

# Office of River Protection



## Monthly Reporting Period August 1–August 31, 2022<sup>1</sup>

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<sup>1</sup> 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 July 2022.

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## Acronyms and Abbreviations

BCA	Baseline Change Authorization
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)
ILL	Interstitial-liquid level
IQRPE	independent, qualified, registered, professional engineer
IX	ion exchange
LAW	low-activity waste
LERF	Liquid Effluent Retention Facility
NRC	Nuclear Regulatory Commission
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
<b>Prior Years</b>				
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 <sup>a</sup>	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 <sup>a</sup>	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 <sup>a</sup>	P. Schroder	On Schedule
M-045-86	Submit Retrieval Data Report to Ecology for 19 Tanks Retrieved Under Consent Decree.	TBD <sup>b</sup>	P. Schroder	On Schedule
M-062-45-A	Complete Negotiations 6-Months After Last Issuance of System Plan	4/30/2021 <sup>c</sup>	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
<b>Fiscal Year 2022 (October 1, 2021 – September 30, 2022)</b>				
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

<b>Milestone</b>	<b>Title</b>	<b>Due Date</b>	<b>DOE PM</b>	<b>Status</b>
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	P. Schroder	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	Complete
M-062-52-T02	Submit to Ecology, PMR for Ancillary Facilities/Capabilities to Support Treatment of Secondary Waste	5/15/2022	P. Schroder	Complete
M-045-56R	Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2022)	7/31/2022	P. Schroder	Complete
M-062-01AS	Submit Semi-Annual Project Compliance Report to Ecology	7/31/2022	P. Schroder	Complete
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	To Be Missed
M-045-15A	Submit a Retrieval Data Report Pursuant to Agreement Appendix I	9/30/2022	P. Schroder	To Be Missed
M-045-15D	Submit, if appropriate, an exception to Waste Retrieval Criteria Pursuant to Agreement Appendix H	9/30/2022	P. Schroder	To Be Missed
M-045-98	Submit to Ecology an RFI/CMS Work Plan for WMA A/AX as a Primary Document	9/30/2022	P. Schroder	Complete

Milestone	Title	Due Date	DOE PM	Status
<b>Fiscal Year 2023 (October 1, 2022 – September 30, 2023)</b>				
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	Complete
M-062-54B	Achieve Substantial Completion of LAW Pretreatment Capability Construction for DFLAW Initial Ops	12/31/2022	P. Schroder	Complete
M-062-01AT	Submit Semi-Annual Project Compliance Report to Ecology	1/31/2023	P. Schroder	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	Complete
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	P. Schroder	On Schedule
M-062-53	Effluent Management Facility (EMF) Cold Commissioning Start	8/15/2023	J. Young	On Schedule
M-062-55	LAWP Capability Necessary to Feed DFLAW; Hot Commissioning Complete	8/15/2023	P. Schroder	Complete

Milestone	Title	Due Date	DOE PM	Status
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

<sup>a</sup> To be established in accordance with the date identified in the M-045-82 Tier 2 closure plan.

<sup>b</sup> To be determined based on tank retrieval completion.

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

CMS = Corrective Measure Study.

DFLAW = direct-feed low-activity waste.

DOE = U.S. Department of Energy.

DST = double-shell tank.

Ecology = Washington State Department of Ecology.

EMF = Effluent Management Facility.

ETF = Effluent Treatment Facility.

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

LAW = low-activity waste.

LAWP = Low-Activity Waste Pretreatment.

LERF = Liquid Effluent Retention Facility.

Mod = modification.

PM = project manager.

PMR = permit modification request.

RCRA = *Resource Conservation and Recovery Act.*

RFI = *Resource Conservation and Recovery Act Facility Investigation.*

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:** Edward Holbrook

### Significant Past Accomplishments

- During the month of August, the 222-S Laboratory received and began analysis of samples collected from the following tank farm projects:
  - SY-102 Sample
  - AP-108 Sample.
- During the month of August, the 222-S Laboratory delivered the following tank farm final reports
  - AZ-301 Catch Tank Sample
  - AZ-101 Sample.

### Significant Planned Activities in the Next Six Months

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

### Issues

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



work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.

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

## System Plan

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

**M-062-45-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. One in-person group negotiation session was held on August 18, 2022.
- 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 accelerated approach for documenting and concurring on the selected scenarios in support of completing Milestone M-062-40I on time.

## Significant Planned Actions in the Next Six Months

- Discuss disputes regarding Milestone M-062-45 and its associated milestones during “Holistic Negotiations”
- Continue scenario selection discussions and issue a selected scenarios document in support of M-062-40I.

## Issues

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

## Acquisition of New Facilities

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

**M-090-13 CD-1<sup>2</sup> for Interim Hanford Storage Project and CR<sup>3</sup> for CD-2 to ECY<sup>4</sup>**

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

**M-090-00 Acquire/Modify Facilities for Storage of First Two Years of IHLW<sup>5</sup> from the WTP<sup>6</sup> Operations**

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

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

Due: To be determined.  
 Status: In Dispute.

## Significant Past Accomplishments

- None.

## Significant Planned Actions in the Next Six Months

- None.

## Issues

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

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<sup>2</sup> CD denotes critical decision.

<sup>3</sup> CR denotes change request.

<sup>4</sup> ECY denotes Washington State Department of Ecology.

<sup>5</sup> IHLW denotes immobilized high-level waste.

<sup>6</sup> WTP denotes Waste Treatment and Immobilization Plant.

May 2022 that these milestones were found to be incorrectly listed as “On Schedule” in the report.

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

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

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

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

- In Dispute. Ecology and DOE 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.”

<b>M-062-45-ZZ</b>	<b>Negotiate a One-Time Supplemental Treatment Selection</b>
Due:	April 30, 2015.
<b>M-062-45-ZZ-A</b>	<b>Convert M-062-31-T01 through M-062-34-T01 to Interim Milestones</b>
Due:	April 30, 2015.
<b>M-062-31-T01</b>	<b>Complete Final Design and Submit RCRA<sup>7</sup> Part B Permit Modification Request for Enhanced WTP &amp; Supplemental Treatment</b>
Due:	April 30, 2016.
<b>M-062-32-T01</b>	<b>Start Construction of Supplemental Vitrification Facility and/or WTP Enhancements</b>
Due:	April 30, 2018.
<b>M-062-33-T01</b>	<b>Complete Construction of Supplemental Treatment Vitrification Facility and/or WTP Enhancements</b>
Due:	April 30, 2021.
<b>M-062-52-T01</b>	<b>Submit to Ecology, as a Primary Document for Approval a Secondary Solid Waste Disposition Work Plan</b>
Due:	December 31, 2021.
Status:	Complete.
<b>M-062-52-T02</b>	<b>Submit Permit Modification Requests for Any Ancillary Facilities or Capabilities to Support Treatment of Secondary Waste</b>
Due:	May 15, 2022.
Status:	Complete.
<b>M-062-34-T01</b>	<b>Complete Hot Commissioning of Supplemental Treatment Vitrification Facility and/or WTP Enhancements</b>
Due:	December 30, 2022.

