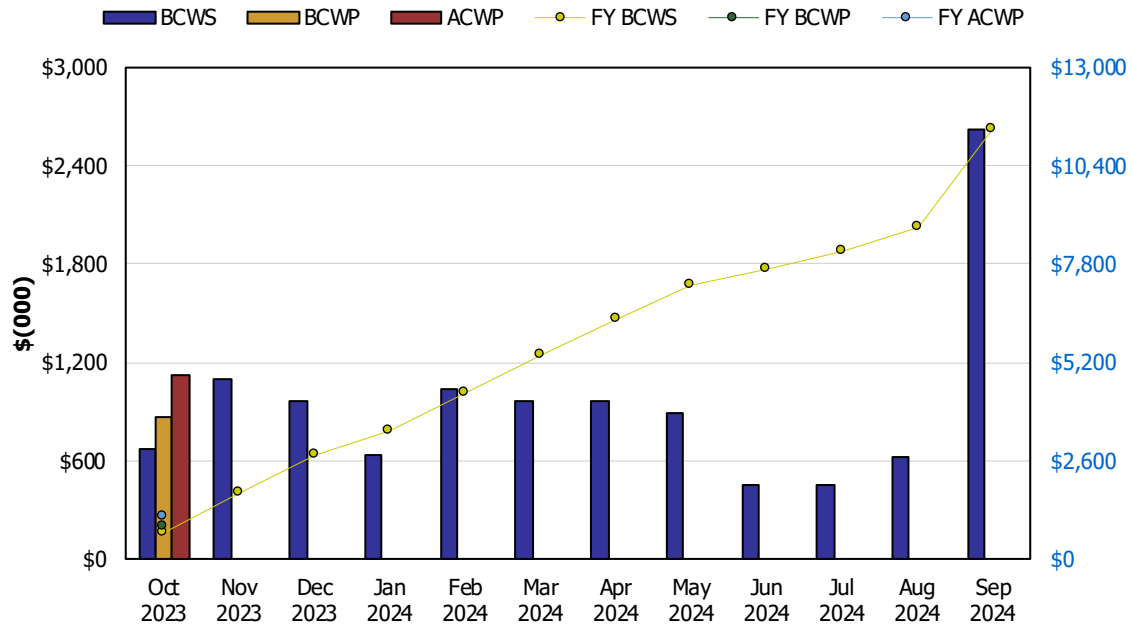
- WTP Transition Support to Low-Activity Waste Melter Assembly, Storage, and Transportation (LAWMAST) Phase 2 due to additional subcontracted labor and materials costs related to the LAWMAST support systems and melter movement demonstrations.

Earned Value Data: Fiscal Year 2024

October-2023

**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 2023	\$670	\$869	\$1,121	1.30	0.78	\$670	\$869	\$1,121	1.30	0.78
Nov 2023	\$1,100					\$1,770				
Dec 2023	\$967					\$2,738				
Jan 2024	\$636					\$3,374				
Feb 2024	\$1,034					\$4,407				
Mar 2024	\$967					\$5,375				
Apr 2024	\$967					\$6,342				
May 2024	\$886					\$7,228				
Jun 2024	\$451					\$7,678				
Jul 2024	\$451					\$8,129				
Aug 2024	\$617					\$8,746				
Sep 2024	\$2,624					\$11,370				

CTD	\$287,544	\$285,609	\$296,936	0.99	0.96
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- 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.
- EVMS = Earned Value Management System.
- FY = fiscal year.
- SPI = schedule performance index.
- WBS = Work Breakdown Structure.

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

5.05 – Treat Waste

The October 2023 variances below do not impact TPA milestones.

5.5.45 – LAWPS²⁴ Sub-Project 2

The current month **unfavorable** SV of (\$47,027) was below the reportable threshold.

The current month **favorable** CV of \$117,984 was below the reportable threshold.

5.5.51 – 200 West Area Tank Farms Risk Management Project

The current month **favorable** SV of \$245,817 was due in part to:

- Schedule recovery for review and approval of the geotechnical report for the Hanford 200 West Area Tank Farm Risk Management project.

The current month **unfavorable** CV of (\$62,307) was below the reportable threshold.

²⁴ LAWPS denotes Low-Activity Pretreatment System.

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-045-102	Submit to Ecology a Performance Assessment Maintenance Plan for the WMA A/AX PA
M-045-56U	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2025)
M-045-58	Submit a Phase 2 Master Work Plan
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-045-82	Submit to Ecology for Review a Draft Tier 2 Closure Plan 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-045-86M	Submit Retrieval Data Report (RDR) to Ecology for Tank AX-103
M-045-91E6	Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology
M-045-91K	Complete Initial Baseline Visual Inspections of All SSTs
M-045-92AH	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
M-062-00	Complete Pretreatment Processing and Vitrification of HLW & LAW Tank Wastes
M-062-01AV	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AW	Submit Semi-Annual Project Compliance Report to Ecology
M-062-01AX	Submit Semi-Annual Project Compliance Report to Ecology

Milestone Number or Facility Identification	Title
M-062-01AY	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-062-40J	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-062-56	Submit Permit Application for Design and Construction of the LAWP Capability
M-090-00	Acquire/Modify Facilities for Storage of First Two Years of IHLW from WTP Operations
M-090-13	Submit CDR (CD-1) for Interim Hanford Storage Project and CR for CD-2 to Ecology
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

Milestone Number or Facility Identification	Title
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

CD	=	Critical Decision.	IHLW	=	immobilized high-level waste.
CDR	=	conceptual design report.	LAW	=	low-activity waste.
CMIP	=	Corrective Measures Implementation Work Plan.	LAWP	=	Low-Activity Waste Pretreatment.
CMS	=	Corrective Measures Study.	Mod	=	modification.
CR	=	change request.	PA	=	performance assessment.
DOE	=	U.S. Department of Energy.	RCRA	=	<i>Resource Conservation and Recovery Act.</i>
DST	=	double-shell tank.	RFI	=	RCRA facility investigation.
Ecology	=	Washington State Department of Ecology.	SST	=	single-shell tank.
HFFACO	=	<i>Hanford Federal Facility Agreement and Consent Order.</i>	WMA	=	waste management area.
			WTP	=	Waste Treatment and Immobilization Plant.