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<sup>7</sup> RCRA denotes *Resource Conservation and Recovery Act*.

**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<sup>8</sup> Hot Commissioning**

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

**M-062-00     Complete Pretreatment Processing and Vitrification of HLW<sup>9</sup> and LAW Tank Wastes**

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

**Significant Past Accomplishments**

- None.

**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.

**Issues**

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

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<sup>8</sup> LAW denotes low-activity waste.

<sup>9</sup> HLW denotes high-level waste.

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



## Low-Activity Waste Pretreatment System

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

- M-062-54 Low-Activity Waste Pretreatment Capability; Cold Commissioning Complete**  
 Due: April 20, 2023.  
 Status: Complete.
- M-062-54B Achieve Substantial Completion of LAW Pretreatment Capability Construction for DFLAW<sup>10</sup> Initial Ops**  
 Due: September 31, 2022.  
 Status: Complete.
- M-062-55 LAWP<sup>11</sup> Capability Necessary to Feed DFLAW; Hot Commissioning Complete**  
 Due: August 15, 2023.  
 Status: Complete.
- M-062-60 Submit Disposition Pathways Evaluation for Spent IX<sup>12</sup> Columns as Primary Document to Ecology**  
 Due: June 30, 2026.  
 Status: On Schedule.
- M-062-61 Submit Updated TSCR<sup>13</sup> Closure Plan as a Permit Modification Request to Ecology**  
 Due: April 30, 2029.  
 Status: On Schedule.
- M-062-62 Complete Negotiations to Establish HFFACO<sup>14</sup> 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.

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<sup>10</sup> DFLAW denotes direct feed low-activity waste.

<sup>11</sup> LAWP denotes Low-Activity Waste Pretreatment.

<sup>12</sup> IX denotes ion exchange.

<sup>13</sup> TSCR denotes tank-side cesium removal.

<sup>14</sup> HFFACO denotes *Hanford Federal Facility Agreement and Consent Order*.

**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 PMR<sup>15</sup>, 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**

- Initiate and complete the Analysis of Alternatives for the LAW Pretreatment Capability.

**Issues**

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

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<sup>15</sup> PMR denotes permit modification request.

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

## Tank-Side Cesium Removal System

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

This section only covers the Tank Farms Project scope of the DFLAW mission. Please refer to the Consent Decree monthly report for the WTP Project scope pertaining to DFLAW.

### Significant Past Accomplishments

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

### Significant Planned Actions in the Next Six Months

- Complete first TSCR processing campaign.

### Issues

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

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

## Test Bed Initiative Demonstration

**Tank Farms Assistant Manager:** Delmar Noyes

**Technical Lead:** Richard Valle

**Ecology Project Manager:** TBD

DOE proposed to undertake a Test Bed Initiative Demonstration (TBI Demonstration). If the TBI Demonstration is conducted, approximately 2,000 gallons of waste from Tank 241-SY-101 at the Hanford Site in Washington will be pretreated to remove most key radionuclides, then solidified (grouted) offsite, and subsequently disposed of at a licensed and permitted disposal facility outside of Washington State. DOE issued DOE-ORP-2021-01, Rev. 0, *Draft Waste Incidental to Reprocessing (WIR) Evaluation for the TBI Demonstration* in late 2021. Following public comment on the Draft WIR Evaluation and consultation with the Nuclear Regulatory Commission (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.
- Completed review of the public comments received on the Draft WIR Evaluation. Comment dispositions will be included as part of the Final WIR Evaluation (DOE-ORP-2021-01, Rev. 1).
- The NRC technical evaluation report was received on July 7, 2022. Comment dispositions will be included as part of the Final WIR Evaluation (DOE-ORP-2021-01, Rev.1).

### Significant Planned Actions in the Next Six Months

- Issue Final WIR Evaluation (DOE-ORP-2021-01, Rev. 1) and potential WIR Determination
- Issue final documentation related to the *National Environmental Policy Act* and potential decision document(s).

### Issues

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

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

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

## 242-A Evaporator Status

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

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

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

FY = fiscal year.

### Significant Past Accomplishments

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

### Significant Planned Actions in the Next Six Months

- Receive new PB-1 replacement pumps
- Complete leak testing for AW-02A, AW-B, and 242-A Evaporator's pump room jumpers and fieldwork prior to turnover to operations for the 242-A Evaporator slurry and feed pipe in pipe transfer line replacement
- Complete fieldwork for the replacement of the U-Joint valve actuator driveshafts/mounting assemblies on the 242-A Evaporator's dump valves



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

## Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

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

**M-062-51-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: Complete.

**M-062-51      Achieve Substantial Completion of LERF<sup>16</sup>/ETF<sup>17</sup> Construction Upgrades Necessary for LAW Hot Commissioning**

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

### Significant Past Accomplishments

#### Operations

- Total Fiscal Year (FY) 2022 processing volume: Approximately 1.0 million gallons
- Continued to support project and maintenance activities
- A nuclear safety basis for the LERF was approved by DOE on August 24, 2022, in preparation for the future receipt of secondary liquid waste from WTP.

#### Projects

- Continued fieldwork activities for the ETF Load-In Station expansion (e.g., install 2025EG Backup Load-In Station)
- Continued fieldwork activities for the ETF chiller addition (e.g., install chiller, pump skid, and tanks)
- Continued fieldwork activities for the LERF Basin 41 installation (e.g., install basin liners, catch basin piping, and transfer lines)
- Continued fieldwork activities for the enhanced leak detection upgrade on the 310 and 311/PC-5000 transfer lines (e.g., install wireless leak detectors)
- Continued fieldwork activities for the ETF freeze protection upgrade (e.g., install heat trace, insulation, and control panels)

<sup>16</sup> LERF denotes Liquid Effluent Retention Facility.

<sup>17</sup> ETF denotes Effluent Treatment Facility.

- Continued fieldwork activities for the ETF supplemental organic treatment system (e.g., concrete, structural steel, beams, and trench excavation)
- Continued fieldwork activities for the ETF carbon dioxide removal skid (e.g., removal skid, piping, and electrical)
- Continued fieldwork activities for the ETF instrument air upgrade (e.g., construction acceptance testing)
- Continued fieldwork activities for the balance of ETF monitoring and control system upgrades (e.g., local control units for utilities and the Treated Effluent Disposal Facility)
- Continued fieldwork activities for the ETF redundant filtration system upgrade (e.g., mechanical/electrical demolitions, filter piping install, and mechanical/electrical equipment install)
- Initiated fieldwork activities for the ETF vessel offgas system (e.g., mechanical and concrete demolition).

#### Other

- DOE and Ecology agreed to extend comment disposition to revise the combined DOE/ORP-2021-05 Work Plan for target Milestones M-062-51-T01 and M-062-52-T01. DOE transmitted 22-TF-002434 on August 31, 2022, requesting an extension date of October 17, 2022.

### **Significant Planned Actions in the Next Six Months**

#### Operations

- Develop process to remove accumulated solids inside the piping system at the LERF Basin 44 catch basin
- Continue to support project and maintenance activities
- Implement the LERF safety basis and conduct operational readiness reviews.

#### Projects

- Complete procurements and fabrications for the ETF vessel offgas system, motor control center (E-House), acetonitrile, and secondary waste storage and loadout projects
- Complete testing and turnover activities for the ETF instrument air upgrade to support enhanced facility operation
- Complete testing and turnover activities for the enhanced leak detection system installation on the 310 and 311/PC-5000 transfer lines
- Complete testing and turnover activities for the balance of ETF monitoring and control system upgrades, as the previous system is outdated
- Complete testing and turnover activities for the ETF carbon dioxide removal skid to provide the capability to treat the WTP DFLAW effluent

- Complete testing and turnover activities for the ETF freeze protection upgrade to support enhanced facility operation
- Complete testing and turnover activities for the ETF motor control center (E-House) upgrade to improve electrical infrastructure for enhanced facility operation
- Complete testing and turnover activities for the ETF redundant filtration system to reduce processing down time
- Complete fieldwork, testing, and turnover activities for the ETF vessel offgas demister housing upgrade to support enhanced facility operation
- Complete testing and turnover activities for the 2025EG Backup Load-In Station and continue fieldwork activities for the 2025ED Load-In Station expansion to support enhanced facility operation
- Complete fieldwork activities for the ETF chiller addition to provide additional cooling capability for the ETF upgrade projects
- Complete fieldwork, testing, and turnover activities for the LERF Basin 41 installation for additional capacity
- Continue fieldwork activities for the ETF supplemental organic treatment (i.e., steam stripping) system to provide the capability to treat the WTP DFLAW effluent
- Initiate fieldwork activities for the ETF secondary waste storage and loadout upgrades to provide the capability to manage the WTP DFLAW effluent.

#### 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.

#### **Issues**

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

nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.

- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.
- Accumulated solids were discovered inside the piping system at the LERF Basin 44 catch basin. Operational restrictions have been implemented to isolate the affected area until removal process is completed.

### Liquid Effluent Retention Facility Volumes

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

Description	242AL-42 (Basin 42)	242AL-43 (Basin 43)	242AL-44 (Basin 44)
AZ-301 Condensate	-	-	-
Mixed Waste Trench 31 and 34	-	-	+ 32,000
Other <sup>a</sup>	-	-	-
Processing Campaign(s)	-	-	-
<b>Total Volume</b>	750,000	5,660,000	1,710,000

<sup>a</sup> 325 Building retention process sewer and solid waste landfill lysimeter.

Data Date: August 30, 2022.

Values shown in gallons.

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

## Tank System Update

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

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

<b>M-042-10-T01</b>	<b>Complete Leak Test/Internal Inspections, or Other Tank Integrity Examination of DST<sup>19</sup> Components</b>
Due:	December 31, 2022.
Status:	Complete.
<b>M-042-10</b>	<b>Complete Tank Integrity Examination of DST Components to Assess Integrity</b>
Due:	December 31, 2026.
Status:	(50% Complete).
<b>M-045-91K</b>	<b>Complete Initial Baseline Visual Inspections of all SSTs<sup>20</sup></b>
Due:	September 30, 2023.
Status:	On Schedule.
<b>M-045-91E5</b>	<b>Provide SST Farms Dome Deflection Surveys Every 2 Years to Ecology</b>
Due:	September 30, 2023.
Status:	On Schedule.
<b>M-045-91K-T01</b>	<b>Submit Report of the Initial Baseline Visual Inspection of all SSTs Remaining to be Inspected</b>
Due:	March 31, 2024.
Status:	On Schedule.
<b>M-045-91L</b>	<b>Obtain Assessment Reviewed/Certified by an IQRPE<sup>21</sup> Attesting to SST Structural Integrity</b>
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

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<sup>19</sup> DST denotes double-shell tank.

<sup>20</sup> SST denotes single-shell tank.

<sup>21</sup> IQRPE denotes independent qualified registered professional engineer.

- Completed ultrasonic testing inspection field work at Tanks 241-AN-101, 241-AN-107, 241-AP-105, and 241-SY-101
- Released reports for the nine DST annulus visual inspections performed in FY 2021
- Completed report development for the nine DST annulus visual inspections performed in FY 2022
- Completed pressure encasement tests/NACE inspections at AP-06A, AP-01A, AP-05A, AW-05A, AY-01A, and AZVP
- Transmitted letter 22-TF-001340, “Completion of Hanford Federal Facility Agreement and Consent Order (also known as the Tri-Party Agreement) Target Date M-042-10-T01,” on May 11, 2022, documenting completion of TPA Target Date M-042-10-T01.

### ***Significant Planned Actions in the Next Six Months***

- Complete report development for the four ultrasonic testing inspections performed in FY 2022
- Complete DST annulus visual inspections at Tank 241-AN-104
- Complete ultrasonic testing inspection fieldwork at Tanks 241-SY-102 and 241-SY-103
- Complete pressure encasement test/NACE inspections at AN Tank Farm, Line 7 AL, and 9.

### ***Ultrasonic Testing Report Status***

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

### ***Issues***

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



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

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

## Single-Shell Tank Integrity

### *Significant Past Accomplishments*

- Completed follow-up visual and laser inspections at Tank 241-SX-111 (November 2021, February 2022, May 2022, and August 2022)
- Completed SST visual inspection at Tanks 241-AX-103, 241-C-102, 241-C-103, 241-C-104, 241-C-105, 241-C-107, 241-C-108, 241-C-109, 241-C-111, 241-C-201, 241-C-202, 241-C-203, 241-C-204, 241-S-102, 241-SX-111, and 241-TY-101.

### *Significant Planned Actions in the Next Six Months*

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

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

- Baseline Change Authorizations (BCA) implemented:
  - Two SST interstitial-liquid level (ILL) BCAs implemented due to intrusion (Tanks 241-SX-101 and 241-SX-112)
  - One SST ILL BCA implemented due to a known leak (Tank 241-T-111)
  - Two SST ILL BCAs implemented due to redistribution after saltwell pumping



- One SST ILL BCA implemented due to parameter and analysis method change
- One SST surface level Enraf BCA implemented due to intrusion (Tank 241-BX-101).
- Specification limit exceedance:
  - Four ILLs exceeded their upper specification limit (Tanks 241-BY-102, 241-BY-104, 241-BY-105, and 241-S-106).
- Intrusion:
  - None.
- Annual RPP-9937 meeting:
  - Completed April 21, 2022.
- Primary Monitoring Device repair:
  - Discussed at the annual RPP-9937 meeting conducted on April 21, 2022. Tank 241-SX-105 Liquid Observation Well is currently scheduled to be replaced by October 31, 2022.
- Non-Valid required readings due to a SUSPECT Verifying and Validating designation:
  - None.

### *Issues*

- Tank 241-SX-111 was inspected visually in mid-August 2020. Spalled/Cracked concrete was identified in various locations on the tank dome. Concrete was noted on the waste surface and, when compared to past visual inspections, suggests that the spalling occurred post-1987. On September 1, 2020, a laser scan of Tank 241-SX-111 was performed. Review of the laser scan results identified a new spalling location since the visual inspection. Tank 241-SX-111 was visually inspected in August 2021 to support the ongoing analysis. During the August 2021 visual inspection, additional spalling was observed. A subsequent laser scan was performed in September 2021. RPP-RPT-63488, Rev. 0, concluded that the levels of spalling identified in the February 2020 through August 2021 inspections of the SX-tank domes do not pose a threat to the structural integrity of the tanks. An additional visual inspection and laser scan were performed at Tank 241-SX-111 in November 2021. An analysis of the November 2021 inspection results identified one new area of spalling. A visual inspection and laser scan were performed in February 2022 and no further spalling was noted. A visual inspection was performed in May 2022 that identified additional cracking and spalling. A laser scan was also completed May 2022, which identified additional spalling. Another quarterly visual and laser inspection was completed August 2022, with analysis ongoing.
- On March 24, 2020, the Hanford Site moved to an essential mission-critical operations posture in recognition of increasing COVID-19 concerns. During this time, the majority of the Hanford Site workforce transitioned to telework, and a limited number of workers reported to the site to perform activities necessary to maintain the site in a safe condition, protective of the community, the region, and the environment.

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

## Independent Qualified Registered Professional Engineer Activities

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

## In-Tank Characterization and Summary

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

### Reports Completed or Released

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

- Completed:
  - None.
- Released:
  - HNF-EP-0182, *Waste Tank Summary Report for Month Ending May 31, 2022*, Rev. 414
  - RPP-26871, *Tank Operations Contractor Sampling Projections for FY2023 through FY2027*, Rev. 18
  - RPP-PLAN-65179, *241-AP-108 Grab Sampling and Analysis Plan – Fiscal Year 2022*, Rev. 0
  - RPP-RPT-63851, *Final Analytical Report for Tank 241-AZ-101 Grab Samples – Fiscal Year 2022*, Rev. 0
  - RPP-RPT-63981, *Final Report for Field Sampling and Analysis Plan for Tank AZ-301 Liquid – Fiscal Year 2022*, Rev. 0.

### Tank Sampling

#### ***Significant Past Accomplishments***

- For August 2022, the following tank sampling was conducted:
  - Completed grab sampling of Tanks 241-AP-108 and 241-SY-102.

#### ***Significant Planned Actions in the Next Six Months***

- Complete grab sampling of Tank 241-AN-102
- Complete grab sampling of Tank 241-AP-106
- Complete grab sampling of Tank 241-AP-106B
- Complete grab sampling of Tank 241-AW-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 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

## Best-Basis Inventory Updates

### *Significant Past Accomplishments*

- Best-basis inventory updates for the following tanks were completed in August 2022:
  - RPP-RPT-58857, *Derivation of Best-Basis Inventory for Tank 241-A-104 as of July 1, 2022*, Rev. 4
  - RPP-RPT-60075, *Derivation of Best-Basis Inventory for Tank 241-S-105 as of July 1, 2022*, Rev. 1
  - RPP-RPT-60167, *Derivation of Best-Basis Inventory for Tank 241-BY-112 as of July 1, 2022*, Rev. 3
  - RPP-RPT-60233, *Derivation of Best-Basis Inventory for Tank 241-S-106 as of July 1, 2022*, Rev. 1
  - RPP-RPT-60473, *Derivation of Best-Basis Inventory for Tank 241-S-110 as of July 1, 2022*, Rev. 1
  - RPP-RPT-58897, *Derivation of Best-Basis Inventory for Tank 241-U-105 as of August 1, 2022*, Rev. 2.

### **Significant Planned Actions in the Next Month**

- Best-basis inventory updates for the following tanks are currently planned to be completed in September 2022:
  - Tank 241-AN-101
  - Tank 241-AN-102
  - Tank 241-AN-107
  - Tank 241-AP-106
  - Tank 241-AP-107
  - Tank 241-AZ-102
  - Tank 241-C-204
  - Tank 241-C-301
  - Tank 241-S-101
  - Tank 241-SX-107
  - Tank 241-TX-113
  - Tank 241-U-107
  - Tank 241-U-110.

### *Issues*

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

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

## Single-Shell Tank Closure Program

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

- M-045-59 Control Surface Water Infiltration Pathways as Needed**  
 Due: To be determined. Will be implemented if needed to control or significantly reduce the likelihood of migration of subsurface contamination to groundwater at the SST waste management areas (WMA) (pending the corrective measures study report, M-45-58 Milestone, and implementation of other interim corrective measures).  
 Status: On Schedule.
- M-045-62 Submit the Draft Tier 3 Closure Plan with Corrective Measures in Phase 2 CMIP<sup>22</sup> for WMA-C<sup>23</sup>**  
 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-045-92Z Submit to Ecology Design for Barrier 4 in 241-U Farm**  
 Due: October 31, 2021.  
 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: Complete.

<sup>22</sup> CMIP denotes corrective measures implementation work plan.

<sup>23</sup> WMA-C denotes C Tank Farm waste management area.



<b>M-045-98</b>	<b>Submit to Ecology as a Primary Document an RFI/CMS<sup>24</sup> work plan for WMA A/AX including an implementation schedule in accordance with HFFACO Action Plan Section 11.6</b>
Due:	September 30, 2022.
Status:	Complete.
<b>M-045-102</b>	<b>Submit to Ecology a Performance Assessment Maintenance Plan for WMA A/AX PA<sup>25</sup></b>
Due:	September 30, 2025.
Status:	On Schedule.
<b>M-045-92AB</b>	<b>Complete Construction of Barrier 4 in 241-U Farm</b>
Due:	October 31, 2023.
Status:	On Schedule.
<b>M-045-92AF</b>	<b>Submit Yearly Reports Summarizing the Results of Maintenance and Performance Monitoring Activities</b>
Due:	October 31, 2022.
Status:	On Schedule.
<b>M-045-56S</b>	<b>Ecology and DOE Agree, at a Minimum, to Meet Yearly (by July 2023)</b>
Due:	July 31, 2023.
Status:	On Schedule.
<b>M-045-103</b>	<b>Submit to Ecology a PMR with Tier 2 RCRA Closure Plan for WMA A/AX and Schedule for Tier 3 Schedule</b>
Due:	September 30, 2026.
Status:	On Schedule.
<b>M-045-104</b>	<b>Submit to Ecology as a PMR the Post-Closure Plan for WMA A/AX</b>
Due:	September 30, 2028.
Status:	On Schedule.
<b>M-045-00</b>	<b>Complete Closure of All SST Farms</b>
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

- Met with Ecology on June 16, 2022, and July 5, 2022, to complete Milestone M-045-56R.

<sup>24</sup> RFI/CMS denotes *Resource Conservation and Recovery Act* Facility Investigation/Corrective Measure Study.

<sup>25</sup> PA denotes performance agreement.

- Transmitted to Ecology the RFI/CMS Work Plan for WMA A-AX to complete Milestone M-045-98 via letter 22-TF-002530, “The U.S. Department of Energy Transmittal of RPP-PLAN-64857, ‘Phase 2 RCRA Facility Investigation/Corrective Measures Study Work Plan for Waste Management Area A-AX,’ Rev. 0,” dated August 31, 2022.
- Transmitted to Ecology the updated RPP-RPT-61684, *Maintenance and Performance Monitoring Plan for the Interim Barriers Program*, Rev. 3A via letter 22-TF-002527, “The U.S. Department of Energy Response to Letter 22-NWP-037 from the Washington State Department of Ecology and Transmittal of RPP-RPT-61684, ‘Maintenance and Performance Monitoring Plan for the Interim Surface Barriers Program,’ Rev. 3A,” dated August 31, 2022.

### Significant Planned Activities in the Next Six Months

- Certify and submit to Ecology the following SST system closure plans for the Hanford Site Hazardous Waste Facility Permit:
  - RPP-RPT-58858, *Tier 1 Closure Plan Single-Shell Tank System*, Rev. 3
  - RPP-RPT-59389, *Tier 2 Resource Conservation and Recovery Act (RCRA) Closure Action Plan for Waste Management Area C*, Rev. 1
  - RPP-RPT-59390, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for 241-C-200 Series Tanks*, Rev. 3
  - RPP-PLAN-63246, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for the 241-C-107 through 241-C-112 Tanks*, Rev. 2
  - RPP-PLAN-63990, *Tier 3 Resource Conservation and Recovery Act (RCRA) Component Closure Activity Plan for the 241-C-101 through 241-C-106 Tanks*, Rev. 1.
- Complete construction of the U Tank Farm interim surface barrier evapotranspiration basin in support of Milestone M-045-92AB.
- Respond to Ecology’s comments on RPP-PLAN-64407, *Waste Management Area Integration Study – Waste Management Area A-AX*, Rev. 0 provided via letter 22-NWP-038, dated February 28, 2022. DOE requested 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, “Request for Extension for Comment Response and Plan for Document Update: RPP-PLAN-64407, Waste Management Area Integration Study - Waste Management Area A-AX, Rev. 0,” dated March 21, 2022. DOE requested an additional extension to provide comment responses and a plan for updating the document by September 30, 2022, via letter 22-TF-001785, “U.S. Department of Energy Request for Additional Extension for Comment Response and Plan for Document Update: RPP-PLAN-64407, Waste Management Area Integration Study - Waste Management Area A-AX, Rev. 0,” dated June 28, 2022. RPP-PLAN-64407, Rev. 0 was submitted to Ecology via letter 21-TF-002876, “U.S. Department of Energy Transmittal of RPP-PLAN-64407, Waste Management Area Integration Study – Waste Management Area A-AX, Revision 0, to Meet Hanford Federal Facility Agreement and Consent Order Interim Milestone M-

045-97,” dated September 17, 2021, to complete Milestone M-045-97, “Submit to Ecology a WMA Integration Study for WMA A/AX as a Primary Document.”

## Issues

- DOE and Ecology agreed, via *Hanford Federal Facility Agreement and Consent Order Interagency Management Integration Team (LAMIT) Determination Number 2022-009*, to continue the temporary suspension of Milestone M-045-85 (originally due January 31, 2022) for an additional 30 days, from August 31, 2022, until September 30, 2022. This 30-day suspension will allow discussions that might affect this milestone to continue in the on-going “Holistic Negotiations” between DOE, Ecology, and EPA. This milestone deals with final dates for closure of Hanford tanks which is an assumed primary discussion topic in the “Holistic Negotiations.” Upon conclusion of the “Holistic Negotiations,” DOE and Ecology will discuss the criteria needed for completing Milestone M-045-85.
- Ecology proposed (via an email from Mr. Jeff Lyon on June 17, 2020) to remove the milestone (i.e., M-045-62) for submittal of the 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 of the Hanford Site Remobilization Plan. Hanford Site operations began Phase 1 on May 26, 2020. During Phase 1, essential mission-critical operations were continued and targeted mobilization and low-risk workscope, such as implementation of COVID-19 protocols to infrastructure and facilities, required training, medical evaluations, and limited construction activities were added.
- The Hanford Site transitioned to Phase 2 of the Hanford Site Remobilization Plan beginning August 31, 2020. In Phase 2, the workforce that was performing portable work via telework generally continued to telework. The majority of the workforce performing nonportable work returned to the site to progress work activities, leveraging established COVID-19 controls.
- The Hanford Site effectively transitioned to Phase 3 of the Hanford Site Remobilization Plan beginning March 14, 2022. In Phase 3, the majority of the workforce that was performing portable work via telework is now performing work in a hybrid in-office/telework environment. The majority of the workforce performing nonportable work remains at the site to progress work activities. DOE will continue to monitor COVID-19 Community Levels for Benton and Franklin Counties and adjust COVID-19 controls as appropriate.
- DOE and its contractors continue to evaluate ongoing risks and potential impacts to planned work, project costs and schedules, and commitments in parallel with implementing actions intended to mitigate or eliminate further impacts.

## Single-Shell Tank Retrieval Program

**Tank Farms Assistant Manager:** Delmar Noyes

**Technical Lead:** Jim Greene

**Ecology Project Manager:** Jeff Lyon

- M-045-15 Completion of Tank A-103 SST Waste Retrieval**  
 Due: September 30, 2022.  
 Status: To Be Missed. 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: To Be Missed. 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: To Be Missed. 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. 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 241-AX-102 currently has a Retrieval Data Report submittal due date of September 13, 2022 (Milestone M-045-86K). Tanks 241-A-101, 241-A-102, 241-A-104, 241-A-105, and 241-A-106, 241-AX-101, 241-AX-103, and 241-AX-104 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

July-2022

Tank Farms ORP-0014 WBS 5 - River Protection Project (in \$000s)										
	BCWS	BCWP	ACWP	SV	CV	SPI	CPI	BAC	EAC	VAC
CM	\$76,797	\$75,419	\$67,689	(\$1,378)	\$7,730	0.98	1.11			
FYTD	\$573,176	\$556,235	\$536,885	(\$16,941)	\$19,350	0.97	1.04	\$714,933		
CTD	\$7,524,877	\$7,473,105	\$7,403,068	(\$51,772)	\$70,036	0.99	1.01	\$8,401,111	\$8,327,856	\$73,255

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.

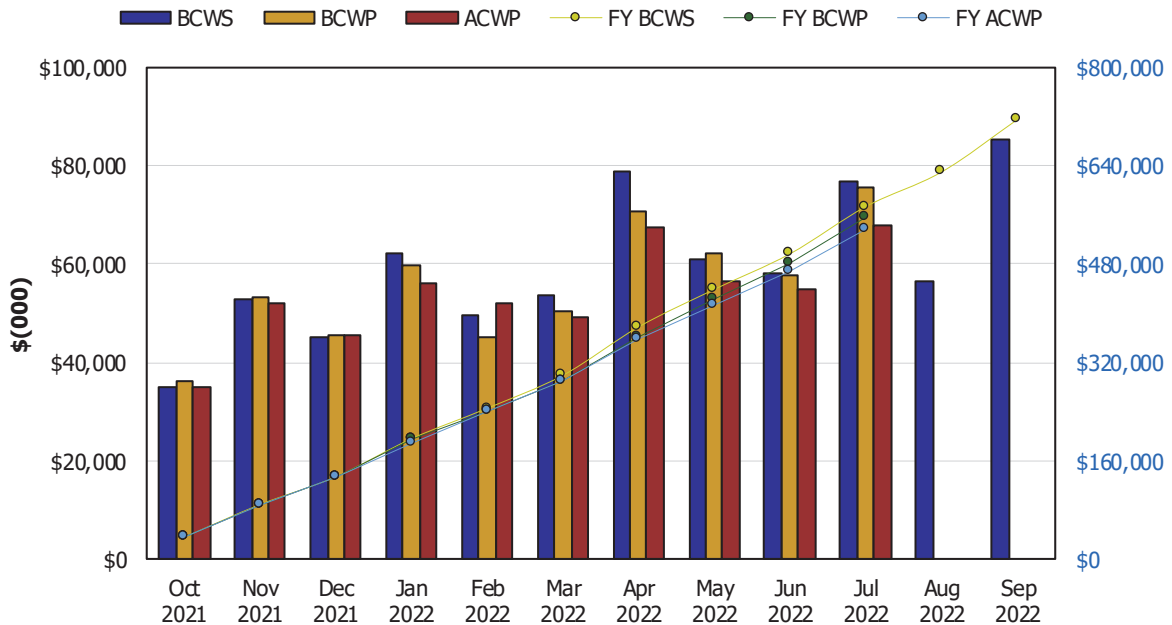
The cost variance (CV) measures the actual cost of work performed against the earned dollar value of that performed work. As an example, assume \$10,000 of work was planned to-date, \$8,000 was reported as being performed (earned), at an actual cost of \$9,000. This work would be reported as being \$2,000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

July-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	\$78,873	\$70,921	\$67,484	0.90	1.05	\$377,235	\$361,035	\$357,504	0.96	1.01
May 2022	\$61,139	\$62,052	\$56,696	1.01	1.09	\$438,374	\$423,087	\$414,200	0.97	1.02
Jun 2022	\$58,004	\$57,729	\$54,996	1.00	1.05	\$496,378	\$480,816	\$469,196	0.97	1.02
Jul 2022	\$76,797	\$75,419	\$67,689	0.98	1.11	\$573,176	\$556,235	\$536,885	0.97	1.04
Aug 2022	\$56,336					\$629,512				
Sep 2022	\$85,421					\$714,933				

CTD	\$7,524,877	\$7,473,105	\$7,403,068	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.
- FY = fiscal year.
- SPI = schedule performance index.

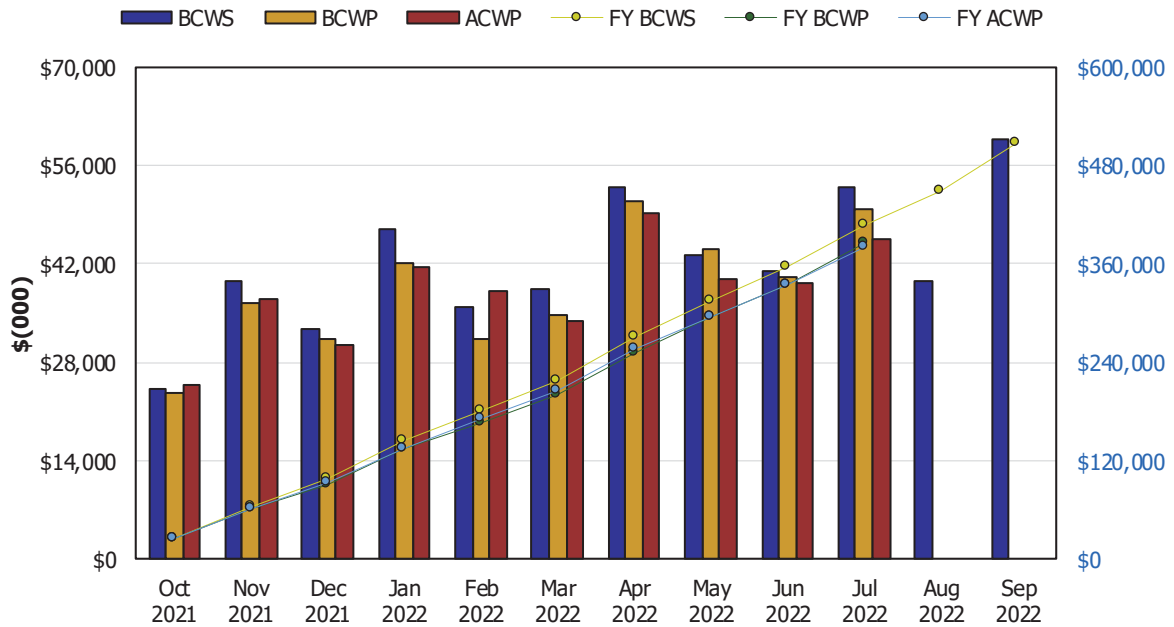


Earned Value Data: Fiscal Year 2022

July-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	\$52,987	\$50,841	\$49,276	0.96	1.03	\$270,882	\$250,275	\$254,930	0.92	0.98
May 2022	\$43,371	\$44,050	\$39,751	1.02	1.11	\$314,253	\$294,326	\$294,681	0.94	1.00
Jun 2022	\$41,113	\$40,170	\$39,301	0.98	1.02	\$355,366	\$334,496	\$333,983	0.94	1.00
Jul 2022	\$53,052	\$49,905	\$45,494	0.94	1.10	\$408,418	\$384,401	\$379,477	0.94	1.01
Aug 2022	\$39,577					\$447,995				
Sep 2022	\$59,635					\$507,630				

CTD	\$5,012,669	\$4,965,822	\$4,912,541	0.99	1.01
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- 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 July 2022 variances below do not impact TPA milestones.

The current month **unfavorable** SV of (\$3,147,700) was due in part to:

- IX Column Procurements being delayed until September 2022.

The current month **favorable** CV of \$4,410,600 was due in part to:

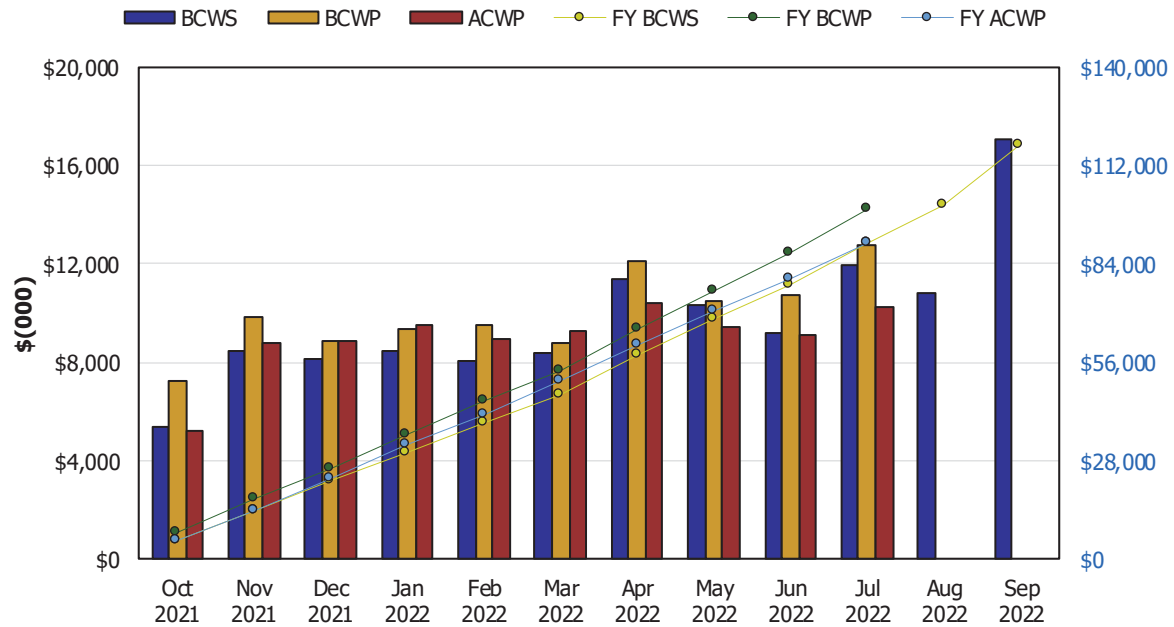
- Production Operations having lower than planned staffing levels for mostly level of effort accounts
- 242-A Transfer Line Replacement subcontractor labor efficiencies.

Earned Value Data: Fiscal Year 2022

July-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	\$11,363	\$12,088	\$10,442	1.06	1.16	\$58,174	\$65,713	\$61,019	1.13	1.08
May 2022	\$10,365	\$10,465	\$9,437	1.01	1.11	\$68,540	\$76,177	\$70,456	1.11	1.08
Jun 2022	\$9,216	\$10,745	\$9,101	1.17	1.18	\$77,756	\$86,922	\$79,557	1.12	1.09
Jul 2022	\$11,911	\$12,726	\$10,266	1.07	1.24	\$89,666	\$99,648	\$89,822	1.11	1.11
Aug 2022	\$10,797					\$100,464				
Sep 2022	\$17,043					\$117,507				

CTD	\$1,416,416	\$1,420,254	\$1,454,859	1.00	0.98
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- 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**

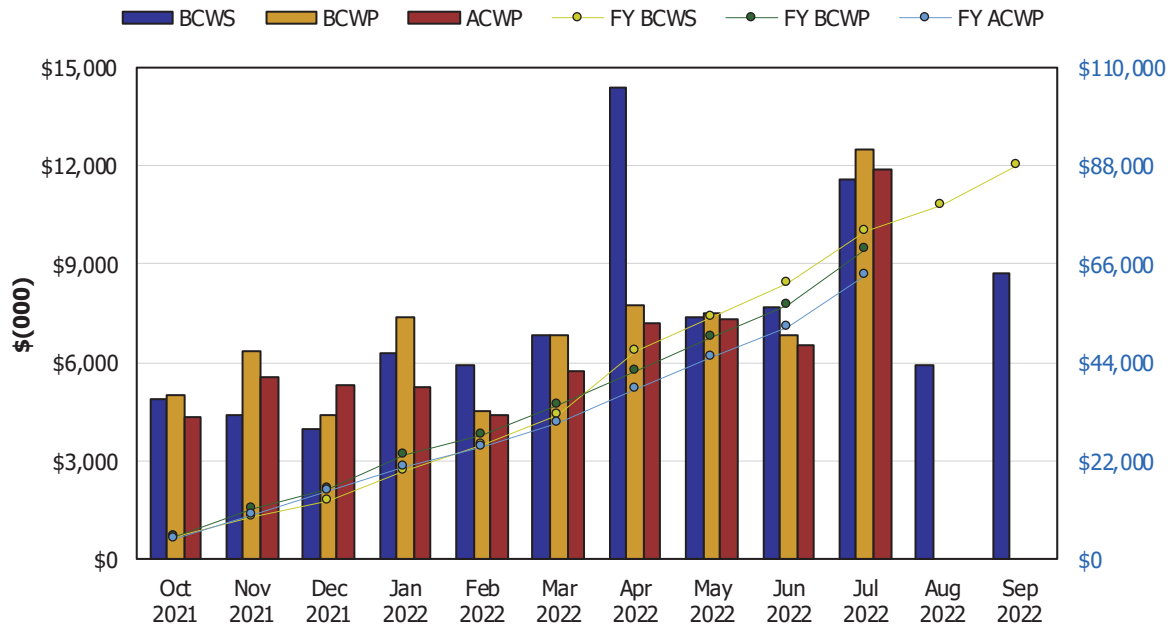
For the retrieval portion, see the Consent Decree monthly report for cost and schedule status.

Earned Value Data: Fiscal Year 2022

July-2022

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

EVMS Monthly and Fiscal Year Values



Earned Value Month

Month	BCWS	BCWP	ACWP	SPI	CPI	FY BCWS	FY BCWP	FY ACWP	FY SPI	FY CPI
Oct 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	\$14,371	\$7,773	\$7,208	0.54	1.08	\$46,611	\$42,263	\$37,839	0.91	1.12
May 2022	\$7,403	\$7,524	\$7,311	1.02	1.03	\$54,014	\$49,787	\$45,150	0.92	1.10
Jun 2022	\$7,675	\$6,814	\$6,546	0.89	1.04	\$61,689	\$56,601	\$51,696	0.92	1.09
Jul 2022	\$11,568	\$12,522	\$11,910	1.08	1.05	\$73,257	\$69,123	\$63,606	0.94	1.09
Aug 2022	\$5,928					\$79,185				
Sep 2022	\$8,694					\$87,879				

CTD	\$798,138	\$789,374	\$728,735	0.99	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.
- FY = fiscal year.
- SPI = schedule performance index.

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

### **5.03 – Waste Feed Delivery/Treatment**

The July 2022 variances below do not impact TPA milestones.

The current month **favorable** SV of \$954,000 was due to:

- Schedule recovery for material receipts (e.g., metal alloys) in support of fabrication of the fourth LAW melter.

The current month **favorable** CV of \$612,400 was due to:

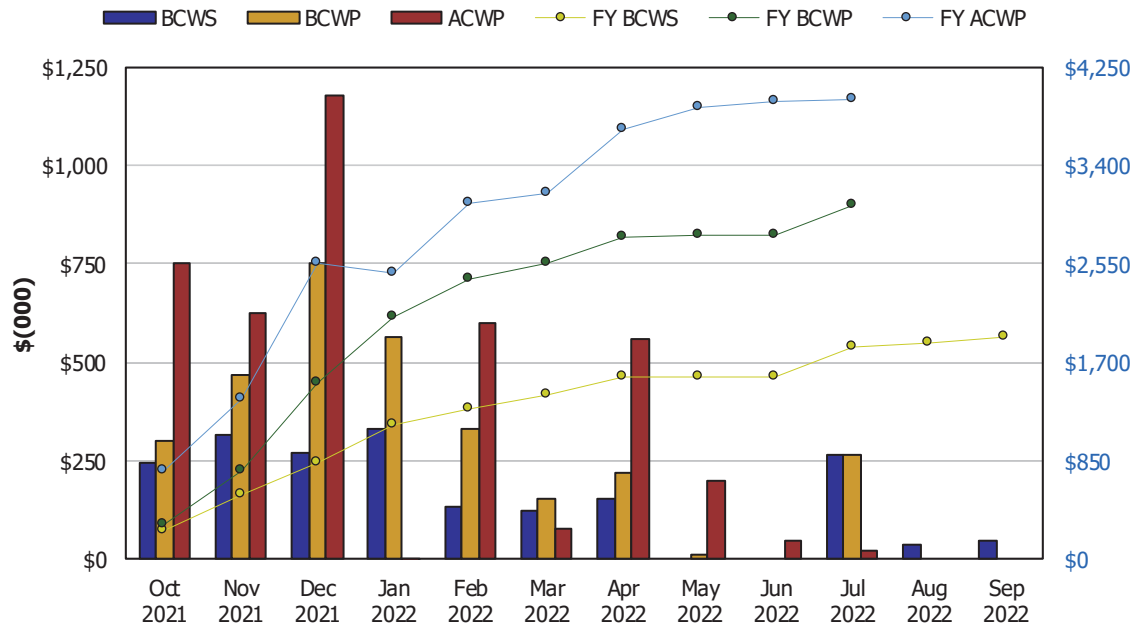
- The Operational Research Model Support cost correction
- The Cold Spray Tank Repair Project subcontractor labor efficiencies.

Earned Value Data: Fiscal Year 2022

July-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	\$219	\$558	1.44	0.39	\$1,568	\$2,784	\$3,714	1.78	0.75
May 2022	\$0	\$13	\$197	0.00	0.07	\$1,568	\$2,797	\$3,912	1.78	0.71
Jun 2022	\$0	\$0	\$48	0.00	0.00	\$1,568	\$2,797	\$3,960	1.78	0.71
Jul 2022	\$267	\$267	\$20	1.00	13.48	\$1,834	\$3,063	\$3,979	1.67	0.77
Aug 2022	\$34					\$1,868				
Sep 2022	\$49					\$1,916				

CTD	\$273,943	\$273,943	\$285,318	1.00	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.
- FY = fiscal year.
- SPI = schedule performance index.

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

### **5.05 – Treat Waste**

The July 2022 variances below do not impact TPA milestones.

The current month SV of \$0 is below reportable thresholds.

The current month **favorable** CV of \$246,800 was due to:

- Implementation of the FY 2021 COVID-19 (CP-21-002) Request for Equitable Adjustment via Baseline Change Request RPP-22-090, which added budget that offset the overrun.



**Table 1 Administrative Record Metadata**

<b>Milestone Number or Facility Identification</b>	<b>Title</b>
M-042-10	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-045-56S	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-045-92Z	Submit to Ecology Design for Barrier 4 in 241-U Farm
M-045-98	Submit to Ecology an RFI/CMS Work Plan for WMA A/AX as a Primary Document
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
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

<b>Milestone Number or Facility Identification</b>	<b>Title</b>
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-062-52	Achieve Substantial Completion of Secondary Waste Construction Necessary for LAW Hot Commissioning
M-062-53	Effluent Management Facility (EMF) Cold Commissioning Start
M-062-54	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

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)

- |         |   |  |      |   |   |
|---------|---|--|------|---|---|
| CMIP    | = | corrective measures implementation work plan.                | LERF | = | Liquid Effluent Retention Facility.                                   |
| CMS     | = | Corrective Measure Study.                                    | LAW  | = | low-activity waste.   |
| DFLAW   | = | direct feed low-activity waste.                              | LAWP | = | Low-Activity Waste Pretreatment.                                      |
| DOE     | = | U.S. Department of Energy.                                   | RCRA | = | <i>Resource Conservation and Recovery Act.</i>                        |
| DST     | = | double shell tank.   | RFI  | = | <i>Resource Conservation and Recovery Act Facility Investigation.</i> |
| Ecology | = | Washington State Department of Ecology.                      | 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.                             |